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THE IMPACT OF DIGITAL MARKETING ON CONSUMER BUYING BEHAVIOUR IN THE RESIDENTIAL REAL ESTATE INDUSTRY: A CASE STUDY OF SYDNEY

A Thesis submitted by

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ABSTRACT

The expansion of information and communication technology (ICT) and digital technologies has profoundly affected the daily routines of consumers worldwide. The development of digital marketing (DM) to advertise and sell products online has also changed the marketing industry significantly. It is now possible for consumers to research products and make purchases around the clock, regardless of location or time zone. Although many marketing professionals acknowledge the significance of including digital marketing in their marketing mixes, there are a few studies assessing the critical factors that contribute to a consumer's decision when buying products via digital marketing. The overall goal of this study is to fill gaps in existing scholarly literature and expand our understanding of what makes digital marketing succeed or fail. Specifically, the study examines the impact of digital marketing on consumers' purchasing decisions in the residential real estate market and identifies the most influential digital marketing factors that affect consumers' buying behaviour (BB). To achieve this, the researcher developed a novel method for understanding people's intentions to engage in a particular behaviour; in this case, residential real estate consumer purchase intentions, based on the well-established Theory of Planned Behaviour (TPB). This research's extended TPB (ETPB) evaluated psychological and behavioural constructs, trust (TR) and satisfaction (SAT), and how they influence buyer interactions with digital marketing in the real estate industry. This research was carried out in two phases. Phase one involved a review of existing literature and phase two was a survey of 404 consumers. The findings of the research suggested that internal psychological and external social factors substantially impact consumer buying intention in the residential real estate industry. The findings of this thesis suggest that the Theory of Planned Behaviour, digital marketing, trust, and customers' satisfaction can combine to generate the Extended Theory of Planned Behaviour (ETPB), which in turn can explain how consumers' attitudes towards purchasing decisions are developed. The results of this thesis suggest that digital marketing is a mechanism that, if used well, can increase customer satisfaction and trust in real estate advertised online leading to an increase in buyer intention and buyer behaviour. This would also boost consumer-driven sharing and advertising of the digital marketing content, further boosting sales in a positive feedback cycle. By clarifying the ties between marketing theory and intent to buy, this study sheds light on the impact of the widespread adoption of digital marketing on the dynamics between information processing, underlying marketing philosophy and consumer behaviour.

CERTIFICATION OF THESIS

I Fazla Rabby declare that the PhD Thesis entitled "The impact of digital marketing on consumer buying behaviour in the residential real estate industry: A case study of Sydney" is not more than 100,000 words in length including quotes and exclusive of tables, figures, appendices, bibliography, references, and footnotes. The thesis contains no material that has been submitted previously, in whole or in part, for the award of any other academic degree or diploma. Except where otherwise indicated, this thesis is my own work.

Date: 30 October 2022

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Dr Ranga Chimhundu
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Student and supervisors' signatures of endorsement are held at the University.

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DEDICATION

This work is dedicated to my loving parents, who always encouraged me to dream big and have high aspirations for myself.

PUBLICATIONS

The following publications were produced based on the research work contained in this thesis:

Book chapters

Rabby, F, Chimhundu, R & Hassan, R 2022, 'Digital Transformation in Real Estate Marketing: A Review', in A Singh, R Bansal & S Sharma (ed.), *Big Data: Road-Map for Successful Digital Marketing*, Walter de Gruyter GmbH, Berlin/Boston, pp. 39-61, DOI: 10.1515/9783110733716-005

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Rabby, F, Chimhundu, R & Hassan, R 2022, 'Blockchain-Enabled Trust Management for Digital Marketing in the Industry 4.0 Era', in Y Maleh, L Tawalbeh, S Motahhir & AS Hafid (ed.), *Advances in Blockchain Technology for Cyber Physical Systems*, Springer, Cham, pp. 303-331, DOI: 10.1007/978-3-030-93646-4.

Journal Articles

Rabby, F, Chimhundu, R & Hassan, R 2021, 'Artificial intelligence in digital marketing influences consumer behaviour: A review and theoretical foundation for future research', *Academy of Marketing Studies Journal*, vol. 25, no. 5, pp.1-7.

Rabby, F, Chimhundu, R & Hassan, R 2021, 'The elucidation of marketing trends and a post-positivist approach to understand consumer behaviour–a review', *Journal of Tianjin University Science and Technology*, vol. 54, no. 8, pp.13-32.

Conference Papers

Rabby, F, Chimhundu, R & Hassan, R 2021, 'Endurance of digital marketing with artificial intelligence', *ANZMAC Conference 2021: Proceedings,* University of Melbourne, Melbourne, pp. 296-299.

Rabby, F, Chimhundu, R & Hassan, R 2020, 'The impact of digital media on real estate marketing: A review', *Proceedings of Sydney International Business Research Conference 2020*, Australian Academy of Business Leadership, Sydney, p. 34.

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ABBREVIATIONS

AVE	Average Variance Extracted
β	Path Coefficient
VIF	Variance Inflation Factor
SRMR	Standardised Root Mean Square Residual
NFI	Normed Fit Index
CA	Cronbach's Alpha
CB-SEM	Covariance-based Structural Equation Modelling
CR	Composite Reliability
SEM	Structural Equation Modelling
PLS-SEM	Partial Least Squares Structural Equation Modelling
SmartPLS	Statistical software for Partial Least Squares Structural Equation Modelling
H	Hypothesis
LV	Latent Variable
R²	Coefficient of Determination
Chi²	Pearson's Chi-squared Test
S.D.	Standard Deviation
OLS	Ordinary Least Squares
df	The Degrees of Freedom
TPB	The Theory of Planned Behaviour
TRA	The Theory of Reasoned Action
DOI	Diffusion of Innovation (DOI) Theory
TAM	The Technology Acceptance Model
RMT	Relationship Marketing Theory
CDM	Decision-making Model
DM	Digital Marketing
BI	Buyer Intention/Buyer Buying Intention/Consumer Buying Intention
BB	Buyer Behaviour/Buyer Buying Behaviour/Consumer Buying behaviour
SN	Subjective Norms
PBC	Perceived Behavioural Control
ATT	Attitude
TR	Trust
SAT	Satisfaction/ Information Satisfaction
PBC	Perceived Behavioural Control

CHAPTER 1: OVERVIEW OF THE RESEARCH

1.1 Introduction

Marketing is a fast-paced, ever-changing, and highly competitive industry that requires constant adaptation (Terech 2018). The effects of revolutionary high-tech innovations have a significant impact on consumer life. In today's business environment, almost every business attempts to engage with customers through digital marketing (Terech 2018). Digital marketing involves reaching out to consumers using digital media in a timely and cost-effective way to promote products and services (Kannan 2017). Implementation of digital marketing strategies improves business performance and efficiency (Atshaya & Rungta 2016). But digital marketing will face many challenges and cannot deliver benefit unless a company understands the effect of digital marketing on consumer behaviour, and how this aligns with the business processes (Love & Matthews 2019). Digital marketing (DM) has experienced phenomenal success. Because of interaction with a wide range of businesses, digitalisation has sparked tremendous interest among this new generation (Kotarba 2018). Digital marketing has also created new possibilities for businesses, facilitating unique ways to promote, communicate, and distribute their information to potential customers and connect with existing customers in new ways (Omar & Atteya 2020).

The real estate business is essential because it helps to address basic human requirements like residential housing and office spaces (Ullah, Sepasgozar & Wang 2018). Real estate marketing is made more accessible through digital technology, making information available at any time (Schallmo, Williams & Boardman 2020). Digital marketing has enabled the real estate sector to connect with potential buyers via the Internet, which is their primary information source (Matidza, Ping & Nyasulu 2020). To make buying decisions, modern consumers access information from blogs, advertisements and social media (Changchit et al. 2019). The emergence of online customers, the digital business environment, and shifting realities are the key influences on marketing. The adoption of digital marketing strategies has created highly competitive and global marketplaces (Atshaya & Rungta 2016). Residential real estate companies can gain the trust of potential buyers using digital marketing at various stages of the buying process (Ullah, Sepasgozar & Wang 2018). Thus, real estate companies invest time and resources in studying consumer data

and creating tailored advertisements and promotional campaigns (Appel et al. 2020). They can succeed by creating more substantial digital marketing content and more effective brand positioning (Schwertner 2017). Emerging technologies and effective digital marketing tools, attract and connect with target markets more effectively (Desai 2019).

The satisfaction of consumers is the most important factor to consider for business success in the digital age. The quality of real estate properties sold through digital marketing platforms can misalign with the information provided to buyers by sellers (Schwertner 2017), reducing clients' faith and trust in real estate companies. Real estate buyers want high-quality information, regardless of where it comes from, whether digital marketing, social media reviews or other renowned sources. Honest and accurate marketing information is critical for real estate businesses to establish a positive reputation. The information should be accurate and sufficient to enable real estate customers to make informed purchasing decisions they will not regret (Maoludyo & Aprianingsih 2015). To ensure that all available residential real estate properties are listed, information must be updated regularly–effective communication will build confidence.

In response to social changes, it is becoming increasingly common to implement customised marketing strategies (Bala & Verma 2018). Changes in buyer behaviour (BB) can be challenging to understand, but that may represent the necessity to learn more about the current market (Appel et al. 2020). To keep up with changing customer expectations, real estate companies must adapt and make changes to their customer service practices. With the wide variety of digital mechanisms in use, there has been an emphasis on the different ways that digital transitions affect consumer behaviour (Appel et al. 2020). Businesses can take advantage of shifts in customer behaviour by exploiting the digital arena to increase the effectiveness of their marketing campaigns, and, to succeed, companies must adapt to changing consumer preferences and interests (Kotler 2017). But the uptake of digital marketing in real estate is varied, and not all businesses are harnessing its full potential. Several studies across the globe have looked into the factors influencing the adoption of digital marketing. However, only a few have been conducted in Australia's residential real estate industry. This thesis sought to fill this gap. The findings presented herein, will not only contribute to existing literature, but also serve as a foundation for future research into digital marketing in other industries in Australia.

1.2 Background to the research

Online shopping has accelerated in recent years due to several factors, including shifts in consumer behaviour, technological improvements, increases in consumer affluence and knowledge and rapid financial development throughout the world (Mowla & Shetty 2018). Digital technology is now a significant part of consumers' lives, and it provides a reliable platform for communication and collaboration (Omar & Atteya 2020). Consumers can communicate and engage electronically in this digital world; they can exchange information, ideas, views, and decision-making with families, friends and colleagues (Mowla & Shetty 2018). The use of digital marketing as a shopping channel has increased rapidly over the past decade, and this trend is expected to continue. The Australian population of 25 million has 18 million active social media users, representing a penetration rate of 71% (We are social 2020), and globally there are 4.2 billion active users (SMPERTH 2020). An estimated 2.14 billion consumers globally were likely to make an online transaction in 2021 (Griffiths & Kuss 2017). During the 2020-21 financial year, online spending accounted for AUD$52.1 billion in Australia alone (Australian Post 2021). The rapid expansion in e-commerce sales and the distinct features of digital marketing have piqued many businesses' interests. However, businesses have been hasty in establishing businesses on digital marketing platforms without fully understanding the factors that motivate customers to purchase products or services (Kumar 2020).

According to many business professionals, digital marketing significantly enhances client engagement by allowing two-way interactions and the capacity to deliver information quickly and efficiently (Omar & Atteya 2020). Because many scholars and business professionals recognise the need to include digital marketing in their marketing mix, only a small number of studies have investigated the factors that influence customer purchasing decisions. Consumer perceptions, behaviours, and usage patterns are all affected by digital marketing, which it brings consumers, concepts, companies, and beliefs closer together as a result of its use (Sodikin 2020). digital marketing is growing in popularity and creating new possibilities; therefore, businesses must go beyond simply posting on a digital platform or having a presence on the platform to answer customers' demands (Hsieh & Wu 2019). Since the introduction of digital marketing, customer interactions have transformed real estate market, and this has impacted behavioural intention (Mowla & Shetty 2018). As a result, businesses must understand how digital marketing influences

consumers' purchasing behaviour. This case study explores the factors influencing buyers' buying intention (BI) in the real estate sector in Sydney.

Real estate is a highly competitive and growing sector of the global economy (Waldron 2018). It is currently going through a maturation phase attributed to creative strategies that set it apart from other sectors (Hei & Dastane 2017). The Internet and digital marketing have become a global stronghold, changing the game of selling to consumers (Mowla & Shetty 2018). Technological advancement and digital marketing create more opportunities for real estate companies to connect and interact with existing and potential real estate consumers (Çizmeci & Ercan 2015). The buying demand in residential properties has increased, particularly in Sydney, Australia. Buyer buying intention is an important determinant influencing this buying demand (Çizmeci & Ercan 2015). digital marketing is being developed by residential real estate companies to generate a strong business presence, promote real estate properties and capitalise on demand (Agarwal et al. 2019). Despite the impact digital marketing has already made on the real estate industry, it is not being used to its full potential, and the levels of consumer trust towards digital marketing are not fully understood. Businesses must understand consumer psychology because it is the key to marketing success, particularly through digital marketing (Hashim, Normalini & Sajali 2018). Marketing is a fast-paced, ever-changing, highly competitive industry that requires constant technological adaptation (Terech 2018). The consequences of drastic high-tech innovations in residential real estate industries significantly impact consumer purchasing decisions (Hoxha & Zeqiraj 2019). As a result of ICT development, real estate professionals must ensure more strategic marketing activities, which provide accurate business and product information and better customer service (Bala & Verma 2018).

In today's business environment, almost all businesses are working to engage with customers through digital marketing approaches (Terech 2018). Real estate professionals can benefit from emerging technologies, which provide new business opportunities and help achieve business objectives (Ullah, Sepasgozar & Wang 2018). digital marketing is a way to engage consumers in a timely, suitable, and cost-effective manner (Kotarba 2018). Consumers and businesses are linked together through various digital networks, and the way to connect with customers is constantly changing due to advances in digital marketing (Kotarba 2018). There is no argument that the deployment of digital marketing strategies boosts business performance and efficiency. However,

digital marketing cannot deliver the expected benefits unless a company adopts new digital marketing strategies to be more consistent with business operations (Love & Matthews 2019). digital marketing is complex and, to avoid being pushed out of the industry, all businesses must tread carefully when adapting marketing changes made by digitalisation (Alalwan et al. 2017). To keep up with and take advantage of changing customer expectations, preferences and interests, real estate companies must adapt and change their marketing approach using effective digital marketing campaigns (Mowla & Shetty 2018).

Digital marketing use in different phases of the purchasing process allows residential real estate companies to build faith and trust with potential real estate buyers (Matidza, Ping & Nyasulu 2020). Digital marketing has not only increased ease of access to information but it has also increased service effectiveness, allowing residential real estate operations and transactions to function seamlessly online (Aytekin & Demirli 2017). Customers have embraced the concept of digital marketing because it allows them to access a wide range of choices in more detail from anywhere in the world (Dastane 2020). The globe is linked by technology, making it look like a small village and, like other sectors, real estate companies are selling without obstacles (Mowla & Shetty 2018). It is vital that real estate companies provide consumers with transparent and complete information about residential properties (Agarwal et al. 2019). Real estate companies using digital marketing can gather information from various sources, including digital sales data, browsing history and preferences (Ullah, Sepasgozar & Wang 2018). They can also analyse consumer data in-depth to develop personalised advertisements and promotional campaigns for their customers (Appel et al. 2020). Despite this, most real estate companies are racing to implement digital marketing without understanding what influences customers (Aytekin & Demirli 2017).

In Sydney, Australia the same is true; many businesses are rushing to develop a digital marketing presence despite uncertainty about the true impact of this paradigm on their businesses (de Ruyter et al. 2018). Previous research has concentrated on which marketing channel is the most effective to reach out to targeted audiences rather than the underlying reasons that influence consumer behaviour and why customers make purchasing decisions (Liu-Thompkins 2019). This thesis sought to understand rationales for using digital marketing and how it affects consumer trust and satisfaction, which, in turn, influence consumer purchasing intentions. There is a knowledge gap

in the literature regarding the factors that influence a consumer's purchasing decision when purchasing residential real estate property (Ullah & Sepasgozar 2020). To better fulfil customer satisfaction and build trust, marketers must gain an in-depth understanding of consumer behaviour in their marketing mixes to make their marketing more effective (Islam et al. 2021). The purpose of this study is to discover factors influencing customer decision-making when purchasing residential real estate properties in Sydney, Australia and the relative strength of those factors.

1.3 Significance of the research

Understanding consumer behaviour: As a result of technological advancements, competitive pressures and ongoing digital marketing trends, consumers demand greater convenience, value and options. This phenomenon presents both tremendous challenges and enormous opportunities for businesses and professionals. The findings of this study provide in-depth and valuable insights on consumer behaviour in the digital era and how businesses can adopt strategies to sustain competitive advantage using digital marketing as a strategic instrument. Human behaviour influences customer purchase decisions more so than structured promotions in digital marketing. These research findings will help understand how digital marketing adoption influences the relationship between information processes and consumer behaviour by drawing connections between underlying marketing philosophy and purchase intention.

For researchers and scholars: During the past decade, digital marketing as a promotional strategy has drawn the attention of academics and key industry players. There has been little research into consumer behaviour/psychology with respect to digital marketing, particularly in the context of the Australian market. Despite substantial contributions to knowledge, there is still room for improvement, especially when considering the fast-paced nature of digital environments. This research will help us better understand the critical phenomenon of consumer purchase behaviour and investigate new phenomena and hypotheses in areas with a proven theoretical foundation. It will also provide a critical review of literature.

The real estate industry: Improving our knowledge of the relationship between digital marketing use, planned decision-making processes, and consumer engagement performance is important in the real estate industry, because more customers are using digital technologies to obtain real estate

information before deciding whether to purchase property. Businesses across a range of industries spend millions of dollars on marketing initiatives. Therefore, the findings of this study are translatable to a wide range of stakeholders and industries. All stakeholders must understand digital marketing to make smart business decisions in this context. The findings of this research will help successfully integrate digital marketing into a real estate company, which will enhance business operations and business capabilities. They will also support the development of approaches for better connecting with customers and building trust. In addition to providing new knowledge, this study can build and apply new frameworks to adopt digital marketing strategies that boost sales.

On developing a theoretical framework: This study contributes to previous research on the Theory of Planned Behaviour (TPB) by identifying the relationship between marketing concept and consumer behaviour. This theoretical framework will help businesses wanting to purchase, to consider using attitudes, information satisfaction, and trust dimensions in the customer's decision-making process. The framework will benefit the business community to develop more cost-effective digital marketing strategies to improve client satisfaction by communicating more effectively. When companies are deciding how and where to spend their marketing budget, they can use the framework herein, which is based on behavioural beliefs, normative beliefs, or control beliefs to help them make changes that will influence customer decision making.

For management and decision makers: Due to the continuously changing nature of the marketing environment, the findings of this study will provide a more in-depth understanding of the topic, allowing for greater application. Business professionals can use the findings to develop implement effective digital marketing strategies to improve the success rates. To improve profitability, business leaders can use the study findings to set business goals and realistic objectives to raise awareness and brand recognition, promote brand content, and increase exposure to generate traffic, leads, and sales, as well as reduce business costs. Finally, this research will support real estate organisations by offering a relevant evidence-based approach to digital marketing.

Governments and Australian economy: Governments have been the primary drivers of economic activity, and the rise of digital marketing has transformed the economic landscape of

developed countries throughout the years. According to the research findings, digitally-enabled businesses are now more profitable than traditional/brick-and-mortar businesses. Therefore, governments must use the critical knowledge from this research because it lays the groundwork for legislation to create an enabling business environment and support economic growth and prosperity by employing digital marketing as a value driver, while defending customers' interests. Spending has a critical role in Australia's economic growth and long-term stability, and this study aims to enhance understanding of this. Economic growth and well-being are directly linked to this research, which means that future investment in digital marketing will reap enormous benefits for the Australian economy as a whole.

1.4 Research context

1.4.1 Sydney, Australia – an overview

Australia is one of the world's largest countries and a beautiful place to live because it provides excellent economic opportunities, real estate, transportation, health care, and other amenities. Australia is also one of the world's fastest-growing countries, and it offers a wide range of living conditions, employment opportunities and lifestyles to choose from. These factors significantly influence the migration of people from other nations (Ratchatakulpat, Miller & Marchant 2009). As a result, Australia's residential real estate market has experienced substantial development, demonstrating that investing in Australian real estate is a smart strategy for accumulating financial wealth. Investors typically receive a high rate of return on their investment, and the demand for rental real estate is virtually guaranteed throughout the country (Wong, Higgins & Wakefield 2017). Australia has one of the world's most densely populated cities, with most of the population residing in coastal metropolises (Ratchatakulpat, Miller & Marchant 2009). Australia is blessed with exotic locations and the real estate industry is thriving, with locals, tourists, and foreigners willing to experience everything that the country offers (Wong, Higgins & Wakefield 2017). Over the years, Sydney's booming real estate market has provided property investors with exceptional returns on their investments in residential and commercial property (Wong, Higgins & Wakefield 2017). According to industry analysts, residential real estate has performed reasonably well over the last five years. The economy is thriving, due to the low-interest rate and high demand from domestic and international investors seeking higher returns, (Gauder, Houssard & Orsmond 2014). The appeal of Australian real estate remains strong compared to other important international

destinations, mainly when considered a benefit over government securities (Wong, Higgins & Wakefield 2017). Australian real estate has also delivered very high and consistent returns compared to other investment categories such as shares, bonds and currency investments.

According to Raymer et al. (2020), the population between of 20 and 44 years of age has increased in Australia. According to the Census, the population of this group is predicted to rise by 4.6% each year, which will lead to an increase in investment in real estate and an increase in property values (Raymer et al. 2020). The Australian Bureau of Statistics (ABS) indicates that 66% of Australia's population lives in Sydney and Melbourne (ABS 2018). Sydney and Melbourne have been involved in a head-to-head competition for the most significant population growth since the 1970s, with both cities having added 1.7 million additional people in four decades (Mccrindle 2021). Australia's average annual growth rate is one of the world's fastest. According to ABS, Greater Sydney's population, which covers the Blue Mountains and Central Coast, increased by one million individuals in just 16 years (ABS 2017). According to national growth, New South Wales' (NSW) population in 2021 was estimated to be 8.2 million, up 123,813 or 1.6% from the previous year (NSW Government 2021). In 2015–16, Sydney received 78% of NSW's overall population growth (ABS 2016). For the first time since September 2017, the population grew by 123,813 individuals, with 53,711 being a natural increase, 91,999 coming from overseas migration and the remaining 21,897 coming from interstate migration (ABS 2017). Sydney's population increased by nearly 83,000 people in 2019, making it the city's fifth-largest annual growth increase in absolute terms since 1901 (Mccrindle 2021). There was a 1.7% growth in Sydney's residents during the 2019-2020 financial year and a 0.8% growth across the remainder of NSW, bringing the state a total 1.6% yearly population growth (NSW government 2021).

Sydney is one of the world's largest cities and the most populated capital city in Australia and Oceania (Pringle 2019). Greater Sydney and surrounding areas were projected at 5.57 million people by 2021 and the density of metropolitan Sydney was 397.8 persons per square kilometer, making it residential property to nearly 65% of NSW residents (Mccrindle 2021). About 32% of Australia's population resides in NSW (NSW government 2021). The Greater Sydney metropolitan has an area of 12,367 square kilometres and covers 70 kilometres to the west, 40 kilometres to the north, and 60 kilometres to the south (Propertylogy 2019). Sydney is also the world's most diverse and multicultural city, with people speaking over 250 different languages (Yardney 2021).

Migration was halted in 2020 and 2021 due to the Pandemic and our closed borders (Yardney 2021). However, Australia's appeal to international migrants will come back stronger as boarders open again, with Sydney being a favoured location. Foreign immigration is responsible for more than 70% of NSW' population growth. The average age of Sydney's population in 2021 was 35, and there were 2.7 residents per home (NSW government 2021). Additional investigation shows that most residences in the CBD have two individuals without children, with an average age of 32 (Mccrindle 2021). Once primarily an industrial city, Sydney has transformed into a global economic centre because of the growth of high-end, knowledge-based employment in the economic and business services industry (Pancholi, Yigitcanlar & Guaralda 2018). Individuals in Sydney's urban centres make an average of $888 a week, while those in the greater Sydney region only make $619 (Yardney 2021).

The government's role in ensuring the long-term viability of the residential sector is critical. This is because purchasing a home requires a large amount of money (Murphy 2011). The financial and economic policies of the country are governed and administered by government (Murphy 2011). Financial and economic policies of governments indirectly impact the development of the real estate market in any country (Wong, Higgins & Wakefield 2017). When the Reserve Bank of Australia raises interest rates, it will have a negative effect on investment in the Australian real estate sector (Murphy 2011). The value of online media in the residential real estate property market is increasing. Property buyers (87%) and tenants (85%) use the Internet to aid in their research and search for a home. Although 'agent contact' remains the most popular resource for Australian residential property buyers (79%), they are now much more likely to use online platforms than they were in 2006. (Murphy 2011).

1.4.2 Real estate in Sydney

The value of Australian residential real estate is almost four times the amount of the country's GDP and approximately $1 trillion more than the total value of the Australian stock exchange, superannuation and commercial real estate holdings (Yardney 2021). A report from CoreLogic revealed the entire value of Australian residential real estate is a whopping 8.8 trillion dollars (CoreLogic 2021). According to the ABS, the value of residential real estate in NSW is $2.76 trillion (ABS 2021). Twenty-five years ago, the median residential property price within Australia

was only $111,524, and the median apartments price was somewhat higher at $123,840 (Yardney 2021). Homeowners have seen a massive gain in their wealth since 1993, with median residential property and apartments values rising by 412% and 316%, respectively (Yardney 2021). The yearly average growth rate has been 6.8% for residential property, while for apartments, it has been 5.9% (CoreLogic 2021). The median value of a typical Australian residential property has increased by $459,900 since 1993, while the median value of an apartment has climbed by $392,000 since 1993 (CoreLogic 2021). Over the last 25 years, the average size of an Australian mortgage has grown according to property prices, with a yearly growth of 6.4% compared to national residential property prices rising at 6.8% annually and national apartment values rising at 5.9% annually (CoreLogic 2021). According to statistics up to March 2018, the average loan size for homeowners in Australia was $388,100, up from just $81,500 twenty-five years ago (Yardney 2021). The median house price in June 2017 was $1,075,000, according to the latest ABS data for that year. By September 2018, that price had dropped to $900,000 (Yardney 2021). According to Core Logic, the market fell another 3.9% (or $35,000) in the three months that ended in December 2018 (CoreLogic 2021). However, NSW ($445,500) has the largest average loan sizes in today's market.

Sydney has adopted living in an apartment more than almost any other Australian city (Pollio et al. 2021). Apartment living is seen as an affordable alternative to dwellings and units in popular areas like Sydney's eastern suburbs and northern beaches, where they are likely to enjoy continued strong demand and thus see a significant rise in values (CoreLogic 2021). Only 5% of Sydney areas in September 2019 had a median residential property worth below $500,000, down from 22% five years prior (Yardney 2021). In September 2019, 47% of suburbs had a median residential property worth of $1 million or more, compared to 34% five years earlier (Yardney 2021). Compared to the previous five years, in September 2019, only 29% of Sydney suburbs had a median apartment value of $500,000 or less. From 2.9% in 2013 to 14.4% in 2019, the percentage of suburbs with median residential property values over $1 million has increased (ABS 2021). According to the state government's housing performance monitor, there will be 150,000 new residences completed in the five years from 2021 (NSW government 2021). However, based on housing demand estimates, Greater Sydney will require 200,000 new residential properties over the next five years (NSW government 2021). It was estimated that 1.76 million dwellings were in

existence at the time of the survey, with 925,000 detached residences (57%), 227,000 semi-detached terrace residences (14%), 456,000 units/apartments (28%), and 0.6% being various types of housing (ABS 2016). In Australia, there were 64,698 business brokers, building managers, owners, real estate agents, and marketers working in the real estate sector, and a total of 117,880 people employed in the industry (ABS 2016). As of June 2013, there were over 19,160 real estate agents working in Australia, more than 6,000 real estate agents working in NSW and 472 real estate agencies active in greater Sydney (Domain 2019).

From 1890 to 1990, the average Australian residential real estate property price increased by 0.5% per year after inflation but grew faster from 1990 to 2017, possibly indicating a growing economy (Knoll, Schularick & Steger 2017). In 2011, the average residential real estate property price was six times the average family income, compared to four times the median family income in 1990 (Shi et al. 2016). In December 2008, the Australian federal government passed legislation that made it easier for international customers to purchase residential real estate property in Australia. According to data released by the Foreign Investment Review Board (FIRB) in August 2009, overseas investment in Australian real estate has increased by more than 30% yearly (Gauder, Houssard & Orsmond 2014). The media and the Reserve Bank have given Australia's real estate prices a lot of attention, and some analysts have indicated a real estate bubble in the country (Shi et al. 2016). According to the ABS, residential real estate property prices in Sydney were among the highest in the world compared to incomes. With major foreign investment in recent years, international buyers have been identified as a major contributor to the country's affordability problems. When it comes to real estate, the price of a property as well as supply and demand are important factors to consider. The demand for real estate in Australia is increasing at a rate of approximately 130,000 per year, but housing availably falls far short of demand (Raymer et al. 2020). Thus, property prices have increased as a result of a shortage of available real estate properties. In addition, factors such as funding availability, accessibility, interest rates, tax implications on expenditures and real estate prices, financial incentives, government subsidies, real estate programs, and raw material costs should all be considered (Bala & Verma 2018).

The cost of real estate depends on the availability and demand for real estate properties, with higher demand meaning higher costs. According to Wood 2012, over 65% of families own their homes through a mortgage program. The proportion of people who own property increases as people get

older. Today, the younger generation under the age of 24 prefer to rent rather than own a home, with only a select few choosing to purchase or build a home. When it comes to the more mature population of people aged 25 to 35 years, the proportion of owners, tenants, and renters is almost evenly divided between the three groups (Stapledon 2010). The affordability of residential property in densely populated cities such as Sydney and Melbourne continue to be a major source of concern for policymakers. Even though the economy is in excellent shape and many buyers want to get into the residential property in Australia's major cities, they have a difficult time doing so (Murphy 2011). The reality is that property ownership in Sydney is becoming increasingly unaffordable. When people earn more money, there are job opportunities and better living standards in place–all factors that contribute to the problems compounded by severe undersupplies of accessible real estate properties (Wong, Higgins & Wakefield 2017). Buying real estate is a crucial decision in most people's lives, and owning a property indicates one of their most important savings and assets.

1.4.3 Digital marketing in Australia

Digital marketing has developed tremendously in the past decade because of a confluence of factors, notably changes in customer preferences, digital innovations, growth in consumer purchasing power and knowledge, and significant economic growth across Australia (Kannan 2017). Throughout the last decade, the use of digital marketing as a buying or selling medium has increased significantly (Dahiya & Gayatri 2018). According to data as of January 2020, the number of active social media users in Australia increased by 4.3% (Statista 2021). This corresponds to 18 million active social media users out of a current population of 25 million people in Australia, or a penetration rate of 71% (we are social 2021). The use of social media is a significant part of the Internet landscape in Australia, and it is growing in importance. More than 80% of the Australian online community accesses social media networks, with almost 33% using it five times a day, and 79% accessing it daily (Ibisworld 2021). Furthermore, 33% of respondents reported that they initially look at a company's online presence before making a buying decision (Statista 2021). Over half of Australian internet users believe businesses that communicate actively with their customers online, offer relevant information, and post regularly are most likely to entice them to subscribe. Online users in Australia spend an average of 5 hours and 41 minutes every day online, a usage

rate of 93%, and around an hour and 44 minutes each day on online platforms (we are social 2021). Since 2019, the amount of time spent on the Internet each day has climbed by 37 minutes (we are social 2021). The usage of digital marketing has also increased moderately in this regard, to an additional 13 minutes per day (we are social 2021). The real estate sector has enjoyed rapid development on almost every statistic possible when it comes to digital marketing in Australia. On top of that, digital marketing has seen a 12% increase in the value of consumer products sold online, which is currently estimated at US$26.50 billion (Ibisworld 2021).

Digital marketing is expanding all over the world, and this is no different in Australia. According to industry estimates, Australia is the world's fifth-largest market for digital marketing. According to the ABS, the total amount spent on marketing in Australia in 2016 was AU$15.7 billion. Australians spent A$20.3 billion on online shopping in 2019, and A$7.1 billion of that totals was spent in Australia on digital marketing (Genroe 2021). Digital marketing accounted for 9% of total retail sales in Australia as of January 2019 (Statista 2021). Additionally, the number of digital marketing customers rose by 5% to 20.3 million in 2019. According to Statista, online businesses in Australia will witness a 15.1% increase in income by the end of 2021 (Statista 2021), and Australia's digital marketing will continue to grow in coming years. By the end of the first quarter of 2021, digital marketing in Australia increased by a phenomenal 25.8% (Ibisworld 2021). This indicates an increase in spending 2.5 times greater than the predicted 10.6% growth rate (Genroe 2021). Around A$17.3 billion was predicted to be spent on marketing in Australia in 2021, with about A$10 billion going towards digital marketing (we are social 2021). There will be a A$35.2 billion market by 2025 (US$ 25.2 billion) (we are social 2021). In Australia, online shopping accounted for 80.8% of all purchases in February 2019 (Statista 2021). 22.0 million consumers were predicted to shop online by 2021, with a digital marketing penetration rate of 85.2% (Statista 2021).

Many real estate businesses have been attracted by the rapid expansion of digital marketing and its unique capabilities. They are racing to establish businesses on the Internet without understanding the factors that influence buyers to buy residential property. Digital marketing, according to many business professionals, has the potential to enhance buyer engagement and trust if done correctly (Bala & Verma 2018). A substantial part of this is because digital marketing has a significant benefit over other traditional mass media. It allows for two-way interaction and the

transmission of information rapidly and efficiently (Garg & Kumar 2021). Only a few academics have looked at the factors that help or hinder customers from making online purchases, even though many marketing professionals recognise the relevance of digital marketing in their marketing strategies (Dwivedi et al. 2021). Digital marketing is becoming increasingly popular, but most buyers' understanding of it is still dependent on experiences and anecdotes from traditional marketing (Bala & Verma 2018). Previously, researchers focused predominantly on the impacts of digital marketing rather than the possible motivations for using it (Dwivedi et al. 2021). Consumer decision-making factors affecting the purchase of residential property are not well-studied, and thus the focus of this thesis.

This thesis specifically targeted the residential real estate industry for two reasons. First, real estate is a rapidly expanding business around the world. Significant impact on the market, job growth, growing populations, and rising rents were predicted to develop even faster over the five years from 2018 (Ulah, Sepasgozar & Wang 2018). Second, real estate is a high-involvement product that necessitates thorough research on the qualities and advantages of the product before a purchase decision is made (Dahiya & Gayatri 2018). As a result, real estate is an excellent product for marketing using digital techniques. Consumers are increasingly turning to digital marketing for information about real estate (Holiday 2001; Woody 2000). Digital marketing in real estate will become increasingly popular as the number of internet users who access property information grows (Ullah, Sepasgozar & Wang 2018). To use digital marketing methods effectively, marketing professionals must have a thorough understanding of customer behaviour and how it influences consumer decision-making.

1.4.4 Summary of the research context

Sydney, the NSW capital, is Australia's largest city and a major economic hub. It is a diverse and multicultural city with a thriving real estate industry driven by strong demand for housing due to rapid population growth and a strong economy (Vigiola, Cilliers & Lozano-Paredes 2022). Digital marketing in Sydney's real estate industry has become an increasingly important strategy for reaching and engaging with potential buyers and renters (Ullah & Sepasgozar 2020). Real estate companies in Sydney invest in digital marketing channels such as social media advertising, email marketing, and online listings to reach a wider audience and drive sales (Ullah et al. 2021). The

study on digital marketing and consumer behaviour in the real estate industry in Sydney focused on how digital marketing strategies are used in this competitive market and how they impact consumer behaviour (Azmi et al. 2022). Overall, Sydney's location, diverse population, and thriving real estate industry make it an ideal location for a study on digital marketing and consumer behaviour in the real estate industry (Evans et al. 2021). Australian real estate revenue has grown by 5.4% to USD 16.3 billion in the last five years, according to a Bankwest (2018) analysis. Between 2017 and 2018, the Australian real estate market's high demand and consistent expansion increased industry revenue by 13.6%. (IBISWorld 2018). Fast-moving technology developments and digitisation of real estate marketing are in large part responsible for these increases.

According to a report by the Real Estate Institute of Australia (REIA) in 2020, real estate professionals' use of digital marketing and social media increased by 24% over the past year (Hearn et al. 2021). Additionally, a survey conducted by the Property Council of Australia in 2019 found that 60% of respondents believed digital technology would significantly impact the industry in the next five years (Shooshtarian et al. 2020). According to a survey conducted by realestate.com.au in 2020, 84% of real estate agents in Australia use digital marketing for their business, with Facebook being the most popular platform (Chesher 2022). A report by Google and the National Association of Realtors found that 51% of home buyers in Australia use digital media to search for properties, and 41% use digital media to find information on a real estate agent (Fields & Rogers 2021). Domain Group, a leading Australian real estate website, reported that their digital app had over 2 million downloads in 2020, indicating a growing trend towards digital media in the real estate industry (Ullah, Sepasgozar & Wang 2018). A study by Ullah et al. (2021) found that 71% of Australian real estate professionals believe digital marketing is vital for their business. For the 2021 fiscal year, Australian digital marketing expenditure grew by 24.2%, to AU$11.4 billion, its highest level since 2016 as shown in Table 2.5 (Cheik-Hussein 2021). Digital marketing accounted for 45% of the total marketing industry in 2016 in Australia (ibisworld 2021). The real estate industry in Australia has been slow to fully integrate digital marketing into its business models and strategic plans (Low et al. 2020). Residential real estate companies have been implementing technology that will allow them to more efficiently manage the over AUD $9.1 trillion in residential real estate property values they currently manage (Corelogic 2021).

1.5 Research problem outline

Several research gaps in digital marketing and its influence on consumer behaviour are detailed in this section. According to the findings in current literature on digital marketing, there are significant gaps that need to be addressed. Few researchers have proposed a holistic way to predict BB by employing a consolidative approach to investigate internal psychological and external digital marketing factors. The Theory of Reasoned Action (TRA), Diffusion of Innovation Theory (DOI), and the Technology Acceptance Model (TAM) were among the theories previous academics used while doing empirical studies on digital marketing and consumer behaviour (Ghezzi 2019). Gaps observed in the digital marketing and consumer behaviour literature, have driven the research presented in this thesis. These gaps are discussed briefly below and in further detail later.

1.5.1 Gaps in the literature

As mentioned, most research linked to digital marketing has concentrated on the utilisation, and adoption of marketing technology rather than on the factors influencing purchase decisions that are influenced by digital marketing (Eze et al. 2020). There is little current literature in the area of consumer psychology, with the majority of research focusing on the adoption of technology such as digital marketing, social media or email (Dwivedi et al. 2021; Pandey, Nayal & Rathore 2020; Bala & Verma 2018; Dahnil et al. 2014). Influencing consumer behaviour is distinct from most other forms of digital marketing or technology adoption, since it is voluntary (Spangenberg & Lorek 2019). Dahiya and Gayatri (2018) recommended looking into the elements that influence buyers' decisions to purchase via digital marketing and whether they are encouraged or discouraged to do so. This recommendation was later supported by Alghizzawi (2019). Because these past empirical investigations were conducted using convenience sampling methods and smaller sample sizes, their findings cannot be applied to other contexts (Ullah & Sepasgozar 2020). According to Ullah and Sepasgozar (2020), most previous empirical investigations focused on general digital marketing users who may or may not have been associated with real estate purchases, with limited sample sizes. Furthermore, a comprehensive search of the literature failed to turn up any empirical studies addressing specific aspects connected to digital marketing that influence consumer behaviour, particularly in the domain of real estate (Azmi et al. 2022). This

thesis sought to fill some of these gaps and contribute to the existing body of knowledge in this sector.

Few empirical studies have looked at the aspects that influence a consumer's decision to purchase residential property through digital marketing. Studies on the influence of digital marketing have primarily focused on either the characteristics of digital marketing or the behaviour of consumers when presented with digital marketing information (Shu and Scott 2014). According to Ullah, Sepasgozar and Wang (2018), customers have more control over media and marketing than ever before. ICT advances have empowered Australian eal estate consumers by enabling access to more information (Gazzola et al. 2017). The same study found due to false and inaccurate information and privacy concerns, users are losing trust in online information, fueling uncertainty in the digital marketing environment (Gazzola et al. 2017). This indicates a 'trust-behaviour gap' between digital marketing and real estate consumers in the Australian context (Nizar & Janathanan 2018). However, according to Dahiya and Gayatri (2018), most recent research examining consumer psychology in the context of digital marketing, found the influence of digital marketing depends on both consumer satisfaction and trust in the information provided. Although this is merely a theoretical argument based on recent research that has yet to be practically tested, this study agreed with the concept that consumer satisfaction and trust regarding digital marketing information, as well as consumers' behaviour towards digital marketing, should be evaluated together to identify factors that cause digital marketing to influence consumers' purchase intentions. Thus, when developing their research model, Dayia and Gayatri (2018) took both factors into account.

The propensity for customers in the real estate industry to access property information online is ever-growing, and efforts are constantly being made to make improvements to customer experience. Nonetheless, specific research into precisely how these changes and improvements have influenced real estate consumer behavioural patterns is limited, and data on attitude-consistent behaviour is absent (Ajzen 1991; Ajzen 2015). There are only a small number of studies available relating to the influence of digital marketing on real estate consumer behaviours (Alghizzawi 2019). Fewer than 1% of these were conducted in the Australian context, demonstrating a significant research gap. Another common problem outlined in literature, theory and existing practice is the lack of integration between variables, which does not lead to a complete understanding of the behavioural theories/models that can best predict how consumers will react

toward digital marketing and its influence on real estate consumer behaviour in Australia. Furthermore, it is difficult to determine the influence of digital marketing on Australian consumer behaviours due to many unexplored and unverified research hypotheses. Furthermore, the TPB has been studied and verified in several nations, but not in the context of Australian real estate buying decisions (Jiang et al. 2000). Thus, there is an opportunity to integrate a new research format that is tailored to the Australian market and consumer population to accurately measure these behaviours.

The growth of the internet and the increasing use of digital technologies and digital marketing have become an important aspect of marketing for many industries, including real estate. Consumers are increasingly using digital channels to search for and purchase products and services, including real estate. Digital marketing can offer a range of benefits to real estate companies, such as increased brand awareness, lead generation, and cost savings. However, digital marketing is not being used to its peak potential by real estate marketeers. The real estate industry in Sydney is highly competitive, and digital marketing can be an effective way for real estate agents and companies to stand out from their competitors. As a result, it is important to understand how real estate companies can use digital marketing to gain and maintain their edge in an ever-changing competitive market. This research also sought to understand how the real estate industry in Sydney can best adapt changes in the digital marketing landscape for greater impact.

This thesis aimed to gain a deep understanding of how real estate companies in Australia's largest metropolitan city, Sydney, are currently leveraging the benefits of digital marketing. The research also went further to understand how digital marketing influences consumer behaviour in Sydney's real estate industry—this knowledge can be used to improve the consumer experience and ultimately increase sales. The results will be useful more broadly to inform digital marketing approaches that improve the consumer experience and buying behaviours and across the real estate industry. Furthermore, the research presents new, exciting ideas or perspectives that have not been explored before and has the potential to contribute significantly to the field. It also presents a novel approach using innovative methods that have not been explored before.

1.5.2 Models in predicting the behaviour

Purchasing a residential property requires effort, time and resources. As previously stated, several researchers have used the Theory of Reasoned Action (TRA), Diffusion of Innovation (DOI), and Technology Acceptance Model (TAM) in research in the context of digital marketing and consumers' purchasing behaviours (Yadav and Pathak, 2016). The TRA implies that the only determinants of behavioural intention are a buyer's attitude towards performing the behaviour and a willingness to comply with perceived social pressures from other opinions significant to the buyer—the subjective norms (SN) (Fishbein and Ajzen, 1975). By contrast DOI is the process through which unique technologies are embraced (or rejected) by their intended audiences, and TAM describes how consumers come to accept and utilise a technological solution (Ullah, Sepasgozar & Wang 2018). As Han, Hsu, and Sheu (2010), pointed out the failure to identify external factors on consumer buying decision raises concerns about the applicability of the TRA, DOI and TAM.

Ajzen (1991) developed the TPB, which was an expansion of the TRA to include perceived behavioural control (PBC) as a new element in an attempt to overcome limitations of the TRA. The TPB, as a psychological theory, has been frequently used to study BI, BB and subsequent actions (Hsu, Chang and Yansritakul 2017). However, many reviewers either criticise its ability to predict behaviour or question its limitations (Si et al. 2019). Furthermore, the TPB does not clarify where the PBC came about. To address its limitations, various authors in the field of digital marketing have extended the TPB incorporating other factors into the model. Consumer perceptions of value, desire to pay, customer knowledge and trustworthiness are a few examples (Frik & Mittone 2019). The inclusion of additional variables increases the prediction power of the TPB model (Ledesma et al. 2018). This research is predicated on self-interested behaviour that may be described by a logical decision process based on the TPB, which primarily considers internal psychological considerations (Sun 2020). Despite extensive research based on the TPB, very little work has been done to provide a comprehensive method for predicting property purchase intention using an integrative approach that incorporates internal psychological components as well as external factors such as digital marketing. Therefore, it is vital to develop an integrative method that considers both internal and external factors to understand property purchase intentions and behaviours. The purpose of this thesis is to determine the factors that influence customers'

decisions to purchase residential property using digital marketing in Sydney, Australia, and to identify directions for future research. To improve upon the five basic constructs (ATT, SN, PBC, BI and BB) of the TPB, the preliminary research model in this thesis was constructed to include three new components to the five basic constructs of the TPB.

1.6 Research aim, question, and objectives

1.6.1 Research aim

This research aimed to determine the most influential digital marketing factors affecting consumer behaviour and investigate how digital marketing influences consumers' purchase decisions in Sydney's residential real estate industry. Even though digital marketing phenomena are not new in Australia, there has been little research into the behaviours of consumers in Sydney's residential real estate industry and how these are influenced by digital marketing. This thesis investigated how real estate companies can enhance client satisfaction and trust using digital marketing strategies to influence consumer buying intentions. The findings of this research are hoped to bring progressive transformation for real estate businesses to use digital marketing techniques more rigorously, effectively and efficiently in the future. By acquiring new digital marketing strategies, businesses can influence consumers' buying intentions, satisfaction and improve consumer trust. Another purpose of this research was to establish an Integrated Digital Marketing-Consumer Behaviour framework for the real estate market in Sydney. This framework is intended to assist the real estate industry in Sydney to improve the outcomes of their marketing campaigns using digital marketing techniques.

1.6.2 Research question

Main research question

> How can digital marketing be used effectively to influence buyers of the residential real estate sector in Sydney, Australia?

To address this main question, the following sub-questions were investigated:

> Q1: What digital marketing factors influence residential real estate buyers' buying decisions?
> Q2: What behavioural factors influence residential real estate buyers' buying behaviour?

Q3: How do demographics affect consumers' buying behaviour in the residential real estate industry?

1.6.3 Research objectives

- To identify digital marketing related behavioural factors influencing consumers' buying behaviour in the residential real estate industry.
- To investigate digital marketing factors influencing residential real estate buyers' buying decisions.
- To determine the effect of demographics on buying behaviour in the residential real estate industry in the context of digital marketing.

1.7 Research approach

For many years researchers have debated the most effective academic research paradigm (Rahi 2017). Quantitative constructivists and interpretivists stated philosophical assumptions consistent with the positivist paradigm (Cuthbertson, Robb & Blair 2020). This paradigm is taken from the natural sciences of social reality and is based on true knowledge gained through the senses (Ryan 2018). It holds that observation and experiment within a system are the most effective ways to understand human behaviour (Ryan 2018). As a philosophy, positivism is built on the notion that social reality exists regardless of whether or not researchers are aware of it (Cuthbertson, Robb & Blair 2020). In the positivist paradigm, data are acquired through surveys and reported in aggregate values, such as averages and standard deviations, rather than individual observations. The research paradigm on this thesis focuses on how digital marketing, as a dominant reality, impacts underlying theory, as well as real estate customer satisfaction, where digital marketing is not only the vehicle of communication but the recurrent theme. This thesis took a quantitative methods approach to determine the precise impact of digital marketing on real estate consumer buying behaviour.

The use of surveys to determine the relationships between digital marketing and consumer buying behaviour has been widely used by researchers (Dahiya & Gayatri 2018). There are different survey methodologies, such as in-person, telephone, self-administered, and online (Olson et al. 2021). Surveying in-person and by telephone may be associated with major disadvantages,

including interviewer bias and lack of anonymity, and they take more time and resources (Olson et al. 2021). By contrast, online surveys allow for anonymous responses and considerably cut turnaround times and costs compared to other survey types (Helms, Gardner & McInnes 2017). Surveys are frequently used in experimental studies to acquire individual responses, which may be used to determine personal views, attitudes and ideas about various topics (Mohajan 2018). A survey helps the researcher examine the evidence and assess correlations and forecasts according to the research objectives (Helms, Gardner & McInnes 2017). While not as exact as behavioural observation, online surveys are reliable for gathering information about respondents' views and beliefs (Mohajan 2018). As a result, internet surveys are more successful than traditional surveys, and there is less room for interviewer bias and human error (Helms, Gardner & McInnes 2017). Surveys are also the most suitable method of collecting data from large sample sizes to achieve reliable outcomes while also being simple to perform and record questions and responses (Nayak & Narayan 2019). Thus, surveys were used in this research to examine and explain the correlations between digital marketing and consumer buying behaviour (BB) in the proposed model.

Due to COVID-19, surveys were conducted through the University of Southern Queensland online portal, using the Lime survey tool, so participants could complete the questionnaire at their convenience. The portal also served as a checkpoint to guarantee that all those who participated had access to the Internet. A questionnaire is another effective data collection method. This method helps directly achieve research objectives when the investigator knows what questions to ask and how to evaluate the variables of the study to obtain accuracy and reliability in the data collected (Nayak & Narayan 2019). The following steps were taken to develop the questionnaire for this study:

1. A clear set of research objectives was developed. A thorough description of the research objectives included the knowledge needed to answer the research question and test hypotheses.
2. The researcher used findings from exploratory studies and past research, together with key variables to assist in establishing Sydney real estate consumers' points of view.
3. The researcher compared the questionnaire with related research from systematic literature reviews.

4. Multi-item measurements were used to guarantee that the items corresponded to the meaning of each construct (Cheah et al. 2018). Any single item cannot achieve a perfect presentation of the research concept.

5. Pre-testing versions of the questionnaire were used to gather data before the final study.

The objectives of the study facilitated the development of the questionnaire. The objective of this research was to identify digital marketing factors that strongly influence consumer buying behaviour and test the preliminary model and hypotheses that have been developed. Questionnaires were sent only to people who were using the Internet to actively search for residential real estate. Participant opinions, beliefs, and attitudes about gathering information and making a decision to purchase residential real estate through digital marketing were collected.

Regarding construct an operationalisation, the researcher has identified the specific aspects or indicators of the concept to be measured in this study. Real estate consumer experience on the use of digital marketing can be operationally defined by consumer buying behaviour (BB), buying intention (BI), Satisfaction (SAT), Trust (TR), Attitude (ATT), perceived behavioural control (PBC), subjective norms (SN) and digital marketing (DM). This was done with a pilot test before collecting bulk data. Initially, internal reliability estimates and individual scale items were examined using Likert scales, which can be applied to provide a result on an overall scale (Cheng et al. 2021; Croasmun & Ostrom 2011). The five-point Likert scale was used to assess all variables explored in this study as shown in Figure 4.1, with 1 being "strongly disagree" and 5 being "strongly agree". The suggestions from participants during the pre-test and pilot test, which took place prior to the online survey, were used to develop this 5-point framework.

1.8 Research scope

In Sydney, many businesses are rushing to develop a digital marketing presence despite uncertainty about the true impact of this paradigm on their businesses (de Ruyter et al. 2018). Previous empirical studies have concentrated mainly on digital marketing advertising rather than the underlying reasons customers make purchasing decisions (Liu-Thompkins 2019). There is no empirical research into the reasons for purchase decisions in Sydney's residential real estate market. Therefore, the scope of this study was Sydney's residential area. This study was conducted

on a sample of 404 residential real estate buyers. This study was limited to Australian residents over the age of 25, active Internet users and those with a knowledge of digital marketing. A structured questionnaire was provided to participants to see how much digital marketing affected their purchase decision.

The research also explored the relationship between information provided by marketers and purchase satisfaction toward real estate property in Sydney. Digital marketing features were evaluated to understand how these influence customer satisfaction and behaviour in Sydney's residential real estate industry. This led to the development of a conceptual framework of digital marketing in the context of Australian residential real estate. The research identified the real position of demand and supply in residential estate and provided a snapshot of industry performance in residential real estate in Sydney. It is hoped that the findings will help real estate companies better understand and implement digital marketing factors that motivate customers to buy property.

1.9 Research model overview
Background of the research model

Many current and respected researchers use the TPB to better understand consumer buying behaviour. The proposed extension on the TPB framework, shown in Figure 3.1, aims to identify customer buying attitudes, planned behaviours, and buying intentions in the context of Australian real estate. This theory, first proposed by Aizen's (1985), is now widely accepted to forecast human behaviours concerning digital marketing and real estate purchasing intentions (Han & Kim 2010). It has been used successfully to predict and explain a range of buyer behaviours and buying intentions. It can help to better understand attitude formation and to create an explanatory model (Ajzen 1991).

Extension of the theory of planned behaviour in empirical research

The extended TPB model, detailed later in chapter 3 of this thesis, is far more comprehensive at explaining and predicting purchase behaviours and intentions compared to the original TPB model (Chen 2016). In many domains of research, this extended TPB model has successfully predicted

buyer behaviour regarding purchase intentions (von Meyer-Höfer et al. 2015). The purpose of the proposed TPB model in Figure 3.2 (Chapter 3) is to support the use of an extended TPB model in Australia, where an in-depth, comprehensive model is almost absent. It is hoped that the extended TPB model will explain behavioural intentions of real estate consumers and the interrelationship between digital marketing and its influence on buyer behaviour.

1.10 Hypotheses development and analysis

The growth of digital marketing in recent times has pushed the need to better understand its influence. This pragmatic study of digital marketing's influence on consumer behaviour in Sydney's real estate industry facilitated the development of a better framework for success (Haider & Shakib 2018). The proposed TPB model is an extension of new conceptual frameworks to determine digital marketing influence on consumers in the Australian real estate industry. In this model, satisfaction (SAT), trust (TR) and digital marketing (DM) are added to the three original TPB factors (SN, ATT and PBC). When it comes to the expectancy surrounding the performance of a given behaviour, these external characteristics may have a significant impact (Sultan & Wong 2014). In this study, the eleven direct hypotheses presented in Table 1.1 and the seven indirect hypotheses presented in Table 1.2 were tested.

Table 1.1: Direct Hypothesis

Hypothesis No	Hypothesis
H1	*There is a positive and significant relationship between buyer attitude and buyer intention (ATT → BI).*
H2	*There is a positive and significant relationship between subjective norm and buyer intention (SN → BI).*
H3	*There is a positive and significant relationship between perceived behavioural control (PBC) and buyer intention (PBC → BI).*
H4	*There is a positive and significant relationship between digital marketing and buyer attitude (DM → ATT).*
H5	*There is a positive and significant relationship between digital marketing and buyer satisfaction (DM → SAT).*
H6	*There is a positive and significant relationship digital marketing and buyer intention (DM → BI).*

H7	*There is a positive and significant relationship between digital marketing and buyer trust (DM → TR).*
H8	*There is a positive and significant relationship between buyer satisfaction and buyer intention (SAT → BI).*
H9	*There is a positive and significant relationship between buyer trust and buyer intention (TR → BI).*
H10	*There is a positive and significant relationship between buyer intention and buyer behaviour (BI → BB).*
H11	*There is a positive and significant relationship between perceived behavioural control (PBC) and buyer behaviour (PBC →BB).*

Table 1.2: Indirect Hypothesis

Hypothesis No	Hypothesis
H12	*Attitude mediates the relationship between digital marketing and buyer intention (DM → ATT → BI).*
H13	*Buyer intention mediates the relationship between buyer satisfaction and buyer behaviour (SAT → BI → BB).*
H14	*Buyer trust mediates the relationship between digital marketing and buyer intention (DM → TR → BI).*
H15	*Buyer intention mediates the relationship between digital marketing and buyer behaviour (DM → BI → BB).*
H16	*Buyer intention mediates the relationship between buyer attitude and buyer behaviour (ATT → BI → BB).*
H17	*Buyer intention mediates the relationship between Subjective Norms and buyer behaviour (SN → BI → BB).*
H18	*Buyer intention mediates the relationship between Perceived Behavioural Control and buyer behaviour (PBC → BB → BI).*

1.11 Thesis outline

There are seven chapters in this thesis, as detailed below:

Chapter 1: Provides an overview of the thesis, including an introduction, research background and significance, research gaps, context and aims (including research objectives), research questions, research approach and hypotheses.

Chapter 2: Provides a theoretical overview of existing research on the factors influencing customer behaviour when purchasing residential real estate. The first section looks at the concept

of digital marketing, including its history and current application in today's businesses. It moves on to discuss the digital marketing element, followed by a discussion of consumer purchase behaviour and research into the factors that influence consumer purchase behaviour. It identifies gaps in the literature and highlights the characteristics of the behavioural model that have been used in several investigations. From the theoretical literature review, the researcher developed an integrated conceptual research model to gain a more thorough understanding of consumer buying behaviour.

Chapter 3: Analyses and investigates factors associated with building a research model based on the literature review. Also presented in detail in this chapter is the information gathered during the literature review to construct a conceptual research model, including definitions of all the constructs and their hypothesised correlations.

Chapter 4: Presents an overview and detailed explanations of the research methodology, including the research paradigm understanding the research philosophy is acknowledged to be a key requirement for undertaking research. The first section discusses the chosen research paradigm with valid arguments and the justification for using a qualitative research approach, and survey administration techniques, as well as discussions about questionnaire development.

Chapter 5: Analyses the findings of the data collected during the investigation and reports the results of quantitative data analysis using PLS-SEM. Detailed findings of the study are presented, together with the results of the model and hypothesis testing.

Chapter 6: Presents the comprehensive analysis and discussion of findings from data evaluation presented in Chapter 5. It examines the research hypotheses used to investigate the correlations between the variables in the research model, and whether the research hypotheses were accepted or rejected.

Chapter 7: The findings of the previous chapters are discussed, and conclusions are made in accordance with the theoretical and practical contributions made to field. The study's research limitations are discussed, and recommendations for future research directions are shared.

1.12 Chapter summary

The main aims of this chapter were to provide a brief overview, background, scope and significance of the research, a review of the literature, and outline the hypotheses. The literature, review identifies gaps in our understanding of digital marketing's influence on consumer behaviour. The research questions and objectives are presented based on the research gap and a research problem found in the existing literature. Real estate companies can succeed with more substantive digital marketing content and more effective brand positioning in the residential real estate industry if they understand how consumers interact with online information and how their expectations differ (Ullah & Sepasgozar 2020). In order to influence real estate consumer behaviours, it is also necessary to make digital marketing platforms stronger and more attractive through better digital marketing content (Priyadarshini et al. 2016). The knowledge derived from this research on understanding the fundamental motivating components that drive consumers' purchasing behaviour will increase and expand our ability to comprehend the complex phenomenon of doing business online. An extensive literature review is conducted in Chapter two, based on the research foundations that were established in this first chapter. In Chapter 2, based on a review of peer-reviewed journal articles over the last five years, the research goes deep into digital marketing and real estate consumer behaviour.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

The main purpose of this chapter is to examine relevant literature, identify gaps and develop a conceptual model that will be tested and used to discover the factors that influence customer purchase behaviour in the residential real estate industry in Sydney. Throughout this chapter, the researcher will examine literature on the emergence of digital marketing as a concept, its limitations, the prospects presented by digital marketing, and where it fits into the Sydney real estate context. The chapter begins with a brief overview of digital marketing and its significance before moving into an in-depth discussion. It is divided into six sections, with the first being an introduction, section 2.1, and the second a methodology for the literature review in section 2.2. Section 2.3 provides a brief overview of the concept of digital marketing and its historical context. The research on digital marketing factors that influence the purchasing decisions of real estate consumers is presented and addressed in detail in section 2.4. Section 2.5 identifies limitations and gaps in the literature, and section 2.6 compares and contrasts existing theories and models for studying consumer buying behaviour in the digital market. Section 2.7 concludes with a chapter summary.

2.2 Literature review methodology

This thesis sought to investigate how digital marketing impacts consumers' buying behaviour with a particular emphasis on residential real estate in Sydney, Australia. The study results will reveal how real-world digital marketing can influence consumers' buying behaviour and help businesses and marketing professionals develop successful marketing strategies. Before beginning the study, it was necessary to conduct a review of relevant literature on previous studies and to build a framework for further research. According to current literature, digital marketing can impact buyer behaviour in the real estate industry. The literature review, which served as the foundation for testing the hypotheses, has made it possible to detect new variables in the real world. An extensive list of scholarly peer-reviewed articles was sourced read and analysed. The relevant scientific databases included Scopus, ScienceDirect, Google Scholar, IEEE explore and the USQ library

database. To identify gaps in the literature, systematic, semi-systematic, and integrative approaches were implemented.

USQ library's search engines and Google Scholar were the most frequently accessed resources. To find relevant academic content, the following key search terms were used: digital marketing, consumer behaviour, real estate marketing, the factors that impact consumer behaviour and digital marketing strategies. Between 2015 to 2021, there were 679,500 digital marketing-related articles in Google Scholar's database. This included 16,000 articles on consumer behaviour, 19,400 articles on digital marketing in the real estate business, and 15,800 articles on digital marketing-related factors that influence consumer behaviour. Peer-reviewed journals were found through searching the USQ library. This narrowed down the amount of literature to be reviewed. Access to various marketing literature databases was required for a systematic study, including ProQuest Central, National Library of Australia, Australian Education Research Research Database and EBSCO Open Dissertations. In the course of additional research, precise keyword combinations were used to seek the correlations and connections between the various constructions in the literature.

2.3 Overview of digital marketing and real estate industry

2.3.1 Brief history of digital marketing

The first known attempt to communicate textual messages from one node to another was the first electronic data interchange (EDI), made during the 1948 Berlin airlift (Rajput & Chavda 2019). In 1993, the Internet was launched, ushering in a new era in modern digital marketing. Digital marketing is now driven mainly by the Internet. The history of the Internet may be traced back to a Department of Defense project in the late 1960s as a mechanism for government researchers to share information to create a decentralised communication network (Fidler & Russell 2018). In 1990, a CERN - (European Laboratory for Particle Physics) established the World Wide Web, allowing plain text to be transformed into a user-friendly graphical environment, enabling multimedia of text, images, and sound (Naughton 2016). During the late 1980s and early 1990s, the term "digital marketing" came into existence. The digital revolution began when the Internet and the Web 1.0 network were introduced (Ibrahim 2021; Mata & Quesada 2014). Online marketing, online payment processing, e-commerce, s-commerce, and electronic

communications are all examples of digital marketing, a widely used term to describe several distinct platforms and technologies.

Previously, it was possible to obtain information using the Web 1.0 portal, but it was impossible to post anything on the Internet (Ibrahim 2021; Mata & Quesada 2014). Nowadays, consumers' relationships with products and companies are changing as a result of communications technology. Automation makes it possible to get, store and exchange information (Oluwatofunmi & Amietsenwu 2019). Both Microsoft MSN and Yahoo launched search engines in the late 1990s (Jain 2021; Gawer & Cusumano 2015). With a reported increase in search engine traffic to about 6.4 billion in a single month in 2006, the digital marketing industry saw its first significant growth (Dwivedi & Nath 2020). Not wanting to be left behind, Microsoft put MSN on the backburner and launched Live Search to compete against Google and Yahoo (Kumar 2021; Kamal 2016). With the advent of Web 2.0, consumers and businesses were able to interact more efficiently, and social networking platforms started appearing (Susanto et al. 2021; Mata & Quesada 2014). When Myspace and Facebook initially came into the picture, they set the bar very high. Another key digital marketing milestone was the development of the 'cookie'. As a result of technological advancements, marketing professionals are forced to look for new ways to capitalise on current trends. Cookies allow marketeers including real estate professionals to gather user data in several different ways. Because the digital market is constantly evolving, marketing professionals must devise tactics to keep up with the pace of change (Li 2021; Kamal 2016). The introduction of new and more inventive strategies is essential for real estate marketing professionals to stay competitive.

According to a report by Hootsuite, there was a 20% increase in global internet usage in 2020 compared to 2019, and a 10.7% increase in social media usage (Fernández-Rovira & Giraldo-Luque 2021). This increase in online activity has made digital marketing more critical than ever. According to a survey by McKinsey & Company, e-commerce adoption in Australia increased by 10 years in just three months during the pandemic (Lund et al. 2021). As a result, companies have had to shift their focus to digital marketing to stay competitive. A survey by Accenture found that 60% of consumers plan to continue their shift to online shopping post-pandemic (Qi & Ploeger, 2021). This shift in consumer behavior has made digital marketing essential for companies to reach out to customers (Alshaketheep et al. 2020). According to eMarketer, digital ad spend in the United

States increased by 12.7% in 2020 compared to 2019 (Shaw, Eschenbrenner & Baier 2022). Due to the pandemic, many real estate businesses in Australia have had to shift their focus to digital marketing in order to maintain their operations and reach potential customers (Soundararaj et al. 2022). This increase in ad spend reflects the growing importance of digital marketing in reaching out to customers during the pandemic (Bermeo-Giraldo et al. 2022).

With the restrictions on physical viewings and face-to-face interactions, digital marketing has become a crucial channel for real estate agents to promote their properties and services. A report by Statista found that daily social media usage increased by 10 minutes per day during the pandemic (Fernández-Rovira & Giraldo-Luque 2021). Companies have had to adapt to this change by using social media platforms to engage with customers and promote their products (Kannan & Kulkarni 2022). According to a report by The Real Estate Conversation, the COVID-19 pandemic has caused a surge in online property searches, leading to an increase in digital marketing spend by real estate businesses (Munirah & Ezdihar 2022). The report states that digital marketing spend in the real estate industry in Australia increased by 80% during the pandemic (Ali & Song 2022). Furthermore, a study by REA Group, a leading digital advertising platform for the real estate industry in Australia, found that the pandemic has accelerated the shift towards digital marketing in the industry (Ali & Song 2022). The study reported that 63% of real estate businesses in Australia increased their investment in digital marketing during the pandemic, with social media advertising being the most popular digital marketing channel (Ali & Song 2022).

2.3.1.1 Digital marketing growth indicators

At the beginning of 2021, the global population was estimated at 7.83 billion people (Narmanov 2022). The UN estimates (**Table 2.1**), that this population is rising at a rate of 1% each year, or an additional 80 million individuals every year since 2020 (Patel et al. 2020). Mobile phones are used by 6.6% of the global total, which is 5.22 billion individuals (Narmanov 2022). It is estimated that individual mobile users have climbed by 1.8% (93 million), and total mobile users have grown by 72 million (0.9 %) from January 2020, reaching 8.02 billion at the beginning of 2021 (Narmanov 2022). In January 2021, there will be 4.66 billion internet users, an increase of 316 million people (7.3%) from the previous year (Bikalenko et al. 2021). The current global percentage of internet users is 59.5%. There are currently 4.20 billion people using social media sites like Facebook and

Twitter (Houghton & Hodder 2021). During 2020–2021, this number increased by 490 million, representing a year-over-year increase of 13%. More than 53% of the world's population is currently active on social media platforms like Facebook, Twitter, and Instagram and, every second, approximately 15 new individuals join social media platforms (Datareportal 2021).

Table 2.1: Digital marketing growth by percentage

Item	Amount 2020	Growth from 2020-2021
World's population	7.83 billion people	1% per year
Mobile phone user	5.22 billion mobile phone users	0.9%
Internet	4.66 billion internet users	7.3%
Social media	4.20 billion social media users	13%

Source: Created for this research

Since January 2016 the number of internet users worldwide has more than doubled, with more than 1 billion additional users having joined the worldwide total in only the last three years, according to research (**Table 2.2**). Since 2015, the overall 12-month growth rate for digital networking has been 12.5% on average (Dean 2021).

Table 2.2: Digital marketing growth by year

Year	Amount	Growth in 12 Months
2016	2.31 billion people	
2017	2.71 billion users	+20.9% between 2016 and 2017
2018	3.20 billion users	+14.6% between 2017 and 2018
2019	3.46 billion users	+8.3% between 2018 and 2019
2020	3.71 billion users	+7.2% between 2019 and 2020
2021	4.20 billion users	+13.2% between 2020 and 2021

Source: Created for this research

In 2019, global digital marketing spending was expected to increase by 17.6%, to $333.25 billion (Enberg 2019). In the middle of the COVID-19 Pandemic, the worldwide economy for digital marketing reached US$350 billion in 2020, and is expected to grow to US$786.2 billion by 2026, according to new forecasts (GlobeNewswire 2021). **Table 2.3** presents the digital marketing industry in Australia is also continuing to expand. In 2017, digital marketing contributed AU$7.9 billion, accounting for 50.7% of Australia's overall paid ad market (PWC 2020). Australia's

advertising expenditure was projected to grow from AU$15.8 billion in 2018 to AU$23 billion by 2023, representing a 33% increase (PWC 2020). In 2020, the PwC predicted a yearly cumulative growth rate of 7.8%—greater than the global forecast of 4.3%.

Table 2.3: Digital marketing spending globally and in Australia

Year	Digital marketing spending	Market
2019	US$333.25 billion	Global
2020	US$350 billion	Global
2026	expected to grow to US$786.2 billion by 2026	Global
2017	AUD$7.9 billion	Australia
2018	AUD$15.8 billion	Australia
2023	AUD$23 billion (representing 33% increase by 2023)	Australia

Source: Created for this research

2.3.1.2 Digital marketing strategies

Digital marketing refers to marketing efforts that use digital media and the Internet, whether through linked devices like smartphones, or through laptops (Lies 2019). Many digital marketing strategies, as shown in **Table 2.4**, revolve around the use of search engines, social media applications, email and websites to convey brand messages. To be successful in today's digital world, it is critical to reach customers at every stage of marketing with increasingly conversion-oriented communications sent via numerous platforms. A perfect world is one in which marketing teams can follow up on how well their various messages contributed to their overall objective. In addition to video marketing, digital marketing also incorporates strategies such as e-mail and content marketing and social media and Seach Engine Optimisation (SEO) marketing. In light of the current digital marketing boom, existing marketing strategies and approaches have undergone significant changes. Digital marketing should be used by businesses to enhance customer service through increased technological application. As a result of social engagement on digital platforms, customers get to know one another and feel more confident doing business with a brand. Email marketing, social media marketing, affiliate marketing, search engine marketing, internet commercials, and pay-per-click advertising are all effective ways for companies to reach their target audience (Bala & Verma 2018). Recent digital marketing and internet technology

improvements have made it possible for users to become more connected (El Junusi 2020; Hajli 2014). No business can succeed today without using digital marketing in some capacity (Desai & Vidyapeeth 2019; Atshaya & Rungta 2016).

AR and Virtual Reality (VR) are other digital marketing techniques that enable access to a space where graphic visualisation can increase the perception of reality around the operator in real-time (Bonetti, Warnaby & Quinn 2018). AR and VR combine real and virtual imagery; are interactive in real-time and take three-dimensional form (Bonetti, Warnaby & Quinn 2018). In business terms, AR and VR are considered any products that add to a view of reality. To provide visual content and real-time processing to meet consumer expectations, real estate companies should keep AR and VR in mind. This will help them appeal to potential buyers and sellers to increase sales and demonstrate the industry's broader concern for finding appropriate solutions to problems that arise in the real estate industry. An online survey conducted in 2017 asked respondents about their current property and found that 51% were dissatisfied with their purchase decision (Ullah et al 2019). A prospective buyer's response like this is the last thing a real estate professional wants to hear. As they work for the client's benefit, they would prefer to know they are respected for their honesty, knowledge, and expertise rather than just the monetary rewards from advertising and routine real estate tours. Some AR and VR advertising elements can take place in the viewer's environment, and enhanced mixed reality engages viewers by giving them information and instructions about the property they are viewing (Alcañiz, Bigné, & Guixeres 2019). Companies like Apple, Google and Microsoft are leveraging AR to grow their existing businesses and expand into new markets (Ling 2017).

Table 2.4: Digital Marketing Strategies

Digital Marketing Strategy	Statistics	Source
SEO	Sixty-one per cent of marketing professionals say their top digital marketing (DM) priority is improving SEO and building an overall presence. Digital marketing is rated as the most effective SEO strategy by 72% of digital marketing professionals. Even if the transaction is made in retail, 80% of significant purchases begin with online research. Sixty-one per cent of B2B (business-to-business) marketing professionals said that SEO generates more leads than any other marketing effort.	(HubSpot), (Junto)

Content marketing	Any effective digital marketing plan must include high-quality content as a foundational strategy. 2,000% more customers will come to visit a blog just because of better content. According to 72% of marketing professionals, creating and publishing relevant content is the most beneficial digital marketing strategy. Having a blog increases lead generation for B2B marketers by 67%. Republishing and upgrading information on existing blogs can increase the number of visitors by more than 100%.	(Search Engine People)
Video marketing	Video is now the most preferred digital marketing method for 82% of B2C (business-to-consumer) companies. Video is the content category that has the highest return on investment (ROI), according to 52% of marketing professionals. Pre-purchase video research is performed by nearly half of all internet users. Most video marketers think that website traffic has increased massively from video, while 81% claim that video has increased the overall time visitors spend on their page. 92% of marketing professionals who use video feel it is a crucial element of their strategy.	(HubSpot), (Wyzowl), (SEO Inc), (Influencer Marketing Hub)
Email marketing	To keep pace with growth, the worldwide email user base is expected to reach 4.48 billion people by 2024. Email marketing is essential to 49% of marketers as a lead generating tool and 47% as a lead retaining strategy. More than a third of marketing professionals send their clients between 3 to 5 emails every week.	(Statista), (HubSpot)
Marketing automation	Automation is used in some capacity by 68% of companies. A whopping 98% of business professionals think marketing automation will be crucial to their company's growth. More than nine out of ten (91%) marketing automation professionals believe it is critical to their entire digital marketing operations. 70% of marketing professionals say one of the most crucial benefits of automation technology is better personalisation messaging.	(HubSpot), (Liana Technologies), (Sherpa)
Pay-per-click (PPC)	For the year 2017, more than 7 million marketers spent a total of USD$10.01 billion on PPC marketing, and 79% of advertisers agree that PPC has been highly beneficial to their company's growth. PPC marketing accounts for 45% of small business marketing budget, with approximately 17% of marketing professionals using PPC for lead generation.	(Formstack), (PayScale), (Statista)
AR/VR	In 2020, the aggregate AR and VR markets were estimated to be worth USD$12 billion. In 2021, AR was expeted to generate USD$4.2 billion in income with annual growth of 38.1%, while VR was expected to generate USD$3.5 billion with yearly growth of 27.9%.	(IDC), (eMarketer), (Business Insider)
Social media	A total of 20.5 million or 79.9% of Australians use social media daily. There are 4.5 billion people worldwide who use the Internet, and there are 3.8 billion users on social media platforms worldwide.	(Genroe)

Facebook	There are 18 million active Facebook users in Australia, which means that Facebook serves 80% of the country's social media market. In the second quarter of 2021, revenue was USD$29.07 billion, up 56% from the previous year. In comparison to the previous year, net income increased by 100% to USD$10.394 billion. The free tools provided by Facebook for small businesses are used by over 80 million peoples worldwide.	(HubSpot), (Zephoria), (Genroe), (WPForms)
LinkedIn	LinkedIn users spend an average of 10 minutes and 42 seconds on the site each day, and they look at an average of 8.52 pages. Australian digital marketing revenue is driven by LinkedIn, with a market share of 5%. LinkedIn is used by 94% of marketing professionals for digital marketing and 89% for lead generating.	(Genroe), (Hootsuite)
Instagram	Eleven million Australians, or 51.6% of the total population, use Instagram each month, and one billion individuals use Instagram every month globally. On Instagram, businesses' paid influencers posted 4.95 million times in 2019. More than 83% of Instagram customers think the network has introduced them to new products or services. In addition, 130 million subscribers click on buying advertisements each month.	(Hootsuite) (HubSpot) (Statista)
Snapchat	The total number of Australians reached by Snapchat advertising increased by 50,000 (1%) in the last year. 5% of Australian digital advertising revenue is reportedly accounted for by Snapchat. This is a 47% growth in one year, which is a total revenue of AUS$2.5 billion in 2020.	(Statista), (Genroe), (HubSpot)
Twitter	A total of 2.9 million Australians, or 13.6% of the population, are connected with Twitter marketing. In Australia's digital marketing, Twitter has a 5% share. In 2019, marketing activities brought in 87% of Twitter's revenue approximately. Thirty-eight per cent of video marketing expect to use Twitter in 2020.	(Statista) (Wyzowl) (SEO Inc)
Pinterest	There are currently 322 million people using Pinterest every month. Eighty-two per cent of Pinterest users have made purchases due to seeing content from their favorite companies on Pinterest. Seventy-seven per cent of Pinterest users claim to have found new products or brands.	(Pinterest) (Statista) (eMarketer)

Source: Created for this research

Digitalisation is exposing companies to a high-tech, digitally connected market (Kumar 2014). Digital marketing websites, social media marketing, email marketing, Chatbots, robotic, and smart apps are just some of the tools used in these processes (Aytekin & Keskin Demirli 2017). Digital marketing is an example of a technology-based network or website that transforms communications between a seller and a buyer into production efficiency (Schwertner 2017). Facebook, Instagram, Google, YouTube, and Twitter are just a few of the well-known platforms

that can be used to reach the target audience. According to data provided by the Marketing tech blog in 2014, social media sharing was the most popular online activity. The average time spent on the Internet was 37 minutes per day in 2021 (Statista 2021). In 2021, marketing professionals used 99% Facebook, 97% Twitter, 69% Pinterest, and 59% Instagram to promote their products and consumers were obtained using Facebook in 70% of B2C marketing campaigns (Hubspot 2021). Businesses that are followed on Twitter are considerably more likely to be purchased by 67% of the people who use Twitter. Luxury brands dominate Pinterest with a presence of 83.8% (Hubspot 2021). Many businesses discovered that the influx of new portals opened up new avenues for marketing their products and brands. It created new business opportunities and heralded the start of a new era in the history of marketing. They required new techniques to promote businesses, and utilising the digital platform now had more resources available. It is impossible to predict what will happen next in the digital industry. To remain relevant, digital marketing professionals must develop new ways to keep up with the rapid pace of change. In order to be successful, they must be able to identify new trends and stay current with the evolution of SEO.

2.3.1.3 Digital marketing concept and its dimensions

Digital marketing is defined as the practice of creatively endorsing products and services using primarily database-driven delivery platforms to reach users in a timely, appropriate, private and cost-effective manner (Todor 2016). Digital marketing is a broad concept that encompasses the precise, visible, and collaborative marketing of products or services to reach and convert leads into clients and maintain them through digital technologies (Atshaya & Rungta 2016). The main goal of many digital marketing strategies is to promote brands and increase sales. When it comes to marketing, digital marketing is defined as the use of digital media to create incorporated, focused, and trackable communication that helps businesses attract and retain customers while also establishing strong connections with them (Bala & Verma 2018). This idea extends traditional marketing by incorporating new technologies such as mobile and web applications (Lizam 2019) and it provides a behavioural framework for successful digital marketing across the customer life cycle. For most companies, marketing in digital environments means focusing on interaction with future and existing customers to maximise sales (Kannan 2017).

When starting a business, we always think about the best ways to market it. Because of the recent boom in the e-commerce industry, businesses now have no choice but to use digital marketing to reach their customers (Kannan 2017). Alternative terms for digital marketing include "online marketing" and "internet marketing". Marketers are expected to contribute to organisational success through brand building, growing sales revenue, customer acquisition, customer retention, customer loyalty, and overall market share growth across digital marketing channels. As a result of ICT implementation, digital technologies are becoming increasingly important to businesses (Zaki 2019). It is critical to find ways to create a consistent experience across all digital networks and investigate how consumers use them to communicate (Ansari 2019; Gangeshwer 2013). According to research, businesses that invest in online platforms produce positive financial results (Cusumano, Yoffie & Gawer 2020; Gangeshwer 2013). The basic principle of digital marketing is based on the inbound marketing approach, also known as a customer-centred approach (Bala & Verma 2018). Using a customer-centred approach, businesses can attract customers by promoting their products and services through various channels such as websites, blogs, videos, email newsletters, articles, SEO, social media marketing and other content marketing tactics (Jacob & Johnson 2021). According to Jacob & Johnson (2021), the customer-centric approach focuses on marketing activities that facilitate consumer relationships, increase customer interest, make it easy for customers to find the brand, and attract customers to the digital marketing platform using stimulating content.

The digital platform is a collection of components that are frequently used by various stakeholders and whose functionality can be extended by third parties. Several digital marketing platforms and dimensions are being introduced to assist real estate professionals in attracting the appropriate target audience to sell the property (Kannan 2017). Digital marketing platforms are the starting point for a real estate marketing campaign and customer contact. The digital space is a "site" owned by a real estate company that presents all information about its products (Bala and Verma 2018). Today's most widely used digital marketing approach is SEO (Love & Matthews 2019). This improves the way search engines, such as Google access a page. The ultimate goal is to convince Google to display a website on the first page of a search for the company's keywords (Lizam 2019). Another approach to digital marketing is content marketing. Content marketing is a proactive approach to design, implying that important and valuable feedback are exchanged with potential

customers to aid decision-making (Oluwatofunmi & Amietsenwu 2019). Blogs, in general, are used to provide helpful content to prospective buyers based on their preferences and demographic profile (Oluwatofunmi & Amietsenwu 2019). Essentially, content marketing aims to attract clients who are unsure where to look for a particular item. Customers who read blogs and articles can choose to click on the links provided within the blog post, and the content drives traffic to digital marketing websites in this way.

Promoting business through social media is one of the most well-known digital marketing strategies (Saura, Palacios-Marqués & Barbosa 2023; Hassan, Ahmad Nadzim & Shiratuddin 2015). The rise of social media platforms like Facebook, Twitter, Instagram, and YouTube has created a growing marketplace for businesses to connect with their target audiences (Bahcecik, Akay & Akdemir 2019; Hassan, Ahmad Nadzim & Shiratuddin 2015). New stages have appeared and progressed, providing intriguing focal points for real estate markets in particular. Another digital marketing approach is email marketing. Email marketing is a structured method of communicating with existing clients, and contacting clients personally and one-on-one (Czinkota et al. 2021). It makes a difference for a business owner to communicate with more customers and creatively deliver different messages while still having the possibility of receiving formal customer feedback and effectively evaluating their viability (Bala & Verma 2018). Overall, e-commerce is now much more affordable, and it is a great way to cut down the time it takes for customers to purchase real estate properties and provide feedback and reviews. Online public relations are focused on a company's ability to maintain its image on the digital platform (Dewi 2020; Kennedy & Sommerfeldt 2015). Google reviews and scores on digital marketing platforms are helping in public relations maintenance. Real estate companies manage public awareness by regularly sending out emails and tweets about new property sales and promotions (Bala & Verma 2018).

Digital marketing brings the marketing principles of profitably and efficiently identifying, anticipating, and addressing customer needs to live in an online environment using AI (Atshaya & Rungta 2016). Digital marketing helps companies capture and maintain online opportunities by offering important information and exposing brands to the buyers (Dwivedi et al. 2021). Through an engaging approach, digital marketing facilitates connections with larger audiences while also reaching smaller niche markets (Bala & Verma 2018). Because of this, digital marketing has evolved into an interactive, targeted, nuanced, and sophisticated method of customer engagement

and retention, marketing communication, customer service, product promotion, brand building, relationship management, and customer value creation (Oluwatofunmi & Amietsenwu 2019). Using all of these digital marketing techniques, real estate companies now have a strong online presence, and they can better communicate with customers and potential buyers to promote their properties at any time and from any location (Sulaiman et al. 2020; Çizmeci & Ercan 2015). Digital marketing has surpassed conventional marketing methods by ensuring that goods and brands are visible at all times (Bala & Verma 2018). Consumers participate in pre-search practices on digital media to find residential real estate property information at the start of the purchase process (Ullah, Sepasgozar & Wang 2018). The availability of information has been assured by digital marketing, which has made the Australian real estate market free and accessible. In Australia, real estate companies can also target consumers using digital marketing based on market segmentation such as age groups, geographic location and price range (Gharbi & al-Tamimi 2020). Digital marketing also provides a deeper understanding of the Australian residential real estate market and its ever-changing dynamics, allowing for better marketing efficiency. A thorough examination of real estate market behaviour is needed to collect sufficient data around techniques used to persuade buyers to purchase assets that result in improved profitability and brand recognition for a real estate business in Australia.

Real estate agents often send emails to selected users showing their involvement in the real estate industry. Social networks, such as Twitter and Facebook, are another viable digital marketing strategy for communicating with customers (Chesher 2022; Felix, Rauschnabel & Hinsch 2017). The use of social media allows companies to post valuable material for their customers to share and comment on (Felix, Rauschnabel & Hinsch 2017). Customers who like and retweet company posts about real estate property spread its marketing message and inform other potential customers about offers. Facebook is an excellent platform for real estate companies to advertise and communicate with customers, allowing regular posting of up-to-date information about new properties (Chesher 2022; Dumpe 2015). Facebook users can also upload, like, and vote on posts created by real estate companies and discover and get the information they need (Hassan, Ahmad Nadzim & Shiratuddin 2015). The exchange of knowledge and potential client base extension are two significant advantages of using Facebook for real estate businesses. Real estate buyers can use Facebook and other social media sites during the property searching phases. Twitter is another

digital marketing platform that is recommended for real estate companies to connect with customers efficiently and share ideas, updates, and events (Fields & Rogers 2021; Chen et al. 2010). Twitter can assist in disseminating and monitoring leads created by the company's website content. To reach new clients, digital marketing marketeers must develop a solid digital marketing plan before using industry-specific social networks is also necessary, together with an in-depth understanding of properties (Hassan, Ahmad Nadzim & Shiratuddin 2015).

VR technologies are also essential for real estate marketing (Dabbous & Barakat 2020; Ganapathy 2016). These technologies create an interactive computing reality that mimics a real-life experience. Using VR, real estate companies can enable buyers to teleport themselves to properties for sale from anywhere, saving time and money by conveniently visiting and revisting a wide variety of properties before potentially seeing one or more in person. By providing this compelling experience, these technologies have the potential to revolutionise the real estate industry. Previous studies have highlighted the potential of VR in real estate marketing (Dabbous & Barakat 2020; Ganapathy 2016). Users can experience visual and realistic tracking of products using 3D image rotation, allowing for more significant product inspection by viewing them from different angles (Pleyers & Poncin 2020). Real estate is a knowledge-based sector, so information technology has a considerable influence VR improves consumer product recognition and brand preferences (Dabbous & Barakat 2020). The accelerating pace of change can be seen by looking at local companies and the customers they represent. Real estate is being driven by the information technology revolution, which permeates all industries in an unstoppable way. The following are a few of the most important digital marketing elements that help improve real estate sales:

Easy Access: Customers get detailed, in-depth, and up-to-date information about developers and aggregators.

Comparison Options: Customers have the option of comparing the statistics they obtain online with various developers.

Direct Contact with Owners and Developers: Customers get contact details information instantly.

Visualisation: Approximately 45% of respondents say they began using 3D walkthroughs and commercial renders as it allows them a clearer idea of what they are purchasing (Baytar & Ashdown 2015).

Customer Inquiries: Customers can have all their questions answered on the developer's website through the chat facilities and the 360-degree video show.

To spread awareness and influence consumer behaviour, real estate companies should mix and match various platforms, such as email, social media, and mobile phones, to reach their intended target audience (Ndungu, Kinyanjui & Abayo 2020). Therefore, it is important to develop an effective comprehensive marketing communication strategy that combines several instruments and blends the best of both traditional and digital marketing (Fields & Rogers 2021; Goodwin & Stetelman 2013). However, many in the real estate industry have been unable to incorporate these changes into their business models and marketing strategies. According to Lee et al. 2015, higher internet use is positively related to the real estate market's size and the franchise's affiliation, resulting in higher revenues. Businesses that effectively implement new technologies are more successful. Digital marketing is crucial in improving the value of assets for the sector, ultimately boosting overall nett revenue (Verhoef et al. 2021). The number of people buying houses online has risen significantly due to a steady increase in leads. The rise in digital marketing transactions in the real estate industry was projected to increase by 10% to 15% in the few years from 2015 (Liao et al. 2015).

2.3.1.4 Digital marketing in Australia

The use of digital marketing in the Australian residential real estate industry has increased dramatically in recent years (Hearn et al. 2021; Patrutiu-Baltes 2016). There has been much convergence in this phenomenon in recent years, and it emphasises the importance of excellent marketing techniques. In digital marketing, the importance of using media platforms that meet consumer expectations, or are readily available, has been emphasised (Shooshtarian et al. 2020; Patrutiu-Baltes 2016). Facebook, for example, is one of the most well-known digital marketing techniques available today. There are over 2.5 billion Facebook users worldwide, and millions of Facebook users in Australia represent a potential market for real estate companies looking to expand (SMPERTH 2020). According to Australia data, digital marketing is the most effective method for reaching out to real estate consumers (Low et al. 2020), and it significantly influences the Australian residential real estate industry (Gravatt 2018). Customers searching for a property are subject to a range of brands and product ads (Ullah, Sepasgozar & Wang 2018; Al-Nahdi,

Ghazzawi & Bakar 2015). Consumers search for property information based on their needs and expectations (Ritz, Wolf & McQuitty 2019). Consumer needs in real estate markets are constantly evolving, forcing real estate companies to keep up by employing digital marketing tactics. Real estate companies in Australia should ensure that information about product, price, location and promotions aligns with their customers' needs. They should also address the issues of ease, expense, and communication (Gravatt 2018). Each stage of the customer purchase process includes various activities that real estate companies should monitor to build successful marketing strategies.

For the 2021 fiscal year, Australian digital marketing expenditure grew by 24.2%, to AU$11.4 billion, its highest level since 2016 as shown in **Table 2.5** (Cheik-Hussein 2021). Compared to the previous year, video advertising increased 38.8% to AU$2.4 billion, general display rose 29.7% to AU$4.4 billion, search and directories grew 22.3% to AU$5.1 billion, and classifieds expanded 17.4% to AU$1.9 billion (Cheik-Hussein 2021). Digital marketing accounted for 45% of the total marketing industry in 2016 in Australia (ibisworld 2021). Digital marketing was expected to account for 57.9% of Australia's entire marketing sector by 2021 (ibisworld 2021). According to the ABS (2017), each Australian spends more than 10 hours online per week. The Internet is the primary source of information for consumers, and digital marketing has allowed the real estate industry to reach the masses (Despinola 2018). Seventy-eight per cent of information provided to buyers is from online portals (Despinola 2018). Digitalisation has provided a medium for faster communication, less paperwork and fewer phone calls. The Roy Morgan (2018) survey found that 72% of respondents felt companies using digital platforms were modern, and 58% felt digital marketing was the correct way to approach customers. Nearly 53% were highly motivated to purchase a particular brand by digital marketing mediums (Alexander 2018).

NSW has a large real estate industry valued at AU$107 billion annually, which is more significant than mining (AU$21 billion), retail (AU$22.8 billion) and tourism (AU$38.1 billion) together (REINSW 2018). Sydney's residential real estate companies use several digital marketing tools like social networking, video hosting, and email marketing to stay in touch with potential customers. These tools provide the latest information about different residential projects, making it easy for a property seller to share residential real estate property details, such as location, size, interiors, exteriors, amenities as well as forthcoming inspections or auctions. Other information

like suburb ambience, population density, availability of schools, or public offices are also included. Digital marketing platforms developed by real estate professionals also provide other facilities like property loan calculation applications, rates or price comparison tools, and the capability for tracking selected residential real estate property applications. Together, this information allows the customer to make informed decisions before committing to a purchase, thus influencing the buying attitudes of consumers.

Table 2.5: Advertising market by platform in Australia between 2016 and 2021

Marketing Platform	2016	2021
Digital marketing	45%	57.9%
Free-to-air television	23.5%	16.9%
Newspapers	14.5%	8.3%
Radio	8.2%	8.4%
Out of home	5.7%	7.2%
Subscription television	3.4%	3.6%
Magazines	2.8%	1.7%
Filmed entertainment	0.7%	0.7%

Source: Created for this research

2.3.2 Overview of consumer behaviour

Consumer behaviour is the study of people, entities, or organisations and the methods they use to choose, protect, and dispose of products, assets, experiences, or proposals to meet their needs, as well as the effect these processes have on the consumer and society (Rahmanov, Mursalov & Rosokhata 2021; Black & Veloutsou 2017). With the above contrast, each person's purchasing behaviour varies due to purchasing decisions that are affected by shopping preferences and expectations mediated by psychological and social factors influencing the purchasing decision process (Palmatier & Crecelius 2019). As previously mentioned, explaining customer decision-making behaviour is complicated. It is critical to incorporate customer behaviour knowledge into the development of marketing strategies. Consumer behaviour knowledge can be used to improve marketing campaigns by identifying strengths and gaps (Sheth 2021; Rana & Paul 2017). Considering the intent of digital marketing, the target audience and the underlying behavioural assumptions can be an exciting and thought-provoking exercise (Mathew & Soliman 2021;

Shamsher 2016). Because of the widespread use of digital marketing, it is critical to understand how it influences consumer behaviour.

People's decisions or preferences about what they buy, need or do in response to a product, service or company are the focus of consumer behaviour research (Shamsher 2016; Rana & Paul 2017). Knowing what potential customers think about a product or service is an integral part of consumer behaviour (Sheth 2021; Black & Veloutsou 2017). It also helps companies identify opportunities that are not readily available. Understanding consumer behaviour and the buyer's needs create revenue by converting customers into buyers (Black & Veloutsou 2017). Market behaviours can be characterised as a set of trends that are followed by buyers before making a purchase. This process begins when the customer identifies a need or desire for a commodity and concludes with the sales transaction. User behaviour can also help understand how customers interact with and use products (Rahmanov, Mursalov & Rosokhata 2021; Black & Veloutsou 2017). This knowledge helps future product development decisions. Customers make purchases based on the benefits they gain from using the products and services they buy (Nguyen & Khoa 2019). When it comes to social psychology and business, there are strong connections between the principles of attitude (Chen et al. 2019). Social psychology provides a framework for customer decision-making and choice techniques or benefits from using them (Chen et al. 2019). In the study of consumer behaviour, experts do not just assume flawless conditions; they consider the impact of many factors on individual behaviour. When presented with a decision, such as investing in real estate, customers choose from a list of viable options based on the criteria they have determined to be necessary. Consumers can make purchasing decisions based on compensatory or non-compensatory decision rules, depending on their circumstances (Rahmanov, Mursalov & Rosokhata 2021; Muhammad & Zaman 2014). To make an informed decision, consumers use a compensating judgement rule to rank the attributes of various items and then choose the one with the maximum score.

A customer goes through various phases before making a purchase (Sheth 2021; Al-Debei, Akroush & Ashouri 2015). Because of this, real estate professionals and businesses must take into account the details of consumer purchasing behaviour to succeed in today's competitive market (Sheth 2021; Al-Debei, Akroush & Ashouri 2015). Businesses and professionals need to know what drives buyers to take action and what thwarts them when it comes to real estate. Companies

in the real estate industry must also identify and understand their target customers' lifestyles, buying behaviour, and attitudes (Ullah et al. 2021; Rodgers & McFarlin 2016). Family, representative living standards, lifestyle, pricing strategies, and income are also significant motivators for buying real estate property (Ullah et al. 2021; Mahalaxmi & Ranjith 2016). Thus, real estate companies must consider their customers' opinions together with the effects of the community, socioeconomic classes and families on their customers.

2.3.3 Overview of real estate industry

Real estate is becoming more technology-oriented and sustainable by integrating digital marketing in its marketing process. Due to the dynamic and rapid pace of Australia's real estate market, there are numerous opportunities (Corelogic 2018). More than 47,986 registered real estate business currently work in the industry, which has employed approximately 132,090 Australians (IBISWorld 2021). Australian real estate revenue has grown by 5.4% to USD 16.3 billion in the last five years, according to a Bankwest (2018) analysis. Between 2017 and 2018, the Australian real estate market's high demand and consistent expansion increased industry revenue by 13.6%. (IBISWorld 2018). Fast-moving technology developments and digitisation of real estate marketing are in large part responsible for these increases. Due to expected expansion in the Australian real estate industry, local real estate businesses have been steadily strengthening their digital marketing strategies. Low-interest rates have also been credited to industry growth.

Residential real estate companies have been implementing technology that will allow them to more efficiently manage the over AUD $9.1 trillion in residential real estate property values they currently manage (Corelogic 2021). The real estate market generates revenue over $33.0 billion in 2021 which encourages investors to increase their investments in the market (IBISWorld 2021). This can only be accomplished through the rapid exchange of information with the target market and the use of comprehensive digital marketing by real estate companies (Kumar 2014). To keep up with the high demand and fierce competition in the real estate market, real estate professionals are constantly attempting to increase the number of residential real estate property listings available through digital marketing channels (Ullah et al. 2021; Kumar 2014). Due to the demand for properties, industry experts predicted that demand for real estate properties would remain stable during the next four years, ending in 2024 (Realestate 2021). Australia has more than 136,991 real

estate professionals registered, with total employment in the sector increasing by 7.8% over the five years since 2018 (Bankwest 2018). For the year ending June 2018, the residential industry accounted for 16.8% of total industry sales, representing the majority of foreign investment value, at 29% (Bankwest 2018). NSW has a 32% market share of foreign investment (Deloitte 2018). Real estate companies are incorporating intelligent mechanisms and sophisticated digital marketing strategies into their marketing campaigns when launching property sales (Schwertner 2017). According to Likos, Nakip, and Gökmen (2019), the agencies are engaged in strong competition to gain advantage and outperform their competitors.

2.3.4 Overview of digital marketing in real estate industries

The real estate industry in Australia has been slow to fully integrate digital marketing into its business models and strategic plans (Low et al. 2020). Investment in the real estate market was worth $215 billion in 2015 and is continuously growing and attracting global investors (Lizam 2019). Investment in real estate increased more than 55% between 2012 and 2020 (PwC 2020). This presents enormous investment opportunities, together with significant management challenges (Ullah, Sepasgozar & Wang 2018). Real estate, consumers' primary contact with an agent or company is through digital marketing platforms. An interactive digital marketing platform, such as a website, improves the efficiency of e-business by incorporating features that influence users' incentives to return or make purchasing decisions (Galati et al. 2016). According to Levy & Gvili 2015, providing relevant information on digital marketing platforms assists users in making purchases, renting items, becoming intrigued, and ultimately continuing to use the service. Real estate companies in Australia use digital marketing to enhance their brand reputation by creating aesthetically pleasing online content and expanding the digital presence of their products and brands (Fields & Rogers 2021). Because digital marketing has made it possible for real estate professionals to conduct consumer surveys and gather feedback, it has also improved open market interaction. Real estate consumers benefit from the efficient dissemination of information such as listing, gathering data, evaluating, and negotiating that is facilitated through digital marketing (Gharbi & al-Tamimi 2020). In the real estate industry in Australia, innovations like pay-per-click (PPC), SEO, 360-degree images, virtual tours and AR are used to address the shortcomings of conventional marketing campaigns (Ullah, Sepasgozar & Wang 2018).

PPC is a digital marketing strategy in which the seller/company pay a fee each time a specific keyword or phrase is entered into a search engine and a domain associated with that keyword or phrase appears on the search engine results page (SERP) (Desai 2019). SERPs, such as Google or Bing, are the most popular places to use PPC marketing, but it is also used on social media channels (Yogesh, Sharaha & Roopan 2019). Using PPC as a digital marketing strategy can significantly impact real estate customers' purchasing decisions because it is both affordable and effective (Al-Debei, Akroush & Ashouri 2015). An individual who conducts an internet search using the company's keywords will undoubtedly be convinced to view the company's digital marketing advertising (Gharbi & al-Tamimi 2020). SEO is a digital marketing tool rather than a marketing strategy. SEO involves ranking real estate properties as the most sought-after digital platforms for easier access (Yogesh, Sharaha & Roopan 2019). It helps businesses enhance their websites' search engine rankings for business-specific keywords (Patrutiu-Baltes 2016). The more keywords used on the site, the more consumers will be reached (Desai 2019).

The success of marketing is directly tied to the quality and relevance of the information delivered to the intended audience. As new approaches and technologies are developed and introduced, the behaviour of customers is being studied using the information they exchange through digital marketing platforms (Ullah et al. 2021; Patrutiu-Baltes 2016). Using this data, Australian real estate companies can segment their clients and offer deals tailored to their individual personalities, needs, preferences and interests (Chesher 2022; Patrutiu-Baltes 2016). The use of AR and VR and multi-channel environments have grown in Australian residential real estate, having profound effects and shaping consumer habits (Ullah, Sepasgozar & Wang 2018). A convincing and engrossing adventure in VR can meet all potential customers worldwide in minutes (Desai 2019). More residential real estate property can be purchased off the plan by allowing buyers to walk through and watch videos of properties as they are being built and consumers can base their purchase decision on high-quality digital marketing information. To show a client the value of paying a deposit for an off-the-plan residence after completion, VR can be useful in tracking the future development of properties throughout the construction process. Clients are able to envision a project even if they are not present on site. Before VR entered digital marketing, advertising success was determined by the physical presence of products. Consumers would be required to conduct a physical market survey to determine the conditions of residential real estate properties

in Australia if real estate companies. AR and VR advancements provide exceptional experiences for real estate investors, giving them an advantage in the market (Ullah, Sepasgozar & Wang 2018). They make it possible for potential customers and buyers to learn about the most important aspects of residential properties in detail (Ullah, Sepasgozar & Wang 2018) and from anywhere at anytime (Felli et al. 2018).

2.4 Review of factors influencing consumer behaviour

2.4.1 Defining consumer behaviour and the factors that influence behaviour

Purchase behaviour refers to the investigation of how consumers (individuals, groups, or organisations) make decisions about products to purchase them. Purchase behaviour is defined by a proper market mix that includes the 4ps (product, location, price, and promotion), as well as the 4cs (consumers' needs, cost, convenience, and communication) (Kumar & Khandelwal 2018). Even though it is difficult to control a customer's purchasing process, marketing professionals can consider the factors that influence a customer's decision-making process (Schallmo, Williams & Boardman 2020). Consumer purchase intention and behaviour are frequently influenced by the beliefs, values of a brand and brand credibility (Mathew & Soliman 2021; Ramya & Ali 2016). Clients' purchasing decisions are also influenced by factors such as demographic, cultural, social, economic, phycological and technological (Bala & Verma 2018; Gharbi & al-Tamimi 2020). Thus, residential real estate companies selling properties should be familiar with their customers' age groups, geographic locations, lifestyles, and social status, in addition to understanding what other factors influence their purchase decisions. Presenting a brand via different channels also affects consumer purchasing decisions (Sheth 2021; Yasmin, Tasneem & Fatema 2015). When evaluating the options available in the real estate industry, real estate customers consider several factors (Sheth 2021; Al-Nahdi, Ghazzawi & Bakar 2015). This is because buying a property is a complicated and highly stressful decision (Salzman & Zwinkels 2017). Real estate customers gather information from various sources and incorporate the opinions of all family members to make an informed decision (Kumar & Khandelwal 2018). Through digital marketing platforms, customers gain access to information, which will provide them with a variety of options to consider before selecting a specific real estate company and property (Schallmo, Williams & Boardman 2020). Based on the information available on various digital marketing platforms, the customer

evaluates their options based on product attributes such as quality, service, price, durability, accessibility and brand (Sheth 2021; Al-Nahdi, Habib & Albdour 2015).

2.4.1.1 Demographic influences

Thaker and Sakaran (2016) discussed the influence of demographics on buyer behaviour in residential real estate. Factors like age, gender, marital status, income, education, qualifications, and personal preferences impact a customer's likelihood of buying real estate property (Selvi et al 2021; Thaker & Sakaran 2016). Not surprisingly, in the age of digital technology, digital accessibility impacts purchasing decisions and behaviours (Despinola 2018). Nowadays, young people are more engaged with the Internet or digital services, whereas older generations often lack interest or cannot use digital services (Selvi et al 2021; Thaker and Sakaran 2016). In a survey conducted by Despinola (2018), approximately 78% of digital users were youth aged 17–29 years, 45% were aged 30–45 years, and only 28% were aged 46–55. Therefore, young people are better positioned to acquire relevant digital information about the residential real estate offers, locations, cost, amenities and other related details. According to Thaker and Sakaran (2016), there are several demographic attributes related to consumer behaviour, which are outlined in the sections that follow.

Gender: In property purchase, gender plays an important role in determining customers' behaviour (Chen et al. 2015). In the past, men in Australia were more likely than women to purchase residential real estate property for their families (Westpac 2018). This is because the men in the family were in charge of their respective family's property ownership. Female entrepreneurs are now taking leadership roles in the real estate industry (Westpac 2018). According to the results of Westpac's Property Ownership Survey, women were more likely than men to consider purchasing real estate property in the five years after 2018, with 71% versus 61% respectively (Westpac 2018). The same study found that 16% of women and 13% of men had intentions to purchase an investment residential real estate property. Meanwhile, 17% of women and 14% of men consider selling their property (Karamujic 2015). Residential real estate property ownership has drawn women's attention as a symbol of success and a road to prosperity. It is also because women believe that owning a property ensures financial stability (Andersen et al. 2021). Research frequently demonstrates that men and women react differently to digital marketing (Andersen et al. 2021).

Trust-building and individual significance is often the primary focus for women, who tend to seek information around whether the brand positioning is trustworthy and relevant to their needs.

Age: Consumers' requirements change as they progress through life, and their lifestyles and personal values change as they grow older (Kumar & Khandelwal 2018). In Australia, a large proportion of the working population is between 16 and 65 years. Consumers between the ages of 25 and 65 are more likely to have high incomes, and they invest in residential real estate property as a result (Berger et al. 2018). However, this trend begins to wane as they reach 65 or older (Berger et al. 2018). Since young people have different commitments to mature aged people, and due to Sydney's high real estate property prices, it is almost impossible for younger people to consider buying residential property (Kumar & Khandelwal 2018). On the other hand, middle-aged buyers would readily consider purchasing residential property to ensure a place to live when they retire (Ramya & Ali 2016). Therefore, it is necessary to strategically reach out to different age groups through digital marketing because they will only invest if compelled.

Education: An individual's educational level affects residential reals estate consumer decision making (Bailey et al. 2018). Highly qualified residential property buyers are better at accessing and using digital marketing than less educated buyers (Bailey et al. 2018). According to Roy Morgan Research (2018), approximately 79.5% of digital marketing users hold a professional degree and use digital marketing to access information. By contrast, less educated customers are less likely to access a real estate company via digital marketing and prefer to visit real estate companies in person (Ramya & Ali 2016). Owing to their high trust in their ability to tackle the search and apply the information gathered constructively, the highly educated buyer is more likely to browse for data on the real estate property before making a purchase decision.

Marital Status: Real estate companies using digital marketing to promote properties must consider buyer marital status in their digital marketing strategies (Ullah, Sepasgozar & Wang 2018). Buyers' marital status affects decision-making, as statuses such as married, single parenting, divorced, and widowed can result in different residential property preferences (Thaker & Sakaran 2016). Buyers' marital status affects buyers' critical needs and the purchasing budget to invest in real estate properties (Hassan, Ahmad & Hashim 2021; Ramya & Ali 2016). For example, people who are married and have children would seriously consider buying residential property to provide

a stable and safe home for their families (Hassan, Ahmad & Hashim 2021; Thaker & Sakaran 2016). On the other hand, those who are single and without children would be the last to consider purchasing a property, which needs significant financial investments that they are not prepared to make. Family requirements and responsibilities also influence the purchase decisions of residential property buyers in Sydney (Nasreen & Ruming 2021). Approximately 65% of buyers with large families look at residential properties online before purchasing (Australian Bureau of Statistics 2017). The information available on various digital marketing websites assisted families in making accurate comparisons between their requirements and the facilities available (Lodhi & Shoaib 2017).

2.4.1.2 Psychological factors

In psychology, self-concept is a logically organised collection of self-perceptions that include characteristics and abilities (Marsh et al. 2020). The term "self" is now commonly used in various contexts. It is possible to justify transactions and ownership that appear economically absurd by using the concept of extended self. Individuals and artefacts can form profound and complex relationships beyond their functional characteristics. Psychological factors that have been present for an extended period are responsible for consistent behaviour patterns (Ramya & Ali 2016). Someone's individuality can be defined as a collection of attitudes and characteristics that distinguishes them from others (Asshidin, Abidin & Borhan 2016). Technological advancements in digital marketing have exponentially increased consumer exposure and engagement in advertisements attracting more residential customers (Kumar et al. 2016). Businesses must understand consumer psychology to develop products and marketing campaigns that appeal to their target audience. Companies should be aware of the five psychological processes that affect consumer purchases behaviour: motivation, learning, memory, perception and emotion (Marsh et al. 2020). These processes are initiated by consumer need, and individual perceptions influence consumers' decisions to purchase. The principles of self-perception influence consumer behaviour through data collection, data selection and clarification (Mathew & Soliman 2021; Xie & Lee 2015).

Consumers also have emotional responses to brands and advertisements. With a product, a customer feels satisfied, confident or excited; on the other hand, with ads, consumers feel surprise,

anger, mockery or disgust. Because consumers' feelings and buying behaviour affect their emotions, real estate companies should develop digital marketing ads that trigger an emotional response (Oluwatofunmi & Amietsenwu 2019). According to Thaker and Sakaran's (2016), external triggers of human emotions encourage people to take action, leading to desires, aspirations and hopes that can all be essential factors to consider when buying a residential real estate property. Consequently, psychological factors affect the development of a customer's self-concept when purchasing a property. Perception, learning motivation and attitude are also important psychological factors affecting real estate customer purchasing behaviour (Judge, Warren-Myers & Paladino 2019). The following sections go into greater detail about each psychological element to better understand consumer behaviour.

Motivation: Motivation is the force that causes a person to buy and use a product or service (An, MA & Han 2020; Edbring, Lehner & Mont 2016). It explains why consumers purchase a product and what they aim to achieve. The difference between actual and desired states of being is the root of 'needs'. Conditions may be categorised as materialistic or utilitarian. Hedonic needs elicit emotional reactions, pleasures, and aesthetic considerations, while objective needs lead to the analysis of product functionality or advantages (An, MA & Han 2020; Ishak & Zabil 2012). It is also common for practical and hedonic to coexist in purchasing decisions. As the difference between the desired and the actual increases, enthusiasm drive is motivated. Motivation is a psychological component that affects consumer behaviour when it comes to buying real estate properties because it is related to emotions and can be intrinsic (originating from within oneself) or extrinsic (originating from others) (Salzman & Zwinkels 2017). Intrinsic motivation is driven by enjoyment and engagement in a job, where digital marketing plays an important role (An, MA & Han 2020). It entails enjoying a mission rather than receiving an external reward for completing it. Threats and money are examples of extrinsic motives. In this regard, the consumer's basic needs, such as food, real estate, clothes and safety are essential, and digital-led interactions can affect purchasing decisions. Consumers rank their needs in order of priority. Residential properties, for example, are a basic need that provides security. Digital marketing has effectively shifted consumer preferences and driven customers to purchase residential properties to meet this basic need (Gharbi & al-Tamimi 2020).

Perception: Perception is the study of how we perceive, prefer, organise and become conscious of things that give meaning to the world around us. People receive input from their environment through their five senses, which they must interpret (Gharbi & al-Tamimi 2020; Ramya & Ali 2016). People are selective in their perceptions of stimuli that reinforce or weaken their current beliefs. Consumption is motivated by the desire to see what their underlying attitudes, personalities, motivation, or perceptions do not influence (Fatta, Gera & Mishra 2019). They emphasise important stimuli to today's needs, interests, values and attitudes while ignoring the rest of the information. When analysing consumer behaviour, it is critical to consider the perceived risk associated with a future purchase (Muhammad & Zaman 2014). Economic, physical, psychological, social and time-specific risks are some of the types of risk that consumers face (Pappas 2016). User characteristics (resources, ability to collect and use information, experience), product function (price, consumer possession time, changing prices, additional goods and services intended to be used in conjunction with this product), and external factors all contribute to the perceived risk level (Gharbi & al-Tamimi 2020; Ishak & Zabil 2012). Because of consumers' visual filters, their mental representations of cities, towns and architectural models are flourishing. For example, if a customer believes that the area is unsafe, they may recall recent news stories about crime in the area. Users can overlook violent situations, when visiting a website that has been deemed secure. Similarly, if a buyer considers residential real estate purchases risky, they would not be influenced by a financial report. Perception on a real estate property includes the processing of data using all five senses and the perception of sensory data from various sources and modalities. Most consumer opinions are based on digital marketing information, such as customer reviews, promotions and input from digital marketing platforms (Gharbi & al-Tamimi 2020; Bala & Verma 2018). Digital marketing details must be appropriate to put the customer at ease when purchasing residential properties (Gharbi & al-Tamimi 2020). To achieve a favourable perception from customers in the real estate industry, digital marketers must develop well thought out digital marketing campaigns to influence their purchasing decisions. Any misleading information would increase consumers' risk perception making them less likely to purchase real estate property (Bala & Verma 2018).

Learning: Every step of the purchasing process entails some level of learning. Cognitive or conditional learning are two types of learning. During conditional learning, consumers are

repeatedly exposed to circumstances that cause the consumer to develop an emotional response towards a product (Patel, Gadhavi & Shukla 2017). When consumers employ cognitive learning, they apply their knowledge, skills and experience to find a solution to ensure satisfaction after purchasing a product or service (Bala & Verma 2018). The cognitive learning paradigm uses human cognition processes to identify a problem and seek a solution. Experience in digital marketing can aid in acquiring knowledge, while practice can aid in acquiring skills (Bala & Verma 2018). A customer searching for a property learns something from the digital advertisements, which may either lead to a purchase or the complete abandonment of the product. Consumer purchasing behaviour is influenced by attitudes, desires and values acquired over time (Nowlin et al. 2018). When a person is exposed to information through their senses, awareness processing is the sequence of steps by which the information is learned, treated, interpreted, recognised, accepted and preserved for potential use in decision-making (Gharbi & al-Tamimi 2020; Jacoby & Morrin 2015). This feedback is transformed into behaviours, habits, and intentions that influence product preferences and shopping aspects.

Attitude: Clients' purchasing behaviour in the real estate industry is influenced by various psychological factors, including attitudes and beliefs. Attitudes are learned predispositions influenced by the circumstances in which they are expressed (Tan & Goh 2018). An attitude is a holistic appraisal of something that considers intellectual values, emotional implications, and compartmental objectives (Sheth 2021; Jacoby & Morrin 2015). However, not all acts are undertaken with the same level of trust. Attitudes based on direct knowledge of commodities are more obedient than attitudes based on indirect knowledge (Lim et al. 2017). Natural behaviour is typically more dependent on confident attitudes. If a customer is unhappy with an attitude, they would most likely request more information before approving. It's also more likely that attitudes maintained with cynicism will change with more knowledge. Individuals are more receptive to information supporting or strengthening their values and behaviours while dismissing information opposing their beliefs and ideas (Rahmanov, Mursalov & Rosokhata 2021; Jacoby & Morrin 2015). When it comes to real estate, customers' opinions impact how they behave, and user feedback on digital marketing platforms can influence new customers. Therefore, real estate companies should develop digital marketing strategies that motivate customers to become enthusiastic about their advertised properties (Gharbi & al-Tamimi 2020). Customers are either

inspired or discouraged from purchasing such real estate assets based on the value system that has been established (Bala & Verma 2018). Buyer positive attitude towards the real estate property/company is essential when seeking real estate information and awareness about a real estate company or a residential property.

The importance of psychological effects on people's decisions cannot be overstated. Before deciding to purchase a residential real estate property, people who plan or intend to buy a residential real estate property are required to weigh all of these factors (Bala & Verma 2018). According to the theoretical approaches of motivation and needs hierarchy, individuals shift towards purchasing residential real estate based on whether they are doing it to satisfy essential needs or actualisation needs (Tan & Goh 2018). Customers' distinct ways of acting, spending their time and money, and what behaviours, desires, and points of view they value are all examples of lifestyle. Many studies have found that consumers' past experiences and awareness significantly impact their attitudes (Sheth 2021; Abd Rahman, Asrarhaghighi & Ab Rahman 2015). Thus, over time, as people's lifestyles and experiences change, their consumption habits shift as well (Jacoby & Morrin 2015).

2.4.1.2 Cultural and social influences

Consumer purchasing behaviour is influenced by culture and social class (Ali & Anwar 2021; Rani 2014). Cultural influences include things like class, subculture, and social status. Understanding consumer socialisation requires an understanding of cultural values, beliefs, and perceptions (Jung, Choi & Oh 2020; Ramya & Ali 2016). According to Rani (2014), values such as achievement, development, independence, security, practicality, youthfulness and humanitarianism are also important for property purchase decisions. Social factors such as relatives, referral relationships, positions, and living arrangements are important in influencing consumers' purchasing habits and decisions (Katrodia 2021; Rodgers & McFarlin 2016). Digital marketing professionals must be aware of these distinctions to communicate with customers effectively (Meera & Gayathiri 2015). Social class is a hierarchical and permanent division in a society whose members share similar interests, beliefs and behaviours (Jung, Choi & Oh 2020; Rani 2014). Rather than wealth alone, the integration of features such as land, power, education, occupation, ownership, lifestyle and consumption pattern among a social class determine social status (Tan & Goh 2018). Social

stratification takes a structure in which people of different social statuses are allocated to separate positions and membership does not change. People prefer to buy residential real estate properties that reflect their social status and roles (Sihi 2018). As a result, digital marketing professionals and real estate firms must investigate the relationship between consumption patterns and social classes to customise property marketing for their target group (Salzman & Zwinkels 2017).

Since culture is so unpredictable, real estate professionals must be mindful of how cultural factors affect consumers' purchasing behaviours and decisions (Ali & Anwar 2021; Maoludyo & Aprianingsih 2015). Different cultures exist across various societies, countries, social classes and continents (Low et al. 2020). Culture comprises a community's learned beliefs, practices, standards, and symbols and it influences an individual's behaviour and desires (Ramya & Ali 2016). Since Sydney is a multicultural city, a range of residential property developments is essential to satisfy the diverse community. To meet all ethnic subcultures, real estate companies can divide their customers into different segments and observe their cultures based on demographics and other factors, enabling them to pitch suitable residential real estate properties to the right people (Ali & Anwar 2021; Rahadi et al. 2015). Purchasing habits are also heavily influenced by family members (Katrodia 2021; Maoludyo & Aprianingsih 2015). A person's personality, mood, traits and assessment criteria, and purchasing process are all influenced by their family (Ali & Anwar 2021; Maoludyo & Aprianingsih 2015). Everyone in the family contributes to decision-making on the family's needs (Katrodia 2021; Ramya & Ali 2016). There are two types of families in the buyer's life: single and joint families (Katrodia 2021; Ramya & Ali 2016). Single-family households are small, and each member is free to make their own purchasing decisions; joint-family households decide as a group (Rodgers & McFarlin 2016).

2.4.2 The impact of digital marketing on residential real estate industry

Several researchers have looked into the effects of digital marketing on the real estate industry (Chesher 2022; Atshaya & Rungta 2016). The value of digital marketing in the real estate market was examined by Kumar (2014). Kumar (2014) believes digital marketing is an effective tool for real estate marketing, and real estate companies are becoming more customer-focused as a result. Showrooms, click-and-collect, frictionless transactions, micro-retailing, and increased digitalisation of the customer-centric environment are becoming more readily available (Bala &

Verma 2018). Real estate companies are keen to sell their properties quickly by taking advantage of all available marketing tool, including digital marketing (Kaur 2019). Information search is an integral part of the purchasing process. Real estate companies use technology to communicate with potential buyers and provide them with all the detailed property information buyers need to make an informed purchase. Several researchers have stressed the importance of information accuracy on company websites (Sheth 2021; Pappas 2016). Customer experience, described as a customer's cognitive, emotional, physical, sensory, and social reactions to a company's goods during their overall shopping phase, has also been the subject of many studies (Katrodia 2021; Lemon & Verhoef 2016). The real estate market is fascinating regarding the potential benefits of taking a customer experience-based approach (Kaur 2019).

Traditional real estate marketing methods such as print advertisements, billboards, as well as magazines, books, and comic books, are now being supplemented by various digital platform information to increase the effectiveness of real estate marketing campaigns (Fields & Rogers 2021; Goodwin & Stetelman 2013). Real estate companies know the importance of building a digital community that aids in developing and maintaining trust with potential and current customers (Ullah, Sepasgozar & Wang 2018), with searching on digital platforms now the most common method for property purchasers (Bala & Verma 2018). In most cases, the search for a new home will take ten weeks on average (Kumar 2014), due to the ease of refining searches and to eliminate properties that do not meet buyer requirements (Kumar 2014). With the growing use of real-time bidding (RTB), digital marketing platforms use rich media and video advertising to ensure that their messages reach a larger audience. Access to the digital market also means buyers can avoid unnecessary trips to view real estate properties that do not meet their standards and requirements (Gravatt 2018).

Digital marketing has significantly influenced the image and confidence of the real estate industry in Sydney. Property buyers in Sydney have come to expect that real estate companies and professionals will provide detailed property information, such as photographs or short videos, through digital marketing platforms such as websites and social media (Fields & Rogers 2021; Kumar 2014). The benefits of digital marketing on the residential real estate industry's productivity, efficiency and client satisfaction are obvious, so it is not difficult to see why the industry in Sydney is being redesigned to ensure its survival into the twenty-first century due to

both internal and external forces imposed by technology. While there is still much work to be done to improve the standard of digitisation in the real estate industry, the presence of online listing platforms has the potential to be highly transformative (Felli et al. 2018). It is vital to ensure that companies continue to push their target market by engaging with them across various channels. Most real estate companies in Sydney use many different digital marketing platforms for marketing their properties (Schallmo, Williams & Boardman 2020). Technology is not only altering how real estate properties are marketed, but it is also altering how real estate operators market themselves (Felli et al. 2018).

To survive in this highly competitive industry, real estates must sustain strong levels of innovation and creativity in their digital marketing content. Sihi (2018) suggested Sydney real estate websites should provide all available information and records of a property. They must also guide customers through their purchase decisions with virtual access to innovative property designs, decor, facilities and interior designs to (Sihi 2018). According to Salzman and Zwinkels (2017), real estate websites must provide information related to suburban valuation reports. Furthermore, information about deposits, initial payment amounts, property details and other monetary information relating to the property must be provided (Sihi 2018). This will help users analyse the requirements and do proper calculations and budgeting before planning their visit or making a final purchase decision (Sihi 2018). Ullah and Sepasgozar (2020) discussed improvements to the search options provided on real estate websites, such as searching different dwelling types, newly listed properties and land. The provision of filter options to search residential properties according to price, number of rooms, parking, size, dimensions, availability of a pool or clubhouse allows customers to hone in on their specific requirements (Corelogic 2018). Residential real estate companies in Sydney also include maps to help customers locate the property and provide links to directions for attending inspections. Providing notifications to inform customers about new properties or updates on their saved residential real estate property lists are also essential for Sydney real estate digital marketing.

2.4.3 Factors that influence purchase behaviour in the digital market

Buyers' purchasing objectives, happiness and loyalty are some variables illustrated in digital marketing studies (Ilyas et al. 2021). It is easy for real estate companies to promote and present and negotiate transactions of properties to prospective buyers via digital marketing platforms that

resemble physical showrooms (Gharbi & al-Tamimi 2020). When real estate investors are presented with enough relevant information, they can make informed decisions about their purchase, which increases consumer loyalty (Ilyas et al. 2021; Al-Nahdi, Ghazzawi & Bakar 2015). Current and up-to-date information plays a significant role in all stages of the decision-making process. Market knowledge, in particular, is a relevant and important construct that affects how consumers gather and organise information, how much information is used in decision-making, and how consumers evaluate products and services (Alam et al. 2019). Human decisions and attitudes may also be influenced by awareness. Thus, Predicted Behaviour Theory underpins research into the effect of perception on human behaviour, which informs the brand value of real estate companies, and will directly impact residential property buyers' decisions to purchase properties from specific real estate companies (Bala & Verma 2018). Shamsher (2016) defines willingness to buy as the determination to reach an agreement with the seller or the likelihood that the buyer will complete a transaction. A person's intention to act results from thinking in a particular way or having a particular nature, whether conscious or unconscious (Jacoby & Morrin 2015). Customers are compelled to act from within, attributing this to inspiration as a motivator for their actions (Sharma et al. 2019). According to Malik et al. (2013), perception and image also impact customer purchasing decisions. Consumers' perceptions of the brand's worth will rise if they are aware of the brand and have a positive impression (Sharma et al. 2019).

According to Fatta, Gera, and Mishra (2019), consumers' purchasing decisions are complex, and consumers' purchasing behaviour is critical when considering and evaluating a residential property. In this case, psychological motivations drive the behaviour to purchase. When consumers decide to purchase a residential property, their motivation will be the driving force behind their decision. Considering the buyer's intent is critical when making predictions about the purchasing process. The intention to purchase is influenced by several factors, including price, quality, perceived value and product characteristics (Katrodia 2021; Younus, Rasheed & Zia 2015). Consumers' awareness of the brand and their physical resemblance to the brand influence their purchasing decisions (Lou & Yuan 2019). As consumers' brand awareness grows over time, they are more likely to purchase well-known goods than untested goods. Customers' drive to purchase is defined as a deliberate plan of action that considers their conduct and incentive to use that product (Ali, Zainal & Ilhamalimy 2021; Durante & Griskevicius 2016). The intention—the pre-

step that leads to actual purchasing actions—is the most accurate predictor of human behaviour currently available.

2.4.3.1 The role of digital marketing on trust

One roadblock for buyers using digital marketing is a lack of confidence. Following deception or negative shopping experiences, buyers develop negative attitudes (Manzoor et al. 2020; Rana & Paul 2017). They lose faith in the seller and are more likely to seek alternatives to meet their needs and desires (Liao et al. 2017). Researchers have discovered a link between confidence or trust in digital marketing information and the intention to purchase a product or service (Yunus, Saputra and Muhammad 2022; Kaur & Khanam Quareshi 2015). Consumer loyalty and strong relationships between buyers and real estate companies are built on trust (Manzoor et al. 2020; Pappas 2016). Consumer trust (TR) in digital marketing is the most significant factor influencing purchasing decisions (Moslehpour et al. 2021; Kaur & Khanam Quareshi 2015). A lack of trust in internet security and control, and a real estate company's serviceability and website technology all affect customers' purchasing decisions. This lack of trust between the seller and the buyer must be addressed (Liao et al. 2017). Wu and Wang (2011) identified the five most important factors contributing to positive digital marketing information and customer retention—relationship orientation, commitment to relationships, belief, cooperation and relationship satisfaction. Compared to communications sponsored by corporate advertisements, digital marketing provides more accurate and reliable information about a company's goods and services (Yunus, Saputra and Muhammad 2022; Hassan, Ahmad Nadzim & Shiratuddin 2015). Hassan, Ahmad Nadzim, and Shiratuddin (2015) reported that companies use all aspects of digital networking on a global scale. A trustor's attitude and emotional sensitivity, such as feeling at ease and consistent when dealing with customers, are termed "emotional faith" (Moslehpour et al. 2021; Kaur & Quareshi 2015). A customer's emotional trust in online retailers can be determined by their cognitive attitudes towards retailers (Punyatoya 2019). Several studies have suggested a positive relationship between emotional trust and purchasing intentions and behaviours (Yunus, Saputra and Muhammad 2022; Kaur & Quareshi 2015).

By putting more truthful and accurate information in consumers' hands, digital marketing can be expected to strengthen a brand's impact (Ryan 2016). Customers will switch to reputable and

trustworthy brands with so many options and fewer personal connections online to reflect more intangible qualities. When analysing a source, characteristics such as competence, trustworthiness, qualifications and attractiveness are taken into consideration. Several studies have looked into the relationship between source credibility and buyer intention. By conducting an observational experiment with 327 blog readers from Taiwan, Hsu and Chen (2015) discovered that consumers who have a positive attitude towards digital marketing have stronger buying intentions. The accuracy, quality and usefulness of the information on digital marketing platforms determines the levels of trust and confidence of consumers, which in turn affects buying intentions (Lăzăroiu et al. 2020). According to research, customers are more willing to purchase from a real estate company if they have confidence in them (Ullah, Sepasgozar & Wang 2018). Market interconnectivity via social media, such as forums, reviews and recommendations boost digital marketing confidence, because consumers' perceived trust is profoundly affected by these social interactions. Felix, Rauschnabel & Hinsch (2017) showed digital marketing empowers participants to build their knowledge and confidence of a product or service through online communities, reviews, suggestions and social support. In the digital world, confidence and perceived protection are critical factors in buying decisions (Manzoor et al. 2020; Shamsher 2016). According to Malik et al. (2013), consumers can assure one another through the exchange of information and experiences, increasing morale and willingness to purchase.

It is widely accepted that understanding, building, and maintaining trust can help a realtor build confidence in their customers (Lăzăroiu et al. 2020; Liao et al. 2017). Real estate companies should promote constructive digital marketing communications and stay away from deceptive or unethical practices as this behaviour erodes consumer trust and results in an adverse market reaction. Real estate companies can increase their consumers' expectations and trust regarding the efficiency of their operations by boosting the effectiveness of their digital marketing websites (Matidza, Ping & Nyasulu 2020). Although the path to establishing trust is clearly laid out, the implementation of this strategy will be difficult for many businesses. Creating a more cooperative relationship between the organisation and its customers is a great strategy for creating trust (Hassan, Ahmad Nadzim & Shiratuddin 2015). Consumers are more likely to buy a property if they are convinced by digital marketing ads from real estate companies. Customers' satisfaction with real estate

companies', digital marketing information, and brand reputation all influence trust and are significantly positioned to influence their buying intentions (Lăzăroiu et al. 2020).

2.4.3.2 The role of digital marketing on satisfaction

Consumers' assessments of their perceptions and reactions to a particular product or service, are described as their satisfaction (SAT) with information (Chi 2018). Satisfaction is a result of the consumer's experience during several browsing cycles (Nirwanto & Andarwati 2019). Because of the lack of physical interaction, the online consumer shopping experience is solely dependent on the information provided by digital marketing. The quality of content, systems and services will influence customer satisfaction during the information-search process, in turn influencing buying intentions (Nirwanto & Andarwati 2019). Consumer satisfaction is not a new phenomenon, and many studies have investigated its causes and consequences and what factors lead to customer satisfaction (Ilyas et al. 2021). End-user satisfaction with a system and is a crucial metric for performance. In several studies, end-user satisfaction has been described as users' response to digital marketing information and information quality (Nirwanto & Andarwati 2019). On the other hand, many academics have argued that attitudes provide a measure of happiness, while others believe satisfaction is an attitude (Ilyas et al. 2021; Nirwanto & Andarwati 2019; Chou, Chen & Lin 2015). Many researchers have discovered that one of the most critical factors influencing future buying decisions is satisfaction (Ilyas et al. 2021; Nirwanto & Andarwati 2019; Chou, Chen & Lin 2015). According to Nisar and Prabhakar (2017), consumers' expectations of a successful purchase likely affect digital marketing customer satisfaction directly. Consumers' intentions to continue shopping on digital marketing platforms are dictated mainly by their satisfaction and perceived usefulness when purchasing goods and services through the Internet (Chi 2018).

A study conducted by Nisar and Prabhakar (2017), suggested that satisfaction contributes to buyer intentions in the digital environment. This was later supported by Liao et al. in 2017. Online consumer behaviour researchers have followed well-established hypotheses, stating that satisfaction is usually determined by a users' initial perceptions of a service and whether these are confirmed throughout actual usage. For example, information quality is defined as one of the outcome indicators of efficient information delivery, and it occurs when customers receive information that exceeds their expectations. Previous research has demonstrated the disconnect

between consumer needs and actual delivery and how satisfaction affects purchasing (Thakur 2019). Customer satisfaction helps businesses build long-term customer relationships with consumers and significantly impact buying intention (Budur & Poturak 2021). The greater the trust in a real estate's digital marketing information, the higher the customer satisfaction (Matidza, Ping & Nyasulu 2020). Real estate customer purchase intention, satisfaction and commitment have all been connected to customer trust in digital marketing (Ali, Zainal &Ilhamalimy 2021; Pappas 2016). Empirical research has demonstrated a positive relationship between satisfaction and intention (Budur & Poturak 2021; Saleem et al. 2015). Researchers have also found the quality digital marketing information affects customer satisfaction and purchasing intentions, implying that satisfaction has a direct and beneficial impact on purchasing intentions (Ali, Zainal &Ilhamalimy 2021; Saleem et al. 2015).

A satisfactory digital marketing experience seems to be a condition for continuous interest in a residential property, which could lead to sales. The overall quality of real estate service and customer reliability of digital marketing information is determined by confidence and other factors (Liao et al. 2017). Consumers are more likely to engage in digital marketing if they see its benefit and the supplier meets their criteria. If customers are pleased with digital marketing information, they are more likely to look for real estate information again through digital marketing platforms. Thus, real estate companies' reputation and customer engagement through digital marketing channels have become increasingly crucial for real estate businesses (Nisar & Prabhakar 2017). Numerous researchers have attempted to define crucial aspects of client satisfaction in the context of real estate marketing (Ilyas et al. 2021; Chen et al. 2010). Shiau and Luo (2012) used the cumulative approach to describe five e-satisfaction facets: shopping convenience, product deals, web design, financial security and product awareness. There are beneficial relationships between overall satisfaction and consumer behavioural goals like the desire to buy back, feedback to others, price sensitivity, and complaining behaviours. In practice, overall client satisfaction is critical in determining the intent of repurchase, recommendation and price sensitivity.

2.4.3.3 The role of digital marketing on consumer buying intention

Buyer intention refers to a person's willingness to purchase a particular product or service (Budur & Poturak 2021; Cho & Sagynov 2015). Numerous studies have investigated the relationship

between consumer buying intention and actual purchase behaviour when shopping through digital marketing channels. Consumer buying intention is directly related to the chance of a sale. Importantly, a positive brand image is reinforced when a buyer has significant purchase intention encouraging the buyer to make the purchase. Consumer buying intention is becoming increasingly important in digital marketing in the real estate industry. Consumer buying intention is a multi-dimensional process frequently influenced by their attitude, perceptions and behaviours, as well as factors such as cost analysis, perceived usefulness, quality of the product, advertising strategy and branding (Jung, Choi & Oh 2020; Mirabi, Akbariyeh, & Tahmasebifard, 2015). Buyers are increasingly turning to online product reviews to help them make informed purchasing decisions. During the purchasing process, customers are influenced by both outer (the webpage content and design) and inner (buying experience) motivations (Athapaththu & Kulathunga, 2018). In light of this, organisations are increasingly turning to market activities using digital marketing strategies to increase their market share. When it comes to sharing and disseminating information about residential property and a relator, digital marketing has offered residential customers fantastic opportunities. Vahdati and Mousavi Nejad (2016) found that people who use digital platforms to research properties and services are more satisfied and happier with their purchases. Customers keep coming back to the digital platform for further purchases if they are still positive about their purchase.

2.4.3.4 The role of digital marketing on attitude

Consumers' attitudes towards a particular brand or product/service are significant because they influence their proclivity to purchase (Alghizzawi 2019). Digital marketing can impact consumers' views, attitudes, and behaviours and influence their purchasing decisions (Nizam & Jaafar 2018). Attitudes cannot be seen; they can only be determined by how consumers conduct themselves (Gerber, Gerber & Volkamer 2018). Consumers who have an optimistic view of the products and services they are offered are more likely to make a purchase. According to Bala & Verma (2018), the relationship between digital marketing and customer decision-making is such that digital marketing affects buyer attitudes as well as buyer purchasing behaviours. However, purchasers cannot be directly influenced in their purchasing decisions, rather consumer attitude can operate as a mediating factor in their choices and preferences (Lăzăroiu et al. 2020). Information about new norms conveyed through digital marketing may encourage a buyer to adopt them in the

personal impact (Melović et al. 2020). In terms of the social effect, digital marketing information contributes to creating common knowledge of a norm and contributing to social cohesion, since customers are more prepared to accept information if they perceive that others have also accepted it (Dwivedi et al. 2021).

Attitudes are composed of three main components: knowledge, feelings and behaviour (Spasova & Gundasheva 2019). While we can watch behaviour, the knowledge and feeling components are difficult to observe. Generally speaking, consumers develop their opinions (knowledge and feelings) based on feedback from others. As a result of their purchases and usage, consumers respond positively towards the product or company when a positive experience follows their behaviour in terms of consumer satisfaction (Rivera, Bigne & Curras-Perez 2016). Otherwise, they can become uninterested in the product and negatively perceive it. Digital marketing is used for advertising and serves as a source of information and knowledge for the majorty of consumers (Alghizzawi 2019). Even though attitudes are created as a result of learning, they are also influenced by various pieces of information. In addition to direct and indirect impacts, such information includes someone's personal experiences and those of family and friends, sales representatives, and indirect influences including their overall perception of digital marketing (Kannan 2017). According to Hoyer et al. (2020), consumer attitude can be established by transforming a customers' requirements into a desire to process information. Subsequent exposure to sensory input and processing of this information results in cognitive and affective reactions, which may lead to collective behaviour or a buyer's actual behaviour (Santos & Gonçalves 2021). It is possible to transform a consumer's unfavourable attitudes towards a product or service into a positive attitude through digital marketing (Melović et al. 2020; Lim et al. 2017). Buyers' behavioural beliefs can also be altered through the use of digital marketing (Bala & Verma 2018).

2.4.4 Literature summary

This literature review captured the concepts, theories and empirical research pertaining to the advancements in digital marketing since its beginning in the late twentieth century. As a result of its continued expansion in both size and scope, digital marketing is becoming a more helpful and essential tool for companies. This review interrogated the impacts of digital marketing on consumer behaviour, but further research is necessary to determine how it affects retailers,

particularly those in residential real estate in Sydney. The effect of digital marketing on consumer behaviour has become a hot topic among researchers (Al-Debei, Akroush & Ashouri 2015). The impact of digital marketing strategies on buyers' expectations increases the value of the information, which impacts consumer behaviour in the long run (Gharbi & al-Tamimi 2020). When real estate professionals create visually appealing and interactive representations of residential real estate property information through their digital marketing platforms, it allows consumers and other stakeholders to comment on the information presented to them. The review findings reveal that digital marketing strategies for real estate companies in Australia foster positive relationships with buyers, affect purchasing decisions and positively impact property selling rates (Schallmo, Williams & Boardman 2020). Researchers have also discovered a link between trust and customer satisfaction. From a business standpoint, real estate companies should make more significant efforts to reduce uncertainty in digital marketing platforms to increase customer satisfaction. Customer satisfaction has increased dramatically as companies have gained a better understanding of their customers' needs and desires due to the exchange of information between them, thanks to digital marketing.

2.5 Gaps and limitations in the literature

2.5.1 Theoretical gap

When it comes to determining whether or not a person would use or embrace technology, ease of use and utility are considered the most crucial factors (Rugova & Prenaj 2016). To address this, most researchers studying purchase behaviour have applied the TRA, the DOI theory, the TAM, and the Motivation-Ability-Opportunity (MAO) model (Keskin & Mengüç 2018). Few researchers proposed a holistic strategy to identify consumer buying behaviour that considers both internal psychological factors and external contextual sociocultural factors (Ertz, Karakas, F & Sarigöllü, E 2016). According to the TRA, a buyer's mentality towards a behaviour or intention to conform with perceived social demands from others whose opinion is significant to them, known as the subjective norm (SN), is the sole determinant of a buyer's intention (Tommasetti et al. 2018). While the DOI theory describes how new goods are adopted (or not) by targeted customers, the TAM describes how buyers come to accept and use technology (Keskin & Mengüç 2018). However, as Han, Hsu, and Sheu (2011) have pointed out, the TRA, DOI, and TAM's application are questioned by the absence of awareness of external factors that may limit purchase decisions, such as

product information, demographics, consumer trust (TR) and satisfaction (SAT) and property availability. This highlights a significant knowledge gap. Advertisements and promotions on platforms, multimedia, and other marketing techniques have been the primary focus of previous research into digital marketing. Now, more than ever, it is important to shift focus to understand how digital marketing is affecting both retailers and consumers and how this knowledge can facilitate improvements to digital marketing strategies.

The TPB expanded the TRA to include PBC as a new element (Ajzen 1985, 1991). TPB, as a behavioural model, has been frequently used in research on consumers' intentions to buy a product and their subsequent actions (Hsu, Chang & Yansritakul 2017). However, TPB has been the subject of considerable criticism and dispute (Teng, Khong & Goh 2015). Its detractors doubt its ability to predict consumer behaviour accurately or inquire about all situations. Furthermore, the TPB does not clarify where perceived behavioural control originates (Sultan et al. 2020). Despite extensive research based on the TPB, there is still no comprehensive method to predict property purchase intentions via an integrative approach that incorporates internal psychological components and external environmental and social elements. Therefore, it is vital to investigate an integrative paradigm that considers both internal and external factors to more accurately anticipate property purchase intention and behaviour. To address these shortfalls, various researchers have extended the TPB by incorporating other factors into the model, including consumer perceived value, desire to pay, buyer knowledge and customer loyalty. Based on the findings from this literature review, factors such as information and satisfaction should also be incorporated into the TPB model. Indeed, the inclusion of new factors will increase the prediction power of the TPB model. Nonetheless, most of the research is still based on the TPB, describing how people make decisions based on their personality. This process is mostly based on internal psychological factors (Tarhini, Arachchilage & Abbasi 2015).

As previously stated, most past research linked to digital marketing has concentrated on the application, utilisation and implementation of marketing technology instead of the digital marketing factors influencing real estate consumer purchase decisions (Matidza, Ping & Nyasulu 2020). Most of these studies focused on the technological adoption of digital marketing for real estate industries with very few conducted in the area of consumer psychology (Herhausen et al. 2020). Dahiya & Gayatri (2018) recommended looking into factors that influence

buyers' decisions to purchase online using a digital marketing platform and which of these factors encourage or discourage a purchase. However, to date, there has been very little empirical research examining the factors that influence consumers' decisions to purchase residential property through digital marketing. Most of the studies on the influence of digital marketing have primarily focused on either the characteristics of digital marketing information or the behaviour of consumers when presented with digital marketing information (Kannan 2017). According to consumer psychology analysis conducted in the context of digital marketing, the influence of digital marketing depends on both consumer satisfaction and trust in the information provided by digital marketing, but this has not been empirically tested (Kannan's 2017). The research presented in this thesis aligns with the notion that customer satisfaction and trust in digital marketing information, and buyer behaviour towards digital marketing, should be evaluated together to identify relationships that might be useful in developing effective digital marketing strategies. The propensity for customers in the real estate industry to access property information online is ever growing, and efforts are constantly being made to make improvements to customer experience (Ullah, Sepasgozar & Wang 2018). Nonetheless, specific research into precisely how these changes and improvements have influenced real estate consumer behavioural patterns is limited, and data on attitude-consistent behaviour is absent. There are only a small number of studies relating to the influence of digital marketing on real estate consumer behaviours, and fewer than 1% of these were conducted in the Australian context, demonstrating a significant research gap.

According to Patrutiu-Baltes (2016), customers have more control over media and marketing than ever before. ICT advances have empowered consumers through access to more information but due to false and inaccurate information and privacy concerns, users are losing trust in online information and this is creating an uncertain digital marketing environment (Grewal et al. 2020). This alludes to a 'trust-behaviour gap' between digital marketing and real estate consumers in the Australian context (Nizar & Janathanan 2018). Another common problem outlined throughout scholarly literature theory and existing practice, is the lack of integration between variables leading to an incomplete understanding of which behavioural theories or models can predict how consumers will react towards digital marketing and their influence in real estate consumer behaviour in the Australian context. Furthermore, it is difficult to determine the influence of digital marketing on Australian consumer behaviours due to many unexplored and unverified research hypotheses. The TPB, for instance, has been tested and proven in different countries, but not in

Australia and not in the context of property purchases. That said, there is an opportunity to integrate a new research format that is tailored to the Australian market and the consumer population to accurately measure these behaviours.

Many researchers have concentrated their attention on customer satisfaction, looking at predictions, buyer behaviour and attitude (Budur & Poturak 2021; Nirwanto & Andarwati 2019; Chi 2018; Nisar & Prabhakar 2017). While the current approaches have some merit, there is a significant gap in consumer behaviour research. Studies focusing on digital marketing, the implementation of new technologies, customer satisfaction and information sharing, fail to adequately account for the importance of purchaser interactions and the presence of different digital platforms. Many real estate companies use digital marketing and social media platforms as part of their overall marketing plan to engage with customers in real-time (Bala & Verma 2018). Establishing a thriving digital community requires businesses to link themselves with customers and have a robust digital marketing platform to be successful (Grewal et al. 2020). Consumer satisfaction, digital marketing and information sharing are all investigated in this thesis. Preliminary findings with keyword searches using databases such as Google Scholar revealed approximately 41,000 relevant articles in digital marketing and consumer behaviour, but few publications in the real estate sector. This gap is likely due to the lack of clarity in the relationships between the factors linking digital marketing and consumer behaviour in the real estate industry.

2.5.2 Methodological gap

There are few common standards for determining what constitutes a reliable assessment of how consumers behave online when it comes to digital marketing (Bala & Verma 2018). Consumer psychology, buyer attitude behaviour theory, technological influence, digitalisation in marketing, and human-computer interface are among the interdisciplinary fields that have been used in this thesis. Previous research in these domains was centred on abstract notions of ethics and scientific rigour to understand customer behaviour in digital marketing. Consumer behaviour has been the subject of numerous studies and meta-analyses, which have explored its impact on digital marketing (Hulland & Houston 2020). A paucity of evidence-based suggestions defining and analysing current approaches for developing algorithms to predict customer behaviour in digital marketing has been identified in recent studies. Given the nascence of this domain, there is

tremendous significance in identifying trends in research methodologies and practices and identifying gaps in research paradigms before they become systemically prevalent. Furthermore, these challenges are relevant because they reflect the quality of scholarly research and, more importantly, how these predictions may affect consumers who may be the target of such predictions in real estate and digital marketing contexts.

A literature survey revealed that most research into digital marketing is quantitative **(see Table 2.6)**, but data analysis methodologies have been varied. Partial least squares structural equation modelling (PLS-SEM) is a method that helps evaluate complex cause-and-effect correlations in path models with latent variables (Rughoobur-Seetah, Nunkoo & Teeroovengadum 2021). Both direct and indirect analysis (mediation) can be performed simultaneously using Smart PLS and SEM (Matthews, Hair & Matthews 2018). When it comes to discovering mediation effects, the PLS-SEM method can give less inconsistent results than regression analysis. The PLS-SEM is a highly relevant and useful tool used in market research; however, it has not yet been applied to investigate the relationships between digital marketing and consumer behaviours (Wijaya, Rai & Hariguna 2019). Thus, there is a tremendous opportunity to use the PLS-SEM approach to close this substantial methodological research gap. Interestingly, even though PLS-SEM has gained popularity in recent years, a comparatively narrow focus has been given to evaluating its application to marketing research (Hair et al. 2017). One important methodological topic addressed in this thesis is the reasons for utilising PLS-SEM, data and model features, outside and internal model analyses, reporting, and many other significant methodological issues discussed in the papers. Due to the use of convenience sampling techniques and small sample sizes in most previous empirical research, findings cannot be generalised (Emerson 2015). In addition, most studies on behavioural intention have relied on convenience samples (university students, employees and internet users), thus were not representative samples. **Table 2.6** provides a list of empirical investigations conducted by various researchers between 1998 and 2021, along with comparisons of the different theories, models, research designs, samples and data collection techniques used by each group.

Table 2.6: Summary of empirical findings in digital marketing research

Authors	Topic	Journals	Research design /data collection	Sample size/ Sample	Theory/Model	Data analysis techniques	Location
Azmi et al. 2022	Smarter real estate marketing using virtual reality to influence potential homebuyers' emotions and purchase intention.	Smart and Sustainable Built Environment.	Quantitative/ Survey	60 potential homebuyers	Stimulus-Organism-Response Theory (SOR)	Partial least squares-structural equation modelling (PLS-SEM)	Australia
Farajnezhad et al. 2021	The impact of diffusion of innovation model on user behavioural intention in adopting social media marketing.	International Journal of Nonlinear Analysis and Applications	Quantitative/ Survey	253 social media users	Diffusion of Innovation Theory (DOI)	PLS-SEM technique	Iran
Jalees et al. 2021	Effect of spirituality and ethics on green advertising, and the multi-mediating roles of green buying and green satisfaction.	Cogent Business & Management	Quantitative/ Survey	387 university students	Motivation-Ability-Opportunity Model (MAO)	SPSS	Pakistan
Tsegaye 2021	The effects of social media marketing on purchase intention: the case of real estate companies, Addis Ababa.	Doctoral dissertation, ST. Mary's University	Quantitative/ Survey	362 real estate house owners	Behavioural Theory	SPSS	Ethiopian (Addis Ababa)
Yang 2021	Understanding consumers' purchase intentions in social	Journal of Theoretical and Applied	Quantitative/ Survey	302 WeChat users	Structural Social Capital Theory (SC)	PLS	China

Authors	Topic	Journals	Research design /data collection	Sample size/ Sample	Theory/Model	Data analysis techniques	Location
	commerce through social capital: Evidence from SEM and fsQCA.	Electronic Commerce Research					
Maina et al. 2020	Digital marketing and its impact on purchase behaviour among the youth.	Doctoral dissertation	Quantitative/ Survey	165 random consumers	DOI Theory	SPSS	Kenya
Godwin 2019	An empirical analysis on effect of digital marketing on consumer buying behaviour.	Doctoral dissertation, Ahmadu Bello University	Quantitative/ Survey/Focus group	384 random consumers	Attitude and Behaviour Theory	SPSS	Nigeria
Salem 2019	Assessing consumer behaviour within the context of social media marketing.	Doctoral dissertation, Brunel University London	Mixed methods (Survey and Interview)	553 Experience online customer	Theory of Reasoned Action (TRA) and Relationship Marketing Theory (RMT)	SPSS and AMOS	England
Babatunde & Ajayi 2018	The impact of information and communication technology on real estate agency in Lagos Metropolis, Nigeria.	Property Management	Quantitative/ Survey	185 random consumers	**NA**	ANOVA	Nigeria
Mapande & Appiah 2018	The factors influencing customers to conduct online shopping: South	2018 International Conference on Intelligent and Innovative	Quantitative/ Survey	102 adult users of internet	DOI Theory	SPSS	South Africa

Authors	Topic	Journals	Research design /data collection	Sample size/ Sample	Theory/Model	Data analysis techniques	Location
	African perspective.	Computing Applications					
Nizar & Janathanan 2018	Impact of digital marketing on consumer purchase behaviour.	APIIT Business, Law & Technology Conference	Mixed methods (Survey and interviews)	184 Random Consumers	**NA**	SPSS	Colombo
Ullah, Sepasgozar & Wang 2018	A systematic review of smart real estate technology: Drivers of, and barriers to, the use of digital disruptive technologies and online platforms.	Sustainability	Systematically reviews (Search engines)	139 articles	Technology Adoption Models (TAM)	systematic reviews and meta-analyses	Australia
Yassin et al. 2018	Consumer perception towards real estate online marketing.	Tourism, Business & Technology	Quantitative/ Survey	200 professional workers and administrative	**NA**	SPSS	Malaysia
Yoke et al. 2018	Purchase intention of residential property in greater Kuala Lumpur, Malaysia.	International Journal of Asian Social Science	Quantitative/ Survey	300 Random Consumers (Planning for property purchase)	The theory of Planned Behaviour (TPB)	SPSS version 21.0	Malaysia
Burgess et al. 2017	An innovation diffusion approach to examining the adoption of social media by small businesses: An Australian case study.	Pacific Asia Journal of the Association for Information Systems	Qualitative/ Interviews	42 social media users	DOI Theory	NA	Australia
Boonyothayarn 2016.	The Impact of social	Masters'	Mixed	385 residents	The Howard-	SPSS	Thailand

Authors	Topic	Journals	Research design /data collection	Sample size/ Sample	Theory/Model	Data analysis techniques	Location
	media on customer decision making in the tourist-targeted real estate industry of Phuket.	dissertation, Prince of Songkla University	Method		Sheth Theory The theory of Planned Behaviour (TPB)		
Lim et al. 2016	Factors influencing online shopping behavior: The mediating role of purchase intention.	Procedia Economics and Finance	Quantitative/ Survey	662 university students	TAM/TPB	SPSS and AMOS	Malaysia
Al-Nahdi et al. 2015	Factors affecting purchasing behavior in real estate in Saudi Arabia.	International Journal of Business and Social Science	Quantitative/ Survey	322 random consumers	The Theory of Reasoned Action (TRA)	SPSS version 21.0	Saudi Arabia
Grum & Grum 2015	A model of real estate and psychological factors in decision-making to buy real estate.	Urbani izziv	Quantitative/ Survey	1,006 random customer /students	Hypothetical model	Meta-analysis	Slovenia
Yazdanpanah & Forouzani 2015	Application of the Theory of Planned Behaviour to predict Iranian students' intention to purchase organic food.	Journal of Cleaner Production	Qualitative/ Interviews	389 students	The theory of Planned Behaviour (TPB)	Descriptive statistics	Iran
Rauniar et al. 2014	Technology acceptance model (TAM) and social media usage: An empirical study on Facebook.	Journal of Enterprise Information Management.		389 students	Technology Acceptance Model (TAM)	SPSS 20	USA

Authors	Topic	Journals	Research design /data collection	Sample size/ Sample	Theory/Model	Data analysis techniques	Location
Zeng 2013	Attributes influencing home buyers' purchase decisions: A quantitative study of the Wuhan residential housing market.	Doctoral dissertation, Southern Cross University	Quantitative/ Survey	384 random consumers	Consumer Decision-making Model (CDM)	SPSS 20.0	China
Di Pietro & Pantano 2012	An empirical investigation of social network influence on consumer purchasing decision: The case of Facebook.	Journal of Direct, Data and Digital Marketing Practice	Quantitative/ Survey	187 students	Technology Acceptance Model (TAM)	Structural Equation Model (SEM)	Italy
Bayne 2006	Homebuyer information search: An extension of the technology acceptance model for real estate websites.	Doctoral dissertation, University of Otago	Quantitative/ Survey	125 residential real estate customers	Technology Acceptance Model (TAM)/ DOI Theory	MS Excel and SPSS	New Zealand
Bezjian-Avery, Calder & Iacobucci 1998	New media interactive advertising vs. traditional advertising.	Journal of advertising research	Experimental research	96 consumers	The Theory of Reasoned Action (TRA)	SPSS	USA

Source: Created for this research

2.5.3 Summarising the research gap

In summary, the literature analysis identifies study gaps in models, target groups, sample sizes, and additional criteria that could be used to better understand consumer purchase behaviour when purchasing residential property through digital marketing channels. The purpose of this thesis is to determine the elements that impact customers' decisions to purchase residential property through digital marketing in Sydney, Australia, and to set directions for further research. To build upon the five basic constructs of the TPB, the preliminary research model employed in this thesis was constructed by including three new constructs on top of the five original constructs. The findings will not only inform better practice in digital marketing for the residential real estate industry in Sydney, Australia, but also serve as a foundation for future research into digital marketing of other industries in Australia. The knowledge gained from this study concerning the fundamental motivating components that drive consumers' purchasing behaviour will increase and expand our ability to comprehend the complicated phenomena of doing business online.

2.6 Theories and models for studying consumer buying behaviour in the digital market

Numerous scholars have tried to explore factors influencing consumer behaviour over the past decade. **Table 2.6** clearly indicates that scholars have utilised a range of theories to study and evaluate digital marketing factors that influence consumer buying behaviour. The most commonly applied theories for researching digital marketing in consumer buying intention/behaviour from the literature were the TAM, the TPB, the DOI and the TRA. TRA, initially proposed by Fishbein and Ajzen (1975), served as the foundation for the majority of these theories. The sections that follow compare these four widely accepted theories.

2.6.1 Theory of Reasoned Action

Digital marketing aims to create attitudes among buyers that influence their purchasing behaviours (Omar & Atteya 2020). When exposed to digital marketing, consumers generally establish sentiments towards products that influence their purchasing intentions (Lim et al. 2017). As a result, the use of digital marketing and attitudes to property buying are powerful predictors of the intention to make a purchase (Judge, Warren-Myers & Paladino 2019). Fishbein and Ajzen (1975) first stated and explored these attitudes and their influence on behaviours in the TRA,

which is now widely used. According to TRA, behavioural intention leads to behaviour (Judge, Warren-Myers & Paladino 2019), and behaviour impacts customer attitude about purchasing by affecting the normative beliefs or SN of consumer behaviour (Redda 2019). People's socially relevant behaviours are under their control, and their intentions are the most significant indicator of what they will really do (Ajzen 2020).

In the TRA, consumer judgments depend on the evidence accessible to them (Lin & Wang 2020). Consumers' behavioural intention to execute or not execute a behaviour is considered the strongest predictor of a buyer's actual behaviour (Judge, Warren-Myers & Paladino 2019). Because it is impossible to precisely explain the desired behaviour, ultimate goal, and timing in each setting, this hypothesis has limitations to the generalisation of outcomes (Michie et al. 2018). Verhoef et al. (2021) believe there is no need for a relationship to exist between external factors and consumer buyer behaviour (Verhoef et al. 2021). The assumption that specific external factors are constant might have a negative impact on the credibility of a hypothesis (Verhoef et al. 2021). The inclusion of SN, which can be relevant in some contexts, is a strength of the TRA, that is not considered in other theories or models (Ajzen 2020). For a wide range of consumer products, including apparel, alcohol and facial tissues, the TRA has significant explanatory power of buyers' behavioural intention creation. In the opinion of several scholars, the TRA's main weakness is its focus on volitional control, and many behaviours of interest do not fulfil this requirement (Jafarkarimi et al. 2016). Perhaps the lack of volitional control among those who wanted to change their behaviour— a behaviour that may have been detrimental to their intention—was the same reason these behaviours had become negative. So, for example, it is conceivable that addictions are caused by an inability to exercise free will. Ajzen (1985; 1991) responded to these perceived limits in the TRA by developing the TPB.

2.6.2 Theory of Planned Behaviour

The TPB was established mainly to expand the scope of the TRA to manage and describe behaviours that are mainly outside the control of individuals' volitional decisions (Ajzen, 1985; 1991). It is an expansion on Ajzen (1985)'s TRA to consider situations in which people do not have total control over their behaviours. According to Razak (2016), TRA fails to address behaviours that need the use of resources, collaboration or specific knowledge. Ajzen (1991)

developed the TPB to address these shortcomings by incorporating an extra component of PBC into the TRA. The TPB indicates that attitude (ATT), subjective norms (SN) and perceived behavioural control (PBC) are strong predictors of behaviour when it comes to intention and user satisfaction (Sanne & Wiese 2018). Simultaneously, it indicates that behaviour is influenced by habitual attention. The predictive ability of this extended model is excellent, despite the fact that the theory suffered from multi-collinearity among the independent factors that are utilised in it, which has been observed empirically (Aldhmour & Sarayrah 2016). Indeed, numerous behavioural researchers have used TPB (Sultan et al. 2020; Sanne & Wiese 2018; Aldhmour & Sarayrah 2016).

As mentioned, the TPB extended the TRA by including PBC and two different pathways (Sultan et al. 2020). One path leads from the PBC to the buyer intention (BI), whereas the other leads from PBC directly to the behaviour. PBC is a psychological measure that assesses a buyer's perception of control over a specific behaviour (Tan & Goh 2018). It is composed of two different components. The first component refers to external factors of control needed to perform the given actions. The second component is an internal sense of control that is similar to self-efficacy. Ajzen (1985) claims that the PBC characteristics of control are essential for the majority of planned actions. Ajzen (1985, 1991) predicted that the TPB would explain a more significant variance in intention and behaviour than the TRA because of the projected influence of PBC when behaviours are non-volitional.

2.6.3 Diffusion of Innovation Theory

One of the earliest social science theories is the DOI theory, which was proposed by E.M. Rogers in 1962 and is still used today (Faisal & Idris 2020). According to the DOI, the idea or invention gathers momentum and diffuses over a particular demographic or society over time, and this originated in communication theory (Girardi & Chiagouris 2018). It is important to note that adoption relates to the procedure by which a participant keeps using an item. In contrast, diffusion refers to the volume by which an item gets adopted (Min, So & Jeong 2019). It considers not just the interaction among a specific individual and an item, but also the interaction between all customers with one another and with the good or service. A new concept, behaviour or item gets adopted by individuals who are part of a social system, which is the outcome of this diffusion

process (Jahanmir & Cavadas 2018). This theory of DOI is frequently used in marketing to better understand and promote the acceptance of new products and technologies (Dearing & Cox 2018). One of the most important advantages of the DOI theory is that it is widely applicable. It shows better performance when it comes to adopting behaviours rather than controlling them (Dearing & Cox 2018). However, not everyone is open to new ideas or is willing to try something new the DOl theory does not provide appropriate constructs for dealing with social adopting behaviours.

2.6.4 Technology Acceptance Model

TAM, a broadly accepted theory, developed by Davis (1989), addresses any behavioural challenges that consumers may have when accepting new technology (Marangunić & Granić 2015). TAM was built on the TRA (Marangunić & Granić 2015), but it is more focused on 'information systems,' whereas TRA is more focused on behavioural theories (Taherdoost 2018). TAM is supported by "perceived usefulness" and "perceived ease of use", which are the two most important factors influencing a buyer's attitude towards accepting a particular technology (Makmor, Aziz Abd & Alam Shah 2019). Technology usage is influenced by buyers' intentions to use it, which in turn, are influenced by buyers' attitudes towards using that technology. It is not necessary to specify the timelines or situations under which behaviour must perform when using the TAM (Marangunić & Granić 2015). According to many researchers, the TAM has considerable advantages over other models. Specifically, researchers have noted that the TAM was capable of accurately predicting intentions, and it was one of the most prominent research models in studies of the factors that influence information system acceptance (Tarhini, Arachchilage & Abbasi 2015). However, although the TAM is generally perceived as an essential framework, it has also been criticised for having a limited explanatory Capacity (Tarhini, Arachchilage & Abbasi 2015). For example, the concept of 'perceived utility' is used by TAM to focus on specific technology use, but it neglects other critical social factors (Tarhini, Arachchilage & Abbasi 2015). TAM, especially in the context of digital marketing, may not provide an appropriate knowledge of purchasers' attitudes and intentions, particularly when using information supplied by the companies themselves (Ritz, Wolf & McQuitty 2019). Additionally, we know that external psychological factors can impact behaviour since there is a significant gap between intentions and behaviour (Hassan, Shiu & Shaw 2016). Thus, scholars have criticised TAM for ignoring the link between intention and actual behaviour with respect to usage (Malatji, Eck & Zuva 2020).

2.6.5 Summary of theories and model

Table 2.7 presents a comparative analysis of the advantages and disadvantages of these four theories. The first and second columns provide an overview of the theory's concept and framework, while the third and fourth columns provide greater detail about the theory's strengths and weaknesses. Although the TRA has been used successfully to describe a wide range of consumer behaviours, it does not consider external circumstances (Groening, Sarkis & Zhu 2018). The TPB has been used in situations where the actual attitudes and intentions are too complicated or uncertain (Raza, Abu Bakar & Mohamad 2019). The application of the DOI is typically focused on determining and engaging influential early adopters who may assist or accelerate consumer acceptance of new technologies and products (Dearing & Cox 2018). It is believed that the perceived risk barrier and psychological variables are significant impediments to the diffusion and adoption process (Joachim, Spieth & Heidenreich 2018). Addressing this, the TAM is excellent when there is no social influence to accept the chosen technology, which is ideal for online shopping (Ingham, Cadieux & Berrada 2015).

Numerous meta-analyses have endorsed the TPB as a viable explanation and predictor of many physiological activities in a diverse community (Sanaei Nasab et al. 2019). In general, studies discovered that intention is the most powerful predictor of behaviour, closely followed by PBC (Sultan et al. 2020). Buyer attitude (ATT) and perceived behavioural control (PBC) have the most significant impact on our intentions to engage in a specific behaviour, followed by buyer subjective norms (SN) (Sultan et al. 2020). It is crucial to highlight that the influence of each of the TPB constructs might differ depending on the demographic and the situation in which they are applied. According to the TPB, a potential customer's attitude towards a behaviour, as well as the subjective norms (SN) and perceived behavioural control (PBC), could impact the intention and the ultimate implementation of the intention (Sultan et al. 2020). In addition, according to the literature review findings, TPB was determined to be the most common theory employed for researching consumer buying intentions and actual behaviour when it came to digital marketing (Hassan, Shiu & Shaw 2016). Consequently, TPB has been chosen as the theoretical model in this study to investigate and compare behavioural intentions and behaviour to purchase real estate using digital marketing strategies.

Table 2.7: Comparison of key theories

Theory	Relationships	Strengths	Weaknesses
Theory of Reasoned Action (TRA)	Behavioural Beliefs + Evaluation of Outcomes → Attitude towards Behaviour Normative Beliefs + Motivation to Comply with Referents → Subjective Norms Attitude + Subjective Norms → Behavioural Intention Behavioural Intention → Actual Behaviour	• Significant predicting ability of buyer's behavioural intention, as proven by a diverse range of products. • High degree of predictive power regarding buyers' behavioural intentions.	• In some situations, buyers are not able to completely control their behaviour. • It is challenging to distinguish the direct influence of subjective norms on the behavioural intention from the indirect influence of attitudes, • Does not incorporate demographics, social relationships, or personal factors affecting behaviour. • Attitudes can sometimes be reframed as norms, and simultaneously, there is a potential risk of confusion among attitudes and norms.
Diffusion of innovations (DOI)	Perceived attributes of Innovations → Adoption of Innovations Innovation Decision → Adoption of Innovations Communication Channels → Adoption of Innovations	• There are numerous examples to support the theory; thus, it can be deemed dependable. • The theory can be used as a marketing tool. • Businesses can identify specific segments in their communications that build confidence and	• Due to the complexity of social processes and customer behaviour, it can be difficult to establish why an innovative technology is adopted. • Early adopters and innovators make up just 16% of the entire sample. A relatively small group of

Theory	Relationships	Strengths	Weaknesses
	Nature of Social Systems ➡ Adoption of Innovations Promotion Effects ➡ Adoption of Innovations	accelerate product Acceptance.	people can help an idea take off. • Adopting new behaviours did not fit into many consumer types used to support this idea. • It does not increase motivation in adopting particular behavioural patterns. • It has to be adopted, not stopped or prevented, to be effective.
Theory of Planned Behaviour (TPB)	Behavioural Beliefs + Evaluation of Outcomes ➡ Attitude towards Behaviour Normative Beliefs + Motivation to Comply with Referents ➡ Subjective Norms Control Beliefs + Perceived Power ➡ Perceived Behavioural Control Attitude + Subjective Norms + Perceived Behavioural Control ➡ Behavioural Intention Behavioural Intention ➡ Behaviour	• Compared with TRA and TPB models, this model is widely used in various fields to predict and explain behaviour. • The theory has gained much empirical evidence for forecasting behaviour in digital marketing and other domains. • When it comes to forecasting factors that influence customer behaviour, TPB is a robust and powerful model. • More accurate in anticipating behaviour when the variables are	• Multicollinearity is a problem in the model since the independent variables are all related to each other. • Establishing and measuring variables can be challenging.

Theory	Relationships	Strengths	Weaknesses
		considered inputs into the model.	
Technology of Acceptance Model (TAM)	External Factors ➡ Perceived Usefulness and Perceived Ease of Use ➡ Attitude Towards Use Perceived Usefulness + Perceived Ease of Use ➡ Attitude Towards Use Attitude Towards Use ➡ Behavioural Intention Behavioural Intention ➡ Behaviour	• Empirical research indicates that TAM usually accounts for around half of the variability in internet technology usage intentions and behaviours. • Subjective norms have had mixed effects when it comes to influencing behaviour.	• Consumers' behaviour, which must be assessed by subjective approaches such as behavioural intention, is hampered by the TAM's inability to account for the variable. • Several subjective elements make it impossible to consistently quantify the underlinings of behaviour in empirical research, such as the norms and values of societies and individuals' personal qualities and psychological factors. • does not consider external factors that can influence the acceptability and desire to use technology. • common for TAM to be considered a dependent variable rather than a means of identifying the elements that drive behaviour. • omits essential theoretical concepts.

Source: Created for this research

TPB was chosen as the theoretical foundation for developing a conceptual model for assessing consumer purchasing behaviour in this study for the following reasons. As a starting point, it has a solid theoretical base that is more accurate in predicting attitudes than other theories such as TRA, DOI and TAM. Secondly, large volumes of recent empirical research on TPB have accumulated a large body of evidence showing it is reliable in terms of the measurements used and accurate in terms of the concepts it uses to explain behaviour. Finally, TPB has a broad basis of academic acceptability. In the words of De Regt (2015), models must not only accurately depict real-world circumstances, but they must also provide additional understandings and have specific prediction abilities. Effective models can be examined under a range of different scenarios. Therefore, the TPB appears to be a good base model for constructing a conceptual model to investigate the factors influencing consumer buying behaviour of residential property in Sydney, Australia, through digital marketing. Finally, several previous empirical investigations have confirmed that TPB reliably explains a significant amount of the variance in behavioural intention and actual behaviours in digital marketing campaigns. The model is described as robust, efficient, and compact. Preliminary research models that are specific to this study will be presented in the following section. In addition, the theoretical model of digital marketing elements impacting consumer purchasing behaviour of residential property will be measured through constructs and scale measurements.

2.7 Chapter summary

This chapter provided a foundation for understanding the research background and research gaps in digital marketing and consumer behaviour. According to the literature, it is clear that consumer purchasing behaviour has changed due to the influence of digital marketing. Organisations must be aware of these factors and adjust their marketing strategies as necessary to remain competitive. The theoretical background was presented in the final section of the chapter revealing that the TPB is an appropriate framework for developing and evaluating an initial research model due to its high reliability and validity of components and growing acceptance. The hypotheses that have been proposed in this study are discussed in Chapter 3.

CHAPTER 3: RESEARCH MODEL AND HYPOTHESES DEVELOPMENT

3.1 Introduction

This chapter aims to construct a theoretical model to examine consumer behaviour in the context of the residential real estate market in Sydney while employing digital marketing. With the help of a comprehensive examination of theoretical perspectives on customer behaviour and digital marketing, both theoretically and practically applied, the chapter demonstrates and rationalises the creation of a new Integrated Consumer Behaviour – Digital Marketing Model, which will be used exclusively for this study. Based on these theories, the chapter suggests the significant characteristics and major elements influencing consumers' buying behaviour in the residential property market in Sydney. In the final section of this chapter, the thesis discusses the formation of research hypotheses.

3.2 Background

Digital marketing has altered a significant number of interpersonal and business relationships, and societal norms (Alavi 2016). Incorporating the digital marketing world might assist real estate professionals in better serving their customers (Ullah, Sepasgozar & Wang 2018). More and more real estate companies realise the importance of digital marketing as a tool for communication and for revenue sources (Bala & Verma 2018). Digital marketing can facilitate interactions and exchange of information, including comments, evaluations, images, photos, and videos (Ullah, Sepasgozar & Wang 2018). Using digital marketing, real estate companies can place themselves strategically by gathering consumer behaviour information. To develop a long-term strategy on a digital platform, real estate companies must effectively manage information. Now more than ever before, real estate companies can gain a deeper understanding of the wants and needs of potential buyers (Ullah, Sepasgozar & Wang 2018). Digital marketing technologies (such as Twitter, Facebook, blogs, and microblogging) make it easier to connect with customers and meet societal expectations (Bala & Verma 2018). Many real estate companies realise that digital marketing is a great way to connect with potential clients, and this trend is predicted to increase in the coming

years (Low et al. 2020). It is possible to track a customer's purchase habits using digital marketing analytics.

One of the ideological and technological foundations of digital marketing is web technology (Yadav, Joshi & Rahman 2015). Property buyers are overwhelmingly enthusiastic about digital marketing, but many real estate companies are not convinced that it is an effective marketing strategy. With the introduction of digital marketing, the traditional dynamics of business have shifted. The ability to collaborate, share and find enrichment through innovative communication methods such as blogs, social networks and virtual worlds allows consumers to collaborate and share. Through internal value-creating functions, digital marketing enables real estate professionals to harmonise and deliver superior value in customer relationships (Delmond et al. 2017). Building relationships with customers through open and honest communication is a valuable marketing strategy that should be implemented. A buyer-centred approach enables real estate companies to gain insight into their customers' lives and provide better service.

Customers will have more faith in a company's products and services if their digital marketing is perceived as trustworthy and the content on SM platforms is satisfactory (Çizmeci & Ercan 2015). Lack of trust by customers is a major factor in their decision not to acquire goods and services online (Kaur & Quareshi 2015). Users of digital marketing gain knowledge about properties from the content and make purchasing decisions based on their level of trust and confidence in the information (Bala & Verma 2018). Currently, there is a lack of research into the influence of digital marketing on real estate businesses from a consumer-centric perspective. The lack of relevant information and the lack of trust in real estate companies created this research gap (Kannan 2017). Due to technological and strategic limitations, some real estate businesses cannot leverage digital marketing as a business strategy. Even though digital marketing is becoming increasingly popular, there is a lack of research on its use's psychosocial variables (Kannan 2017). The way someone has behaved in the past has a significant impact on their current intentions and actions. Attitude, normative, and self-identity aspects determine the interconnectedness and interdependence of digital marketing websites.

This chapter makes a valuable contribution to the body of knowledge by first investigating the ways digital marketing effectively improves decision making. The discussion then moves to

innovative customer-dominant logic; and the construction of a theoretical model based on the TPB. Prior studies have shown that digital marketing and other critical elements may influence purchase behaviour. The theoretical model based on TPB examines the underlying factors that encourage customers to use digital marketing for purchasing choices. The aim is to reduce the gap between customer behaviour and purchase intent on digital marketing platforms using this extended TPB model (ETPB). This research's ETPB model is used to measure the impact of digital marketing on customer behaviour.

3.3 The theoretical framework (research model)—overview

3.3.1 Theory of Planned Behaviour

In 1991, Ajzen proposed an extension of Ajzen and Fishbein's TRA to the TPB. In Figure 3.1, according to the Theory of Planned Behaviour (TPB), subjective norms (SN), perceived behavioural control (PBC), and attitudes (ATT) towards the behaviour are all associated with buyer intentions (BI) (Ajzen 1991). These factors are collectively referred to as the TPB phenomenon (Ajzen 1991). Attitude comprises three primary components, including emotions, thoughts and actions (Albarracin & Shavitt 2018). The first component is related to the emotional response a consumer has to the product. The second factor is cognitive ability. This component describes how much a consumer knows about a product. Behaviour is the latter component. This relays to a buyer's tendency to act with the product's attitude towards them (Sun et al. 2021). In contrast to an objective norm, SN refer to any perceived social pressure to perform or not perform the behaviour (Altawallbeh et al. 2015). On the other hand, PBC can be described as a buyer's perception of their capability to carry out a specific behaviour (Xu et al. 2017). Those who believe they have higher control over their behaviour are more likely to act on it. Buying intention is a consumer's intent to participate in a specific behaviour. Numerous researchers over the past decades have used TPB, and it appears to be an accurate predictor of intention-behaviour.
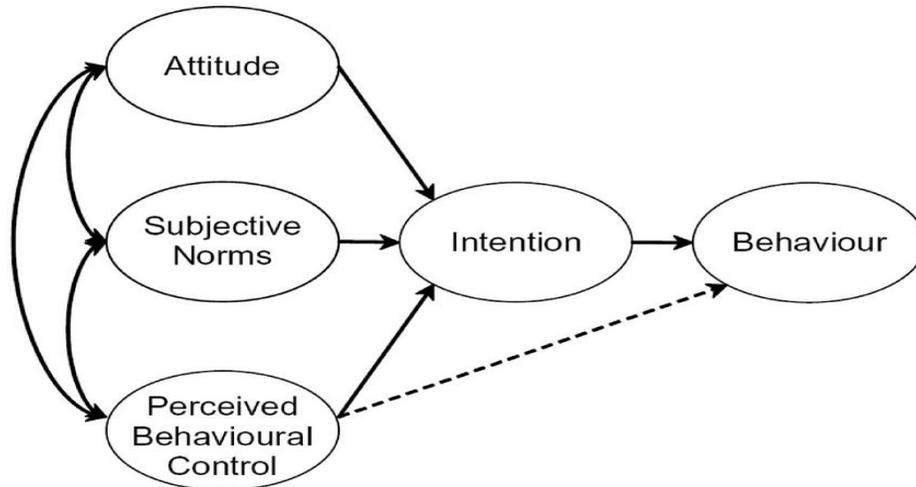
Figure 3.1: Theory of Planned Behaviour (Ajzen, 1991)

According to Ajzen (1991), when it comes to planned behaviour, attitude (ATT), subjective norms (SN), and perceived behavioural control (PBC) all influence intention to act. Using TPB to investigate consumer perceptions of digital marketing began in the 1980s (Pappas 2016). According to Hsu, (2012), the TPB may assist in understanding consumers' buying intention as a result of social and psychological variables in the competitive environment (Sanne & Wiese 2018). In contrast to when real estate consumers satisfy and trust that digital marketing information, they are more likely to continue browsing digital marketing websites. According to research, online purchases have helped real estate companies establish a more favourable strategy due to greater client involvement in improving real estate property's features and perceived benefits (Cheung & To 2016).

Studies show that consumer behaviour is challenging to analyse, and traditional research methods may only capture a fraction of the complexity (Kranzbühler et al. 2018). As previously stated, the study of consumer behaviour encompasses a wide range of approaches, viewpoints and disciplines. This includes everything from consumer behavioural theory research to social cognition research, and it is comprehensive in scope. Numerous studies published in leading journals emphasise the importance of studying specific behaviours and how consumers decide which goods to purchase (Hsu 2012). According to the TPB, consumers are more likely to adopt new behaviours when they have a favourable attitude towards a product or service. Additionally, they watch what others think about their behaviours, and as a result, can overcome barriers (Ajzen 1991). A real estate buyer's

attitude towards a particular behaviour is one of the most significant determinants of whether or not they intend to carry out that behaviour. Hsu (2012) discovered another significant determinant of buyer intention (BI) —subjective norms (SN)—which are distinct as the individual has perceived social pressure to carry out a specific behaviour. Subjective norms (SN) are defined as the perceived social pressure to perform or not perform the behaviour. Perceived behavioural control (PBC) also considers how easily an individual believes he or she can carry out a behaviour. These additional factors together with buyer's intention and perception of control directly influence buyer's behaviour. Bai et al. (2014) found that social pressure or norms from significant others greatly influence the freedom of a buyer's decisions. A buyer's attitude towards a behaviour is also a strong indicator of BI (Mannava et al. 2015). If real estate consumers develop a positive attitude towards digital marketing and real estate companies, they may ultimately take action to demonstrate their beliefs.

3.3.2 Applying the Theory of Planned Behaviour

Many current and respected researchers use the TPB to better understand consumer buying behaviour. The proposed ETPB framework shown in **Figure 3.2**, aims to identify customer buying attitudes, planned behaviours and buying intentions in the context of Australian real estate. TBP, first proposed by Aizen's (1985), is now widely accepted to forecast human behaviours concerning digital marketing and real estate purchase intentions (Gu & Wu 2019). It has been used successfully to predict and explain a range of behaviours and buying intentions. It can help to better understand attitude formation and implementation, and to create an explanatory model (Ajzen 1991). Attitude, subjective norms and PBC all have a significant impact on BIs and purchasing behaviour (Ajzen 1991). A person's true intentions are influenced by attitude towards the behaviour, subjective norms, and PBC (Ajzen, 1991). According to Ajzen (1991), TPB is used to explore the relationship between intentions and behaviours. Behaviours are influenced by a person's attitude towards the behaviour and societal pressure to perform it, together with their PBC (Ajzen 1991). TPB was taken as a possible theory for understanding and predicting human behaviours (Montano & Kasprzyk 2015). In previous studies, it was found that while the TPB relies on subjective norms, attitudes, and PBC as influencers on BIs, numerous other influences (not taken into consideration by the model) also affect the situation (Ajzen 1991). Research in psychology has recently demonstrated that numerous predictor variables must be incorporated in

the TPB. When various predictor variables are included, the value of the TPB in terms of its predictive ability for numerous fields is enhanced. This research suggests that introducing new components, such as digital marketing, trust and satisfaction into the TPB improves the ability to anticipate customer behaviour.

The TPB model is chosen for this investigation because of its explanatory strength compared with other models. Several social psychology models have been presented in recent decades to help predict and understand human behaviour more accurately and thoroughly. The TPB is the most frequently used prediction model, and it is universally accepted as effective (Nimri, Patiar & Jin 2020). Because of this, academics from a variety of sectors have used the TPB as a tool to gain a better understanding of customers' purchasing decisions. Behavioural beliefs, normative beliefs, and control beliefs support an individual's attitude towards a behaviour (Ajzen 1991). PBC is linked to attitude (ATT), subjective norms (SN) and buyer intention (BI). BI was applied as a predictor of actual behaviour because it correlates with the effort to carry out the behaviour (Ajzen 2020). The TPB states that if consumers have a positive attitude towards digital marketing, they perceive that more of their peers encourage the behaviour. They believe they have greater control over whether or not to use digital marketing (PBC), which influences the consumer to engage, like or share the promotion (behaviour).

3.3.3 Extension of the Theory of Planned Behaviour model

The ETPB model is far better at explaining and predicting purchase behaviours and intentions compared to the original TPB model. In many research domains, this ETPB model has successfully predicted consumer behaviour regarding purchase intentions (von Meyer-Höfer et al. 2015). The purpose of the proposed ETPB model, in Figure 3.2, is to support the use of an ETPB model in Australia, where an in-depth, comprehensive model is almost absent. It is hoped that the ETPB model will explain the BI of real estate consumers and the interrelationship between digital marketing (DM) and its influence on BB. Using this extended model, we can learn how customers use digital marketing channels based on their engagement with digital marketing campaigns and begin to make predictions about engagement. When it comes to studying information systems, the TPB has been employed extensively (Gangwal & Bansal 2016). The TPB framework was used to better understand how customers engage with digital marketing and strategies.
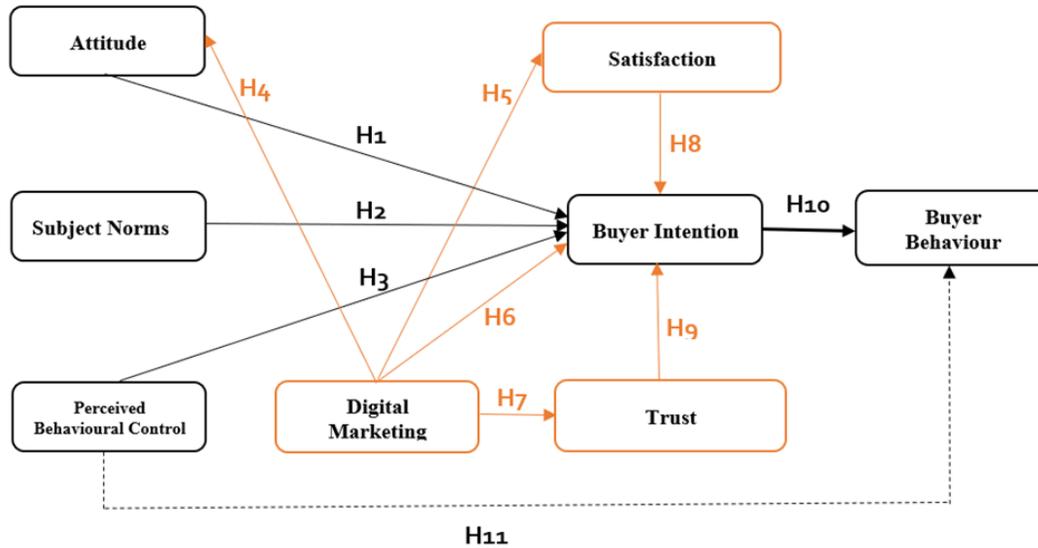
Figure 3.2: Extended Theory of Planned Behaviour (ETPB)

A thorough investigation finds that attitude, subjective norms, and perceived behavioural control are the primary motivators for consumers to use digital marketing to find property information and purchase real estate (Judge, Warren-Myers & Paladino 2019). However, consumer behaviour is influenced when trust is built with the information presented and consumers are satisfied with the available information on digital marketing websites (Voramontri & Klieb 2019). Gangwal and Bansal (2016) support these findings noting that trust, perceived behavioural control, subjective norms and information satisfaction are all connected with consumer intention and all impact consumer behaviours. The ETPB model has created an additional significant variable, the trust and satisfaction in personal control. Consumers have greater control over their thoughts and perceptions of power, giving them better control over their behaviour (Hansen, Saridakis & Benson 2018). This also explains why consumers with substantial "perceived control" beliefs about the existence of external factors that might help guide behaviour will also perceive themselves as having a solid level of control over their behaviour.

3.4 Theoretical background and construct definitions

Table 3.1 outlines the factors influencing online shopping motivations according to a current systematic review of the literature. The number of factors for each article, and the total number of articles for a specific factor were evaluated to establish the ETPB model's significance. The top

three factors influencing online shopping motivations, according to available literature, were *trust* (mentioned 20 times), *satisfaction* (mentioned 12 times) and *attitude* (mentioned 7 times). Therefore, this thesis concentrated on primary consumer characteristics—trust and satisfaction.

As noted above and based on existing literature, trust (TR) and satisfaction (SAT) play an important role on intention and behaviour. Wu et al. (2017) and many other researchers included trust theories —TAM, E-S-QUAL, EWOM, TPB. However, in the context of digital marketing, researchers have not combined customer satisfaction (SAT) and trust (TR) in theories such as TAM, DOI, TPB and TRA. According to Napitupulu (2021), the influence of satisfaction (SAT) on trust (TR) remains consistent regardless of the presence or absence of other factors. Mandira, Suliyanto and Nawarini (2018), claim that the link between trust (TR) and satisfaction (SAT) is positively correlated with buyer intention. In line with this, the research presented in this thesis identifies specific factors that can impact both trust (TR) and satisfaction (SAT) at the same time. Notably, this is the first time that trust (TR) and satisfaction (SAT) have been brought together in a single integrated framework— the ETPB.

Table 3.1: Variable Distribution Summary Grid

Source	Topics	Journal	Commitment	Innovativeness	Life Style	Personality	Self-efficacy	Shopping Orientation	Loyalty	Perceived Enjoyment	Value	Perceived Benefit	Experience	Attitude	Perceived Ease of Use	Satisfaction	Perceived Usefulness	Perceived Risk	Trust	Model/Theory
Enehasse & Sağlam 2020	The impact of digital media advertising on consumer Behaviour intention: The moderating role of brand trust.	Journal of Marketing and Consumer Research																	X	Commitment-Trust Theory
Ritz, Wolf & McQuitty 2019	Digital marketing adoption and success for small businesses: The application of the do-it-yourself and technology acceptance models	Journal of Research in interactive Marketing													X	X	X			TAM
Tran & Vu 2019	Inspecting the relationship among E-service quality, E-trust, E-customer satisfaction and Behavioural intentions of online shopping customers.	Global Business & Finance Review												X					X	E-S-QUAL
Apostolou, Bélanger & Schaupp 2017	Online communities: satisfaction and continued use intention	Information Research														X				TRA
Leninkumar 2017	The relationship between customer satisfaction and customer trust on customer loyalty.	International Journal of Academic Research in Business and Social Sciences							X							X			X	Commitment-Trust Theory
Matute, Polo-	The influence of	Online															X		X	EWOM

Source	Topics	Journal	Commitment	Innovativeness	Life Style	Personality	Self-efficacy	Shopping Orientation	Loyalty	Perceived Enjoyment	Value	Perceived Benefit	Experience	Attitude	Perceived Ease of Use	Satisfaction	Perceived Usefulness	Perceived Risk	Trust	Model/Theory
Redondo & Utrillas 2016	EWOM characteristics on online repurchase intention: Mediating roles of trust and perceived usefulness.	Information Review																		
Abu-Shamaa & Abu-Shanab 2015	Factors influencing the intention to buy from online stores: An empirical study in Jordan.	IEEE 8th GCC Conference & Exhibition																	X	TAM
Al-Debei, Akroush & Ashouri 2015	Consumer attitudes towards online shopping: The effects of trust, perceived benefits, and perceived web quality.	Internet Research										X		X						TRA/TPB
Bauman 2015	The use of the repertory grid technique in online trust research.	Qualitative Market Research: An International Journal																	X	RGT (Repertory grid Technique)
Chen, Yan & Fan 2015	Examining the effects of decomposed perceived risk on consumer's online shopping Behaviour: A field study in China.	Engineering Economics										X				X		X		TPR
Chou, Chen & Lin 2015	Female online shoppers: Examining the mediating roles of e-satisfaction and e-trust on e-loyalty development.	Internet Research.							X							X			X	STM

Source	Topics	Journal	Commitment	Innovativeness	Life Style	Personality	Self-efficacy	Shopping Orientation	Loyalty	Perceived Enjoyment	Value	Perceived Benefit	Experience	Attitude	Perceived Ease of Use	Satisfaction	Perceived Usefulness	Perceived Risk	Trust	Model/Theory
Hong 2015	Understanding the consumer's online merchant selection process: The roles of product involvement, perceived risk, and trust expectation.	International Journal of Information Management						X										X	X	TPR
Sobihah et al. 2015	E-commerce service quality on customer satisfaction, belief and loyalty: A proposal. Mediterranean	Journal of Social Sciences							X							X			X	E-S-QUAL
Alfina et al. 2014	The impact of cognitive trust and e-wom on purchase intention in C2C e-commerce site.	Journal of Computer Science																	X	Conceptual model was developed
Hajiha, Shahriari & Vakilian 2014	The role of perceived value on customer E-shopping intention using technology acceptance model, (TAM).	IEEE									X			X	X		X		X	TAM
Hsu, Chuang & Hsu 2014	Understanding online shopping intention: the roles of four types of trust and their antecedents.	Internet Research.												X				X	X	TRA
Lin & Lekhawipat 2014	Factors affecting online repurchase intention.	Industrial Management & Data Systems											X			X				Contingency Theory
Mohamed et al. 2014	Insights into individual's online	Industrial Management &			X	X								X		X	X			TAM

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Source	Topics	Journal	Commitment	Innovativeness	Life Style	Personality	Self-efficacy	Shopping Orientation	Loyalty	Perceived Enjoyment	Value	Perceived Benefit	Experience	Attitude	Perceived Ease of Use	Satisfaction	Perceived Usefulness	Perceived Risk	Trust	Model/Theory
	shopping continuance intention.	Data Systems																		
Vos et al. 2014	Risk reduction strategies in online shopping: E-trust perspective.	Procedia-Social and Behavioural Sciences						X					X						X	E-S-QUAL
Harris & Goode 2010	Online servicescapes, trust, and purchase intentions.	Journal of Services Marketing																	X	E-S-QUAL
Tang & TH 2013	Common Causes of Trust, Satisfaction and TAM in Online Shopping: An Integrated Model.	Journal of Quality														X				TAM
Sahney, Ghosh & Shrivastava 2013	Conceptualizing consumer "trust" in online buying behaviour: An empirical inquiry and model development in Indian context.	Journal of Asia Business Studies																	X	Conceptual model was developed
Wu, Huang & Hsu 2014	Benevolence trust: a key determinant of user continuance use of online social networks.	Information Systems and e-Business Management				X				X	X		X	X			X		X	UTAUT
Pratminingsih, Lipuringtyas & Rimenta 2013	Factors influencing customer loyalty toward online shopping.	International Journal of Trade, Economics and Finance	X						X							X			X	E-S-QUAL / Commitment-Trust Theory
Bianchi & Andrews 2012	Risk, trust, and consumer online	International Marketing																X	X	DOI

Source	Topics	Journal	Commitment	Innovativeness	Life Style	Personality	Self-efficacy	Shopping Orientation	Loyalty	Perceived Enjoyment	Value	Perceived Benefit	Experience	Attitude	Perceived Ease of Use	Satisfaction	Perceived Usefulness	Perceived Risk	Trust	Model/Theory
	purchasing behaviour: A Chilean perspective.	Review.																		
Chen & Chou 2012	Exploring the continuance intentions of consumers for B2C online shopping: Perspectives of fairness and trust.	Online Information Review														X			X	Fairness Theory
Javadi, et al. 2012	An analysis of factors affecting on online shopping behaviour of consumers.	International journal of marketing studies		X										X						TPB
Kim, Xu & Gupta 2012	Which is more important in Internet shopping, perceived price or trust?.	Electronic commerce research and applications									X								X	Prospect Theory
Ranjbarian, Gharibpoor & Lari 2012	Attitude toward SMS advertising and derived behavioural intension, an empirical study using TPB (SEM method).	Journal of American Science										X				X				TAM/TPB
Keisidou, Sarigiannidis & Maditinos 2011	Consumer characteristics and their effect on accepting online shopping, in the context of different product types.	International Journal of Business Science & Applied Management					X							X						PIIT
Frequency of Variable			1	1	1	2	1	2	4	1	3	3	3	7	4	12	5	4	20	

Source: Created for this research

3.4.1 Key constructs from the Theory of Planned Behaviour model

3.4.1.1 Attitude (ATT)

Attitudes are the characteristics that impact personal behaviour and they are directly related to expectation (Abuhashesh et al. 2021; Fishbein & Ajzen 1975). Customers' opinions about a product or service might be positive or negative, depending on how they perceive the product (Fishbein & Ajzen 1975). Positivity or negativity is an assessment of psychological tendency (Fishbein & Ajzen 1975). Positive behaviour will lead to a positive attitude, while a person who holds negative beliefs will have a negative attitude (Ajzen 1991). This takes into account the actual results of the behaviour. Consumers' attitudes are defined by how they respond to and feel about a product or service (Abuhashesh et al. 2021; Yusliza & Ramayah 2011). The way someone feels about something influences whether they approve of it (Al-Nahdi, Habib & Albdour 2015). According to the findings of several recent studies, there is a statistically significant and persistent link between ATT and BI (Chen et al. 2020; Gu & Wu 2019). Customers evaluate the quality of the service by comparing it to their expectations (Al-Debei, Akroush & Ashouri 2015). Customers who are unhappy with a service will express their dissatisfaction. If customers' expectations match or exceed their sentiments, they will be satisfied with their purchase. This holds true for real estate, customers'; emotions and attitudes heavily influence decisions to purchase property (Ullah, Sepasgozar & Wang 2018; Pleyers & Poncin 2020).

Attitude describes how much a consumer likes or dislikes based on cognitive, emotional, and behavioural components (Petras, Edita & Andrius 2020; Richard & Chebat 2016). Beliefs, views and knowledge make up the cognitive component, often referred to as "facts" and "information" (Petras, Edita & Andrius 2020; Richard & Chebat 2016). A person's behaviour is influenced by their emotions, while behaviour is based on an individual's desire to act in a certain manner towards another person or object (Richard & Chebat 2016). Al-Nahdi, Habib & Albdour 2015 identify a strong link between buyer attitudes and desire to purchase real estate via digital marketing platforms. By examining the influence of attitude on BIs, Ullah, Sepasgozar & Wang (2018) found that having a positive attitude was a good indicator for a purchase. To better understand human behaviour and predict future outcomes, Fishbein and Ajzen came up with the TRA theory in 1975. TRA assumes that consumers will think before deciding, and the fundamental determinant of behaviour is intention. Fishbein and Ajzen (1975) stated that when buyers have strong intentions, their behaviours are more likely to occur.

Whether or not someone behaves in a given way is also influenced by social pressures or subjective norms (SN). Attitudes (ATT) and subjective norms (SN) differ depending on the situation and the buyer.

3.4.1.2 Perceived Behavioural Control (PBC)

According to the TPB, PBC is the process of factors that can contribute to a person's BI (Liu, Liu & Mo 2020; Ajzen 1991). In psychology, the PBC refers to an individual's belief in their ability to influence a specific behaviour (Lim & Weissmann 2021; DINC & Budic 2016). This belief is influenced by various factors, including the degree to which the behaviour is supported or hindered. The setting in which a person's behavioural control, beliefs and perceptions are formed is critical (Ajzen 1991). Customers' self-perceived control over a particular behaviour is influenced by various factors, including their available resources, abilities and personal obstacles (Ajzen 1991). Consumers who believe they have more control over a specific behaviour are more likely to engage in that behaviour (Liu, Liu & Mo 2020; Fishbein & Ajzen 1975). Motivation, ability and support are just a few examples of external and internal characteristics that can either support or limit a person's behaviour (Judge, Warren-Myers & Paladino 2019). Consumer opinions matter a lot when determining whether certain traits help or hinder behaviour (Gu & Wu 2019). Several studies have revealed that how participants felt about their ability to regulate their behaviours was a reliable predictor of their intentions (Gu & Wu 2019). Furthermore, researchers have found that those who believe they have more influence over their purchasing decisions are more likely to buy a property than those who do not (Pleyers & Poncin 2020).

In general, consumers' perceptions of their ability to control their behaviour may differ from one situation to the next. Perceived power and control beliefs shape how someone feels about their ability to exert behavioural control over others (Lim & Weissmann 2021; Dinc & Budic 2016). A person's intentions and behaviours can be predicted based on their belief in exerting behavioural control (Gu & Wu 2019). For example, TPB can reveal how consumers respond in situations with limited influence. People who believe they have a good handle on their lives tend to have high self-efficacy. Thus, it is not surprising that online purchasing behaviour and purchase intentions (including for property purchases) are significantly influenced by PBC (Gu & Wu 2019; Judge, Warren-Myers & Paladino 2019; Al-Nahdi, Habib and Albdour 2015).

3.4.1.3 Subjective norms (SN)

Subjective norms are an individuals' self-perceived likeability and behaviour approval. Subjective norms are a factor in the TPB that affects a person's motivation and confidence (Imari et al.2020; Ajzen 1991). There are two important components influencing Subjective norms: normative beliefs and the desire to adhere to them. People's willingness to comply with normative beliefs is determined by their sense of societal pressure and willingness (Ajzen 2020; Ajzen 1991). Subjective norms are determined by how consumers perceive them and why they engage in their behaviour. Previous studies have shown—using the TPB model—a positive correlation between subjective norms and buyer intention (Al-Debei, Akroush & Ashouri 2015). The more the individual believes there are standards to uphold, the more likely they are to form an intention to act (Potgieter & Naidoo 2017). Positive subjective norms for interacting with digital marketing will lead to a better likelihood of interacting with the advertisements. Subjective norms are important in digital marketing because the network of connections based on mutual likes on digital media means digital marketing serves a significant influence on subjective norms (Shankar et al. 2022; Logan 2014).

Subjective norms are determined by how individuals perceive the pressures placed on them to perform or refrain from performing particular behaviours (Gu & Wu 2019). Subjective norms are a significant predictor of intention in a variety of settings. Consumers frequently make decisions based on their interpretation of what other people expect. Customers will spend more money if they know that others have similar preferences for the same product as they do. Subjective norms are a normative belief held by one individual and influenced by other individuals' attitudes, including relatives, friends and family (Dinc & Budic 2016). Researchers discovered that friends' colleagues, and wives impact 45 per cent of purchasing decisions and that social and cultural factors significantly impact how significant housing preferences are considered (Cao et al. 2021). The TPB has successfully explained such human behaviour as consumers engaging in specific behaviour patterns before forming intentions, and their feelings about those behaviour patterns together with their perceptions of SN influence decision-making (Kashif, Zarkada & Ramayah 2018). An individual's attitude towards a specific behaviour can reflect how they feel about that behaviour. In terms of customers' subjective norms, they capture their perceptions of how significant others are to them (Shan & King 2015).

3.4.1.4 Buyer intention (BI)

In the marketing world, buying intention is defined as the likelihood, the level of willingness and propensity of customers to buy products and services within a given timeframe (Sullivan & Kim 2018). Buying intention is a term used to define an aspect of customer behaviour, or more specifically, the attitude that a customer has towards specific goods or services. BB and BI make up the bulk of consumer behaviour and perceptions of value (Varghese & Agrawal 2021; Ajzen 1991). When someone expresses a desire to buy a specific product, they have expressed purchase intent (Gu & Wu 2019). Purchase intent, according to Sullivan and Kim (2018), is a subjective judgement made by the customer about whether or not to purchase a product. Consumers' likelihood of purchasing property increases as their purchase intention increases (Naeem 2021; Chiew et al. 2014). Consumers who have strong intentions to purchase a residential property will be more likely to follow through on those intentions if they are exposed to digital marketing messages. According to Ajzen (1985), a person's buying intentions are a source of motivation that might impact their behaviours. For a business to be successful, real estate companies must have the ability to predict consumer behaviour. When evaluating buyer intention, marketers utilise predictive modelling to estimate the probability of future outcomes based on earlier information gathered, which may then be used to inform product development (Sullivan & Kim 2018). Gu and Wu (2019) argue that determining BI is one of the most time-consuming processes for any business because many factors can influence this. TPB has been found to be a better predictor of BI than past actions (Sreen, Chatterjee & Sadarangani 2021; Montano & Kasprzyk 2015).

3.4.1.5 Buyer behaviour (BB)

Before purchasing a product or service, consumers engage in various activities both online and offline (Hamilton & Price 2019)—these activities are part of consumer buying behaviour. They may entail conducting research using search engines, responding to digital marketing posts (Omar & Atteya 2020; Kannan 2017). Before making a purchase, consumers go through the following processes: identifying a need, collecting information, exploring options, making the purchase, assessing the transaction's efficiency, and implementing post-purchase behaviour strategies. Consumers' purchase decisions are heavily influenced by a wide range of factors, including cultural, social, psychological, and emotional factors, as well as marketing campaigns (Stankevich 2017). Understanding this process is beneficial for organisations because it allows them to develop better marketing strategies that successfully influence

consumers to purchase a product or service. Consumers frequently engage in relational behaviours to increase the productivity of their decision-making, such as collaborating with others (Dewnarain, Ramkissoon & Mavondo 2019). A real estate company's awareness of its ability to meet consumer needs is the first and most important step in earning their confidence. Consumers' purchasing processes are illustrated in TPB models, which outline the steps consumers take when making a purchase decision (Wu et al. 2021; Montano & Kasprzyk 2015). Today's digital marketing environment allows consumers to reduce their decision-making efforts because it provides complete information and a wide range of options (Kannan 2017). Consumers can save both time and money by researching and making their purchasing decisions on digital marketing websites, which is becoming increasingly popular.

Buyer intention (BI) serves as a fundamental baseline for assessing customer behaviour because it indicates the likelihood of purchasing a particular item (Stankevich 2017). The higher the BI, the more likely a buyer will purchase a particular item. Mirabi, Akbariyeh, and Tahmasebifard (2015) noted that product quality, attitude towards a brand, product information, and perceived behaviours could be the key elements that influence real estate customers' purchase intentions. Nonetheless, research on market behaviour, attitudes towards products, perceived value, risk, and convenience is constantly shifting (Al-Debei, Akroush & Ashouri 2015).

3.4.2 Additional constructs to the extended Theory of Planned Behaviour model
3.4.2.1 Digital marketing (DM)

Digital marketing (DM) is the use of digital technologies to achieve marketing goals (Dastane 2020; Kannan 2017). The importance of digital marketing for a company varies depending on the product or service it sells and the buying habits of its target audience (Olson et al. 2021). Digital media are gradually replacing conventional media, such as print and television, as the most widely used tool for spreading information. Due to the broad availability of the Internet, the scope of marketing communications has greatly expanded (Dastane 2020; Kannan 2017). Users of desktop computers and mobile smartphones can connect to the Internet anywhere and at any time. Marketing communications have been more prosperous and varied, with rich messaging that incorporates text, video and audio elements (Ullah, Sepasgozar & Wang 2018). The web is a more dynamic medium than traditional media because of the enormous range of content available and enhanced ability of customers to customise their online experience

(Hanelt et al. 2021; Al-Debei, Akroush & Ashouri 2015). Digital marketing has unquestionably improved the market's ability to supply comprehensive real-time information. Mobile devices with "always-on" capabilities give businesses more opportunities to reach their target audiences with marketing materials (Minculete & Olar 2018). But businesses must first learn about their customers' behaviours to take advantage of the fast-developing virtual marketplace.

Many of the most recent studies and discussions have been devoted to identifying and analysing various factors that may influence or even shape the behaviour of online consumers. According to Minculete and Olar (2018), researchers have looked into the influence of digital marketing and its impact on real estate companies, as well as website perceptions and their impact on real estate companies. Consumer attitudes towards a new technology are strongly influenced by how useful they believe that technology is, while its ease of use does not have nearly as strong an influence (Hoyer et al. 2020; Luna-Nevarez & Torres 2015). When real estate consumers have a favourable attitude towards using digital marketing platforms, they are more likely to increase their use of those platforms (Low et al. 2020). A customer's awareness about digital marketing platforms affects their willingness to purchase and a lack of knowledge is the most significant barrier to BI (Liu et al. 2018; Darko, Zhang & Chan 2017).

3.4.2.2 Trust (TR)

There are many different definitions of trust, including those found in psychology, sociology and marketing, and those found in organisational settings between buyers and sellers (Soleimani 2022). Scholars, are almost unanimous in their agreement that a lack of trust is comprised of three distinct components: (a) insecurity about the consequences of communication, (b) the possibility of individual harm as a result of the communication, and (c) the inability to influence the consequences (Diallo & Thuillierv 2005). Trust (TR) in digital marketing influences buyer intention (BI) (Yunus, Saputra & Muhammad 2022). The qualities of trustworthiness, dependability and integrity are all antecedents of trust relevant to digital marketing (Hansen, Saridakis & Benson 2018). Trust might be approached from a single or multidimensional perspective. Having a thorough grasp of the many facets of trust might help one better express it. How an individual feels about a company is directly related to their level of trust in the organisation (Sullivan & Kim 2018). Before customers can develop trust in a company they must have confidence in that company's business partner's, competency, consistency and dependability (Sullivan & Kim 2018). Confidence in the seller's honesty and integrity is called "cognitive trust". The consumer's "emotional trust" is defined as emotional

security or feeling secure, and both are important factors in a successful business transaction (Sullivan & Kim 2018). When a consumer has trust, they have a positive attitude towards business commitments and believe that the businesses will act respectfully and reliably at all times (Al-Debei, Akroush and Ashouri 2015). According to Hajli et al. (2017), the reliability of information presented on a digital platform influences whether people use digital marketing. Online relationships are built on mutual trust. Each party puts their faith in the other's character and abilities and their qualities of trustworthiness, honesty, and kindness (Hajli et al. 2017). However, the situation is generally more uncertain because of the absence of face-to-face interactions (Featherman & Hajli 2016). According to Ullah and Sepasgozar (2020), if a customer lacks knowledge about a real estate company they are less likely to make a purchase from that company. As previously stated, feedback received from customers and clients who have posted reviews and comments on digital marketing platforms can help to increase trust in a particular website (Kitsios et al. 2021; Pappas 2016). According to Hajli et al. (2017) real estate consumer confidence in digital marketing could translate to their confidence digital content and a real estate companies' online activities. It is important to have consistency in digital marketing activities so buyers know what they are getting themselves into. In addition, a real estate customer's trust in user-generated content increases their confidence in exchanges and causes them to remain close with a company (Pappas 2016). Once a foundation of trust has been established, perceived risk is lower and taking risks is a sign of a person's willingness to go the extra mile (Hajli et al. 2017; Suh & Han 2003). Market research into trusted brand interaction and the effects on buyer-seller relationships has consistently proven worthwhile.

3.4.2.3 Satisfaction

Consumer satisfaction significantly impacts whether a consumer will buy something and how they act (Ilyas et al. 2020; Andaç, Akbiyuk & Karkar 2016). Satisfied customers are more likely to buy. Many people have looked into customer satisfaction and found a big difference between what people think and how satisfied they are. Companies' sustainability depends on the satisfaction of their consumers (Beyari & Abareshi 2018). To put it another way, customer satisfaction measures how well a business's products or services fit the customer's needs. Regardless of how unique or competitive a product is, if clients are dissatisfied, they will leave. Loyalty develops as a result of receiving regular satisfaction. Digital marketing content and user interfaces (websites) are essential aspects to consider when measuring client satisfaction (Al-Adwan et al. 2020; Kannan 2017).

Conventional methods of assessing customer satisfaction appear inappropriate for studies involving digital marketing campaigns, both from a conceptual and an operational standpoint (Woratschek, Horbel & Popp 2020). Consumer satisfaction research is limited, with studies primarily focusing on testing models or psychological determinants of satisfaction while taking note of customers' expectations, perceived performance, disappointment and post-purchase behaviour (Liao et al. 2017). Customer satisfaction research can be defined and approached in various ways depending on the context. The first obstacle to creating customer-specific items is that the concept of customer satisfaction does not have a clear conceptual definition in terms of business practices. Furthermore, the absence of a clear definition of customer satisfaction and measurement criteria makes it difficult to make theoretical advancements in this field and limits the explanatory power of any new ideas. Similarly, empirical findings that have the potential to be generalised are often hampered by these conditions. Consumer satisfaction must be defined accurately for the field to progress further in its development and application. As Cai and Chi (2018) suggested, consumers should be provided with a comprehensive framework of satisfaction that resolves the inconsistencies in the literature.

To keep up with the rapid rise in purchases made through digital marketing, it is important to find out why and how people prefer to buy through digital platforms. As well as having a website, a real estate company should use marketing techniques that emphasise customer satisfaction and trust to help them grow their business (Selvi et al. 2021). Consumers who buy from a business are satisfied and more likely to stay when the details are controlled by what the customers want, and more affordable options are made available (Cao, Ajjan & Hong 2018). To improve customer satisfaction, clear and up-to-date infomation about the product is paramount, and this impacts the needs of the people who are going to buy it. Measuring customer satisfaction is important for real estate companies because it can inform digital marketing strategies to hold a customer's attention longer (Dash, Kiefer & Paul 2021; Palm 2016). To ensure that customers are happy with a property, information about the property must match instructions on the website (Dash, Kiefer & Paul 2021; Çizmeci & Ercan 2015). When a customer's requirements are met by digital marketing information, they are more likely to share their experience with others and help recruit new customers.

3.5 Research hypotheses development

Literature reviews are critical in the identification and scoping of models, which can serve as the foundation for developing a new theoretical framework (Snyder 2019). Based on a thorough

examination of relevant literature, the proposed conceptual framework is intended to address the research questions. When creating hypotheses for this research, existing facts and arguments were used to predict what may occur in a particular setting of interest. Previous research suggests that user orientation in digital marketing plays the most critical role in a business's decisions to use it. In other words, attitudes towards a product or service are affected by that service's online and technology adoption decisions. When real estate professionals are favorable towards digital marketing, it has the most significant impact (Kannan 2017). Real estate professionals' views of how influential their customers are, and their level of ability around digital marketing are important to consider. Thus, real estate companies benefit from learning, adapting and be engaging in communication with their consumers using digital marketing and technology.

With the help of 8 variables—ATT, SN, PBC, DM, including SAT and TR, BI and BB—this study empirically tests and compares the impacts of digital marketing on consumer buying behaviour. These variables were validated in the first part of this research and are considered determinants of digital marketing that influence consumers' BI. ATT, SN, PBC, BI, and BB were adapted from the TPB (Arjan 1991). TPB helps to understand behaviour that is driven by intentions (Ajzen 1991), which is precisely what governs real estate purchases. The growth of digital marketing in recent times has pushed the need to better understand its influence. This pragmatic study of DMs influence on consumer behaviour in Sydney's real estate industry will contribute to existing literature through improving our understanding to build a better framework for success (Haider & Shakib 2018). The proposed ETPB model (Figure 3.2), is an extension of new conceptual frameworks to determine digital marketing influence on consumers in the Australian real estate industry. In this model, information satisfaction (SAT), trust (TR) and digital marketing (DM) are the three main external factors added to the original TPB factors, which may influence the expectancy around performance of a specific behaviour (Sultan & Wong 2014). Consumer attitude, beliefs and BI are interlinked, and understanding their relationship is critical to understanding the impact of digital marketing on BI (Akar & Dalgic 2018). The following section provides an overview of the ETPB comprehensive framework and the hypotheses developed based on research findings.

3.5.1 Research hypotheses – the direct effect

3.5.1.1 The relationship between buyer attitude (ATT) and buyer intention (BI)

Various situational factors, such as the price of a property, its design, or the reputation of a brand, impact buying decisions in our daily life (Ullah, Sepasgozar & Wang 2018). Despite customers' willingness to buy, their attitude (ATT) can frequently switch before making a purchase decision (Pleyers & Poncin 2020). Studies have looked at the connection between customer attitudes (ATT) and their behavioural intentions and actual behaviours in this setting. Researchers discovered that when attempting to understand consumer attitudes and beliefs towards digital marketing, many consumers are engaged in digital marketing regardless of their feelings (Pleyers & Poncin 2020). Several studies have been conducted on consumer behaviour in digital marketing to better understand their buying intention and the factors that influence their attitude (ATT). According to numerous studies, customers use digital marketing to analyse information, which affects their attitudes and drives them to make decisions based on that information. Similarly, consumers' attitudes played an important role in responding to promotional messages from companies sent through digital marketing (Wibisurya 2018). Many researchers surveyed internet users to determine their level of acceptance of digital marketing information delivered through the Internet. Researchers found that consumers were more responsive to marketing messages that matched their personal preferences and less receptive to promotions that were not aligned with their needs. According to research, real estate companies that bombard their customers with an excessive number of irrelevant and undesirable messages are more likely to have a negative impact on their customers' attitudes. Instead, consumers have a positive attitude towards digital marketing when real estate professionals use customer-centric strategies, provide accurate information and focus on meeting their needs (Urdea & Constantin 2021).

To shape consumer preferences and attitudes to respond to various forms of digital marketing, companies must know consumers' spending patterns or behaviours (Urdea & Constantin 2021). Various research frameworks show a strong relationship between beliefs, attitudes, intentions, and service expectations (Kamal et al. 2016). A couple of variables were proposed by Akroush and Al-Debei (2015) to identify attitudes towards buyer intention (BI) based on a consumer decision around whether to engage in digital marketing methods. Interestingly, there is a positive relationship between the digital marketing messages a real estate company sends out and how customers perceive that information (Low et al. 2020). If messages meet or exceed

consumer expectations, this triggers a positive attitude toward customer engagement and effective use of digital marketing increasing the intention to purchase (Kamal et al. 2016). Therefore, the proposed hypothesis in Figure 3.2 is:

> **H1:** *Attitude (ATT) is positively associated with buyer intention (BI) in the context of residential real estate.*

3.5.1.2 The relationship between subjective norms (SN) and buyer intention (BI)

Normative beliefs are the social expectations that an individual expects other people to have regarding a particular behaviour, and their willingness to comply with those expectations (Ajzen 1991). Subjective norms include personality, actions, beliefs, personal references as influenced by as friends, family and societal references (Logan 2014). Subjective norms are formed via the interaction of normative beliefs with the motivation to conform to expectations. TPB incorporates the importance and influence of subjective norms on purchase intention into its framework of behaviour (Ajzen 1991). Social expectations that the digital marketing user sees on both a personal and societal level are also subjective norms. Previous research using the TPB has demonstrated that subjective norms (SN) are positively related to the buyer intention (BI) (Al-Debei, Akroush & Ashouri 2015). It has been shown that people are more likely to acquire an intention to engage in a behaviour if they believe subjective norms support that behaviour. As a result, it is expected that positive subjective norms of interaction with digital marketing will lead to a higher likelihood of interaction with real estate advertisements. Subjective norms are critical in digital marketing because the network of connections formed through mutual likes on a digital marketing platform significantly affects subjective norms (Logan 2014).

According to the literature, customers will be more influenced by digital marketing if they perceive their peers are in favour of it. Numerous studies across various cultures and countries have shown that subjective norms greatly influence a purchase decision or their intent to buy (Razak et al. 2013; Songkakoon 2014; Al-Nahdi, Habib and Albdour 2015). Research shows that Subjective Norms have positive influences on consumer purchase intention but not many studies addressed digital marketing in the context of residential real estate (Pleyers & Poncin 2020). Therefore, this study investigates the correlation between subjective norms and intention to purchase in the real estate industry, via the proposed hypothesis in **Figure 3.2:**

H2: *Subjective norms (SN) are positively associated with buyer intention (BI) in the context of residential real estate.*

3.5.1.3 The relationship between perceived behavioural control (PBC) and buyer intention (BI)

Perceived behavioural control (PBC) of a buyer is described in terms of the perceived capacity to participate in a particular behaviour even with the influence of external factors such as resources, abilities and barriers (Ajzen 1991). The strength of these external factors in influencing a consumer's opinion impacts how or if a behaviour is carried out (Ajzen 1991). Researchers have discovered that PBC impacts BI, but not much is known of this, in the context of digital marketing (Al-Debei, Akroush & Ashouri 2015). Past research shows that consumers who have a greater PBC towards a specific BI are more likely to participate in that behaviour (Al-Debei, Akroush & Ashouri 2015). Thus, improved PBC of engaging with digital marketing in the real estate sector, may increases the behavioural intent of consumers to participate.

Consumers' level of interest in digital marketing information does not always reflect their reluctance to purchase (Alavi 2016). PBC includes everything that a person does when they buy, use, or dispose of goods and services and their emotional, mental, and behavioural responses to these activities (Kashif, Zarkada & Ramayah 2018). According to the TPB, the concept of PBC serves as a link between what consumers intend to do and what they actually do (Ajzen 2002). A person's strong intentions to conduct an action are more likely if he or she feels in control of the behaviour (Ajzen 2002). This is why researchers use PBC as a predictor of future behaviour. In TBP, beliefs and PBC are defined as people's perceptions of their ability develop a given behaviour based on the control they have over internal and external factors (Ajzen 1991). Research showing a positive relationship between BI and PBC can be applied in the real estate industry (Yoke et al. 2018) and digital marketing is known to impact BIs. Therefore, the proposed hypothesis in Figure 3.2 is,

H3: *Perceived behavioural control (PBC) is positively associated with buyer intention (BI) in the context of residential real estate.*

3.5.1.4 The relationship between digital marketing (DM) and buyer attitude (ATT)

Customer views of digital marketing are regularly being studied in depth. A positive attitude towards digital marketing steers consumers to search for property information using digital

marketing (Shareef et al. 2018). Digital marketing has a significant impact on customer attitudes because of the vast amount of information that it makes accessible (Dahiya & Gayatri 2018). Many studies have discovered a strong correlation between attitude and digital marketing in various online environments. The presence of four attributes, namely entertainment, information, intrusiveness and credibility, can impact real estate customers' attitudes towards a property. According to other researchers, real estate customers' attitudes towards digital marketing are influenced by their perceptions of their knowledge of technology and SN in the industry (Ullah, Sepasgozar & Wang 2018). An individual's attitude towards all forms of digital marketing directly impacts their perception of the content of digital marketing campaigns (Bala & Verma 2018). Consumers' purchase decisions are affected by their previous experiences with advertising (Wu, Quyen & Rivas 2017). According to the findings, real estate consumers who have positive attitudes towards digital marketing are more likely to have positive perceptions of real estate companies (Liu et al. 2016). Digital marketing is used as a promotional and cost-effective tool, and as an information and awareness tool that increases brand awareness (Bala & Verma 2018). Increasing the individuality of the connection between a real estate and its customers results in a more personalised two-way exchange which leads to more satisfied customers and greater levels of customer loyalty.

Previous research discovered that behavioural control and coping strategies are more likely to be developed by those who feel positive about a certain behaviour (Mahmoud 2013). A higher percentage of prospective homebuyers expect to use digital marketing because it influences their attitude. This is because a positive attitude towards digital marketing encourages buying intention. In addition, levels of trust significantly influence consumer attitudes toward digital marketing (Al-Debei, Akroush & Ashouri 2015). Indeed, positive customer attitudes towards digital real estate marketing are essential for promoting behaviours that encourage purchase decisions. Therefore, the proposed hypothesis in Figure 3.2 is,

> **H4: Digital marketing (DM) is positively associated with buyer attitude (ATT) in the context of residential real estate.**

3.5.1.5 The relationship between digital marketing (DM) and buyer satisfaction (SAT)

Today's real estate consumers have many opportunities to gather information about residential property without the need to physically visit a real estate company office (Pleyers & Poncin 2020). The spread of information online, along with time poor consumers, has created the need

for greater control, less effort and greater efficiency in the buying process (Bala & Verma 2018). Digital marketing sites must have an efficient system in place to meet the needs of customers who want information and convenience (Çizmeci & Ercan 2015). When designing digital marketing campaigns, specific characteristics were found to influence consumer satisfaction, such as up-to-date information, clear marketing content, attractive promotions and page presentation (Dahiya & Gayatri 2018). Daily hits are significantly affected by the number of weekly updates made to the digital marketing site. Visitors also responded by having more links to other digital marketing sites to attract them. When Gabriel and Kolapo (2015) studied digital marketing business models, they discovered that having value-added information on a digital marketing website can strongly influence consumer decisions, providing important online store diversity.

Consumer satisfaction depends on the level and quality of a service, the information delivered and the experiences of consumers (Rita, Oliveira & Farisa 2019). When it comes to digital marketing content, it is important to provide the most accessible, recent and up-to-date information in an advertisement (Humbani, Kotzé, and Jordaan 2015). Advertisements are necessary to capture real estate customers' attention, including appealing ideas as a value-added in digital marketing (Çizmeci & Ercan 2015). There are three primary components to consider in digital marketing for the residential real estate industry: 1) develop a straightforward message containing valuable information and present it clearly and concisely; 2) ensure that the message is exciting and attractive (e.g. photography/videography); 3) ensure that the message is relevant by customising it to the needs and preferences of real estate customers. Low et al. (2020) discovered that providing consumers with engaging content increased the likelihood of positively impacting their attitudes (ATT) and satisfaction (SAT) with real estate. Nowadays, digital marketing is one of the primary sources of real estate information (Ullah, Sepasgozar & Wang 2018) and 90% of customers read digital marketing information and reviews written by previous customers before making their purchase decision. Digital marketing information satisfaction has significant positive effects on a real estate customer's commitment and purchasing decisions (Andac et al. 2016). The process of information seeking and the resulting levels of customer satisfaction (SAT) significantly impact buyer intention (BI) (Dash, Kiefer & Paul 2021). Therefore, the proposed hypothesis in Figure 3.2 is,

> **H5:** *Digital marketing (DM) is positively associated with buyer information satisfaction (SAT) in the context of residential real estate.*

3.5.1.6 The relationship digital marketing (DM) and buyer intention (BI)

Digital marketing results in more positive purchase intentions than traditional marketing. (Husnain & Toor 2017; Akhtar, Tahir & Asghar 2016). According to digital marketing research, customer engagement impacts buying intention, and this remains true for the residential real estate industry (Alavi 2016). Digital marketing allows for acquiring advanced information from both familiar and unfamiliar sources (Sepasgozar & Wang 2018). Digital marketing has also been shown to significantly impact the growth of client connections and the value of a brand by attracting a diverse range of buyers. It allows companies to better connect with customers from different backgrounds via electronic platforms and guides them through the buying process (Dahiya & Gayatri 2018). Furthermore, as customers exchange ideas, views, and experiences, digital marketing can efficiently improve brand value by reducing misunderstandings (Dastane 2020). Customers can take charge of the purchasing process by examining and reviewing products as part of the digital marketing strategy (Kannan 2017). Trust is a challenge for many buyers, especially when exposing personal information. New opportunities for digital media integration in marketing to eliminate marketing uncertainty and trust difficulties are created by digital communication (Kannan 2017). Consumers' opinions can be exchanged through digital marketing, which has a beneficial effect on the BI of others, according to Dastane (2020).

When real estate companies care about their customers, the behaviour of those customers expands, resulting in a more open relationship between the customer and the real estate company. As a result of the increased performance and excitement provided by digital marketing, clients are more eager to purchase. When it comes to promoting a business through digital marketing, if the content is unique, personalised, and informative this enhances business image and reputation. Digital marketing is an influential tool for attracting customer attention and it has become a dominant platform for real estate consumers to interact and share their opinions with others (Matidza, Ping & Nyasulu 2020). Digital marketing enhances positive attitudes and a stronger commitment, thus influencing BI and purchase-decision making processes (Wibisurya 2018). Interestingly, 85% of consumers choose digital marketing to help them make a decision (Handel & Schwartzstein 2018). Therefore, the proposed hypothesis in Figure 3.2 is,

> **H6:** *Digital marketing (DM) is positively associated with buyer intention (BI) in the context of residential real estate.*

3.5.1.7 The relationship between digital marketing (DM) and buyer trust (TR)

Trust is one of the most important factors in building a strong brand on the Internet, and it is a digital marketing prerequisite (Pintado et al. 2017). Trust in a real estate company is the desire to see that the company's promises are kept. When a consumer returns to a real estate company and their digital presence regularly, it is often interpreted as a sign of their reliability (Mckinney & Benson 2013). Ullah and Sepasgozar (2020) investigated a model proposing that consumers' trust in real estate companies is influenced by their experiences with digital marketing and real estate reputation. The level of trust was found to be inversely related to the perception of the risks associated with purchasing from that particular real estate company. Pappas (2016) found that people's attitudes and risk perceptions were linked to their willingness to buy using digital marketing. If consumers have a bad experience while shopping on a particular digital marketing website, they will not return to that website. Accordingly, people satisfied with their digital marketing experience are more likely to have positive attitudes and trust for a brand (Wibisurya 2018). Trust is a fundamental part of any relationship. According to Tatar and Eren-Erdomuş (2016), trust is a two-way road that exists on both sides of the transaction. Customers expect real estate companies to keep their promises, and the companies' purpose is to figure out what the customers expect from them.

According to Atulkar (2020), a client's trust in a real estate company is based on their expectations for the company. Digital marketing is more trustworthy when attracting new clients than traditional advertising approaches (Habibi, Laroche, & Richard 2014). A possible reason for this is that digital marketing allows for constant connection, immediate feedback, and more focused buyer-generated content. According to Schivinski and Dabrowski (2016), digital marketing significantly impacts brand trust, reputation and intent to purchase. Digital marketing and customer behaviour are shown to be interconnected in this study, which shows that real estate organisations have a stronghold on the relationship between these two variables. A lack of trust impedes consumers' willingness to participate in digital marketing platforms (Tedeschi, Galli & Martini 2017). A few studies have highlighted the importance of trust in facilitating information exchange and knowledge integration in digital marketing (Herhausen et al. 2020). They concluded that trust positively moderates consumer brand-related conversations, particularly those who use digital marketing for property search purposes. Digital marketing offers the ability for consumers to share content with their network and build trust among customers (Atulkar 2020). It provides a platform for creating and developing

marketing strategies through trust-building mechanisms and affecting consumers' buying intention (Tedeschi, Galli & Martini 2017). Trust has a significant impact on reducing uncertainty and growing connections with consumers, so consumers feel comfortable with digital marketing as their way to connect with real estate companies (Bhandari & Rodgers 2018). Therefore, the proposed hypothesis in Figure 3.2 is,

> **H7:** *Digital marketing (DM) is positively associated with buyer trust (TR) in the context of residential real estate.*

3.5.1.8 The relationship between buyer satisfaction (SAT) and buying intention (BI)

Bala and Verma (2018) determined that customers accept digital marketing information only if that information is relevant to their interests. When consumers are satisfied with the information about goods or services, they are more likely to purchase. Using search engines and applications to gain knowledge is an essential part of the digital marketing process (Bala & Verma 2018). Customers' overall assessment of and satisfaction with a real estate company is affected by everything they encounter and experience with that real estate company. Digital marketing information and the user interface impact how satisfied users are with their information (Dastane 2020). Digital marketing information must be helpful and relevant to satisfy a customer's needs and wants (Wibisurya 2018; Dastane (2020)). When offering real estate property, digital marketing information must be up-to-date, and it must also be sufficient to assist buyers in making purchasing decisions (Ullah & Sepasgozar 2020). Effectively meeting consumer expectations by delivering the right information, and satisfying consumer needs, increases the likelihood of customers' repurchasing a product and reduces consumer complaints (Cao, Ajjan & Hong 2018). Therefore, in Figure 3.2 the proposed hypothesis is,

> **H8:** *Buyer satisfaction (SAT) is positively associated with buyer intention (BI) in the context of residential real estate.*

3.5.1.9 The relationship between buyer trust (TR) and buyer intention (BI)

Without trust, all social relationships break down or function improperly. The three steps involved in digital marketing operations are information collection, information analysis and trust to purchase a product (López García et al. 2019). Customers who use digital marketing are less likely to purchase unless they trust the information on a seller's website. Academic and industry researchers agree that trust is an important component of digital marketing (Pintado

et al. 2017). However, it is not easy to know whether an online store will follow through on its promises and protect customer information (Chinomona 2016). A trust relationship can be divided into two categories: 1) intention to trust (a willingness to rely on someone in specific situations); and 2) having beliefs about trusting (believing another person is capable, reliable, honest, or kind in certain situations). With this summary in mind, it is clear that trust is critical when deciding to purchase something using digital marketing information. When conducting a transaction through digital marketing, a higher level of trust is required than when conducting a transaction through a physical store (Shiu-Wan, Cheng & Chiu 2019). Poorer digital marketing rates are mainly attributable to a lack of consumer trust in online purchases. Research shows that when people use digital marketing channels that operate in an uncertain environment, they are less likely to trust them (Appel et al. 2020).

The intention to purchase, the sharing of personal information and recommendations, and overall satisfaction are associated with this concept of trust (Shiu-Wan, Cheng & Chiu 2019). Additionally, the phenomenon of trust has positive consequences that extend beyond a single transaction (Hansen, Saridakis & Benson 2018). Buyers' loyalty to digital platforms increases as their trust in the platform grows. Most previous studies have relied solely on self-reported risk-taking as their primary data source. Those who had a moderate level of trust in a digital marketing website were found to have a moderate impact on their intention to purchase, and a minimal impact on their final purchase decision (Wang, Min & Han 2016). Thus, it is critical to validate trust scales using attitudinal and behavioural indicators to determine trustworthiness (Akroush & Al-Debei 2015).

Customer loyalty is correlated with trust (Leninkumar 2017). The trust that a real estate company creates with its customers is a critical factor in determining brand loyalty (Chen et al. 2020). Within the TBP model, trust is a crucial variable across all digital marketing platforms and based on this theory, trust relates to beliefs of assessing perceived trustworthiness, integrity and assurance in online environments (Ha & Nguyen 2019). Within digital marketing platforms, there is substantially higher uncertainty due to a lack of face-to-face customer interaction and a high volume of user-generated content (Featherman & Hajli 2016). Given these difficulties in enhancing marketing efficiency through social networks and online advertising, it is important to reduce uncertainty and increase tendencies for the adoption of digital marketing through trust (Hajli et al. 2017). However, we need to better understand the

relationship between trust (TR) and buyer intention (BI) first. Therefore, in Figure 3.2, the proposed hypothesis is,

H9: *Buyer trust (TR) is positively associated with buyer intention (BI) in the context of residential real estate.*

3.5.1.10 The relationship between buyer intention (BI) and buyer behaviour (BB)

Intention indicates someone's willingness or effort to carry out a certain behaviour (Hsu 2012). Buyer intention (BI) is an immediate precursor to and powerful predictor of behaviour (Sheeran and Webb 2016). One or more independent variables (ATT, SN, and PBC) all relate to intent. Numerous studies investigate the link between buyer intention and digital marketing use (Gu & Wu 2019). Using buying intention to test the application of digital marketing, residential real estate companies can determine how buyer behaviour is influenced by digital marketing strategies. As mentioned previously, buying behaviour can be predicted by understanding attitude, subjective norms, perceived behavioural control, and other factors such as information satisfaction and trust (Fishbein & Ajzen 1977). Various marketing fields have investigated BB, including digital marketing (Kannan 2017). Wagner Mainardes et al. (2019) discovered that the lack of intention to purchase on digital marketing platforms is one of the first roadblocks to the development of e-commerce. Researchers including Lim et al. (2016), have noted that the relationships between digital marketing (DM), buyer intention (BI) and buyer behaviour (BB) need to be further explored. Therefore, this thesis aims to determine the impact of DM on BI and BB. Therefore, the proposed hypothesis in Figure 3.2 is,

H10: *Buyer intention (BI) is positively associated with buyer behaviour (BB) in the context of residential real estate.*

3.5.1.11 The relationship between perceived behavioural control (PBC) and buyer behaviour (BB)

According to the TPB, an individual's beliefs about his or her ability to perform a behaviour in question also impact whether or not the consumer engages in the behaviour (Ajzen 2020). The consumer who has stronger beliefs about his or her abilities, or their perceived behavioural control (PBC), is more likely to engage in the behaviour (Judge, Warren-Myers & Paladino 2019). Individual self-perception and self-confidence are critical to most formulations of PBC in digital marketing, as they are the essential antecedents of behavioural control (Altawallbeh

et al. 2015). In terms of digital marketing, if someone is enthusiastic about digital marketing activities related to real estate property, they should be confident that they can control how they buy things on the Internet. According to Low et al. (2020), it is also important to make the buying process and the real estate website enjoyable. A secure digital environment implemented via the necessary security measures is also essential. Online purchasing behaviour is significantly influenced by concerns about privacy. Not only that, but the privacy concerns impact trust and other factors. This is because security paradigms positively impact the intentions of consumers who want to search for properties through digital marketing platforms (Ariff et al. 2013). Additionally, perceived security positively impacts consumer trust (Pappas 2016).

TPB serves as an important foundation for explaining how digital marketing influences consumer property purchasing (Al-Nahdi et al. 2015). PBC is introduced into the TPB, which establishes it as an important determinant between intentions and actual behaviour (Ajzen 1991). Many researchers also investigated the relationship between PBC and actual behaviour and found a strong positively correlated relationship. Consequently, consumers may be less likely to join an activity when they do not feel like they have any control over it. Because of the uncertainty created by the intangible environment, digital marketing may cause a sense of loss of control over the situation. As a result, PBC is a key factor investigated in this thesis to better understand the shaping of consumer behaviours in the context of digital marketing (Sanne & Wiese 2018). Therefore, the proposed hypothesis in Figure 3.2 is,

> ***H11:*** *Perceived behavioural control (PBC) is positively associated with buyer behaviour (BB) in the context of residential real estate.*

3.5.2 Research hypotheses – the indirect/mediation effect

Following the TPB framework, the current study hypothesises that factors in the ETPB framework, such as DM, TR and SAT, all affect BI and, as a result, influence BB to purchase a residential property, where BI acts as a mediator. Based on the foregoing considerations, the current study intends to investigate the underlying indirect relationship between BB and BI by examining the role of BI as a mediating factor. As a result, the following indirect hypotheses, in table 3.2, are proposed in this research:

Table 3.2: Indirect Hypotheses

Hypotheses	Path
H12. Attitude mediates the relationship between digital marketing and buyer intention	**DM → ATT → BI**
H13. Buyer intention mediates the relationship between satisfaction and buyer behaviour.	**SAT → BI → BB**
H14. Consumer trust mediates the relationship between digital marketing and buyer intention.	**DM → TR → BI**
H15. Buyer intention mediates the relationship between digital marketing and buyer behaviour.	**DM → BI → BB**
H16. Buyer intention mediates the relationship between attitude and buyer behaviour.	**ATT → BI → BB**
H17. Buyer intention mediates the relationship between Subjective Norms and buyer behaviour.	**SN → BI → BB**
H18. Buyer intention mediates the relationship between Perceived Behavioural Control and buyer behaviour.	**PBC → BB → BI**

3.5.2.1 Attitude mediates the relationship between digital marketing and buyer intention.

Attitude can be defined as a positive or negative evaluation or feeling towards a particular object or concept, and it has been identified as an important factor that mediates the relationship between digital marketing and buyer intention (Koththagoda & Herath 2018). Several researchers have shown that attitude plays a key role in mediating the relationship between digital marketing and buyer intention (Yunus, Saputra & Muhammad 2022). A study conducted by Kim and Ko (2012) found that the attitudes of consumers towards online advertising had a significant positive effect on their intention to purchase products advertised online. Similarly, a study by Rana and ve Arora (2022) found that consumers' attitudes towards digital marketing positively influenced their intention to purchase products advertised on digital media platforms. Another study by Raza and Zaman (2021) found that exposure to online advertising positively influenced consumers' attitudes towards a brand, which in turn increased their intention to purchase. Research suggests that exposure to digital marketing efforts can lead to a more positive attitude towards a brand or product. Chu and Chen (2019) also found that digital marketing positively influenced consumer attitudes towards a brand, which in turn led to higher purchase intention. Therefore, the proposed indirect hypothesis in Figure 3.2 is,

> *H12. Attitude mediates the relationship between digital marketing and buyer intention.*

3.5.2.2 Buyer intention mediates the relationship between satisfaction and buyer behaviour.

Several studies have been conducted to investigate how buyer intention mediates the relationship between satisfaction and buyer behaviour. Rather et al. (2019), proposed a model of consumer behaviour suggesting that satisfaction influences intention, which in turn influences behaviour. A more recent study by Ratnasari (2021) examined the relationship between customer satisfaction, intention and actual purchase behaviour. Ratnasari's supported the mediating role of intention in the relationship between satisfaction and actual purchase behaviour. Majeed et al. (2022) also found that buyer intention mediates the relationship between customer satisfaction and purchase behaviour, specifically showing that customers who were satisfied with a product or service had a higher intention to purchase, which in turn led to increased purchase behaviours. Another recent study conducted by Shang and Bao (2022) examined the relationship between customer satisfaction, perceived value, and purchase intention in the context of social commerce. The study found that customer satisfaction and perceived value had a significant impact on purchase intention, which in turn had a significant impact on actual purchase behaviour. Therefore, the proposed indirect hypothesis in Figure 3.2 is,

> **H13.** *Buyer intention mediates the relationship between satisfaction and buyer behaviour.*

3.5.2.3 Consumer trust mediates the relationship between digital marketing and buyer intention.

The role of consumer trust in mediating the relationship between digital marketing and buyer intention has been widely studied in the field of marketing. Consumer trust refers to the belief and confidence that consumers have in a company or brand, while buyer intention refers to the likelihood that a consumer will purchase a product or service. Several studies have found that consumer trust plays a significant role in the relationship between digital marketing and buyer intention. Manzoor et al. (2020) found that consumer trust mediates the relationship between digital marketing and purchase intention, specifically showing digital marketing has a positive effect on consumer trust, which in turn has a positive effect on purchase intention. Similarly, another study by Moslehpour et al. (2021) found that consumer trust mediates the relationship between digital marketing and purchase intention. They noted that digital marketing has a positive effect on consumer trust, which in turn has a positive effect on purchase intention. Another study by Yunus, Saputra and Muhammad (2022) found that consumer trust mediates

the relationship between digital marketing and purchase intention. The study found that digital marketing has a positive effect on consumer trust, which in turn has a positive effect on purchase intention. Therefore, the proposed indirect hypothesis in Figure 3.2 is,

> **H14.** *Consumer trust mediates the relationship between digital marketing and buyer intention.*

3.5.2.4 Buyer intention mediates the relationship between digital marketing and buyer behaviour

Buyer intention refers to the level of willingness or motivation of a buyer to engage in a certain behaviour, such as making a purchase. Digital marketing refers to the use of various digital channels and platforms to promote products and services, and influence the behaviours of buyers. Several studies have shown that buyer intention plays a significant mediating role in the relationship between digital marketing and buyer behaviour. Raza and Zaman (2021) found the effect of digital marketing on purchase intention was partially mediated by attitude towards the brand. Similarly, Kurdi et al. (2022) noted buyer intention as a key factor mediating the relationship between digital marketing and buyer behaviour because it reflects a consumer's decision-making process. Mathew and Soliman (2021), suggest digital marketing can influence buyer behaviour indirectly through its effect on buyer intention. Research has also shown buyer intention is a key factor in determining whether a buyer will actually make a purchase. Digital marketing strategies aiming to enhance buyer intention can be effective in promoting buyer behaviour (Sudha & Sheena 2017). Therefore, the proposed indirect hypothesis in Figure 3.2 is,

> **H15.** *Buyer intention mediates the relationship between digital marketing and buyer behaviour*

3.5.2.5 Buyer intention mediates the relationship between attitude and buyer behaviour.

Attitude refers to an individual's overall evaluation of a product, service, or brand, while buyer behaviour refers to the actions that individuals take when making a purchase. Research by Ringim and Reni (2019) has shown the strength of the relationship between attitude and buyer behaviour is mediated by buyer intention. When individuals have a strong intention to purchase a product based on their attitude towards it, they are more likely to engage in buying behaviour (Chopra, Avhad & Jaju 2021). Ajzen and Fishbein (1980) found attitudes and intentions were strong predictors of behaviour, with intentions mediating the relationship between attitudes and

behaviours. Similarly, a study by Huang et al. (2019) found the relationship between attitudes and behaviour was stronger when buyer intention was high. They suggested that intentions act as an intermediate variable connecting attitudes to behaviours. Ajzen (1991) found perceived behavioural control was a strong predictor of intentions, suggesting individuals were more likely to intend to perform a behaviour if they perceived it as easy. Therefore, the proposed indirect hypothesis in Figure 3.2 is,

H16. Buyer intention mediates the relationship between attitude and buyer behaviour.

3.5.2.6 Buyer intention mediates the relationship between Subjective Norms and buyer behaviour.

Buyer intention refers to the individual's intention to perform a specific behaviour, such as purchasing a product or service (Moslehpour et al. 2021). It is an essential determinant of actual behaviour, as it reflects the individual's motivation to perform the behaviour. According to the theory of reasoned action, subjective norms can influence buyer behaviour by affecting the individual's intention to perform the behaviour (Ramadania and Braridwan 2019). Research conducted by Ashraf (2019) found subjective norms can influence buyer intention, which, in turn, affects buyer behaviour. For example, if an individual perceives that their reference group expects them to purchase a particular product, they are more likely to form a positive intention towards buying that product. This positive intention increases the likelihood of the individual actually buying the product. Sia and Jose (2019) found the influence of subjective norms on residential property purchase was mediated by purchase intention. Similarly, a study by Sang et al. (2020) found the effect of subjective norms on the intention to buy green housing was fully mediated by purchase intention. Therefore, the proposed indirect hypothesis in Figure 3.2 is,

H17. Buyer intention mediates the relationship between Subjective Norms and buyer behaviour. Therefore, the proposed indirect hypothesis in Figure 3.2 is,

3.5.2.7 Buyer intention mediates the relationship between Perceived Behavioural Control and buyer behaviour.

Buyer intention is a key factor in determining buyer behaviour. According to the Theory of Planned Behaviour, buyer intention mediates the relationship between PBC and buyer behaviour (Wang, Zhang & Wong 2022). Several studies have investigated the relationship between PBC, buyer intention, and buyer behaviour. Ajzen and Fishbein (1980) found that

PBC was a significant predictor of buyer intention, which in turn was a significant predictor of buyer behaviour. Another study by Bhardwaj et al. (2022) investigated the mediating role of buyer intention in the relationship between PBC and buyer behaviour in the context of online shopping. The study found PBC had a positive effect on buyer intention, which, in turn, had a positive effect on actual buyer behaviour. Individuals who perceive higher levels of control over a behaviour are more likely to have stronger buyer intentions, which increases their likelihood to purchase (Canova, Bobbio & Manganelli 2020). Therefore, the proposed indirect hypothesis in Figure 3.2 is,

> **H18.** *Buyer intention mediates the relationship between Perceived Behavioural Control and buyer behaviour.*

3.5.3 Summary of the hypothesised relationships

This section identified potential components of a theoretical model and the hypotheses for this research. The model serves as a framework for the research focus on an extension to the TPB. The theoretical framework that developed and expanded TPB was then used to better explain the factors of consumers' intention to purchase, and the 11 direct hypotheses were developed based the eight constructs of ATT, SN, PBC, DM, TR, SAT, BI and BB.

3.6 The research model: Key features

ETPB (Figure 3.2) was employed to investigate digital marketing influences on consumer behaviours to understand buyer intention and behaviour. There are only a few studies that have aimed to understand digital marketing influence on consumers' decision-making processes in property purchases, and many variables remain unknown and unverified in the Australian context. Therefore, it is vital to consider all possible digital marketing factors and establish a relationship between all the variables known to influence real estate consumers' purchasing intentions. Several important characteristics distinguish the research model. Digital marketing (DM), satisfaction (SAT) and trust (TR) are all antecedents to developing and the measurement variables that go along with them. TR, SAT and BI all improve when digital marketing is used in the home buying process. As a prelude to digital marketing in a property purchase context, this model investigates how digital marketing information and trust influence purchasing a property. The model explores the effects of digital marketing, customer satisfaction and trust

on consumers' perceptions of real estate property, as well as consumers' desire to act in response to such perceptions.

This extended model's critical features distinguish it from other models in theory and practice. The preliminary investigations that laid the foundation for this thesis contribute significant empirical evidence to support the applicability of TPB to the field of digital marketing. The findings strongly suggest that Australian real estate consumers are more receptive to property messages from real estate professionals who have a more positive attitude towards digital marketing. Consumers' increased willingness to engage in digital marketing was accompanied by an increase in the frequency at which they shared digital marketing messages with others. This thesis shows that subjective norms (SN) impact how consumers think about digital marketing. In the context of digital marketing influence on consumer buying behaviour in the real estate industries, some constructs were found to have negative and insignificant relationships. Thus, it was determined to omit other constructs found in the literature review from consideration in the proposed model.

3.7 Chapter summary

This chapter provided an overview of the proposed research model's scope. Next, it addressed relevant literature and the justification for creating a new model in the context of digital marketing. The construct development process and hypotheses were guided by the findings of the literature review. Following the TPB, the building of a research model was explored in this chapter. Because of its strong theoretical base, significant internal consistency of constructs, and wide acceptability, the TPB is ideal as a foundation for building and developing a conceptual research model, according to the results of the literature review. To build on the TPB, three new constructs, namely digital marketing, satisfaction, and trust, were added to the TPB's initial elements to create the preliminary research model used in this study. As a result of literature analysis, 11 direct hypotheses were outlined, which will be investigated in Chapter Four (4). According to the research model, real estate companies must adopt a digital marketing perspective to influence consumer buying behaviour. An extended model is required to determine the level of influence exerted by digital marketing, the level of information satisfaction, the level of achieved trust among real estate consumers, all of which influence BI. This research contributed significant new knowledge to the literature in the residential real estate Australian context. The approach used to validate the theoretical model and hypotheses suggested in this study is discussed in Chapter Four (4).

CHAPTER 4: RESEARCH METHODOLOGY

4.1 Introduction

This chapter will provide an overview to the methodology followed in this research. This section will outline the sampling procedure, sample selection, development of the survey instrument, data collection and data analysis processes performed in the research. The research methodology used in this study and its justification will be also discussed. Following a scientific investigation of the phenomena, the methodological triangulation research method was used. Chapter four will provide thorough details of the research methodologies and techniques used in this study. The research philosophy, technique, methodology, and paradigmatic approach are discussed in detail in the chapter, referring to the research questions and defining the study variables. Section 4.1 starts with an introduction, and section 4.2 provides the methodological approach and research paradigm. Section 4.3 provides quantitative sampling techniques and their justifications, and the development and design of survey questionnaires and measurement scales for these techniques. Section 4.4 discusses the sample design, which includes the population to be studied, the sampling procedures and the sample size. Pilot testing is described in depth in Section 4.5. While Section 4.6 describes data preparation strategies, and section 4.7 explores data analysis strategies that were used in this study. Finally, in section 4.8, ethical considerations relevant to the research design of this study are explored, and conclusions are given in section 4.9.

4.2 Methodological approach and research paradigm

This research was done to investigate the influence of digital marketing on consumer behaviour. As consumer behaviour is a dynamic phenomenon, which is based on several social and psychological characteristics, developing a construct was a challenging task. A quantitative method was used for this study. As the quantitative component, a descriptive cross-sectional analysis was carried out with a questionnaire filled out by respondents independently.

4.2.1 Research paradigm

A paradigm is a comprehensive understanding of the nature of scientific endeavors within which a specific investigation is carried out (Antwi & Hamza 2015). A fundamental issue for any research design is the selection of an appropriate paradigm (Rahi 2017). In the field of

theoretical foundation, there are two important paradigms for researchers to consider: deductive theory testing and inductive theory development (Antwi & Hamza 2015). The deductive approach relates to the positivist paradigm, and the inductive approach represents the phenomenological paradigm (Majeed 2019). Whereas the research method employed by the phenomenological paradigm is inductive theory-building research, such as a case study through describing a phenomenon, the positivist paradigm uses quantitative research methods with the aim to explain and predict a phenomenon (Bonache 2021). The positivist approach is conventionally the basis of the quantitative research method in the exploration of scientific enquiry of the phenomena (Antwi & Hamza 2015). According to Aliyu et al. (2014), the research for causal relationships or causal hypotheses plays a significant role in positivistic social science. Unfortunately, there is no conclusive evidence for which philosophy of social sciences is most suitable for marketing research. Using philosophy in research methods is difficult because there is no definite solution to this question. Instead, philosophy simply provides guidelines and arguments for using philosophy in study design (Ryan 2018).

Internal realism is the ontological position that underpins the research design in this thesis (Dieronitou 2014). The research herein focuses on determining how real estate buyers' behaviours and digital marketing information affect buyer intention (BI) and buyer behaviour (BB) to buy residential property. In marketing research, individual customer experiences are treated as objective even though buyers' perceptions of their own behaviour are often subjective (Lemon & Verhoef 2016). Internal realists believe that the fact and nature of realism are inherent in our basic humanity (Decoteau 2016). Additionally, this investigation tries to uncover any possible connections among digital marketing and customers' buying intention. Research on consumer behaviour and digital marketing provides empirical evidence of customer' intention and ultimate purchasing behaviour, denying the perspectives of relativism and constructivism based on subjectivity. However, in marketing research buyers' reactions to marketing stimuli are treated as objective rather than as the subjective experiences of the individuals who participate (Chaney, Lunardo & Mencarelli 2018).

Traditionally, epistemology has been based on positivism, and this is still the paradigm that most researchers use in their studies (Park, Konge & Artino 2020). According to positivism, we may quantify the characteristics of the world using objective means rather than subjective approaches such as observation or intuition (Debele 2019). Through statistics and scientific rules, the positivist paradigm can measure phenomena (Gartrell & Gartrell 2002). Quantitative

methods are used to undertake statistical tests of hypotheses, and the result of these experiments recommend there is a relationship among the variables (Joslin & Müller 2016). Realist ontologies match well with positivist epistemologies adopted for this research because of their internal realism (Aliyu et al. 2014). This research must perform an extensive survey to understand what this reality is. Positivist methods are used because research data is quantitative, allowing for testing hypotheses (Choy 2014). Furthermore, positivism is one of the fastest and most cost-effective epistemologies.

4.2.2 Research strategy

Using a questionnaire survey, primary data was collected to test hypotheses, identify consumer behavioual intention, and customer satisfaction levels before segmentation study and further research was conducted. A survey research design can gather information about a population's characteristics and/or evaluate a hypothesis about the structure of a population's relationships (Rea & Parker 2014). A pilot study was conducted first, and then primary data was collected through surveys. Due to the COVID-19 Pandemic, potential participants were invited to participate via email (or another electronic means) and they completed the survey electronically. Participants provided consent electronically by clicking a 'radio button' or similar functionality. The name of the instrument was "Survey questionnaire" and the purpose of this project was to investigate digital marketing factors affecting BB, and to investigate how digital marketing influences purchase decisions in the residential real estate industry in Sydney, Australia.

4.2.3 Methodological approach

A research paradigm is an epistemological stance or a set of shared beliefs about how a researcher views a specific discipline area (Kivunja & Kuyini 2017). It is a guide to understanding problems and making decisions about how we carry out research (Lauckner, Paterson & Krupa 2012). Paradigms used in research include positivism, constructivism and pragmatism (Kelly, Dowling & Millar 2018). The focus of the current study is to understand the role of digital marketing and its influence on real estate buyer behaviour in Sydney, Australia. Therefore, the pragmatism paradigm was chosen. This research paradigm focuses on how digital marketing, as a dominant reality, impacts underlying theory, as well as real estate customer satisfaction, where digital marketing is not only the vehicle of communication

but the recurrent theme. To determine the precise influence of digital marketing on real estate buyer behaviours, this research took a quantitative approach.

4.3 Quantitative research method

Quantitative research methods begin with a scale development process. Step-by-step procedures were followed in this study to develop better measures. Existing literature provided a well-structured procedure for measurement development. The procedure suggests a series of eight steps: (1) specify domain of construct, (2) generate a sample of items, (3) collect data, (4) purify measure, (5) data analysis, (6) assess reliability, (7) assess validity and (8) develop standards (Churchill 1979). Thus, the study's overall design and development of measures followed Churchill's (1979) suggestions. Data analysis procedures and statistical analysis cut-offs are discussed in this section and Chapter 5 discusses the results.

4.3.1 Domain of construct

Selecting main domains is the most important step in developing a data collection tool in a quantitative study (Rahi 2017). This was done by reviewing published literature. Expert opinions were obtained from marketing specialists and information technology experts, to widened the scope of the tool and enriched the content. The impact of digital marketing on consumer behaviour is a wide and dynamic phenomenon, which contains multiple domains (Kannan 2017). The following domains were identified:

[1] Attitude

[2] Trust

[3] Buyer Behaviour

[4] Satisfaction

[5] Subjective Norms

[6] Perceived Behavioural Control

[7] Buyer Intention

[8] Digital Marketing

4.3.2 Item generation and questionnaire design

Following the literature review and focus group findings, a set of items available for each of the scales was designed. The items and instruments regarding attitude (ATT), satisfaction (SAT), trust (TR), and buyer intention (BI) were generated based on both deductive

approaches. Chapter 3 discussed details about the final items for each of the scales. According to current research, multi-item measures are often more significant than the corresponding single-item measures in terms of accuracy (Diamantopoulos et al. 2012; Churchill & Surprenant 1982; Churchill 1979). The consequence is that each construct has multiple attributes or components to provide a more accurate picture of findings and increase reliability (Sarstedt et al. 2019). The development of instrument wording was given particular attention. For example, negative terms, multi-words or phrases, as well as vague and less frequently used terminology, were excluded. This assured that the items were written in concise and straightforward language, and they were relevant and understandable to the respondents (Clark & Watson 2019; Churchill 1979). The study instrument included in the questionnaire was designed using the customers' point of view. These items, along with their corresponding constructs, were reviewed by an expert panel from the School of Business at USQ to ensure the research instruments were valid and content was reliable. The expert panel was composed of two marketing academics who have related research expertise in the use of quantitative studies in marketing. Recommendations received from the expert panel were subsequently incorporated.

The questionnaire was designed in two parts;

> Part 1 – Basic socio-demographic characteristics of participants
> Part 2 – Experiences of participants

Under socio-demographic characteristics, gender, age group, education level, current occupation, employment status and marital status were inquired. For each item multiple choice questions were included to cover all the possible options. Part 2 identified key domains of participant experience. Initial drafts of the questionnaires were prepared by searching literature and obtaining expert comments. A preliminary draught of the questionnaire was submitted to the expert's panel for review.

Personal attitudes are known as a key determinant of consumer behaviour and have become a crucial factor in digital marketing (Ramya & Ali 2016). When it comes to digital marketing campaigns, social media platforms have unquestionably developed as the most significant contributors to their success (Manzoor et al. 2020). Businesses now increasingly interact with their clients through social media, while making it a platform to humanise the brand in a more casual setting (Abeza et al. 2020). In this context, the impact of personal attitudes became more prominent than ever. The impact of digital marketing in shaping personal attitudes has been

emerged as a key research topic (Dwivedi et al. 2021). Under the attitudes, personal interest, perceived convenience (whether it is comfortable), perceived benefits, perceived rightness (whether it is a wise decision and good idea) were assessed (Xu et al. 2017). When assessing attitudes both advertisements and information available on digital platforms were considered. These aspects were chosen because they are the main expectations of consumers in purchasing residential property. The degree of trust consumers have in a product determines their BB (Madhavan & Kaliyaperumal 2015). Though trust is an internal personal characteristic, it can be modified by digital marketing (Bleier & Eisenbeiss 2015). Under this domain the perceived protection of privacy, feeling of reliability, trustworthiness and keeping promises and commitments were assessed—these are key aspects for develop trust. In comparing with conventional marketing channels, digital marketing has always been challenged for lack of reliability and trustworthiness (De Pelsmacker, Van Tilburg & Holthof 2018). That is because many consumers find it challenging to determine the authenticity of the source and content reliability in digital marketing. Social capital, information richness and interactivity are key determinants in building this trust (Levy & Gvili 2015). Trust becomes a crucial factor in this context.

Buyer behaviour (BB) is another key determinant of digital marketing, and BB is also influenced by many factors (Ramya & Ali 2016). Under BB, several key aspects were considered; however, ascertainment of these behavioural traits was challenging. Customer satisfaction is an interesting phenomenon to study, and it is one of the key factors determining BB (Hwang & Jeong 2016). digital marketing can significantly influence customer satisfaction (Ilyas et al. 2020). People develop perceived satisfaction even before actually buying the product. User satisfaction can be provided in a more informal setting like social networking sites and making for a good customer experience (Kaewkitipong, Chen & Ractham 2016). There are several aspects of satisfaction, including delightedness, pleasure and satiety of information, and catching attention. These aspects were included in the questionnaire. SN are developed by how a person is influenced by society, culture and family (Lim et al. 2016). The perceived impact of family was assessed by two items. The encouragement received by people with similar ideas and opinions in shaping SN was also assessed. PBC is determined by several factors like availability of time and having adequate skills, knowledge and resources and perceived control (Ajzen 2020). Thus, several items were included in the questionnaire to assess the different aspects of PBC. The influence of digital marketing on changing consumer intention is another crucial domain (Key 2017). In addition, the intention for engagement was

also inquired as it is another important factor determining purchasing behaviour (Husnain & Toor 2017). Finally, the general perception towards digital marketing was assessed by inquiring the perceived satisfaction and satiety of information achieved through digital marketing.

4.3.3 Measurement scale items

Several effective marketing scales were used in this study, and they were chosen based on three criteria: (1) all scales tested similar ideas; (2) all scales were empirically established; and (3) all scales were initially designed for validation of buyers (Schrauf & Navarro 2005). This study focused on customers; thus, established scales were used with that audience in mind. This investigation looked at current literature to identify suitable scales. The five-point Likert scale was used to assess all variables explored in this study. The following are some of the advantages and rationale of using Likert-scales. As a starting point, the Likert scale is a frequently used tool in customer behaviour study (Taherdoost 2019). A scale's range of possible responses can vary, although the literature on the subject often depicts 5- or 7-point styles as most popular (Joshi et al. 2015). It was also important to check the construct validity and reliability of scales that had been adapted from well-known instruments (Clark & Watson 2019). This was done with a pilot test before collecting data. Initially, internal reliability estimates, and individual scale items can be examined using Likert-scales, which can be applied to provide a result on an overall scale (Croasmun & Ostrom 2011). The survey in this thesis used a 5-point scale, as shown in Figure 4.1, with 1 being "strongly disagree" and 5 being "strongly agree". The suggestions from participants during the pre-test and pilot test, which took place prior to the online survey, were used to develop this 5-point framework. Overall, the questionnaire was created in response to the research questions and hypotheses developed by this research.
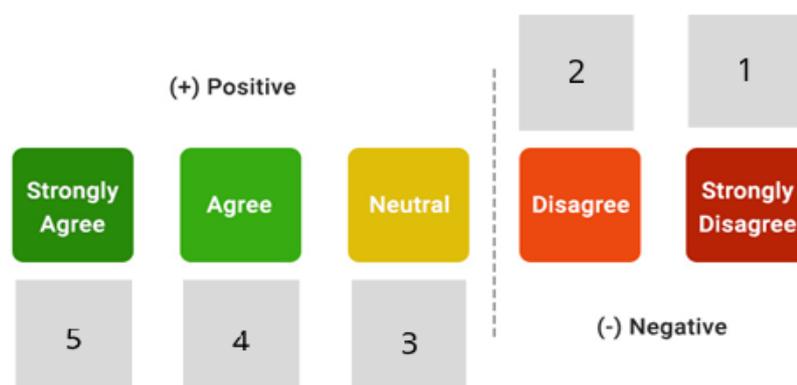
Figure 4.1: 5-point Likert-scale interpretation

4.3.4 Statistical analysis software

To collect quantitative data, USQ Lime Survey was used for the online questionnaires. Closed-ended questions were used to investigate the impact of digital marketing on consumer behaviour in the real estate industry. Data was statistically analysed using Statistical Package for Social Sciences (SPSS) software v24.0 and Smart PLS v3.0. SPSS is the most used software program (Figure 4.2) for data analysis and hypothesis testing (Ong & Puteh 2017). It is comprehensive, flexible and can be used with almost any type of survey data file. SPSS provides a comprehensive set of data analysis operations, ranging from data gathering to interpretation, simulation and result presentation (Ong & Puteh 2017). SPSS v24.0 was used to detect the missing values, outliers, biased responses and data normality (Purwanto et al. 2019). This was done using descriptive statistics, histograms/bar charts and tests of normality. Correlation analysis was also conducted to examine the association between the bivariate variables to determine the multicollinearity problems (Weaving et al. 2019). Later, Smart PLS v3.0 was used to conduct the validity tests, reliability tests, measurement and structural model analyses (Sarstedt et al. 2019). The hypothesis testing was carried out by using the bootstrapping method in the Smart PLS v3.0 (Ringle, Da Silva & Bido 2015).

Figure 4.2: SPSS software v24.0 and Smart PLS v3.0

Structural equation model parameters can be determined using PLS-SEM, which combines main components analysis and regression-based route analysis (Sarstedt, Ringle & Hair 2017). Wold (1985) proposed PLS-SEM as an alternative to Jöreskog's (1973) factor-based or covariance-based SEM, which was defined as complicated modelling. This is due to the large number of assumptions that must be made to create a structural equation model. According to Lohmöller (1989), the distributional assumptions, not the concepts, models, or estimate processes, are what is soft, not the models or estimation techniques themselves (Chin 1998). PLS-SEM is widely used across various fields and has gained general acceptance (Nitzl 2016).

One of the primary reasons for the popularity of PLS-SEM is it allows scholars to estimate highly complex models with many hypotheses and indicator variables, which is particularly useful when the purpose of the analysis is to make predictions (Hair Jr, Howard & Nitzl 2020).

4.4 Sampling approach

4.4.1 Target population

Sydney is the most populated capital city in Australia and Oceania (Pringle 2019). The Greater Sydney region covers 12,367 square kilometers (Figure 4.3). As of June 2017, Greater Sydney's estimated population was 5,131,326, and the density of metropolitan Sydney was 397.8 persons per square kilometer, making it home to approximately 65% of NSW population (Australian Bureau of Statistics 2017). At this time there were 1.76 million dwellings, including 925,000 (57%) detached houses, 227,000 (14%) semi-detached terrace houses, 456,000 (28%) units/apartments and 0.6% were other dwellings (Australian Bureau of Statistics 2016). According to the ABS (2016), there were 64,698 business brokers, property managers, administrators, real estate professionals and consultants employed in the real estate industry in Australia. As of June 2013, there were over 14,500 real estate agents working in Australia, more than 6,000 real estate agents working in NSW and 472 real estate agencies active in Greater Sydney (Domain 2019).
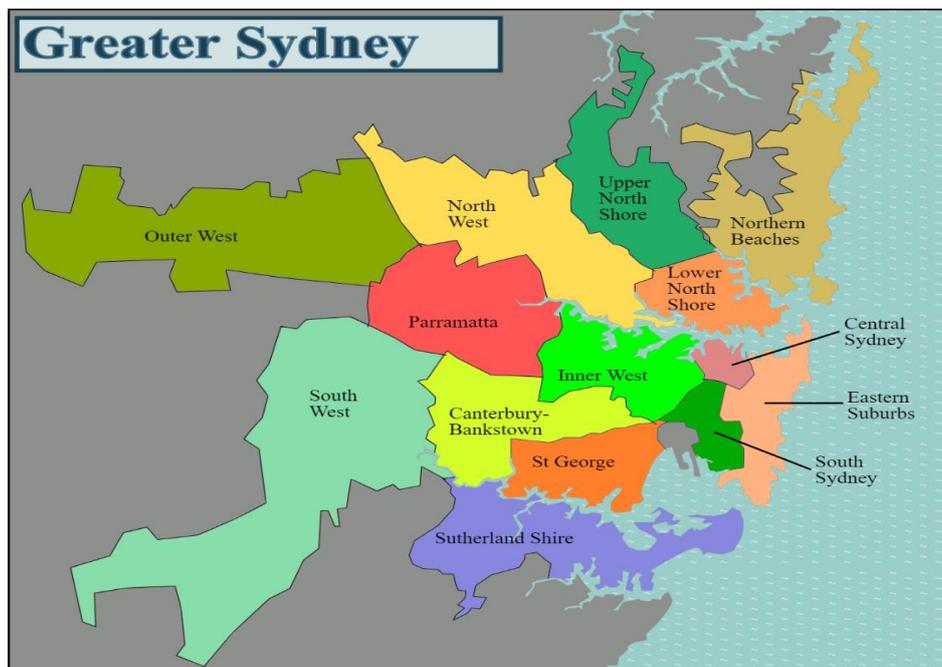
Figure 4.3: Greater Sydney (Source: Wikimedia Commons)

4.4.2 Sampling method

Two of the most vital procedures to ensure the validity of conclusions drawn in this research were the sample size estimate and sampling procedure (Delice 2010). These processes are based on the rationale of choosing a truly representative sample for the study population (Singh & Masuku 2014). Studying the entire population in a realistic setting is not feasible, these steps are needed to identify the minimum acceptable level of population we should observe to achieve a reliable result. There is always a discussion in academia about the proper selection of sample sizes (Rahi 2017). When conducting research, it is important to have sufficient participants to ensure that the findings are accurate and generally acceptable (Wetterslev, Jakobsen & Gluud 2017). It is also important to note that student researchers may need a higher number of participants than more experienced researchers (Rowley 2014). According to Nardi (2018), a fresh quantitative researcher typically needs more representative samples than an experienced academic. An appropriate sample size is dependent on the study design. Descriptive and cross-sectional studies often require larger samples (Omair 2015). But analytical study designs, like case control and randomized trials, require relatively smaller samples (Deaton & Cartwright 2018). Qualitative researchers require the smallest sample sizes as the rationale of generalisation is totally different in a qualitative context (Schreier 2018). The sample size is also affected by the expected analysis (Kock & Hadaya 2018). Certain analysis methods require particular sample sizes. For example, regression analysis. Sample size can be calculated based on a power analysis concept (Kyriazos 2018). For this study, the respondents were selected using power analysis as a function of the effect size and the number of determinants.

The recommended sample size for a survey questionnaire should be between 300 and 500 participants (Uttley 2019; Kyriazos 2018), because we can't approach the entire population of interest due to practical limitations. Therefore, a well-chosen sample should represent the study population. A sample should represent the majority of the characteristics of the participants. However, the sample-to-population relationship must be valid to make conclusions about a population that may be drawn from it (Schreier 2018). Established formulae are typically followed in quantitative investigations that can be subjected to statistical testing. Based on this notion, it is possible to generalise findings to the source population with a minimum number of participants, as previously stated (Acharya er al. 2013). For the quantitative component of this research the sample size calculation formula suggested by Lemashow et al. (1990), was used.

$$n = \frac{z^2 \, p(\,1\text{-}p)}{d^2} \qquad \textbf{(Lemeshow et al., 1990)}$$

Z = 1.96 (Standard normal deviation for 5% α error)

P = will be taken as 50%—considering there are several characteristics of interest with different population proportions. The sample size was calculated using 50% as the predicted population percentage to attain the largest sample size possible.

d = 0.05 (half of the width of the confidence interval)

$$\textbf{Therefore, n} = \frac{\textbf{1.96}^2 \textbf{ x 0.5 (1-0.5)}}{\textbf{0.05}^2} = \textbf{384}$$

5% drop-out rate was also added, 384 + 20 = 404 (400 subjects were taken)

So, the study included 400 subjects. The study population were residential real estate customers and professionals in Sydney, aged 26–65.

Due to Covid-19, convenience sampling was first piloted and then used more broadly to gather data for this study. Convenience sampling is a non-probability sampling technique where subjects are selected based on availability and proximity to the researcher (Oribhabor & Anyanwu 2019). This method was used because of its ease and convenience in accessing a wide-spread geographical population during Covid-19 lockdowns. Convenience sampling is also cost-effective as it is less resource intensive than other methods of recruitment (Winton & Sabol 2022).

4.4.3 Sample size

The participants included 404 real estate customers and real estate professionals aged between 26 to 65 years. The participants were recruited from various locations across the Sydney metropolitan area. Candidates were active online, and their behaviours were consistent and reliable. The perceptions of this sample were expected to provide important insights about consumers' buying behaviour. Contact was made with prospective participants through social media sites, including Facebook, LinkedIn, Email, Gumtree advertisement, and other similar online platforms. This enabled connection with broader segments of the population. A letter of invitation was sent to potential participants via email or other electronic means ensuring that participants were free to provide consent to continue voluntarily (emphasis on electronic means

was in view of Covid-19 Pandemic). The survey questionnaire and other necessary documents were also distributed electronically to real estate agencies around the Sydney metropolitan area. Participants sent all the required documents, electronically. Participants' personal information were not collected and participation was voluntary.

4.5 Pilot testing and findings

4.5.1 Pilot testing

Conducting preliminary tests to detect potential issues and devise intended solutions using a sample of respondents is known as piloting a questionnaire (Thabane et al. 2010). Preventing possible negative consequences of a major study by determining whether it can be accomplished with a pilot study is the primary goal (Thabane et al. 2010). During the pilot, the focus is on how subjects respond to each of the questions and their experiences and perceptions towards them. The researcher can determine if participants understand and respond to questions in the manner intended. So piloting is the first opportunity to observe how a respondent perceives and reacts to the questions formulated. Using this method, researchers can decide if participants are able to grasp the questions and whether or not they have the information needed to answer them. Piloting also shows errors and problems that we might not otherwise have anticipated so these can be eliminated or mitigated, thus ensuring efficient use of the research budget (Doody & Doody 2015). As such, it can greatly assist in shaping the content and structure of questionnaires (Doody & Doody 2015). This provides the most relevant and effective validity of the survey questionnaires; it is a crucial step in survey development as it enhances the validity and reliability of the questionnaire (Shahsavar and Tan, 2012). Assessing the acceptability of the questionnaire is another core objective of piloting (Orsmond & Cohn 2015). Both the linguistic acceptability and cultural acceptability should be ensured (Orsmond & Cohn 2015). Culturally offensive words or phrases can be identified and omitted.

There are a number of aspects to take into account while recruiting participants for pilot testing. Participants should be identical or close to the actual respondents targeted in the research in relation to key socio-demographic characteristics (Johanson & Brooks 2010). But this should not be "random selection" process. The sample for piloting should be taken from the same source population intended for the research. Based on the heterogeneity of the research population in the pilot may vary. The pilot study represents a fundamental phase of the research process (Van Teijlingen & Hundley 2010). A pilot study is a small-scale preliminary study,

which aims to investigate whether crucial components of a main study survey instrument (or questionnaire)—usually its reliability and validity measurements—are feasible (Van Teijlingen & Hundley 2010). The primary purpose of pilot study is to examine the feasibility of an approach that is intended to be used in a larger scale quantitative study (Thabane et al. 2010). The advantage of conducting a pilot study is that it helps the researcher to identify design issues and evaluate feasibility, practicality, resources, time, and cost of a study before the main research is conducted (Morris & Rosenbloom 2017).

4.5.2 Pilot study results

Initially, a pilot study was conducted on data from 69 valid responses. The data was collected via an adapted questionnaire. Using Smart PLS, PLS-SEM approach was applied to analyse the data. The outcome of data analysis, including descriptive statistics, reliability and validity statistics is presented below. In this study, piloting of the questionnaire was done by administering the questionnaire to 73 purposively selected residential real estate customers and professionals in Sydney, aged 26 to 65. The objective of the survey was clearly explained to these candidates and prior consent obtained. During the pilot, the difficulties experienced by respondents were noted and changes to wording made to improve understanding, where required. The average time spent completing the questionnaire was also calculated and this informed final decisions on the data collection processes (Johanson & Brooks 2010). The process of piloting improved the quality and methodological rigor of study. Based on the feedback given by respondents, several key changes were made. Some changes were made to wording of questions to make them clearer and more understandable and the order of questions was changed for more logical and intuitive flow.

4.5.2.1 Descriptive statistics

Descriptive information is generally provided to explain the basic features of the dataset (Mishra et al. 2019). The primary purpose of descriptive statistics is to provide summaries about the collected sample and the measures (Mishra et al. 2019). Table 4.1 represents the descriptive data of the variables taken to determine the people's intention and behaviour towards a specific product. It provides the basic descriptive in terms of minimum, maximum, mean, and standard deviation. The descriptive statistics (Table 4.1) indicate that the mean value for ATT is 4.22, the mean value for trust (TR) is 4.13, the mean value for BB is 4.26, the mean value for SAT is 4.32, the mean value for SN is 4.32, the mean value for PBC is 4.32, the mean

value for BI is 4.32, and the mean value for DM is 4.37. The minimum value of each variable is 1, and the maximum value is 5 as the data collected for these variables is on a 5-point Likert scale.

Table 4.1: Descriptive Statistics (n = 69)

Variables	Minimum	Maximum	Mean	S.D
1- Attitude	1.00	5.00	4.22	0.52
2 - Subjective Norms	1.00	5.00	4.32	0.49
3 - Perceived Behavioural Control	1.00	5.00	4.32	0.42
4 - Buyer Intention	1.00	5.00	4.32	0.50
5 - Digital Marketing	1.00	5.00	4.37	0.52
6 - Trust	1.00	5.00	4.13	0.62
7 - Satisfaction	1.00	5.00	4.32	0.45
8 - Buyer Behaviour	1.00	5.00	4.26	0.49

4.5.2.2 Correlations

The correlation is used to explain the degree of relationship, whether causal or not, between bivariate variables (Gogtay & Thatte 2017). A correlation analysis is a statistical method used to measure the direction and strength of the linear relationship of one variable to another variable (Curtis, Comiskey & Dempsey 2016). It calculates the level of change in one variable due to change in the other variable. A correlation coefficient has a value between -1 and +1, with -1 indicating a strong negative correlation, 0 indicating no linear relationship, and +1 indicating a strong positive correlation (Ratner 2009). Table 4.2 shows the Pearson correlation findings. The analysis depicts that all variables have moderate to strong, positive and statistically significant association between them at the 0.01 level of significance.

Table 4.2: Correlation Analysis

Variables	1	2	3	4	5	6	7	8
1- Attitude	1							
2- Subjective Norms	.679[**]	1						
3- Perceived Behavioural Control	.621[**]	.690[**]	1					
4- Buyer Intention	.775[**]	.785[**]	.760[**]	1				
5- Digital Marketing	.802[**]	.741[**]	.768[**]	.929[**]	1			
6- Trust	.848[**]	.679[**]	.627[**]	.828[**]	.828[**]	1		
7- Satisfaction	.755[**]	.660[**]	.675[**]	.755[**]	.794[**]	.859[**]	1	

8- Buyer Behaviour	.733**	.693**	.686**	.812**	.840**	.836**	.790**	1
**. Correlation is significant at the 0.01 level (2-tailed); N = 69.*								

4.5.2.3 Collinearity statistics (VIF) and items loadings

Variance Inflation Factor (VIF) is generally used to test the multicollinearity issue in the data variables (Thompson et al. 2017). VIF is a statistical measure that explains how much variance of a predictor variable is influenced by its correlation with other explanatory variables in the regression model (Senaviratna & Cooray 2019). VIF value is the reciprocal of the tolerance value (Senaviratna & Cooray 2019). A small VIF value means low correlation between the variables, under ideal conditions (Purwanto & Sudargini 2021). Hair et al (2011) recommended that multicollinearity is an issue if VIF is greater than 10 and tolerance is less than 0.20. Items factor loadings and VIF statistics are presented in Table 4.3. The findings show tolerance value for all variables is above 0.20, and respective VIF values are less than the threshold of 10, indicating no issue of multicollinearity in the regressed dataset. Moreover, factor loadings indicate how much each observable item or variable contributes absolutely to the latent variable or construct definition. The values for most of the constructs or items are above 0.60, indicating excellent validity.

Table 4.3: VIF and Factor Loadings

Constructs	Items	Loadings	VIF	Constructs	Items	Loadings	VIF
Attitude (ATT)	ATT1	0.554	1.418	Buyer Intention (BI)	BI1	0.741	1.884
	ATT2	0.665	1.413		BI2	0.728	1.721
	ATT3	0.767	1.853		BI3	0.735	1.958
	ATT4	0.712	1.658		BI4	0.726	1.770
	ATT5	0.672	1.405		BI5	0.648	1.680
	ATT6	0.740	1.960		BI6	0.708	1.777
	ATT7	0.787	2.107		BI7	0.801	2.210
Buyer Behaviour (BB)	BB1	0.767	1.458	Satisfaction (SAT)	SAT1	0.822	2.530
	BB2	0.610	1.400		SAT2	0.693	1.805
	BB3	0.693	1.356		SAT3	0.722	1.667
	BB4	0.627	1.271		SAT4	0.747	1.899
	BB5	0.800	1.775		SAT5	0.621	1.580
Digital Marketing (DM)	DM1	0.692	1.920		SAT6	0.798	2.601
	DM2	0.783	2.209	Subjective Norms	SN1	0.705	2.202
	DM3	0.787	2.095		SN2	0.651	1.902

	DM4	0.698	1.576	(SN)	SN3	0.807	1.711
	DM5	0.777	1.956		SN4	0.861	2.413
	DM6	0.745	2.007		SN5	0.770	1.934
	DM7	0.775	2.193	Trust (TR)	TR1	0.741	2.020
Perceived Behavioural Control (PBC)	PBC1	0.541	1.348		TR2	0.683	1.885
	PBC2	0.727	1.473		TR3	0.813	2.468
	PBC3	0.785	1.810		TR4	0.820	2.342
	PBC4	0.819	1.982		TR5	0.782	2.094
	PBC5	0.434	1.221		TR6	0.809	2.243
	PBC6	0.648	1.360		TR7	0.799	2.287

4.5.2.4 Construct reliability and validity
Test of composite reliability

Cronbach's Alpha and composite reliability are used to assess the reliability of the scale(s) (Padilla & Divers 2016). Cronbach's Alpha is the average measure of internal consistency and is commonly preferred with the Exploratory Factor Aanalysis (EFA) (Green & Yang 2015). The value of Cronbach's Alpha ranges from 0 to 1 (Cronbach 1951). A value closer to 1 shows greater internal consistency of the scale, and ultimately scale reliability. Tang, Cui & Babenko (2014) and Raes et al. (2011) recommended a Cronbach's Alpha value of 0.60 or greater for internal consistency or higher reliability. In a similar way, composite reliability (or construct reliability) is also a new way of measuring the internal consistency or reliability in the scale items (Brunner & Süß 2005) and is mostly preferred with the Confirmatory Factor Analysis (CFA). If the composite reliability value is less than 0.60 it shows unsatisfactory internal consistency or reliability (Hair et al. 2011). Table 4.4 shows the internal consistency (Cronbach's Alpha coefficient) and composite reliability value of each variable is more than 0.60, indicating the internal consistency of each scale, thereby a good reliability as recommended by Hair et al. (2011).

Test of Convergent Validity / Average Variance Extracted (AVE)

Convergent validity measures how closely a new scale is related to other variables and other measures of the same construct (Carlson & Herdman 2012). Thus, it is essential to figure out that construct should not only correlate with related variables, and also should not relate with dissimilar variables (Schober, Boer & Schwarte 2018). In PLS-SEM, AVE indicator is usually used to check the convergent validity (Hair Jr et al. 2017). It measures the variance captured by a construct in relation to the variance due to measurement error. The results from Table 4.4

show the values of the AVE are equal to or greater than 0.50, thereby confirming the constructs' validity and validity of measurement model.

Table 4.4: Reliability and Validity

	Cronbach's Alpha	rho_A	CR	AVE
Attitude	0.829	0.839	0.871	0.495
Buyer Behaviour	0.742	0.762	0.829	0.495
Digital Marketing	0.871	0.873	0.901	0.565
Perceived Behaviour Control	0.752	0.795	0.826	0.453
Buyer Intention	0.851	0.854	0.887	0.530
Subjective Norms	0.823	0.850	0.873	0.581
Satisfaction	0.829	0.836	0.876	0.543
Trust	0.892	0.897	0.915	0.608

AVE= Average Variance Extracted; CR= Composite Reliability

4.5.3 Survey administration

Collecting data from a small group of individuals to create quantitative descriptors of the characteristics of a broader population is known as "sampling" (Groves et al. 2011). A survey is a tool for gathering information about a participant's thoughts, beliefs, choices, action, or any other aspect of their lives. Quantitative identifiers of the characteristics of the broader population comprised of the participants (sample) are derived from the data (Barratt, Ferris & Lenton 2015). There are several stages involved in survey research, and each one can be challenging and potentially time-consuming and resource-intensive (Edwards & Thomas 1993). This thesis applied the combination of primary and secondary methods of data gathering. Since the research herein was quantitative and used a deductive approach, the in-depth literature review involved gathering secondary data to identify research gaps and develop the conceptual model for the study. The secondary data collection was done through several articles, research studies, books and e-journals. The literature review informed the research hypotheses, which were tested through gathering of primary data via a questionnaire.

The questionnaire was divided into eight constructs and one additional section that gathered the profile of respondents. A well-structured official written letter was sent to respondents as part of the introduction. The official letter outlined the purpose of the study. Respondent perceptions were collected through a well-structured reference-based research instrument. The independent variable was comprised of ATT (7 items), BB (5 items), DM (7 items), PBC (6 items), BI 7 items, SAT (6 items), SN (6 items), and TR (7 items) scale. As previously stated,

a sample was determined and accessible as needed. Participants' day-to-day activities were not interrupted to the greatest extent possible. Before any data was collected, consent was obtained electronically from the participants. The significance of the research and its aim and objectives were explained briefly to participants electronically. Participants were given reassurances that their information will be kept private and confidential. Any information that could be used to identify an individual was removed from the data. Compared to paper-based surveys, online surveys have a higher rate of participation and reduced processing fees (Uttley 2019). The use of online surveys was deemed appropriate as the residential consumers have access to a computer and internet. As well, the internet survey was used due to time, COVID-19 Pandemic restrictions and budget constraints. Prior to the survey, all necessary ethical clearances from the USQ office of research and permission from the research ethical division were obtained (**Application ID: H20REA097**). There were three main steps in the study's online survey administration: launching the survey, managing survey responses and retrieving responses in usable formats.

The 56-item online survey questionnaire layout was designed following the suggestions of Dillman et al. (2009). The website 'Limesurvey.com' was used to produce a simple and understandable layout, accessible through a single link with click-only buttons for each item and navigation buttons to change pages. A completion scale was included on each page to give respondents insight into their progress through the questionnaire. The first page contained demographic information. The respondents could not continue on to the questionnaire without giving consent to participate in the survey and reading all the terms and conditions. Respondents were also given the choice to quit from participation at any time during the process. The survey was conducted between 22 March 2021 and 15 July 2021. The number of replies received complies with statistical analyses. Responses were stored online in .xls format and .pdf format. Survey data were stored on a compact disk and on a hard drive in .pdf format. A tabulated data sheet (.xls) was produced by the system. This data sheet was retrieved in .xls format for further analysis.

4.5.4 Scale purification and finalising the questionnaire

"Scale purification" defines removal of items from scales with a lot of different things on them (Eastman, Goldsmith & Flynn 1999). There should be strict statistical and judgmental standards used in this procedure (Wieland et al. 2017). Usually, the first draft of a questionnaire contains a long and exhaustive list of items. To make it shorter and easy to administer

purification should be done. Balancing the length of a questionnaire is important to ensure a fair degree of validity and reliability (Chyung et al. 2017). Short questionnaires are often criticised for lack of internal consistencies and failure in assessing the breadth of broad constructs (Ziegler, Kemper & Kruyen 2014). Alternatively, respondents may feel burdened by the time and effort to complete a lengthy questionnaire (Rolstad, Adler & Rydén 2011). This is correlated with the length and complexity of the questionnaire and often manifests in a low response rate and high levels of missing or incomplete data (Rolstad, Adler & Rydén 2011). The survey questionnaire was divided into two sections. The first section was "Demographics Questionnaire" presented in Table 4.6; this section is about the demographic profile of participants. This data is necessary for the questionnaire's internal validation. The second section presented in Table 4.7 is "Consumer Experiences" and in this section, querying to customers in a way that is related to their experiences is critical. Finally, 50 items were chosen for inclusion in the final list of questions, distributed across the eight domains defined before in section 4.5.3.

4.5.4.1 Operalisation of Constructs

The process of scale development starts with the operalisation of constructs based on the literature review of earlier studies. Based on rigorous literature review, this study adopted various constructs under different variables relating buying intention and buying behaviour of consumer towards the real estate. The first category is related to eight constructs i.e., ATT, BB, DM, PBC, BI, SAT, SN, and TR.

4.5.4.2 Generation of items

The second step in scale development is item generation. Within this step, items were generated based on relatable and significant data gathered from review of the literature. Then items related to each construct were selected carefully from the existing literature with the help of two academic and professional experts. This study adopted various constructs under different variables relating real estate.

4.5.4.3 Formulation of items

The third stage of scale development is item formulation. Within this step, scrutiny and screening of overlapped and ambiguous items was done after keen analysis of all items and discussion with the research supervisor. The initial item pool consisted of 81 items as shown

in Table 4.5. Twenty-six overlapped and ambiguous items were detained from all the constructs for the current study. The final list comprised of 56 items, which were put into factor analysis for further screening.

Table 4.5: Formulation of Items

1st batch of questions	Overlapped and ambiguous questions	Items used for analysis	Items retained during analysis	Items retained after analysis
81	25	56	6	50

After the third step, the final questionnaire consisted of 56 items. A 5-point rating response format was used for the items of the dependent and independent constructs. The scale ranged from 1 = Strongly Disagree to 5 = Strongly Agree. The first page of the survey instrument provides written instructions to the participants in order to fill the questionnaire briefing about the significance and importance of the research. Written instructions to fill the questionnaire were also given to them along with the assurance of data confidentiality. The details of each construct item are presented in Table 4.6 and 4.7.

Table 4.6: Final Section 1 Questionnaire (Demographics)

Constructs	Items	Code
Demographics	What is your gender?	(D1)
	Please indicate which age group you belong to:	(D2)
	Which of the following best describes your current occupation?	(D3)
	Please indicate your level of education below:	(D4)
	What is your current employment status?	(D5)
	What is your marital status?	(D6)

Table 4.7: Final Section 2 Questionnaire (Experiences)

Constructs	Items	Code
Attitude	Buying real estate property through digital marketing channels is a wise decision	(ATT_1)
	I am interested in digital marketing content (advertisements/information)	(ATT_2)
	I feel comfortable with digital marketing content (advertisements/information)	(ATT_3)
	My attitude toward digital marketing content (advertisements/information) is positive	(ATT_4)
	I think engaging with digital marketing information is beneficial to me	(ATT_5)

	I feel buying residential real estate property through digital marketing channels is a good idea	(ATT_6)
	I will consider purchasing residential real estate property through digital marketing channels	(ATT_7)
Trust (TR)	I feel very comfortable purchasing through digital marketing channels	(TR_1)
	My privacy would be guaranteed on digital marketing channels	(TR_2)
	Digital marketing information is reliable	(TR_3)
	Real estate information on digital marketing channels is trustworthy	(TR_4)
	I believe that digital marketing channels have my best interests in mind	(TR_5)
	Real estate information through digital marketing channels is trustworthy	(TR_6)
	Digital marketing channels give the impression that they keep promises and commitments	(TR_7)
Buyer behaviour (BB)	I intend to engage in digital marketing channels	(BB_1)
	I feel comfortable buying residential real estate property over digital marketing channels on my own	(BB_2)
	I am very motivated to read digital marketing posts by a real estate agent regarding the residential property	(BB_3)
	I want to buy a real estate property	(BB_4)
	Digital marketing channels are a reliable way for me to take care of my personal affairs.	(BB_5)
Satisfaction (SAT)	I feel very satisfied with my overall experience on digital marketing channels and their content	(SAT_1)
	I feel absolutely delighted with my overall shopping experience on digital marketing channels and their content	(SAT_2)
	I feel very pleased with my overall shopping experience on digital marketing channels	(SAT_3)
	Digital marketing channels usually provide in-depth information	(SAT_4)
	Digital marketing channels provide me with information that benefits me	(SAT_5)
	The real estate information from digital marketing channels always catches my attention	(SAT_6)
Subjective Norms (SN)	My family thinks that I should buy real estate property	(SN_1)
	My family thinks that buying real estate property is a wise decision	(SN_2)
	People with whom I have similar ideas and opinions are encouraging me to search for real estate information through digital marketing channels	(SN_3)
	People who are important to me think that I should check real estate property on digital marketing channels	(SN_4)
	People who influence my behaviour would think that I should buy real estate property over digital marketing channels	(SN_5)
Perceived Behavioural Control (PBC)	I have enough time to make a decision to buy real estate property	(PBC_1)
	I have enough skills and real estate property knowledge to make my own decisions	(PBC_2)
	Digital marketing channels improve my purchasing productivity	(PBC_3)
	I can choose the digital marketing channels I want to engage with	(PBC_4)
	I have the resources needed to access digital marketing channels	(PBC_5)
	Buying things over digital marketing channels is entirely within my control	(PBC_6)
Buyer Intention (BI)	Using real estate digital marketing channels helps me to make better decisions before purchasing property	(BI_1)
	Using real estate digital marketing channels increases my interest in buying property	(BI_2)
	I intend to purchase property through real estate digital marketing channels I follow.	(BI_3)

	I have the intention to engage with digital marketing channels	(BI_4)
	I intend to research real estate listings on my own through digital marketing channels in the future	(BI_5)
	I will use digital marketing channels frequently	(BI_6)
	I have the intention to use digital marketing information to purchase residential real estate property as much as possible	(BI_7)
Digital Marketing (DM)	My experiences in purchasing real estate property through digital marketing channels were always satisfactory	(DM_1)
	Information from digital marketing channels always catches my attention	(DM_2)
	Digital marketing channels provide me with information that benefits me	(DM_3)
	I feel comfortable using digital marketing channels	(DM_4)
	I find digital marketing information useful	(DM_5)
	I like to use digital marketing channels to increase my knowledge about real estate property	(DM_6)
	I am satisfied with the digital marketing of the real estate I follow	(DM_7)

4.6 Data preparation

4.6.1 Purifying data

Data cleaning is one of the first steps in any structural equation modelling process, and it is essential for achieving the highest level of accuracy (Keith 2019). Purifying data refers to identifying and eliminating (or correcting) errors and irregularities in a data set that have come as a result of incorrect data entry (Krishnan et al. 2016). Purifying data ensures it is free of irrelevances and incorrect information. Incorrect or inconsistent data add several threats to the research process (Krishnan et al. 2016). This directly affects the analysis and makes analysis complicated, producing erroneous results. Ultimately, this can lead to the drawing of incorrect conclusions. The reliability and validity of research findings are also significantly affected as a result of not purifying data sets (Hajli 2014). These issues can be prevented with careful study design and continuous monitoring of the data collection process. Though such measures are implemented, missing or incorrect data can appear in a data set (Krishnan et al. 2016). A common problem with survey responses is that some items and parameters have missing data. If this happens on a critical variable, the information from that survey will be useless (Krishnan et al. 2016). After a thorough review of the data, any inaccurate, erroneous, or inappropriate data was either removed or adjusted.

4.6.2 Data cleaning and missing data

The data cleaning procedure might include correcting typographical errors, ensuring consistency of the data, and enhancing of data (Fatima, Nazir & Khan 2017). Reliability,

accuracy, completeness, clarity, and regularity are among the data quality requirements monitored until a satisfactory standard is achieved (Cichy & Rass 2019). Omitting responses with incomplete or inaccurate data is one approach to cleaning data (Meade & Craig 2012). However, if the proper value is known, any missing or wrong data can be corrected. It is important to go back to the original raw data and check for inconsistent and missing values. In addition, averaging or other statistical values can be used to round numbers (Salkind 2010). Many statistical programs have options for data cleaning and data validation, which can automatically detect and correct some errors, for example, non-valid variable codes. Many scholars believe there is no single best approach to dealing with missing data (Hair et al. 2011; Tabachnick & Fidell 2000). Respondents who attempted but did not complete the survey are referred to as "incomplete responses". Manual checking was done to identify and remove missing/incomplete data in this research, which can caused data to be lost.

4.6.3 Non–response bias

People who do not respond to a survey are subject to non-response bias because of a factor that significantly differs from those who respond (Zahl-Thanem, Burton & Vik 2021). Since the study is cross-sectional in nature and data is collected in one go, there is less chance for such non-response bias. Those who are unable or unwilling to reply to a questionnaire for whatever reason, stand out from those who reply, and this is known as non-response bias (Tennant & Badley 1991) or participation bias. Cheung et al. (2017), noted that the selective non-response becomes a serious issue when controversial topics are being addressed like substance abuse or sexual behaviour. Non-response bias can distort the true associations and may lead to erroneous conclusions (Etter & Perneger 1997). The findings can still exhibit reliability and validity and appear right even when there is a non-response bias. Therefore, it might be hard to detect whether or not participants are biased, and efforts to compensate are hindered even more (Sheikh & Mattingly 1981). A study that relies on the voluntary participation of participants is highly susceptible to non-response bias (Cheung et al. 2017).

Every possible precaution should be taken during study design stage to minimise non-response bias. Firstly, sampling and recruitment methods should be designed and executed in a way that minimises bias (Garavan et al. 2018). During the survey design phase, expert advice from PhD supervisors was sought and incorporated. It is also important to choose the appropriate and accessible target population (Asiamah, Mensah, & Oteng-Abayie 2017). Piloting provides valuable information in this regard. Inclusion of embarrassing and culturally offensive

questions increases non-response (Tourangeau 2018). Enhancing acceptability of the questionnaire by improving clarity and cultural sensitivity is another important pre-requisite to control this bias. In this study, special attention was paid to ensure clarity and cultural acceptance of the questionnaire in both designing and piloting stages. Residential real estate customers and professionals in Sydney were chosen as the study population, and they were generally responsive. Second, a consent declaration and participant information sheet were included to explain the goals of this research to all potential participants. Respondents could confirm their agreement to participate in the survey by clicking the start survey button. Third, all participants were kept anonymous because no personal information that could be used to recognise them was kept. In the second phase of this study, researchers employed these measures to resolve issues with biased responses.

4.6.4 Assessment of normality and outliers

The assessment of normality and outliers is the next step in the process of data preparation. To action this, a test of normality was conducted using SPSS. According to Mishra et al. (2019), normality refers to the data being drawn from a normally distributed population. Ghasemi and Zahediasl (2012) suggested that parametric testing (correlation, regression, t-tests, and ANOVA) assumes data to be normal, and thereby a test of normality is the essential step to assess the data normality and outlier related issues. Since parametric tests is based on the assumption that data follows a normal or bell-shaped distribution; therefore, it is vital to assume a normal distribution in order to generate reference values for variables (Vetter 2017).

Broadly, there are two approaches for assessing normality. It can be done either numerically or graphically (Ghasemi & Zahediasl 2012). Statistical tests have the advantage of providing an objective assessment of normality. The Kolmogorov Smirnov (KS) test and Shapiro-Wilk (SW) test are two of the standards tests of normality assessment (Razali & Wah 2011). In this regard, Kolmogorov–Smirnov test is applied to explore the dataset or variables of normality following the suggestions of Mishra et al. (2019) and Hair et al. (2011). It is worthy to note that Shapiro-Wilk test is not considered, as it is usually used for small data samples (n < 200) (Ghasemi & Zahediasl 2012). The null hypothesis states that the dataset comes from a normal distribution (Mishra et al. 2019). On the other hand, the alternative hypothesis states that data do not have a normal distribution. Table 4.8 shows the significance value for all variables is 0.000, indicating that the dataset violates the normality assumption. This is quite common as the Kolmogorov–Smirnov test is very sensitive to large sample sizes and not useable for a small

sample size (Hair et al. 2011). Therefore, there is need to apply non-parametric regression technique for further analysis, instead, using a parametric regressions like ordinary least squares (OLS), partial least squares (PLS), etc.

Table 4.8: Test of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Attitude	.145	404	.000	.876	404	.000
Trust	.134	404	.000	.903	404	.000
Buyer Behaviour	.177	404	.000	.901	404	.000
Satisfaction	.241	404	.000	.895	404	.000
Subjective Norms	.149	404	.000	.921	404	.000
Perceived Behavioural Control	.133	404	.000	.923	404	.000
Buyer Intention	.208	404	.000	.897	404	.000
Digital Marketing	.182	404	.000	.920	404	.000
a. Lilliefors Significance Correction						

4.7 Data analysis

The study's final phase was to examine the data gathered. The acquired primary data were analysed using a coding procedure and fed into MS Excel and Smart PLS software. Statistical techniques such as correlation, multiple regression, path analysis and SEM are used to assess the research hypotheses and draw conclusions from the data (Keith 2019). These strategies are used to determine if a study hypothesis is accepted or rejected based on the conceptual framework (Haegele & Hodge 2015). To determine the relationship between continuous (scale) variables Pearson's correlation coefficients were calculated, PLS regression was used (Ramayah et al. 2018). SEM is a widely used method of statistical analysis in social and behavioural sciences (Bido, Silva & Ringle 2014). When we express theoretical ideas in constructs and connect these constructs through a structural model, we can determine how they work together and how they fit together in a nomological network. Data tables and graphical charts were used to present the information in this thesis. A detailed explanation about the quantitative data analysis conducted in this study is provided in Chapter 5.

4.7.1 Rationale for using structural equation modelling

Structural Equation Modelling (SEM) is a strong, multidimensional technique used to investigate and assess the casual relationship between several variables (Rahman, Shah & Rasli

2015). SEM combines aspects of CFA, path analysis (contains only observed variables), and structural regression analysis (Keith 2019). SEM tools are distinct from other modelling tools because they investigate both the direct and indirect impacts of factors previously thought to be causally related (Fan et al. 2016). Compared to "finding" an appropriate model, researchers are more likely to employ SEM to test the validity of an existing model.

Many studies focused their attention on latent variables rather than the manifest variables that were employed in SEM research to evaluate these variables (Kumar, Manonmani & Kumar 2018). This measurement is known to be complex and prone to mistakes. SEM users try to get fair estimates of the relationships between latent variables by taking measurement error into account (Rigdon, Sarstedt & Ringle 2017). As part of the SEM model, many measures can be linked to a single latent construct by the measurement and structural models (Keith 2019). After estimating the model's parameters, the model-implied covariance matrix can be evaluated as an empirical or data-based covariance matrix (Rahman, Shah & Rasli 2015). When there is no inconsistency between the two matrices, the SEM can offer a realistic explanation for how the variables are related (Hair Jr, Babin & Krey 2017). While regression and factor analysis have been used for decades, SEM has only been around since the late 1960s (Rahman, Shah & Rasli 2015). As a result, the approach is still under development, and even the most fundamental notions are open to scrutiny and modification. Some scholars are thrilled by this rapid evolution, while others are frustrated by it. The methodology is appropriate in situations where the variables used in this study cannot be measured to perfection, that is, a) groups of elements that represent a hypothetical construct or questionable evaluations of a variable through various instruments, and b) underlying the measured items and creating interdependence between them are factors that are perceived as constructs, characteristics or "true" variables. The advantages of using SEM are presented in Table 4.9.

Table 4.9: Advantages of Structural Equation Modelling (SEM)

SL.	Evaluation Criteria
1	The easiest way to estimate, represent and test a network of relationships between latent constructs and measured variables.
2	PLS-SEM is comprehensive and highly flexible methodology.
3	PLS-SEM require formal specifications of a model to be tested or estimated.
4	For SEM specification, investigators need to back up their hypotheses with theory or research and define the relationships between the variables ahead of time.
5	The graphical language provides powerful way to present complex relationships.

6	The SEM does not provide any straightforward experiments to verify whether a model is appropriate.
7	The SEM is useful for solving multicollinearity issues. There is no possibility of multicollinearity due to the fact that unobserved variables reflect separate latent constructs.

4.7.2 Rationale for using PLS-SEM

To make an informed selection about the statistical analysis approach for this study, it was necessary to have a deep understanding of the principles underpinning PLS-SEM. PLS-SEM is more suitable when predicting is a critical component to answer the research questions, as opposed to other theories, such as covariance-based SEM (CB-SEM), which is a more often used technique for assessing a well-established theory (Reinartz, Haenlein & Henseler 2009). Investigators can choose the best appropriate statistical analysis approach by following a few simple rules of thumb. According to Hair, Ringle, and Sarstedt (2011) and Hair Jr, Babin, & Krey (2017), the selection process should consider the study objective, measurement model specification, model construction, data characteristics, and model validation, among other factors. **Table 4.10** summarises the rules of thumb for choosing the PLS-SEM statistical analysis approach when doing data analysis. Researchers must consider whether their study is confirmatory or exploratory when deciding on the most appropriate statistical analysis tool. To properly analyse data using SEM, it is necessary to comprehend this notion as a general rule of thumb. The PLS-SEM method is preferred when conducting exploratory research; however, it could be also used for confirmatory research (Hair Jr, Babin & Krey 2017).

To select an appropriate statistical approach for phase two of this study, the pros and cons of PLS techniques were investigated. This offered a rationale for the decision in the following manner. PLS-SEM is shown to have several strengths in statistical analysis, and some preliminary justifications are presented in Table 4.10 (Hair et al. 2012). Many scholars, including Xiong, Skitmore & Xia (2015), believe that the PLS-SEM approach is a comprehensive technique for investigating the relationships between latent variables in academic research. Some researchers challenged the validity of PLM-SEM because of concern for limited sample sizes (Marcoulides, Chin & Saunders 2009). Researchers are increasingly using PLS-SEM as a powerful statistical analysis technique in marketing, as well as other business-related domains despite all the criticism (Hair, Ringle & Sarstedt, 2011; Lowry & Gaskin 2014; Sarstedt et al. 2014; Hair et al. 2012). That is because PLS-SEM can test

complicated models with an extensive range of components and indicators (Rigdon, Sarstedt & Ringle 2017; Rigdon 2014). PLS-SEM is also a powerful instrument for scientific investigation because of the great degree of flexibility it gives for the interplay between theory and data (Sarstedt et al. 2014). Considering the realities of limited research in digital marketing and consumer behaviour in Australia, this level of adaptability was required, particularly in the context of establishing a more holistic understanding of the influence of DM on BB and BI.

When factor loadings are compiled, PLS-SEM is used to create constructs for further analyses, leading to explicit factor scores (Lowry & Gaskin 2014). It is possible to prevent factor indeterminacy with PLS, making it a useful tool for both confirmation and exploratory investigations (Hair, Ringle and Sarstedt 2011)—notably "for exploratory analysis and for testing developmental theories" (Lowry & Gaskin 2014). Since "PLS requires no prior empirical evidence from other well-established resources for the hypothesis being tested", Hair, Ringle, and Sarstedt (2011), Hair et al. (2017), and Henseler, Ringle, and Sinkovics (2009) guided selection of the best statistical analysis approach for this study. Considering the rules of thumb (see Table 4.10), PLS-SEM was selected as the statistical analysis approach for this thesis.

Table 4.10: Rationale for using PLS-SEM

SL	Criteria to evaluate		PLS-SEM
1	Research objective and research modelling	Predicting key constructs	☑
		Theory testing, theory confirmation or comparison of alternative theories	
		Exploratory of an extension of an existing structural theory	☑
		Optimal for prediction accuracy	☑
		Optimal for parameter accuracy	
2	Measurement model specification	If formative constructs are part of the structural model	☑
		If error terms require additional specification such as co-variance	
3	Structural Model	If the structural model and/or measurement model is complex (many constructs = 6+)	☑
		If the structural model specifies non-recursive relationships	
4	Data characteristics and algorithm	Data meet distribution assumptions	
		Data do not meet distribution assumptions	☑
		Non-normal distribution	☑
		Normal distribution	☑

5	Model evaluation	Small sample size consideration	☑
		Large sample size consideration	☑
		Use latent variable scores in subsequent analysis	☑
		Requires global goodness-of-fit criterion	
		Need to test for measurement model invariance	

Source: Compiled from Hair, Ringle and Sarstedt (2011) and Henseler, Ringle and Sinkovics (2009)

4.7.3 Measurement model analysis

The term "measurement models" refers to implicit or explicit models that describe the relationship between a latent variable and its indicators (Sarstedt et al. 2016). The measurement model either quantifies the latent variables or represents the theory by describing how the measured variables combine to represent the theory (Sarstedt et al. 2016). This further explains how CFA can be used to construct summated scales like the domains used in the questionnaire developed for this research (Brown 2015). Before structural model analysis, a prerequisite is measurement model analysis. Measurement model analysis can be described as an orderly and significant process used after convergent and discriminant validity tests (Ramayah et al. 2017). It is a significant step before the analysis of any structural model. Within the CFA framework, the measurement model based on SEM tests all latent variables and their respective indicators at once (Mai, Zhang & Wen 2018). The aim of CFA is to examine how well the hypothesised factor structure accounts for covariance among observed variables (Bandalos & Finney 2018). While the measurement models test path relationships between measures or items and the constructs or latent variables that they represent, structural models specify the relationships between latent variables of interest (Sarstedt, Ringle & Hair 2017). Therefore, the method by which constructs are operationalised by sets of measured variables is shown by the measurement model (Hair, Ringle & Sarstedt 2011).

A preliminary analysis in PLS-SEM is carried out on the outer model, also known as the measurement model (Shamsudin et al. 2019). When assessing a measurement model, Henseler, Ringle & Sarstedt (2016) found if the model does not hold the minimum required features of acceptable reliability and validity then the structural model estimations are considered insignificant. This means an essential prerequisite for evaluating the inner structural model is that its outside measurement model demonstrates sufficient reliability and validity (Henseler, Ringle & Sarstedt 2016; Henseler, Ringle & Sinkovics 2009). It is necessary to examine the internal consistency, indicator reliability, convergent and discriminant validity of a reflective

measurement model, as is required in this research, to ensure that it is acceptable (Hair et al. 2017). All these tests are discussed in detail in Chapter 5.

❏ Internal Consistency

Reliability means the consistency of data collection. This describes how well the data collection tool provides consistent results under the same conditions with same participants. In other words, the degree to which a measurement instrument or performance is trustworthy, steady, and reliable when evaluated under identical conditions. (Thorsen & Bjorner 2010). Cronbach's Alpha and composite reliability are used to assess the reliability of the scale(s) (Bacon, Sauer & Young 1995). Tang, Cui & Babenko (2014) recommended a Cronbach's Alpha value of 0.60 or greater for internal consistency or higher reliability. Composite reliability (or construct reliability) is a new way of measuring the internal consistency or reliability in the scale items (Brunner & Süß 2005) and is mostly preferred with the CFA. If the composite reliability value is less than 0.60 its shows unsatisfactory internal consistency or reliability (Hair et al. 2011).

❏ Convergent Validity

An important parameter in sociology, psychology, and other behavioural sciences is convergent validity. Convergent validity is the degree to which two measures of constructs should be connected (Cheah et al. 2018). When a new scale is compared to existing elements as well as other measurements of the same concept, convergent validity is measured (Clark & Watson 2019). Thus, it is essential to ensure that construct should not correlate with related variables and should not correlate with unrelated variables. In PLS-SEM, AVE indicator is usually used to check the convergent validity. It does so by comparing the level of variance recorded by a construct to the variability attributable to measurement error (Hair et al. 2017). The value of the AVE from the data can be used to determine convergent validity (Hair et al. 2017). It was proposed by Fornell and Larcker (1981) that convergent validity is acceptable for AVE values of 0.5 and higher.

❏ Discriminant Validity

The quality of a measurement model is also examined through discriminant validity (Henseler, Ringle & Sarstedt 2015). Two measures of concepts that, conceptually, should not be closely relevant to each other (that is, they should be independent), are shown to have discriminant validity (Henseler, Ringle & Sarstedt 2015). Discriminant validity is shown when assessments

of variables that theoretically should not be highly connected are found to be unrelated (Cable & DeRue 2002). Thus, this metric reveals how a test or measure deviates from another with a conceptually different concept (Henseler, Ringle & Sarstedt 2016). According to Fornell and Larcker (1981), discriminant validity is confirmed when construct correlations are less than the AVE. Fornell-Larcker criterion and Heterotrait-Monotrait (HTMT) ratio are used to test discriminant validity (Ab Hamid, Sami & Sidek 2017). The summary of the measurement model analysis of the pilot study data is presented in Table 4.11.

Table 4.11: Summary of Measurement Model Analysis

Sr.	Validity Type	Criterion	Guidelines
1	Internal Consistency	CR	• CR > 0.7 (for exploratory study) - applicable for this research • CR between 0.6 and 0.7 may be acceptable • CR < 0.6 (lack of reliability)
2	Indicator Reliability	Indicator loadings	• Item's loading > 0.7 and significant at 0.05 level • Item's loading between 0.5 and 0.7 (significant level at least 0.05 for exploratory study) – applicable for this research
3	Convergent Validity	AVE	AVE value equal to or greater than 0.05

Source: Compiled from Hair, Ringle and Sarstedt (2011, 2017) and Henseler, Ringle and Sinkovics (2009)

4.7.4 Structural model analysis

SEM employs multiple variables in its statistical analysis to better understand how structures relate to one another (Keith 2019). Structural model estimation is used to estimate deep "structural" parameters of theoretical models (Sarstedt et al. 2016). In this way, the researcher can go beyond the results of a more typical empirical investigation that presents a reduced-form causal relationship. This enables the researcher to develop a practically applicable model, as it takes into account various and interconnected influences in a single analysis. Researchers use numerous fit statistics to evaluate their CFA and SEMs (Keith 2019). The Chi square (Chi^2) test is often used to determine the overall fit and the discrepancy between the sample and fitted covariance matrices (Yuan & Chan 2016). However, this is sensitive to sample size. When calculating the estimated population covariance, the "goodness-of-fit" (GOF) determines how well a model fits the data (Maydeu-Olivares 2017). A structural theory is represented by a structural model. The structural theory can be defined as the conceptual representation of the structural relationships apparent between constructs (Hair et al. 2011). A set of measuring items

that correspond to two or more latent variables and their causal relationships within a theoretical interpretation can be referred to as the structural model (Hair Jr, Howard & Nitzl 2020).

SEM has recently become one of the most widely applied data analytic techniques used in social sciences (Hair et al. 2017). A primary reason for its popularity is the technique's ability to simultaneously assess the fit of measurement models and structural models (Henseler, Hubona & Ray 2016). It analyses data for inferential purposes and also provides explicit estimates of the error variance parameters. SEM is also used as a confirmatory approach, where relationships among latent variables and their corresponding measurement variables are set prior to analysis (Hair Jr, Howard & Nitzl 2020). Structural models can be increasingly complex, depending on the abundance of latent variables and measurement variables as well as the interrelationships among them (Fornell & Larcker 1981). Several GOF measures are suggested in the literature for the assessment of a measurement model and structural model (Hair Jr, Howard & Nitzl 2020). How effectively the stated model reproduces the observed covariance matrix among the indicator items is measured using GOF measurements (Hair Jr, Howard & Nitzl 2020).

Goodness of Fit Measures

The GOF of the model is an index that measures the reliability and projection of the measurement model (Dash & Paul 2021). It is examined collectively by testing all the variables of the study for final structural model. According to Ramayah et al. (2018), researchers needed to be vigilant to use and report the model fit in PLS-SEM. This is because the proposed criteria for PLS-SEM are in the early research stages, and often are not useful or fully understood. Nonetheless, some scholars have started to report these new GOF indices for PLS-SEM (Hair Jr, Howard & Nitzl 2020; Hair et al. 2017). Currently, five fit measures are offered by the Smart PLS. These include 1) Standardized Root Mean Square Residual (SRMR), 2) Exact model fit criteria d_ULS and d_G, 3) Normed Fit Index (NFI), 4) Chi-square and Degree of Freedom, and 5) RMS_theta.

Standardized Root Mean Square Residual (SRMR)

The difference between the observed correlation and the model implied correlation matrix is called SRMR (Ramayah et al. 2017). The SRMR, as an absolute measure of fit criterion, allows

researchers to assess the average degree of the differences among the observed and expected correlations (Shi, Lee & Maydeu-Olivares 2019). It is based on transforming both the predicted and sample covariance matrix into the correlation matrices (Cudeck 1989). Ramayah et al. (2017) highlighted that a SRMR value of less than 0.08 is considered to be a good fit. Recently, the SRMR as a GOF measure was introduced by Henseler, Hubona & Ray (2016) for PLS-SEM to avoid model misspecification.

Normed Fit Index (NFI)

In the SEM literature, Bentler and Bonett (1980) proposed the very first fit measure called Normed Fit Index (NFI). It is also sometimes called Bentler and Bonett index. NFI calculates the proposed model Chi^2 value and compares it against a meaningful benchmark. Hence, NFI computes as 1 minus proposed model Chi^2 value divided by the Chi^2 value of the null model (Mai, Niemand & Kraus 2021). The value of NFI results ranges between 0 and 1. The closer to 1 the NFI value is, the better the fit (Bentler 1990). Lohmoller (1989) suggests an NFI value of more than 0.85 is an acceptable fit.

Chi^2 and Degrees of Freedom

In the PLS path model, the value of Chi^2 with degrees of freedom (df) is calculated using the formula: (N-1)*L, where number of observations is denoted by 'N', and maximum likelihood function is denoted by 'L' as defined by Lohmöller (1989). Moreover, df is defined as: $(K^2 + K)/2 – t$, where 'K' represents the total number of latent variables and 't' represents the total independent variables in the PLS path model to estimate the model implied covariance matrix (Bagozzi & Yi 1988). At present, Chi^2 values do not provide rigorous details about the overall fit of the model in the PLS-SEM technique (Dash & Paul 2021). Nevertheless, forthcoming researches must clearly define how to determine the df of composite models, and common factor models when using PLS-SEM.

RMS_theta

According to Lohmoller (1989), the SRMR covariance matrix of the outer model residuals is called RMS_theta. To demonstrate a good model fit, the value must be absolutely minimal—close to zero—because it implies that the relationships between both the outer model residuals are extremely low (Schermelleh-Engel, Moosbrugger & Müller 2003). An RMS_theta value

less than 0.12 depicts a well-fitted model, whereas lack of fit is indicated by higher RMS_theta values (Henseler, Hubona & Ray 2016).

4.8. Ethical consideration and data security

4.8.1 Ethical issues and considerations

There are four main ethical principles in research. In any research involving human subjects' these key principles should be followed. They are; (1) autonomy, which means ensuring the right to make decisions while showing respect to participants, (2) confidentially, which means safeguarding privacy of participants by ensuring confidentially of personal information, (3) justice, which refers to the moral need to act fairly in adjudicating opposing claims and (4) beneficence and non-maleficence, which ensures there is a benefit to the society and no harm is caused (Childress, Meslin & Shapiro 2005). The researcher should clearly understand the possible ethical issues that arise during the study and take necessary actions to mitigate those ethical issues (Resnik & Elliott 2016). The key values of honesty, openness, fairness and accountability should be ensured. Researchers should be honest and open when dealing with research subjects (Convery & Cox 2012). Correct information should be provided and voluntary consent should be sought. Taking part in this research was voluntarily. Respondents were allowed to withdraw from the research at any time.

Throughout the data collection process, the autonomy and confidentiality of subjects were assured with a great concern. When gaining consent, it is critical to ensure that the decision is made in an informed way (Wiles et al. 2007). The researcher's responsibility is to supply accurate and appropriate information to aid in decision-making. The administering of the questionnaire took place after getting consent from the participants. Throughout the investigation, the confidentiality of all participants was maintained at all times (Stiles & Petrila 2011). A major concern for any researcher is protecting respondents' privacy, and this research was no exception (Stiles & Petrila 2011). Any information that could be used to identify a specific research participant should be kept strictly confidential (Heggen & Guillemin 2012). Reports and publications should only contain numerical data that has been analysed and deidentified. The sections of the questionnaire carrying personal information were kept separately, and accessed only by the researcher (Stiles & Petrila 2011). For the duration of the experiment, the questionnaire responses were stored safely under the supervision of the principal researcher. After five years all data collection sheets will be destroyed. When storing,

managing, and analysing data, great attention was made to minimising the potential risks of data loss and disclosing personal information without authorisation. The use of cloud storage was implemented to reduce the possibility of data loss, and data is protected by password and two factor authentication to ensure data security. The ethical approval was obtained from The University of Southern Queensland with the approval number USQ HREC ID: **H20REA097 (v1).**

4.8.2 Benefit and risk to participants

The empirical contributions of this research will support a better understanding of consumer perceptions of quality digital marketing, and assist in the development of a valid and reliable measure for the real estate sector. The completion of this project will directly contribute to our understanding of real estate consumers' purchase behaviours in Australia, and the relevant industry members that it represents. The findings will enhance digital marketing in real estate and improve consumer perceptions and purchase behaviours long-term. Respondents may have had a variety of motivations for wanting to be a part of this study and a variety of expectations about what it might bring them in the future. Examples include:

- To contribute towards the advancement of digital marketing in the real estate industry;
- To improve their own situation, wellbeing or quality of life;
- To access information which is not yet widely available; and
- To help others.

To minimise the risks, before data collection, the respondents were briefed on their contribution, and how and what they needed to do to participate. When they qualified and were chosen to participate, they were invited to continue. The research survey had explicitly stated, "You are invited to participate in this research survey. Your participation is completely voluntary. You are free to withdraw from participation in this survey at any time. Any participant experiencing distress arising from this research survey is encouraged to withdraw from participation. However, completion of this research survey will be taken as consent to participate". The participants were also informed about the approximate time they would require completing the survey questionnaire. Aggregated findings, not individual responses were presented in the final report. Risks of participation in this research were minimised in the following ways:

- The questionnaire avoided any matters that may cause discomfort or risk to the participant.

- The questionnaire did not ask for personal information, such as names or signatures.

- The respondents were given options to reject participating in the survey process or to quit participation at any stage.

- The respondents were not identified. Only aggregate results were presented using statistical tools.

The wellbeing and safety of participants in this research were paramount at all times (Heggen & Guillemin 2012). Anyone feeling any distress due to participating in the survey, was reminded to withdraw participation. In the event of an emergency, the researcher used contact referral phone numbers to direct the participant to emergency services for assistance. The researcher continuously monitored and examined the research plan, including research design and methodology, for any inherent flaws that may have placed researchers/respondents at unnecessary risk. The researcher avoided unsafe procedures, tests and deceptive practices when designing the research, including the risks of low statistical power and unmeaningful results. Appropriate safeguards also minimised risk to participants, such as adequate data monitoring plans, and the use of coded data which protected confidentiality.

4.8.3 Data access and security

Research data was securely stored on USQ servers, which aligns with research Data Bank, or `ReDBank' service to store, share and synchronise data during the project. The researcher's workplace has a secured filing cabinet where the data was kept as backup. A username and password are required to access any computer storage. Data was stored on a hard drive and in cloud storage with password protection. Research data will be kept for a minimum of five years and then destroyed.

4.9 Chapter summary

The research methodology that was used in this research was addressed in detail in this chapter, along with methodological approach and the rationale for employing the stated approach. For the quantitative analysis, Churchill's (1979) suggestions were followed in the scale development process. Methodological issues relating to scales and indicators, pilot testing and questionnaire finalisation were addressed. In addition, following the suggestion of Dillman et

al. (2009), one methodological contribution of this study was its use of online click-only surveys. Prior to the data analysis, data screening methods, including non-response bias and tests of normality, were also addressed. To empirically examine the reliability, validity and causal relationships of the model, the study employed a quantitative research method using SPSS v24.0 and Smart PLS v3.0. All procedures relevant to data analysis were discussed step-by-step in this chapter. Finally, different fit indices were explored, including absolute fit measures, incremental fit measures, and parsimonious fit measures and the standard criteria used to evaluate them.

CHAPTER 5: DATA ANALYSIS

5.1 Introduction

In the previous chapter, the research methodology for the study was developed and described in detail. This chapter examines the data obtained using that methodology. There are eight sections throughout this chapter. Following this introduction and the discussion of the response rate in Section 5.2, the demographics of the respondents and statistical analysis are discussed in Section 5.3. Section 5.4 examines data preparation and screening, which is necessary to determine the suitability of the data collected. Section 5.5 covers the evaluation of the research model that was developed. In this section, we addressed the assessment of the measurement model, which begins with reliability analysis and progresses to validity. In Section 5.5, the research examines the assessment of the structural model. In section 5.6, structural path analysis/hypothesis testing is used to investigate and test the direct and indirect hypotheses and the relationship between variables. Section 5.7 covers the phases of structural model analysis, and finally, in section 5.8, the research concludes those findings.

In this chapter, after analysing the survey dataset, empirical results and findings are shared. Initially, SPSS v24.0 was used to detect the missing values, outliers, biased responses and data normality (Purwanto et al. 2020). This was done using descriptive statistics, histograms/bar charts, and tests of normality. Correlation analysis was also conducted to examine the association between the bivariate variables to determine the multicollinearity problems (Weaving et al. 2019). Later, Smart PLS v3.0 was used to conduct validity tests, reliability tests, measurement and structural model analyses, and PLS-SEM approach (Sarstedt & Cheah 2019). The hypothesis testing was carried out using the bootstrapping method in the Smart PLS v3.0 (Sarstedt & Cheah 2019).

5.2 Response rate

Participants in this study were consumers from across Sydney's metropolitan areas who were either active customers or potential residential real estate property buyers. Participants were sent emails containing information about the study and a link to the online survey. The survey was created and launched using Lime Survey software, accessible through the University of Southern Queensland online portal. Only individuals who participated in the online survey

followed the link to complete it; therefore, no information about refusals to participate was recorded. To meet ethical (USQ HREC ID: H20REA097) requirements, research participants answered filter questions to determine if they were above the age of 25 years at the time of the survey before being allowed to answer the survey questions. As a result, more people clicked on the survey link than those who completed it. Thus, fewer people responded to the full survey than those who accepted the survey invitation and activated the survey link. The data was collected via a structured survey delivered to 688 target respondents, of whom 406 completed the questionnaire. Because this was a cross-sectional study and all data was collected over a set period, there is minimal likelihood of non-response bias occurring in this study. Furthermore, responses containing incomplete data were eliminated from data analysis during the initial data screening and processing. Because of missing or inadequate data, two responses were excluded during the analysis of the recorded responses. This brings the total number of participants in this study to 404—a survey participation rate of 59%. According to previous research, depending on the situation, response rates can range from 6% to 73% (Schaefer & Dillman 2001). In the context of this voluntary survey, the response rate is considered satisfactory.

5.3 Demographics of the respondents and statistical discussion

This section gives a descriptive analysis of the final sample, which includes information on survey participants' demographic and behavioural profiles. Demographics are the statistical data about the population characteristics, such as the gender, age, occupation, education, income, employment status and marital status of the people within the population (Coppock & McClellan 2019). Demographic data is statistically socio-economic, which the researchers use to study groups of human populations (Dorman, Svoray & Kloog 2020).

Gender: Consumers generally make decisions on various issues, and gender plays an essential role in determining an individual's purchasing habit (Ittaqullah, Madjid & Suleman 2020). As shown in Table 5.1, 220 respondents (54.7 %) were male, while 174 respondents (43.3%) were female, resulting in a total of 404 respondents. Six (6) respondents said they did not want their gender disclosed, and two (2) respondents selected 'other'. A graphical representation of the respondent's gender is represented in Figure 5.1.
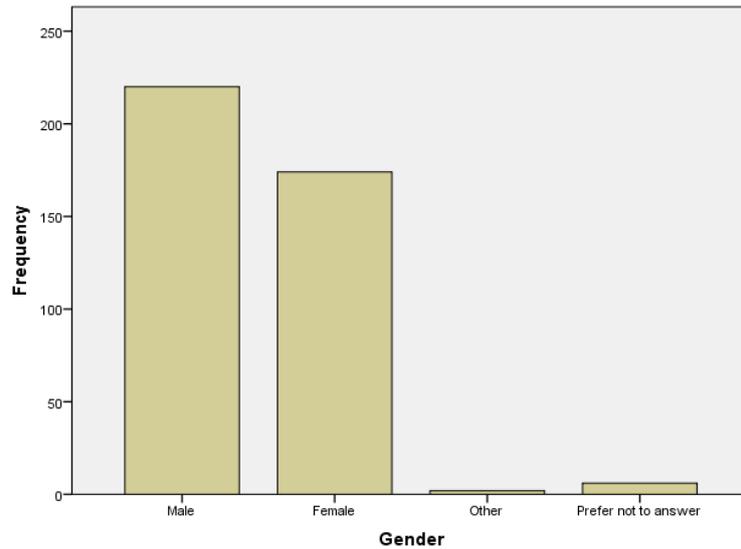
Figure 5.1: Respondents' Gender

Age: In research, age is a crucial component to consider when assessing the target audience, and it is an important demographic factor that determines customer behaviour (Merhi et al. 2021). People require changes as they progress in life, and as a result, comparable dynamic patterns emerge in their purchasing and decision-making (van Esch & Cui 2021). This study targeted respondents 25 years and older. Table 5.1 shows, out of 404 respondents, 147 respondents (36.4%) were between ages 36 and 45 years, 104 respondents (25.7%) were between ages 26 and 25 years, and 90 respondents (22.3%) were between ages 46 and 55 years. Only 3 respondents (0.7%) were over the age of 66 years, while 58 respondents (14.4 %) were between the ages of 56 and 65 years. The 'prefer not to say' option was selected by two respondents (0.5%). Figure 5.2 shows the age distribution of those who responded to the survey questionnaire.
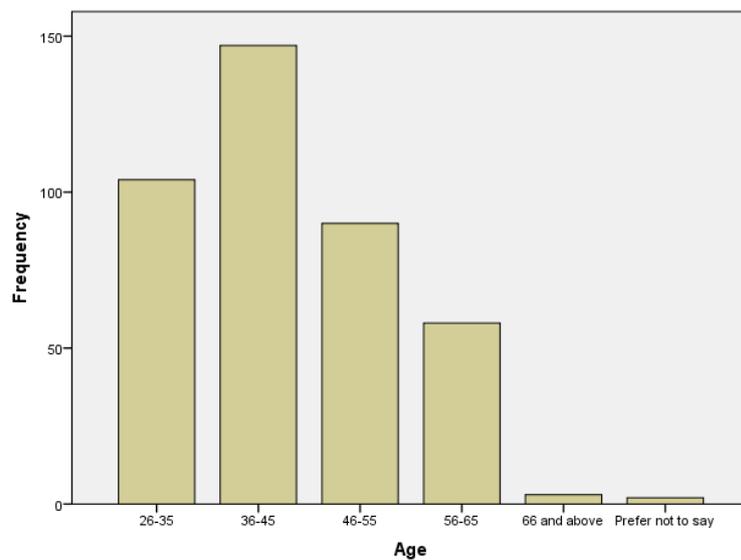
Figure 5.2: Respondent's Age Distribution

Occupation: Occupation is another significant factor that may affect consumer buying decisions (Handarkho 2019). Out of 404 respondents, 81 respondents (20.0%) were professionals who worked as doctors, teachers, lawyers, or journalists. Ninety-eight (98) respondents (24.3%) worked in executive positions such as administrators, managers and other similar positions. Thirty-nine (39) respondents (9.7%) worked in a field associated with security services. Forty-five (45) respondents (11.1%) were fieldworkers (salesman, social worker, technician, etc.). Thirty-five (35) of the respondents (8.7%) were homemakers or housewives. Forty-two (42) respondents (10.4%) were self-employed or had their own business. A total of 32 respondents (7.9%) identified as students. Eighteen (18) respondents (4.5%) were unemployed or actively seeking work, and 12 respondents (3.0%) were retired. One (1) respondent (0.2%) picked 'other' as an option, while 1 respondent (0.2%) said that they did not wish to provide information about their profession. Occupations of respondents are represented in Figure 5.3.
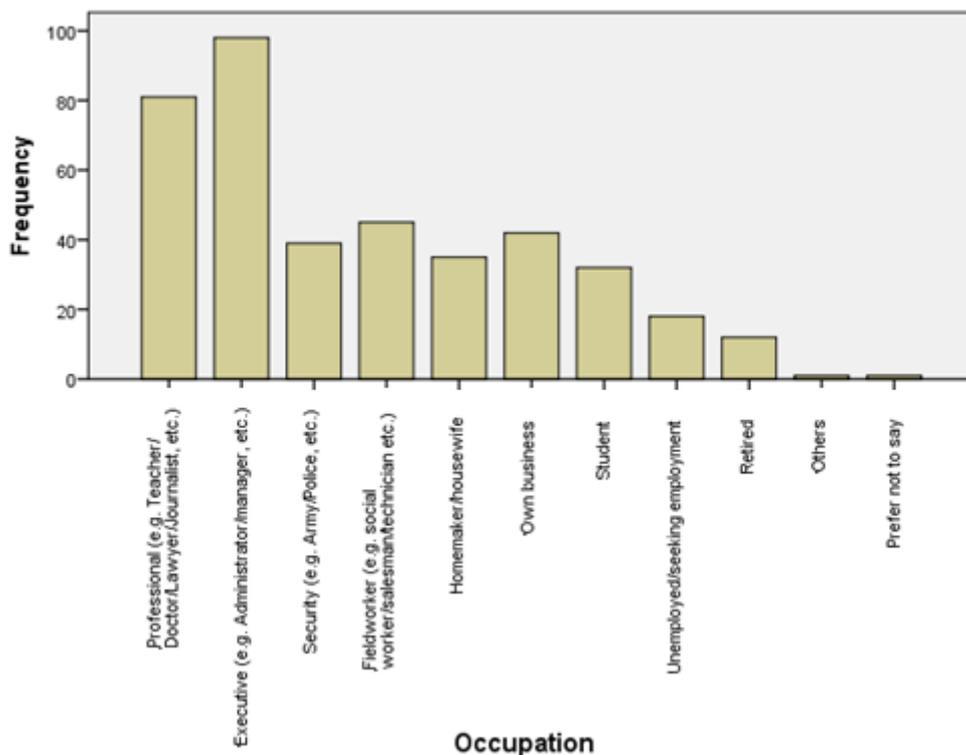
Figure 5.3: Occupation

Education: Education plays an incredibly important part in today's technology environment, as it significantly impacts people's purchasing decisions in a digital market (Szymkowiak et al. 2021). According to Table 5.1, approximately 152 respondents (37.8%) had a bachelor's

degree, followed by 102 respondents (25.4%) with a post-graduate qualification such as a master's or a doctorate degree. A trade or tertiary level qualification was held by 77 respondents (19.2%). Fifty-two (52) respondents (12.9%) had a high school diploma, and 10 respondents (2.5%) had a primary school diploma or equivalent. Five (5) respondents (1.2%) had no official qualifications, while four 4 respondents (1.0%) did not want their occupation publicly disclosed. Figure 5.4 shows a graphical representation of respondents' education or qualification level.
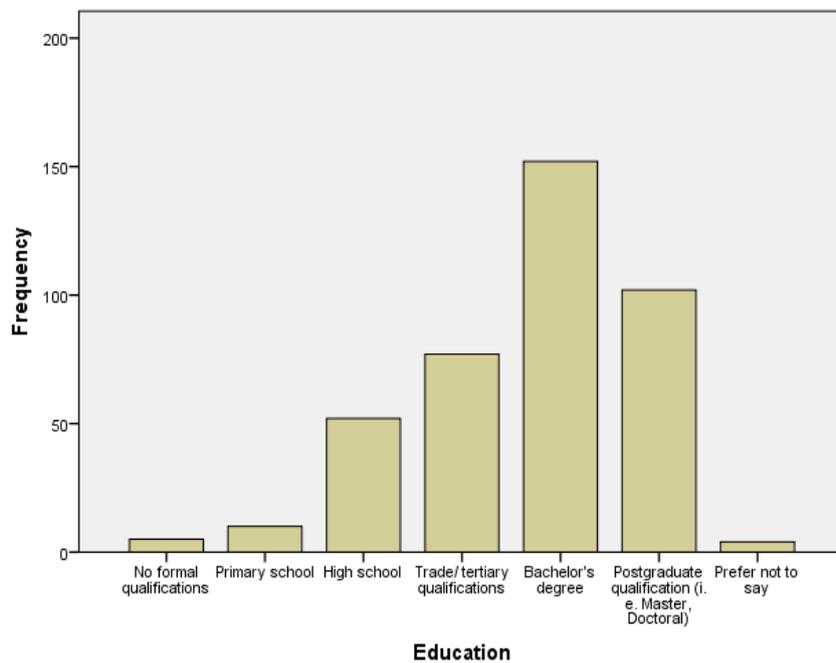
Figure 5.4: Respondents Education

Employment status: Consumers' employment status has a significant impact when it comes to purchasing decisions and purchasing tendencies (Ofosu-Boateng 2020). There are generally four main types of employment status: full-time employment, part-time employment, self-employment and causal employment. As shown in Table 5.1, 186 respondents (46.3%) were full-time employees, 73 respondents (18.2%) were part-time employees, 58 respondents (14.4%) were causal employees, and 50 respondents (12.4%) were self-employed. A total of 14 respondents (3.5%) were over the age of 65. Sixteen (16) respondents (4.0%) picked 'other' as a preferred option, and five respondents (1.2%) said that they would prefer not to disclose their employment status. Employment status of survey respondents is represented graphically in Figure 5.5.
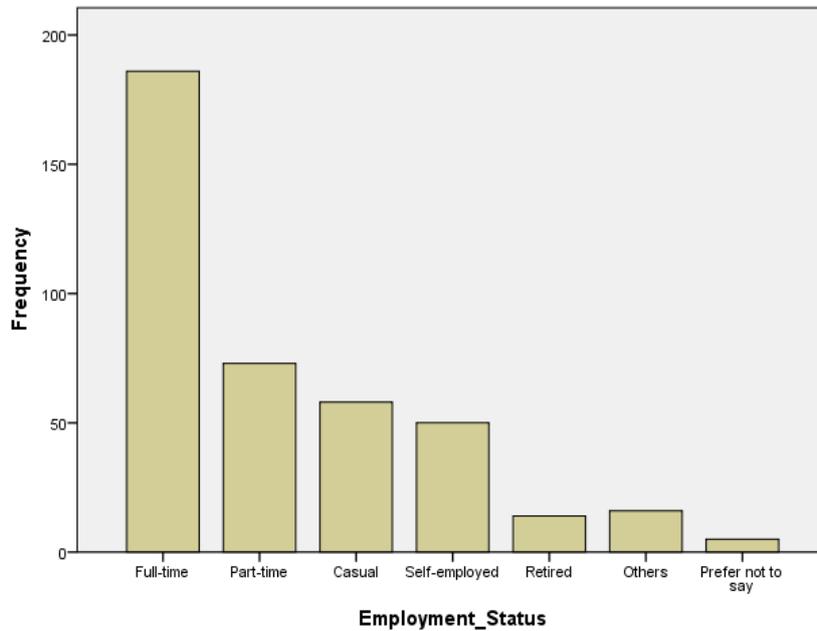
Figure 5.5: Employment Status

Marital status: The marital status of consumers has a significant impact on attitudes and behaviours (Sundararaj & Rejeesh 2021). Depending on the circumstances, there are several categories of marital status such as single, married, divorced and de facto relationships. Of those who participated in this survey, a total of 223 respondents (55.3%) were married, 114 respondents (28.3%) were not married and 42 respondents (10.4%) were in de facto relationships. Twenty-four (24) of respondents (6.0%) preferred not to disclose their marital status. Figure 5.6 shows a graphical representation of the respondent's marital status.
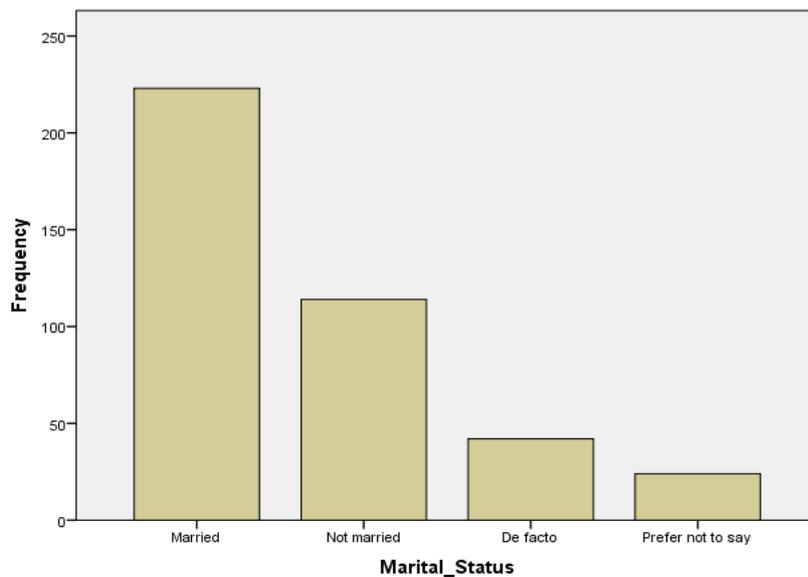
Figure 5.6: Marital Status

Table 5.1: Respondent's Profile (N = 404)

Demographic	Frequency	Percent
Gender:		
Male	220	54.7
Female	174	43.3
Other	2	0.5
Prefer not to answer	6	1.5
Missing value	2	0.5
Age:		
26–35	104	25.7
36–45	147	36.4
46–55	90	22.3
56–65	58	14.4
66 and above	3	0.7
Prefer not to say	2	0.5
Occupation:		
Professional (e.g teacher/ doctor/ lawyer/ journalist)	81	20.0
Executive (e.g. administrator/manager)	98	24.3
Security (e.g. army/police)	39	9.7
Fieldworker (e.g. social worker/salesman/technician)	45	11.1
Homemaker/housewife	35	8.7
Own business	42	10.4
Student	32	7.9
Unemployed/seeking employment	18	4.5
Retired	12	3.0
Others	1	0.2
Prefer not to say	1	0.2
Education:		
No formal qualifications	5	1.2
Primary school	10	2.5
High school	52	12.9
Trade/ tertiary qualifications	77	19.2
Bachelor's degree	152	37.8
Postgraduate qualification (i.e. Master, Doctoral)	102	25.4
Prefer not to say	4	1.0
Employment Status:		
Full-time	186	46.3
Part-time	73	18.2
Casual	58	14.4
Self-employed	50	12.4
Retired	14	3.5
Others	16	4.0
Prefer not to say	5	1.2
Marital Status:		
Married	223	55.3
Not married	114	28.3
De facto	42	10.4
Prefer not to say	24	6.0

5.4 Data preparation and screening

This section discusses the elements of data preparation and screening of the survey results. In this section, data is analysed, descriptive statistics are presented, and an examination of the representativeness of the sample is conducted. These steps identify relationships between variables so informed decisions can be made based on the data collected. Data preparation was a five-step process completed before statistical analysis was performed. Briefly, data collected from online surveys was first exported into a standardised format, which was then imported into SPSS v24.0 for further analysis (detailed in section 5.4.1). This was followed by analysis of item outliers in section 5.4.2, and an investigation of descriptive statistics in section 5.4.3. Section 5.4.4, covers tests for normality, and in Section 5.4.5 the correlation matrix was constructed.

5.4.1 Data export

Because this was a self-administered questionnaire, responses were automatically registered into the survey system at USQ. At the beginning of the process, the data was examined for any missing values. Only two responses were found to be invalid after preliminary examination, and 404 responses were completed in full. Following that, an additional preliminary evaluation of the data was carried out, which included the examination of outliers and the application of normality tests to prepare the data for analysis. After collecting raw data from respondents using a closed-ended survey questionnaire distributed through online platforms, survey results were processed in Microsoft Excel. The data was then imported into SPSS v24.0 for statistical analysis in the next phase.

5.4.2 Test of outliers

Outliers are data points that are significantly different from other data points, and they have the potential to distort statistical results (Begashaw & Yohannes 2020). In other words, a data point that deviates significantly from the rest of the data is referred to as an outlier. Descriptive statistics, along with box plots, are used to examine the issue of outliers in variables that have not been thoroughly investigated (Lem et al. 2017). Testing for outliers was performed before normality testing, and an outlier histogram was generated for each item of all constructs in the research model using SPSS v24.0. Analysis of raw data from the survey demonstrated that

there were no outliers, and the data was free from variability in measurement and experimental error.

5.4.3 Descriptive statistics

Descriptive information is typically presented to explain the fundamental characteristics of the data collected (Mishra et al. 2019). The primary objective of descriptive statistics is to provide summaries of sample data and data measurements (Mishra et al. 2019). Descriptive statistics provides detailed information about data variability, distribution, and central tendency measures (Bensken, Pieracci & Ho 2021). Table 5.2 represents the descriptive data about the variables used to determine consumer's intentions and behaviours in relation to a specific product or service. It gives the fundamental descriptive information in terms of minimum and maximum values, as well as mean, standard deviation, skewness, and kurtosis values for the under-studied variables, among other things. Importantly, it is a prerequisite of the data analysis stage to determine whether the data is regularly distributed (Mishra et al. 2019). The mean values for each construct are listed in Table 5.2. Because the data were collected on a 5-point Likert scale, the lowest value of each variable is 1, and the most extreme value is 5. The standard deviation indicates the variation in the data set. It shows that if the data points are close to the mean of the data set, the standard deviation value will be low, whereas if the data points are separated far from the mean of the data set, the standard deviation will be high.

Table 5.2: Descriptive and Normality Statistics (N = 404)

	Min	Max	Mean	S.D.	Skewness	Kurtosis
Attitude	1.00	5.00	4.22	.671	-1.003	2.560
Trust	1.00	5.00	4.13	.679	-.879	1.951
Buyer Behaviour	1.00	5.00	4.02	.672	.151	-1.099
Satisfaction	1.00	5.00	4.07	.617	.138	-.441
Subjective Norms	1.00	5.00	3.91	.768	-.592	1.029
Perceived Behavioural Control	1.00	5.00	3.77	.958	-.475	-.440
Buyer intention	1.00	5.00	4.04	.654	-.200	.757
Digital Marketing	1.00	5.00	4.01	.649	.041	-.217

Tabachnick and Fidell (2019) suggested that the normality of a construct can be examined using either graphical or statistical methods, depending on the situation. As a result, the normality of the data was tested using skewness and kurtosis statistics, as recommended by Kline (2015), Tabachnick and Fidell (2019), and Hair et al. (2019). According to Hair et al.

(2019), normality is a bell-shaped curve of the data distribution. Because PLS-SEM is a non-parametric approach, and because it does not require standard data to fulfil the normality assumption of data, it is more tolerant of the normality assumption than other approaches (Hair et al. 2014). Despite this, it is critical to check whether the data is too far away from normality because there may be problems in the assessment of parameters if the data is significantly non-normal, which may cause the standard errors to be inflated (Hair et al. 2014).

According to Brown and Moore (2012), when using the PLS-SEM non-parametric technique, acceptable values of skewness fall between -3 and +3, and acceptable values of kurtosis fall between -10 and +10, respectively. Furthermore, according to Kline (2015), the skewness value should be lower than 3 and the absolute value for kurtosis should be lower than 10. According to Bryne (2001), when the kurtosis values lie between -7 and +7, and the skewness value varies between -2 and +2, the data is considered to be normally distributed (or bell-shaped). Table 5.2 shows that all values for skewness and kurtosis are within acceptable ranges and meet the recommended threshold requirements; therefore, there is no concern with data normality. This was further confirmed with the inferential test of normality.

5.4.4 Test of Normality

Tabachnick and Fidell (2019) suggested that the shape of the distribution should be assessed with a sample size greater than 200. Following Tabachnick and Fidell's (2019) and Hair et al. (2019) recommendations, the Kolmogorov–Smirnov test is used to investigate the normality of the dataset or variables. The Shapiro-Wilk test is not considered because it is often employed for small data samples ($n < 200$), which is not the case here. The null hypothesis is drawn from a normal distribution of data. On the other hand, the alternative hypothesis states that the dataset does not have a normal distribution. As shown in Table 5.3, the significance value for all variables is equal to 0.000, indicating that the dataset violates the normality assumption. The Kolmogorov–Smirnov test is particularly sensitive to large sample sizes and is therefore unusable for small sample sizes (Hair et al. 2019). As a result, non-parametric regression techniques must be used for further analysis, rather than parametric regressions such as ordinary least squares (OLS) and PLS.

Table 5.3: Test of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Attitude	.145	404	.000	.876	404	.000
Trust	.134	404	.000	.903	404	.000
Buyer Behaviour	.177	404	.000	.901	404	.000
Satisfaction	.241	404	.000	.895	404	.000
Subjective Norms	.149	404	.000	.921	404	.000
Perceived Behavioural Control	.133	404	.000	.923	404	.000
Buyer Intention	.208	404	.000	.897	404	.000
Digital Marketing	.182	404	.000	.920	404	.000
a. Lilliefors Significance Correction						

5.4.5 Correlation matrix

Correlation is used to explain the degree of relationship between bivariate variables, whether the relationship is causal in nature (Schober, Boer & Schwarte 2018). In statistics, correlation analysis is a technique used to determine both the direction and the strength of a linear relationship between two variables (Gogtay & Thatte 2017). It calculates the level of change in one variable due to change in another variable. When a correlation coefficient is calculated, the value is between -1 and 1, with -1 indicating strong negative correlation, 0 indicating no linear relationship, and +1 indicating strong positive correlation (Zhu, You & Liu 2019). According to Pallant (2010), a correlation coefficient of 0.70 and above indicates multicollinearity between exogenous constructs, whereas Kline (2015) suggests the value of above 0.85 as a threshold for multicollinearity, and if there is a high correlation, the regression coefficients become less reliable (Tabachnick & Fidell 2019).

The results of the Pearson correlation matrix are shown in Table 5.4. The analysis depicts that all variables have weak to moderate, positive and statistically significant association between them at the 0.01 level of significance. There is moderate, positive and statistically significant association between ATT and BB ($r = .523$, $p < .01$), as well as with BI ($r = .386$, $p < .01$), TR ($r = .409$, $p < .01$), SAT ($r = .499$, $p < .01$). On the contrary, ATT exhibits a weak, positive and significant association with DM ($r = .223$, $p < .01$), PBC ($r = .294$, $p < .01$) and SN ($r = .239$, $p < .01$). The correlation between BB and SAT was found to be moderate, positive and statistically significant ($r = .631$, $p < .01$). The association of BB is moderate, positive and significant with BI ($r = .427$, $p < .01$), TR ($r = .312$, $p < .01$), DM ($r = .418$, $p < .01$), PBC ($r = .491$, $p < .01$), and SN ($r = .309$, $p < .01$).

Table 5.4: Correlation Matrix

	ATT	BB	BI	TR	DM	SAT	PBC	SN
Attitude (**ATT**)	1.00							
Buyer Behaviour (**BB**)	.523**	1.00						
Buyer Intention (**BI**)	.386**	.427**	1.00					
Trust (**TR**)	.409**	.312**	.540**	1.00				
Digital Marketing (**DM**)	.223**	.418**	.463**	.341**	1.00			
Satisfaction (**SAT**)	.499**	.631**	.520**	.322**	.432**	1.00		
Perceived Behavioural Control (**PBC**)	.294**	.491**	.534**	.446**	.398**	.516**	1.00	
Subjective Norms (**SN**)	.239**	.309**	.419**	.440**	.369**	.405**	.507**	1.00
Note: ** p < 0.001								

The association between BI and TR is moderate, positive and significant, (r = .540, p < .01). SAT (r = .520, p < .01) and PBC also shows moderate positive association with the BI (r = .534, p < .01). On the other hand, BI shows moderate, positive and significant association with DM (r = .463, p < .01), and SN (r = .419, p < .01). TR also has a moderate, positive and significant association with DM (r = .341, p < .01), SAT (r = .322, p < .01), PBC (r = .446, p < .01), and SN (r = .440, p < .01). Whereas DM exhibits a moderate, positive and significant association with PBC (r = .398, p < .01), SAT (r = .432, p < .01) and SN (r = .369, p < .01). The association between SAT and PBC was found to be moderate, positive and statistically significant, (r = .516, p < .01). Lastly, PBC and SN show a moderate and positive correlation, (r = .507, p < .01).

5.5 Assessment of the research model

5.5.1 Assessment of the measurement model

The relationship between the observed variables or indicators and the latent variables is known as the measurement model or outer model (Hair Jr, Howard & Nitzl 2020). When developing a research design and measuring methods for quantitative research, it is critical to consider the validity and reliability of the results (Hair Jr, Howard & Nitzl 2020). Validity is about the accuracy of a measure, and reliability is about the consistency of a measure. The primary purpose of establishing validity and reliability is to ensure that data is replicable and sound, and that the results are accurate. As suggested by Kimberlin and Winterstein (2008), evidence of validity and reliability are key pre-requisites for ensuring the quality and integrity of a

measuring instrument. It is essential to test the validity and reliability of the variables/constructs before proceeding with the statistical data analysis because this represents the overall quality of the measurement model (Hair Jr, Howard & Nitzl 2020). Table 5.13 presents the factor loadings, Cronbach's alpha, composite reliability (CR), and Average Variance Extracted (AVE) values for each variable used in this study.

5.5.1.1 Factor loadings and reliability statistics

With the help of Smart PLS, the researcher can generate factor loadings and reliability statistics for variables. When conducting exploratory research, factor loadings were more than the 0.60 statistically significant (Purwanto 2021). The factor loadings for all items used in the development each construct, as well as the Cronbach's alpha value, are provided in this section.

Attitude (ATT): Based on seven different instruments, the outer factor loadings and reliability test findings for the latent variable "ATT" are presented in Table 5.5. Factor analysis showed there is a single factor solution with all seven items substantially loaded. That is, with a factor loading greater than 0.60 for the ATT variable. Furthermore, the value of Cronbach's alpha can be found in the range of 0 to 1 (Vaske, Beaman & Sponarski 2017). A value that is closer to 1 indicates that the scale has greater internal consistency and, as a result, greater scale reliability (van Dam & Meulders 2021). Pallant (2010) and Taber (2018) noted that a Cronbach's alpha value greater than 0.60 is acceptable and highly reliable. With a Cronbach's alpha coefficient of .929 for the ATT scale, it is clear that the scale depicts excellent reliability.

Table 5.5: Factor Loadings and Reliability Statistics for Attitude

Items	Factor Loading	Cronbach's Alpha
Buying real estate property through digital marketing channels is a wise decision (ATT_1)	.831	
I am interested in digital marketing content (advertisements/information) (ATT_2)	.841	
I feel comfortable with digital marketing content (advertisements/information) (ATT_3)	.868	
My attitude toward digital marketing content (advertisements/information) is positive (ATT_4)	.870	.929 (7)
I think engaging with digital marketing information is beneficial to me (ATT_5)	.837	
I feel buying residential real estate property through digital marketing channels is a good idea (ATT_6)	.824	

Items	Factor Loading	
I will consider purchasing residential real estate property through digital marketing channels (ATT_7)	.786	
Composite Reliability (CR)	0.942	
AVE	0.700	

Trust (TR): Findings of factor loadings and reliability tests for the latent variable "TR," which were conducted using seven instruments are shown in Table 5.6. Factor analysis showed there is a single factor solution in which all seven items are substantially loaded. That is, a factor loading greater than 0.60 for the TR variable. Furthermore, the value of Cronbach's alpha coefficient of .921 for the TR scale, shows exceptionally high reliability.

Table 5.6: Factor Loadings and Reliability Statistics for Trust

Items	Factor Loading	Cronbach's Alpha
I feel very comfortable purchasing through digital marketing channels (TR_1)	.836	
My privacy would be guaranteed on digital marketing channels (TR_2)	.838	
Digital marketing information is reliable (TR_3)	.843	
Real estate information on digital marketing channels is trustworthy (TR_4)	.837	
I believe that digital marketing channels have my best interests in mind (TR_5)	.820	.921 (7)
Real estate information through digital marketing channels is trustworthy (TR_6)	.814	
Digital marketing channels give the impression that they keep promises and commitments (TR_7)	.778	
Composite Reliability (CR)	0.937	
AVE	0.679	

Buyer Behaviour (BB) Table 5.7 shows the findings of factor loadings and reliability tests for the latent variable 'BB based on five instruments. Factor analysis reveals a single factor solution where all five items substantially loaded, that is, have a factor loading of above 0.60 for the BB variable. The Cronbach's alpha coefficient is .932 for the BB scale, depicting excellent reliability.

Table 5.7: Factor Analysis and Reliability Statistics for Buyer Behaviour

Items	Factor Loading	Cronbach's Alpha
I intend to engage in digital marketing channels (BB_1)	.862	
I feel comfortable buying residential real estate property over digital marketing channels on my own (BB_2)	.883	

I am very motivated to read digital marketing posts by a real estate agent regarding the residential property (BB_3)	.906	.932 (5)
I want to buy a real estate property (BB_4)	.892	
Digital marketing channels are a reliable way for me to take care of my personal affairs (BB_5)	.893	
Composite Reliability (CR)	0.949	
AVE	0.787	

Satisfaction (SAT): The findings of outer factor loadings and a reliability test for the latent variable 'SAT' using six instruments are shown in Table 5.8. Factor analysis reveals a single factor solution where all six items substantially loaded, that is, have a factor loading of above 0.60 for the SAT variable. With a Cronbach's alpha coefficient of .930 for the SAT scale, the scale's reliability is high.

Table 5.8: Factor Analysis and Reliability Statistics for Satisfaction

Items	Factor Loading	Cronbach's Alpha
I feel very satisfied with my overall experience on digital marketing channels and their content (SAT_1)	.841	
I feel absolutely delighted with my overall shopping experience on digital marketing channels and their content (SAT_2)	.848	
I feel very pleased with my overall shopping experience on digital marketing channels (SAT_3)	.871	
Digital marketing channels usually provide in-depth information (SAT_4)	.873	.930 (6)
Digital marketing channels provide me with information that benefits me (SAT_5)	.874	
The real estate information from digital marketing channels always catches my attention (SAT_6)	.856	
Composite Reliability (CR)	0.945	
AVE	0.741	

Subjective Norms (SN): The findings of factor loadings and reliability tests for the latent variable SN based on five instruments are shown in Table 5.9. Factor analysis revealed a single factor solution in which all five items are significantly loaded. That is, they have a factor loading of greater than 0.60 for the SN variable. The Cronbach's alpha coefficient for the SN scale is .870, indicating strong reliability.

Table 5.9: Factor Analysis and Reliability Statistics for Subjective Norms

Items	Factor Loading	Cronbach's Alpha
My family thinks that I should buy real estate property (SN_1)	.767	
My family thinks that buying real estate property is a wise decision (SN_2)	.822	
People with whom I have similar ideas and opinions are encouraging me to search for real estate information through digital marketing channels (SN_3)	.807	
People who are important to me think that I should check real estate property on digital marketing channels (SN_4)	.853	.870 (5)
People who influence my behaviour would think that I should buy real estate property over digital marketing channels (SN_5)	.801	
Composite Reliability (CR)	0.905	
AVE	0.657	

Perceived Behavioural Control (PBC): Results of factor loadings and a reliability test for the latent variable 'PBC,' based on six instruments, are presented in Table 5.10. Factor analysis revealed a single factor solution where each of the six items is highly loaded. That is, they have a factor loading of greater than 0.60 for the PBC variable. The Cronbach's alpha coefficient for the PBC scale is .946, indicating strong reliability.

Table 5.10: Factor Analysis and Reliability Statistics for Perceived Behavioural Control

Items	Factor Loading	Cronbach's Alpha
I have enough time to make a decision to buy real estate property (PBC_1)	.880	
I have enough skills and real estate property knowledge to make my own decisions (PBC_2)	.868	
Digital marketing channels improve my purchasing productivity (PBC_3)	.891	
I can choose the digital marketing channels I want to engage with (PBC_4)	.913	
I have the resources needed to access digital marketing channels (PBC_5)	.885	.946 (6)
Buying things over digital marketing channels is entirely within my control (PBC_6)	.883	
Composite Reliability (CR)	0.957	
AVE	0.787	

Buyer Intention (BI): Table 5.11 shows the results of the factor loadings and reliability test for the latent variable BI, based on seven instruments. Factor analysis suggests a single factor

solution in which all seven items are highly loaded. That is, they have a factor loading of greater than 0.60 for the BI variable. A Cronbach's Alpha coefficient of 0.943 for the BI scale, indicates very high reliability.

Table 5.11: Factor Analysis and Reliability Statistics for Buyer Intention

Items	Factor Loading	Cronbach's Alpha
Using real estate digital marketing channels helps me to make better decisions before purchasing property (PI_1)	.857	
Using real estate digital marketing channels increases my interest in buying property (PI_2)	.869	
I intend to purchase property through real estate digital marketing channels I follow. (PI_3)	.882	
I have the intention to engage with digital marketing channels (PI_4)	.880	
I intend to research real estate listings on my own through digital marketing channels in the future (PI_5)	.871	.943 (7)
I will use digital marketing channels frequently (PI_6)	.871	
I have the intention to use digital marketing information to purchase residential real estate property as much as possible (PI_7)	.813	
Composite Reliability (CR)	0.954	
AVE	0.746	

Digital Marketing (DM): Table 5.12 shows the results of the factor loadings and reliability test for the latent variable DM, based on seven instruments. Factor analysis suggests a single factor solution in which all seven items are highly loaded. That is, they have a factor loading of greater than 0.60 for the DM variable. This scale has a Cronbach's alpha coefficient of .931, which indicates reliability.

Table 5.12: Factor Analysis and Reliability Statistics for Digital Marketing

Items	Factor Loading	Cronbach's Alpha
My experiences in purchasing real estate property through digital marketing channels were always satisfactory (DM_1)	.831	
Information from digital marketing channels always catches my attention (DM_2)	.865	
Digital marketing channels provide me with information that benefits me (DM_3)	.858	.931 (7)
I feel comfortable using digital marketing channels (DM_4)	.871	
I find digital marketing information useful (DM_5)	.878	

Items	Factor Loading	Cronbach's Alpha
I like to use digital marketing channels to increase my knowledge about real estate property (DM_6)	.820	
I am satisfied with the digital marketing of the real estate I follow (DM_7)	.773	
Composite Reliability (CR)	0.945	
AVE	0.709	

5.5.1.2 Test of composite reliability of constructs

Cronbach's alpha and composite reliability were used to evaluate the reliability of the scale(s) in the current study (Chan & Idris 2017). Cronbach's alpha is a measure of internal consistency that is usually used in conjunction with the EFA (Exploratory factor analysis) and is the average measure of internal consistency (Vaske, Beaman & Sponarski 2017). Composite reliability (also known as construct reliability) is a new way of determining if scale items have internal consistency or reliability (Brunner & Süß 2005), and it is often used in conjunction with CFA. If the composite reliability value is less than 0.60, this indicates that the internal consistency or reliability is not satisfactory (Hair et al. 2019). Table 5.13 shows that the Cronbach's alpha coefficient and the composite reliability value of each variable are greater than 0.60, indicating that each scale has strong internal consistency and high reliability, in line with recommendations from Nunnally and Bernstein (1994) and Hair et al. (2014).

5.5.1.3 Test of Average Variance Extracted (AVE)

Ab Hamid, Sami & Mohmad Sidek (2017) emphasised the need to use both convergent and discriminant validation techniques in research. Convergent validity measures how closely a new scale is related to other variables and other measures of the same construct (Strand et al. 2018). To determine whether a construct should correlate with related variables or unrelated variables, it is necessary to determine whether that construct should not correlate with unrelated variables. The AVE indicator in PLS-SEM checks for convergent validity (Ab Hamid, Sami & Mohmad Sidek 2017). It measures the variance captured by a construct in relation to the variance amount due to measurement error. Table 5.13, shows the values of AVE are more than 0.50, demonstrating that both the constructs and their corresponding measuring models are valid.

5.5.1.4 Cross-loadings

In Table 5.17, the item factor loadings and VIF data are shown. The factor loadings of observable items or variables reflect how much each observable item or variable contributes absolutely to the definition of a latent variable or construct. Because the value for all constructs or items is more than 0.70, this indicates they have strong validity.

Table 5.13: Validity and Reliability

Variables	Items	Factor loadings	Composite Reliability (CR)	Cronbach's Alpha (α)	AVE
Attitude	ATT1	0.831	.942	.929	0.700
	ATT2	0.841			
	ATT3	0.868			
	ATT4	0.870			
	ATT5	0.837			
	ATT6	0.824			
	ATT7	0.786			
Buyer Behaviour	BB1	0.862	.949	.932	0.787
	BB2	0.883			
	BB3	0.906			
	BB4	0.892			
	BB5	0.893			
Digital Marketing	DM1	0.836	.945	.931	0.709
	DM2	0.868			
	DM3	0.856			
	DM4	0.864			
	DM5	0.878			
	DM6	0.818			
	DM7	0.771			
Perceived Behavioural Control	PBC1	0.880	.957	.946	0.787
	PBC2	0.868			
	PBC3	0.891			
	PBC4	0.913			
	PBC5	0.885			
	PBC6	0.883			
Buyer Intention	BI1	0.857	.954	.943	0.746
	BI2	0.869			
	BI3	0.882			
	BI4	0.880			
	BI5	0.871			

Variables	Items	Factor loadings	Composite Reliability (CR)	Cronbach's Alpha (α)	AVE
	BI6	0.871			
	BI7	0.813			
Satisfaction	SAT1	0.841	.945	.930	0.741
	SAT2	0.848			
	SAT3	0.871			
	SAT4	0.873			
	SAT5	0.874			
	SAT6	0.856			
Subjective Norms	SN1	0.767	.905	.870	0.657
	SN2	0.822			
	SN3	0.807			
	SN4	0.853			
	SN5	0.801			
Trust	TR1	0.836	.937	.921	0.679
	TR2	0.838			
	TR3	0.843			
	TR4	0.837			
	TR5	0.820			
	TR6	0.814			
	TR7	0.778			

5.5.1.5 Test of discriminant validity

Discriminant validity is used to assess the overall quality of a measurement model (Hair Jr, Howard & Nitzl 2020). It is possible to show discriminant validity by comparing two measurements that are not supposed to be connected and are unrelated. According to Fornell and Larcker (1981), discriminant validity is confirmed when construct correlations are less than AVE. To assess discriminant validity, the Fornell-Larcker criterion and the HTMT ratio were used. Table 5.14 displays the results of the Fornell-Larcker criterion, which demonstrates an excellent level of discriminant validity because all values of the square root of AVE are more than the correlation values. In Table 5.15, the HTMT ratio shows all values are less than 0.90, supporting the excellent discriminant validity proposed by Henseler et al. (2015). Thus, the study measurement model was found satisfactory and excellent levels of validity.

Table 5.14: Fornell-Larcker Criterion

	ATT	BB	BI	TR	DM	SAT	PBC	SN
Attitude (**ATT**)	0.837							
Buyer Behaviour (**BB**)	0.523	0.887						
Buyer Intention (**BI**)	0.386	0.427	0.864					
Trust (**TR**)	0.409	0.312	0.540	0.824				
Digital Marketing (**DM**)	0.223	0.418	0.463	0.341	0.842			
Satisfaction (**SAT**)	0.499	0.631	0.520	0.322	0.432	0.861		
Perceived Behavioural Control (**PBC**)	0.294	0.491	0.534	0.446	0.398	0.516	0.887	
Subjective Norms (**SN**)	0.239	0.309	0.419	0.440	0.369	0.405	0.507	0.811
Note: Diagonal bolded values are square root of AVE								

Table 5.15: Heterotrait-Monotrait Ratio

	ATT	BB	BI	TR	DM	SAT	PBC	SN
Attitude (**ATT**)								
Buyer Behaviour (**BB**)	0.560							
Buyer Intention (**BI**)	0.408	0.454						
Trust (**TR**)	0.440	0.335	0.577					
Digital Marketing (**DM**)	0.236	0.448	0.493	0.362				
Satisfaction (**SAT**)	0.536	0.677	0.551	0.345	0.459			
Perceived Behavioural Control (**PBC**)	0.311	0.523	0.565	0.473	0.422	0.549		
Subjective Norms (**SN**)	0.264	0.341	0.459	0.489	0.407	0.445	0.558	

5.5.2 Assessment of the structural model

After assessing the quality of the measurement model, the significance of the structural model is tested using the Smart PLS software package (Sarstedt & Cheah 2019). The structural model represents the theory that shows how latent variables are related to one another (Sarstedt, Ringle & Hair 2017). The PLS-SEM approach is used to evaluate the relationship between the variables in the proposed structural model, which comprises eight latent variables. The relationship between the variables is evaluated using the PLS-SEM approach. With the PLS-SEM (also known as causal modelling), it is possible to evaluate the proposed causal relationships between the latent variables to determine their degree of correlation, which are calculated using the path coefficients (Sarstedt & Cheah 2019). During analysis, this assists researchers in evaluating the hypothetical model and providing evidence for acceptance or rejection of the research hypotheses created based on existing empirical literature and theories.

Figure 5.9 shows the structural model, the item factor loadings and R square values for each item. Furthermore, to test the hypothetical structural model, three key indicators are observed: R squared (R^2), F squared (F^2), and Q square (Q^2), refer to **Tables 5.18, 5.19 and 5.20**, respectively.

5.5.2.1 Checking for convergence

The default Smart PLS settings are used for convergence (Purwanto 2021). By default, the program estimates these weights, called the "path" weighting scheme, to maximise the values of R^2 or variance explained. It also sets the maximum iterations in weights estimation to 300, which is helpful for exploratory models (Sarstedt & Cheah 2019).

5.5.2.2 Checking for multicollinearity

The problem of multicollinearity can have a negative impact on the outcomes of a regression analysis (Kim 2019). Multicollinearity occurs when there is a high degree of intercorrelation between two or more explanatory variables in a multiple regression model or SEM (Hair et al. 2019). Ragnar Frisch was the first to introduce multicollinearity to describe an accurate or perfect relationship between two or more regression independent variables (Pesaran & Smith 2019). In simpler terms, it happens when the correlation between the predictor variables is too strong (Hair Jr. et al. 2017). In the current study, two methods—the Pearson correlation matrix and the VIF—are used to check for multicollinearity using regression findings from the SPSS.

Variance Inflation Factor (VIF): The VIF is also commonly used to test the multicollinearity issue (Thompson et al. 2017). VIF is a statistical measure that describes how a predictor variable's variance is influenced by its correlation with the other explanatory variables in a regression model (Lavery et al. 2019). The VIF value represents the reciprocal of the tolerance value. In regression, it is a simple way to determine the contribution the variable makes to the standard error of the result (Ishwaran & Lu 2019). Under ideal conditions, a lower VIF value indicates a low correlation between the variables (Thompson et al. 2017). Hair Jr. et al. (2017) recommended that multicollinearity is an issue if the VIF value is greater than 10 and the tolerance value is less than .20. Some researchers suggest a generally accepted cut-off for a VIF of 2.5 for weaker models (Akinwande et al. 2015). Tolerance statistics and the VIF are presented in Table 5.16 and 5.17. The findings show that the tolerance value for all variables

is above .20 and respective VIF values are less than the threshold of 10, indicating there is no issue of multicollinearity in the regressed dataset.

Table 5.16: Variance Inflation Factor Statistics

	Tolerance	VIF
Attitude	.674	1.483
Trust	.596	1.679
Satisfaction	.527	1.899
Subjective Norms	.656	1.525
Perceived Behavioural Control	.557	1.796
Buyer Intention	.517	1.933
Digital Marketing	.708	1.413

Table 5.17: Items Factor loadings and Collinearity Statistics (VIF)

Constructs	Items	Loadings	VIF	Constructs	Items	Loadings	VIF
Attitude	ATT1	0.831	3.083	Buyer Intention	PI1	0.857	3.279
	ATT2	0.841	3.296		PI2	0.869	3.444
	ATT3	0.868	3.153		PI3	0.882	3.361
	ATT4	0.870	3.109		PI4	0.880	3.650
	ATT5	0.837	2.490		PI5	0.871	3.185
	ATT6	0.824	2.345		PI6	0.871	3.177
	ATT7	0.786	2.014		PI7	0.813	2.287
Buyer Behaviour	BB1	0.862	2.904	Satisfaction	SAT1	0.841	2.790
	BB2	0.883	3.305		SAT2	0.848	2.962
	BB3	0.906	3.764		SAT3	0.871	3.329
	BB4	0.892	3.400		SAT4	0.873	3.389
	BB5	0.893	3.440		SAT5	0.874	3.163
Digital Marketing	DM1	0.836	3.102		SAT6	0.856	2.804
	DM2	0.868	3.554	Subjective Norms	SN1	0.767	1.828
	DM3	0.856	2.891		SN2	0.822	2.104
	DM4	0.864	3.273		SN3	0.807	1.997
	DM5	0.878	3.645		SN4	0.853	2.429
	DM6	0.818	2.367		SN5	0.801	1.966
	DM7	0.771	2.034	Trust	TR1	0.836	3.230
Perceived Behavioural Control	PBC1	0.880	3.170		TR2	0.838	3.110
	PBC2	0.868	3.032		TR3	0.843	2.705
	PBC3	0.891	3.721		TR4	0.837	2.584
	PBC4	0.913	4.448		TR5	0.820	2.211
	PBC5	0.885	3.569		TR6	0.814	2.294
	PBC6	0.883	3.625		TR7	0.778	2.038

5.5.2.3 Coefficient of determination R Square

In the regression analysis, R^2, or the coefficient of determination, measures the proposed model fitness to the observed data (Ullah et al. 2019). It is the variance proportion of the dependent variable explained by the model's explanatory variables (Hair Jr. et al. 2017). It is either used for forecasting or hypothesis testing. R^2 value is the GOF and indicates a shared variation between two or more variables (Hair Jr. et al. 2017). The value of R^2 increases with the addition of more PLS factors as they measure the strength of the least-squares fit the training set activities, whereas adjusted R^2 values indicate whether the addition of variables is adding value to the model or not (Ullah et al. 2019). Furthermore, Cohen (2013) suggests that an R^2 value of .02 shows a small effect, an R^2 value of .13 shows a medium effect, and an R^2 value of .26 indicates a significant effect in social and behavioural sciences.

Table 5.18, Figure 5.7 and Figure 5.8 show the value of R^2 for five endogenous variables in the current research, indicating whether the independent variables have a statistically significant impact on the dependent variables. Having an R^2 of .05 for ATT indicates that the independent variables explain 5% of the variability in the dependent variable, ATT. BB has an R^2 value of .280, indicating that the independent variables explain 28% of the variability in BB. A similar pattern can be seen in the R^2 values of .485, .116, and .187, which indicate that the relevant independent variables are responsible for 48.5%, 11.6%, and 18.7% of the variability in BI, TR, and SAT, respectively.

Table 5.18: R Squared (R^2)

	R Square	R Square Adjusted
Attitude	.050	.047
Buyer Behaviour	.280	.276
Buyer Intention	.485	.477
Trust	.116	.114
Satisfaction	.187	.185

Low R^2 values are common in social and behavioural sciences since they measure explanatory power rather than fit. Since models not expected to include all the relevant predictors to explain an outcome variable, R^2 values, even when small, can be significantly different from 0, indicating that our regression model has statistically significant explanatory power (Neter

2004). The value of R^2, on the other hand, is usually reported as an effect size because scholars debate the practical significance of the value (Gelman et al. 2019), and a low value of R^2 does not necessarily indicate that the influence is small and insignificant (Glenn & Shelton 1983). According to Rights & Sterba (2018), an R^2 value of 9% is acceptable in social science settings. That is because humans are more difficult to predict than physical phenomena. Also, according to Moksony and Heged (1990), when the R^2 value is low, but the study model contains statistically significant predictors, we can still draw important conclusions about how changes in the predictor values are connected with changes in the response value. Statistically, significant coefficients represent the mean change in the dependent variable given a one-unit shift in the independent variable.
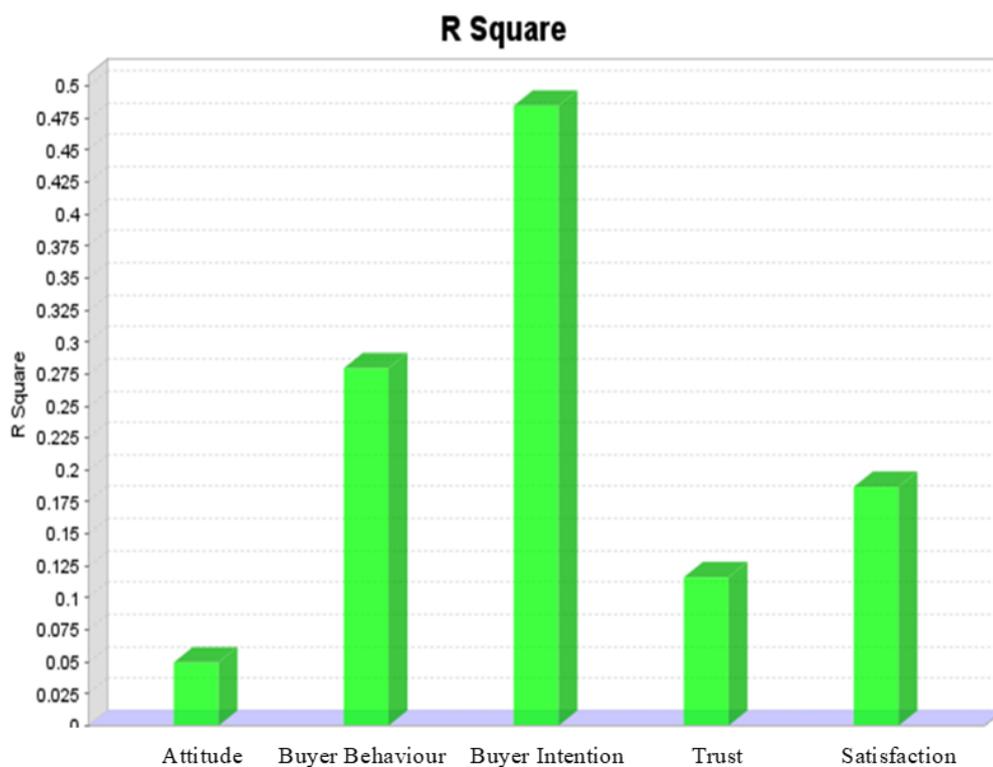
Figure 5.7: R-Square value for five endogenous variables
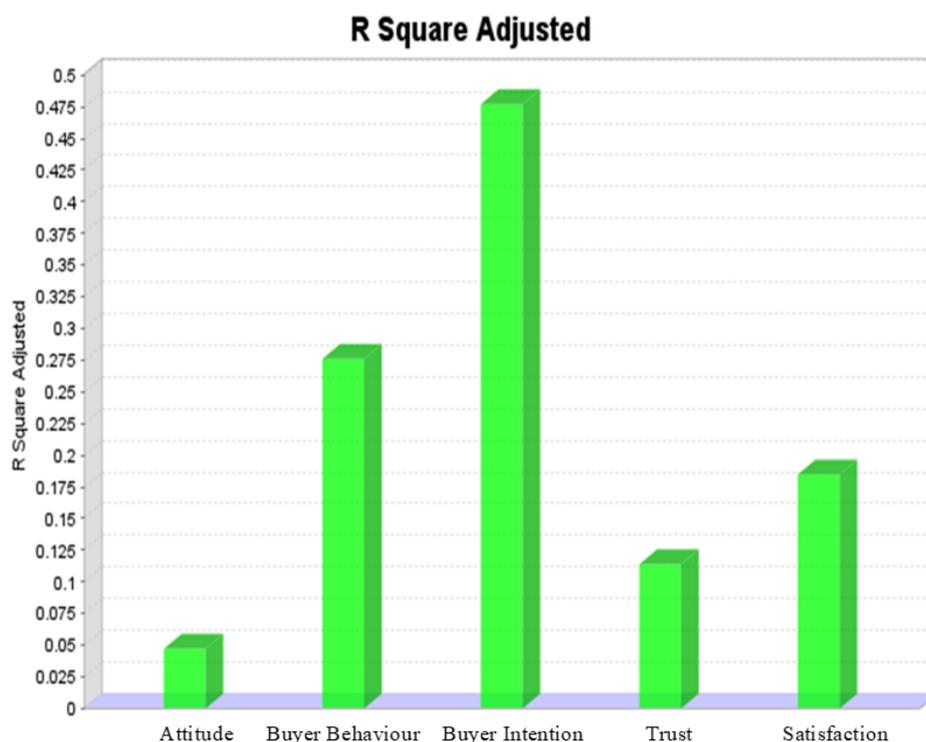
Figure 5.8: R-Square (Adjusted) value for five endogenous variables

5.5.2.4 F Square (F^2)

In the PLS-SEM approach, the F^2 indicates the degree to which independent variables affect the dependent variable (Hair Jr. et al. 2017). It measures the variance explained by each exogenous variable in the model. Hair et al. (2011) proposed the following interpretation of F^2: 0.02 represents a small effect, 0.15 represents a medium effect, 0.35 represents a significant effect, and less than 0.02 represents no effect. Cohen (1988) pointed out that F^2 is the right method for determining the effect size if both the dependent variable and the independent variable of interest are continuous when dealing with multiple regression models. Table 5.19 presents the results for F^2, which indicate a statistically significant effect of the independent variables on the dependent variables, with the exception of ATT and SN, which show no significant effect.

Table 5.19: F Square (F^2)

	ATT	BB	BI	TR	DM	SAT	PBC	SN
Attitude **(ATT)**			.005					
Buyer Behaviour **(BB)**								
Buyer Intention **(BI)**		.053						

Trust (**TR**)			.106					
Digital Marketing (**DM**)	.052		.042	.131		.230		
Satisfaction (**SAT**)			.046					
Perceived Behavioural Control (**PBC**)		.134	.043					
Subjective Norms (**SN**)			.001					

5.5.2.5 Q Square (Q²)

The Q^2 test is used to determine the predictive influence of independent variables (Hair Jr. et al. 2017). Q^2 is used to determine if the proposed model has predictive validity or not. According to Hair et al. (2011), the value of Q^2 should be more than zero to be considered predictively significant. A Q^2 value of 0.02 indicates very little predictive relevance of independent variables in the model, a 0.15 value indicates a medium predictive relevance, and a 0.35 value indicates a strong predictive relevance of independent variables in the model. Results of Q^2 are provided in Table 5.20, which demonstrates that all five exogenous variables are significantly predictive. Buyer ATT and TR factors have low predictive relevance, BB and SAT variables have a medium predictive relevance, and BI variables have high predictive relevance.

Table 5.20: Q Square (Q²⁾

	SSO (Square of the statistical overlap)	SSE (Sum of squared errors)	Q² (=1-SSE/SSO)
Attitude (**ATT**)	2828.000	2734.436	0.033
Buyer Behaviour (**BB**)	2020.000	1580.249	0.218
Buyer Intention (**BI**)	2828.000	1817.710	0.357
Trust (**TR**)	2828.000	2610.353	0.077
Digital Marketing (**DM**)	2828.000	2828.000	
Satisfaction (**SAT**)	2424.000	2097.439	0.135
Perceived Behavioural Control (**PBC**)	2424.000	2424.000	
Subjective Norms (**SN**)	2020.000	2020.000	

5.5.2.6 Goodness of Fit Indices (GOF)

The GOF, also known as the overall fitness of the model, is an index that measures the reliability and predictability of the measurement model (Wang et al. 2020). When testing the final structural model, it is analysed as a whole by testing all of the variables in the study.

According to Hair et al. (2007), while using PLS-SEM, researchers must be extremely cautious about how they report the model fit and how they use it. This is because the proposed criteria for PLS-SEM are still in the early phases of research and are frequently not useful or completely understood. Despite this, only a few scholars have started to report these new GOF indices for PLS-SEM. Currently, the Smart PLS provides five different fit measure options. Among these are 1) SRMR, 2) Exact model fit criteria d_ULS and d_G, 3) NFI, 4) Chi^2 and df, and 5) RMS_theta. The values of the overall fit indices of the final structural model are presented in Table 5.21.

Table 5.21: Model Fit Summary

Fit Indices	Results
SRMR	0.042
Chi^2	3335.093
NFI	0.821
RMS$_{Theta}$	0.106

Standardised Root Mean Square Residual (SRMR): It is referred to as the SRMR when there is a difference between the observed correlation and the model implied correlation matrix (DiStefano et al. 2018). SRMR, as an absolute measure of (model) fit criterion, allows researchers to examine the average degree of differences between the observed and expected correlations, allowing them to make more informed decisions (Shi, Maydeu-Olivares & DiStefano 2018). This transformation makes it possible to obtain correlation matrices from both the predicted and sample covariance matrices. According to Hu and Bentler (1999), SRMR values less than 0.08 are considered a good fit. Henseler et al. (2015) recently introduced the SRMR as a goodness of fit measure for PLS-SEM to avoid model misspecification. As shown in Table 5.21, the SRMR value is .042, which is less than the .08 threshold value indicated by Hu and Bentler (1999), indicating that the measurement model is valid and reliable.

Normed Fit Index (NFI): Bentler and Bonett (1980) proposed the first fit measure called the NFI in the SEM literature. It is also sometimes called Bentler and Bonett index. NFI calculates the proposed model Chi^2 value and compares it against a meaningful benchmark (Yaşlioğlu & Yaşlioğlu 2020). Hence, NFI computes as 1 minus the proposed model Chi^2 value divided by the Chi^2 value of the null model. The value of NFI results ranges between 0 and 1. An NFI

value closer to 1 indicates a better fit. Lohmöller (1989) suggests that an NFI value of more than .85 is generally referred to as an acceptable fit. Table 5.21 shows that the structural model has an NFI value of .821, which is closer to 1, indicating reliability of the measurement model.

Chi² and Degrees of Freedom: In the PLS path model, the value of Chi² with degrees df is calculated using the formula: (N-1)*L, where the number of observations is denoted by 'N', and maximum likelihood function is denoted by 'L' as defined by Lohmöller (1989). Moreover, df is defined as: $(K^2 + K) /2 – t$, where 'K' represents the total number of latent variables and represents the total independent variables in the PLS path model to estimate the model implied covariance matrix. At present, the Chi^2 value does not provide rigorous details about the model's overall fit in the PLS-SEM technique.

RMS_theta: According to Lohmöller (1989), the root means squared residual covariance matrix of the outer model residuals is called RMS_theta. The measure should be close to zero to indicate a good model fit because it would imply that the correlations between the outer model residuals are very small. The value of RMS_theta less than .12 depicts a well-fitted model, whereas lack of fit is indicated by the higher RMS_theta values (Henseler et al. 2015). From Table 5.21, it is evident that the RMS_theta value is .106, which is less than the .12 threshold value, confirming the measurement model validity.

5.6 Structural path analysis and hypothesis testing

The PLS-SEM technique is widely applied in business and social sciences to test formidable, predicted relationship models of factors and composites (Kock 2018). Hypothesis testing is usually done through the p-value calculation or confidence intervals for each path coefficient in the context of PLS-SEM (Kock 2018). Depending on the prior knowledge of the researcher(s) regarding the sign of the associated coefficient and the direction of its path, the p-value can be one-tailed or two-tailed (Kock 2016). Although, as per Kock (2016), the usage of confidence intervals and p-values leads to the same outcomes, the use of p-values is advantageous in PLS-SEM.

5.6.1 Results of the hypothesis testing (Direct Effects)

Table 5.22 presents the results for direct hypothesis testing of PLS-SEM using Smart PLS 3.0.

Table 5.22: Direct Hypothesis Testing

Hypothesis	Variables	Path Coefficients	Std. Dev.	T Stats	P Values	Supported (Yes/No)
H1	Attitude → Buyer Intention (ATT → BI)	.161***	.049	3.286	.000	Yes
H2	Subjective Norms → Buyer Intention (SN → BI)	.029	.054	0.543	.587	No
H3	Perceived Behavioural Control → Buyer Intention (PBC → BI)	.196***	.064	3.052	.000	Yes
H4	Digital Marketing → Attitude (DM → ATT)	.223***	.042	5.260	.000	Yes
H5	Digital Marketing → Satisfaction (DM → SAT)	.432***	.043	9.960	.000	Yes
H6	Digital Marketing → Buyer Intention (DM → BI)	.172***	.046	3.716	.000	Yes
H7	Digital Marketing → Trust (DM → TR)	.341***	.049	6.978	.000	Yes
H8	Satisfaction → Buyer Intention (SAT → BI)	.208***	.059	3.555	.000	Yes
H9	Trust → Buyer Intention (TR → BI)	.289***	.069	4.188	.000	Yes
H10	Buyer Intention → Buyer Behaviour (BI → BB)	.231***	.061	3.773	.002	Yes
H11	Perceived Behavioural Control → Buyer Behaviour (PBC →BB)	.368***	.045	8.222	.000	Yes
	Note: * p < 0.10, ** p < 0.05, *** p < 0.01					

H1. There is a positive and significant relationship buyer attitude and buyer intention (ATT➔BI).

The relationship between ATT and BI has a path coefficient value of .161 and a standard error value of .049, indicating a positive and statistically significant relationship between the variables at the .05 level of significance, $\beta = .161$, $p < .05$. Therefore, 1% change in ATT increases the BI by 16.1%. The corresponding t-statistics value is 3.286, which is greater than +1.96 (as a one-tailed test with 95% confidence level) and also suggests a significant relationship between the ATT and BI. Thus, the research rejects the null hypothesis in favour of the alternative hypothesis.

Hypothesis	Path	Result
H1: There is a positive and significant relationship between buyer attitude (ATT) and buyer intention (BI).	**ATT ➔ BI**	Accepted ✅

H2. There is a positive and significant relationship between subjective norms and buyer intention (SN ➔BI).

The relationship between the SN and BI has a path coefficient value of .029 and a standard error value of .054, indicating a positive and statistically insignificant relationship between the variables at the .05 level of significance $\beta = .029$, $p = .543$. Therefore, there is no statistically significant relationship between the SN and BI by the corresponding t-statistics value of .543, which is less than +1.96 (as determined by the one-tailed test with a 95% confidence level). As a result, we cannot reject the null hypothesis, and hence H2 is not accepted.

Hypothesis	Path	Result
H2: There is a positive and significant relationship between subjective norms (SN) and buyer intention (BI).	**SN ➔ BI**	Not accepted ❌

H3. There is a positive and significant relationship between perceived behavioural control and buyer intention (PBC ➔BI).

The relationship between the PBC and BI has a path coefficient value of .196 and a standard error value of .064, indicating a positive and statistically significant relationship between the variables at the .05 level of significance, $\beta = .196$, $p < .05$. Therefore, 1% change in PBC increases the BI by 19.6%. The corresponding t-statistics value is 3.052, which is greater than

+1.96 (as the one-tailed test with 95% confidence level) also suggests the significant relationship between the PBC and BI. Thus, the research rejects the null hypothesis in favour of the alternative hypothesis. Hence, H3 is accepted.

Hypothesis	Path	Result
H3: There is a positive and significant relationship between perceived behavioural control (PBC) and buyer intention (BI).	**PBC → BI**	Accepted ☑

H4. There is a positive and significant relationship between digital marketing and buyer attitude (DM →ATT).

The relationship between DM and ATT has a path coefficient value of .223 and a standard error value of .042, indicating a positive and statistically significant relationship between the variables at the .05 level of significance, $\beta = .223$, $p < .05$. Therefore, 1% change in DM increases the ATT by 22%. The corresponding t-statistics value is 5.260, which is greater than +1.96 (as the one-tailed test with 95% confidence level) also suggests the significant relationship between DM and ATT. Thus, the researcher rejects the null hypothesis in favour of the alternative hypothesis. Hence, H4 is accepted.

Hypothesis	Path	Result
H4: There is a positive and significant relationship between digital marketing (DM) and buyer attitude (ATT).	**DM → ATT**	Accepted ☑

H5. There is a positive and significant relationship between digital marketing and buyer satisfaction (DM →SAT).

The relationship between DM and SAT has a path coefficient value of .432 and a standard error value of .043, indicating a positive and statistically significant relationship between the variables at the .05 level of significance, $\beta = .432$, $p < .05$. Therefore, 1% change in DM increases SAT by 43.2%. The corresponding t-statistics value is 9.960, greater than +1.96 (as the one-tailed test with 95% confidence level), which also suggests the significant relationship between DM and SAT. Thus, the research rejects the null hypothesis in favour of the alternative hypothesis. Hence, H5 is accepted.

Hypothesis	Path	Result
H5: There is a positive and significant relationship between digital marketing (DM) and buyer satisfaction (SAT).	**DM → SAT**	Accepted ☑

H6. There is a positive and significant relationship between digital marketing and buyer intention (DM → BI).

The relationship between DM and BI has a path coefficient value of .172 and a standard error value of .046, indicating a positive and statistically significant relationship between the variables at the .05 level of significance, β = .172, p < .05. Therefore, 1% change in DM increases the BI by 17.2%. The corresponding t-statistics value is 3.716, greater than +1.96 (as a one-tailed test with a 95% confidence level), suggesting the significant relationship between DM and BI. Thus, the research rejects the null hypothesis in favour of the alternative hypothesis. Hence, H6 is accepted.

Hypothesis	Path	Result
H6: There is a positive and significant relationship digital marketing (DM) and buyer intention (BI).	**DM → BI**	Accepted ☑

H7. There is a positive and significant relationship between digital marketing and buyer trust (DM → TR).

The relationship between DM and TR has a path coefficient value of .341 and a standard error value of .049, indicating a positive and statistically significant relationship between the variables at the .05 level of significance, β = .341, p < .05. Therefore, 1% change in DM increases the TR level by 34.1%. The corresponding t-statistics value is 6.978 which is greater than +1.96 (as the one-tailed test with 95% confidence level) also suggests the significant relationship between DM and TR. Thus, the research rejects the null hypothesis in favour of the alternative hypothesis. Hence, H7 is accepted.

Hypothesis	Path	Result
H7. There is a positive and significant relationship between digital marketing (DM) and buyer trust (TR).	**DM → TR**	Accepted ☑

H8. There is a positive and significant relationship between buyer satisfaction and buyer intention (SAT → BI).

The relationship between SAT and BI has a path coefficient value of .208 and a standard error value of .059, indicating a positive and statistically significant relationship between the variables at the .05 level of significance, β = .208, p < .05. Therefore, 1% change in SAT

increases the BI by 20.8%. The corresponding t-statistics value is 3.555, which is greater than +1.96 (as the one-tailed test with 95% confidence level) also suggests the significant relationship between SAT and BI. Thus, the research rejects the null hypothesis in favour of the alternative hypothesis. Hence, H8 is accepted.

Hypothesis	Path	Result
H8. There is a positive and significant relationship between buyer satisfaction (SAT) and buyer intention (BI).	**SAT → BI**	Accepted ☑

H9. There is a positive and significant relationship between buyer trust and buyer intention (TR → BI).

The relationship between TR and BI has a path coefficient value of .289 and a standard error value of .069, indicating a positive and statistically significant relationship between the variables at the .05 level of significance, $\beta = .289$, $p < .05$. Therefore, 1% change in TR increases the BI by 28.9%. The corresponding t-statistics value is 4.188, which is greater than +1.96 (as the one-tailed test with 95% confidence level) also suggests the significant relationship between TR and BI. Thus, the research rejects the null hypothesis in favour of the alternative hypothesis. Hence, H9 is accepted.

Hypothesis	Path	Result
H9. There is a positive and significant relationship between buyer trust (TR) and buyer intention (BI).	**TR → BI**	Accepted ☑

H10. There is a positive and significant relationship between buyer intention and buyer behaviour (BI → BB).

In this study, the relationship between BI and BB was found to have a path coefficient value of .231 and a standard error value of .061, both of which indicate that there is a positive and statistically significant relationship between the variables at the .05 level of significance, $\beta = .231$ and $p < .05$. Therefore, a 1% change in BI results in a 23.1% increase in BB. The resulting t-statistics value is 3.773, which is greater than +1.96 (as determined by a one-tailed test with a 95% confidence level), and thus indicates a statistically significant relationship between BI and BB. The null hypothesis is thereby rejected in favour of the alternative hypothesis. As a result, H10 is accepted.

Hypothesis	Path	Result
H10. There is a positive and significant relationship between buyer intention (BI) and buyer behaviour (BB).	**BI → BB**	Accepted ☑

H11. There is a positive and significant relationship between perceived behavioural control and buyer behaviour (PBC → BB).

The relationship between the PBC and BB has a path coefficient value of .368 and a standard error value of .045, indicating a positive and statistically significant relationship between the variables at the .05 level of significance, $\beta = .368$, $p < .05$. Therefore, 1% change in PBC increases the BB by 36.8%. The corresponding t-statistics value is 8.222, greater than +1.96 (as one-tailed test with 95% confidence level), which also suggests the significant relationship between PBC and BB. Thus, the research rejects the null hypothesis in favour of the alternative hypothesis. Hence, H11 is also accepted.

Hypothesis	Path	Result
H11. There is a positive and significant relationship between perceived behavioural control (PBC) and buyer behaviour (BB).	**PBC → BB**	Accepted ☑

5.6.2 Results of hypothesis testing (Indirect/Mediation Effects)

Table 5.23 presents the results for indirect/mediation hypothesis testing of PLS-SEM using Smart PLS 3.0.

Table 5.23: Indirect Hypothesis Testing

Hypothesis	Variables	Path Coefficients	Std. Dev.	T Stats	P Values	Supported (Yes/No)
H12	Digital Marketing → Attitude → Buyer Intention	.013	.012	1.162	.246	No
H13	Satisfaction → Buyer Intention → Buyer Behaviour	.048**	.022	2.140	.033	Yes
H14	Digital Marketing → Trust → Buyer Intention	.099***	.023	4.299	.000	Yes
H15	Digital Marketing → Buyer Intention → Buyer Behaviour	.040**	.017	2.278	.023	Yes
H16	Attitude → Buyer Intention → Buyer Behaviour	.014	.013	1.073	.284	No
H17	Subjective Norms → Buyer Intention → Buyer Behaviour	.007	.014	0.499	.618	No
H18	Perceived behavioural Control → Buyer Intention → Buyer Behaviour	.045***	.014	3.191	.002	Yes
	Note: * p < 0.10, ** p < 0.05, *** p < 0.01					

H12. Buyer attitude mediates the relationship between digital marketing and buyer intention (DM → ATT → BI).

The relationship between the DM, ATT and BI has a path coefficient value of .013 and a standard error value of .012, indicating a positive and statistically insignificant relationship between the variables at the .05 level of significance, $\beta = .013$, $p = .324$. The corresponding t-statistics value is 1.162, which is less than +1.96 (as the one-tailed test with 95% confidence level) also suggests an insignificant relationship between DM and BI when mediated by the ATT. It means that ATT does not act as a mediating variable between DM and BI. Thus, the research cannot reject the null hypothesis, thereby H12 is not accepted.

Hypothesis	Path	Result
H12. Buyer attitude (ATT) mediates the relationship between digital marketing (DM) and buyer intention (BI).	**DM → ATT → BI**	Not accepted ❌

H13. Buyer intention mediates the relationship between buyer satisfaction and buyer behaviour (SAT → BI → BB).

According to the path coefficient value of .048 and a standard error value of .022, the relationship between the variables of SAT, BI, and BB is positive and statistically significant at the .05 level of significance, $\beta = .048$, $p < .05$. The corresponding t-statistics value is 2.14, which is greater than +1.96 (as determined by the one-tailed test with a 95% confidence level). This indicates that there is a statistically significant relationship between SAT and BB when BI. Thus, BI acts as a mediating variable between SAT and BB. The null hypothesis is therefore rejected in favour of the alternative hypothesis. As a result, H13 is also considered acceptable.

Hypothesis	Path	Result
H13. Buyer intention (BI) mediates the relationship between buyer satisfaction (SAT) and buyer behaviour (BB).	**SAT → BI → BB**	Accepted ✅

H14. Buyer trust mediates the relationship between digital marketing and buyer intention (DM → TR → BI).

The relationship between the DM, TR and BI has a path coefficient value of .099 and a standard error value of .023 indicating a positive and statistically significant relationship between the

variables at the .05 level of significance, β = .099, p < .05. The corresponding t-statistics value is 4.299, which is greater than +1.96 (as the one-tailed test with 95% confidence level) also suggests the significant relationship between DM and BI when mediated by TR. It means that TR act as a mediating variable between DM and BI. Thus, the research rejects the null hypothesis in favour of the alternative hypothesis. Hence, H14 is also accepted.

Hypothesis	Path	Result
H14. Buyer trust mediates the relationship between digital marketing (DM) and buyer intention (BI).	**DM → TR → BI**	Accepted ☑

H15. Buyer intention mediates the relationship between digital marketing and buyer behaviour (DM → BI → BB).

The relationship between the DM, BI and BB has a path coefficient value of .040 and a standard error value of .017 indicating a positive and statistically significant relationship between the variables at the .05 level of significance, β = .040, p < .05. The corresponding t-statistics value is 2.278, which is greater than +1.96 (as the one-tailed test with 95% confidence level) also suggests the significant relationship between DM and BB when mediated by the BI. Therefore, BI acts as a mediating variable between DM and BB. Thus, the research rejects the null hypothesis in favour of the alternative hypothesis. Hence, H15 is also accepted.

Hypotheses	Path	Result
H15. Buyer intention (BI) mediates the relationship between digital marketing (DM) and buyer behaviour (BB).	**DM → BI → BB**	Accepted ☑

H16. Buyer intention mediates the relationship between buyer attitude and buyer behaviour (ATT → BI → BB).

The relationship between the ATT, BI and BB has a path coefficient value of.014 and a standard error value of .013, indicating a positive and statistically insignificant relationship between the variables at the 0.05 level of significance, β =.014, p = .284. The corresponding t-statistics value is 1.073, which is less than +1.96 (as the one-tailed test with 95% confidence level) also suggests an insignificant relationship between the ATT and BB when mediated by the BI. Therefore, BI does not act as a mediating variable between ATT and BB. Thus, the research cannot reject the null hypothesis, thereby H16 is not accepted.

Hypotheses	Path	Result
H16. Buyer intention (BI) mediates the relationship between buyer attitude (ATT) and buyer behaviour (BB).	**ATT → BI → BB**	Not accepted ❌

H17. Buyer intention mediates the relationship between subjective norms and buyer behaviour (SN → BI → BB).

The relationship between the SN, BI and BB has a path coefficient value of .007 and a standard error value of .014, indicating a positive and statistically insignificant relationship between the variables at the .05 level of significance, $\beta = .007$, $p = .618$. The corresponding t-statistics value is .499, which is less than +1.96 (as the one-tailed test with 95% confidence level) also suggests an insignificant relationship between the SN and BB when mediated by the BI. Therefore, BI does not act as a mediating variable between SN and BB. Thus, the research cannot reject the null hypothesis, thereby H17 is not accepted.

Hypotheses	Path	Result
H17. Buyer intention (BI) mediates the relationship between subjective norms (SN) and buyer behaviour (BB).	**SN → BI → BB**	Not accepted ❌

H18. Buyer intention mediates the relationship between perceived behavioural control and buyer behaviour (PBC → BB → BI).

The relationship between the PBC, BB and BI has a path coefficient value of .045 and a standard error value of .014 indicating a positive and statistically significant relationship between the variables at the .05 level of significance, $\beta = .045$, $p < .05$. The corresponding t-statistics value is 3.191, which is greater than +1.96 (as the one-tailed test with 95% confidence level) also suggests the significant relationship between the PBC and BB when mediated by the buyer intention. Therefore, BI acts as a mediating variable between PBC and BB. Thus, the research rejects the null hypothesis in favour of the alternative hypothesis. Hence, H18 is accepted.

Hypotheses	Path	Result
H18. Buyer intention (BI) mediates the relationship between perceived behavioural control (PBC) and buyer behaviour (BB).	**PBC → BB → BI**	Accepted ✅

5.7 Phases of the structural model analysis
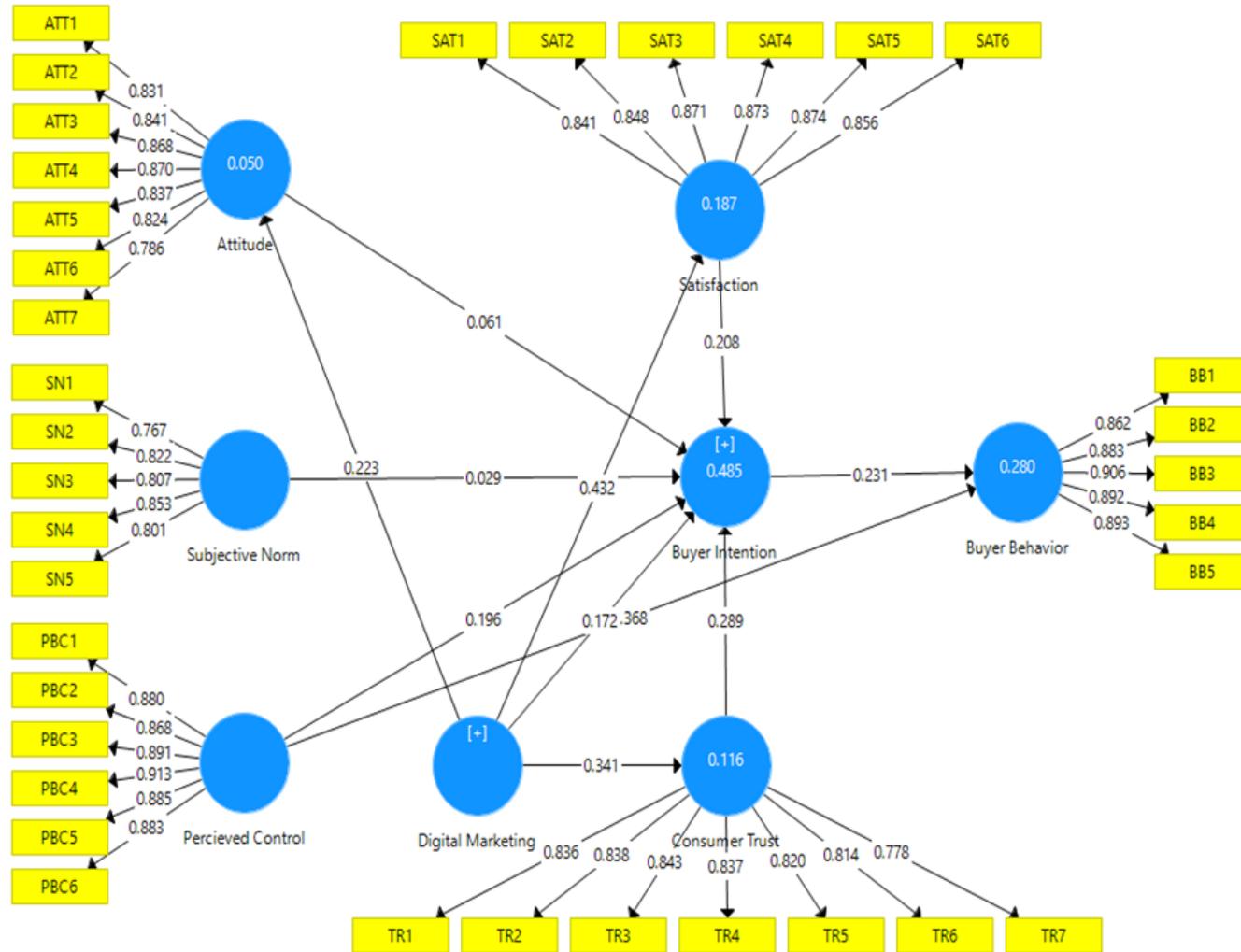
Figure 5.9: Structural Model (Extended TPB Model)

As displayed in Table 5.24, to predict the consumer' intentions to purchase real estate, a multiple linear regression analysis was carried out using the stepwise method. In the ETPB model, ATT, SN, and PBC were considered as predictors. The research found significant effects for ATT (β = .161, t = 3.286, P < .000), PBC (β = .196, t = 3.052, P < .000), and SN (β = .029, t = .543, P < .000).

Table 5.24: ETPB Model (Standardised β, t-value, p-value)

	Standardised β	t-value	p-value
ATT —> BI	.161	3.286	.000
SN —> BI	.029	0.543	.587
PBC —> BI	.196	3.052	.000
DM —> ATT	.223	5.260	.000
DM —> SAT	.432	9.960	.000
DM —> BI	.172	3.716	.000
DM —> TR	.341	6.978	.000
SAT —> BI	.208	3.555	.000
TR —> BI	.289	4.188	.000
BI —> BB	.231	3.773	.000
PBC —> BB	.368	8.222	.000
R-square, BI = .485			
R-square, BB = .280			

Table 5.25 shows the value of R^2 for five endogenous variables in the current research, which indicates whether the independent variables have a significant impact on the dependent variables. ATT has an R^2 value of .05, depicting that the independent variables explain 5% variability in the dependent variable ATT. BB has an R^2 value of .280, indicating that the independent variables explain 28% of the variability in BB. A similar pattern can be seen in the R^2 values of .485, .116, and .187, which indicate that the relevant independent variables are responsible for 48.5%, 11.65%, and 18.7% of the variability in BI, TR, and SAT, respectively.

Table 5.25: R Squared (R^2) and R (R^2) Square Adjusted

	R Square	R Square Adjusted
Attitude	.050	.047
Buyer Behaviour	.280	.276
Buyer Intention	.485	.477
Trust	.116	.114
Satisfaction	.187	.185

R^2 values reflect the amount of variance in the research model's dependent variables that has been accounted for. According to Astrachan, Patel, and Wanzenried (2014), the next stage in the research was to continue using PLS path modelling SEM for R^2 analysis. The validity of the structural model was assessed in this investigation, using the coefficients of determination, R^2, and path coefficients as criteria for assessment. The current research presents the value of R^2 for endogenous variables, namely BI, which depicts the significant impact of independent variables on the dependent variables. In the ETPB model, BB has an R^2 value of .280, representing a 28% variation in BB explained by the independent variables. By contrast, R^2 values of BI are .485 indicating that 48.5% of variability in BI is explained by the model's independent variables.

As previously noted, low R^2 values are frequently observed since it is a measure of explanatory power rather than fit. Hair et al. (2019) pointed out that R^2 values more than 0.20 are considered strong across various fields, including consumer behaviour studies. According to Rights and Sterba (2018), an R^2 value of 9% is acceptable in social science settings. This is because human behaviour is more difficult to anticipate than physical science. Therefore, any area that attempts to predict human intention or behaviour often has R^2 values less than 50% (Krueger & Lewis-Beck 2007) As a result, our R^2 results are acceptable for the ETPB model. According to the ETPB, 65% of the variation in plans to purchase a property can be explained (Fig. 8). As determined by the ETPB evaluation, ATT, PBC, and SN were the most important drivers of intention (Fig. 7). The inclusion of DM, TR and SAT significantly enhanced total BI, with the proportion of explained variance increasing by 8% when these factors were considered.

5.8 Chapter summary

This chapter explained the empirical findings for the current research. Initially, SPSS v24.0 was used to detect the missing values, outliers, biased responses and data normality. This was done using descriptive statistics, histograms/bar charts, and tests of normality. Later, Smart PLS v3.0 was used to conduct validity tests, reliability tests, measurement and structural model analyses, and PLS-SEM. The ETPB model was shown to have a better model fit than the original TPB model. The path analysis was used to examine eleven hypotheses established based on the literature review. The majority of the relationships were statistically significant (p<.05), except for correlations between SN and BI, where the p-values were more than .05 (p <.587). Ten of the eleven hypotheses were accepted. Evaluation of indirect effects saw four out of seven hypotheses accepted with significant p-values. These findings are discussed in further depth in Chapter 6.

CHAPTER 6: DISCUSSION OF RESEARCH FINDINGS

6.1 Introduction

This chapter provides an overview of the study's main research findings. At the beginning of the chapter, there is a discussion of the direct and indirect (or mediation) effect hypotheses in relation to the research questions and objectives developed based on a thorough review of empirical literature. Research contribution, implications, limitations and future directions of the work are discussed in detail in chapter 7. The chapter initially reports the findings of thirteen direct effect hypotheses and then compares and evaluates findings to previous studies. It discusses the direct antecedents of real estate buyer intention (BI) and buyer behaviour (BB) and the impact of significant and non-significant correlations between them. The indirect or mediating hypotheses are compared to prior studies on the constructs within the real estate industry or other markets. Also discussed are the indirect effects of digital marketing (DM), satisfaction (SAT) and trust (TR) on consumers' BI and willingness to purchase real estate property. Later, is a brief discussion on the measurement and structural models. The measurement model was constructed based on literature review findings presented in Chapter 2. The proposed model goodness-of-fit and relationships and the coefficient of determination (R-square) for model prediction are also detailed in this chapter.

6.2 Discussion of findings relating to the research questions

The behavioural model is at the heart of this research because it generates a strong theoretical foundation and quantifiable results that marketing professionals and users can apply to develop a strategic framework for residential real estate purchasing. The following questions were addressed as part of this research.

Main research question

> How can digital marketing be used effectively to influence buyers of the residential real estate sector in Sydney, Australia?

To address this main question, the following sub-questions were investigated

Q1: What digital marketing factors influence residential real estate buyers' buying decisions?

Q2: What behavioural factors influence residential real estate buyers' buying behaviour?

Q3: How do demographics affect consumers' buying behaviour in the residential real estate industry?

Considering the hypotheses (H1~H18) presented in this study, the following sections discuss how these factors influence the BI and BB of residential real estate consumers in Sydney, Australia.

6.2.1 Discussion relating to the direct effect

This section discusses the direct relationships between the primary dependent variable— buyers' intention (BI)—and the various independent variables. The study proposed that BI in the residential real estate industry could be affected by internal psychological and external social factors. BI's were influenced by digital marketing efforts, and consumer trust (TR) and satisfaction (SAT) in the residential real estate industry. The empirical literature review, presented in Chapter 2, suggested internal and external antecedents such as consumer's ATT, PBC, SN, SAT, DM and TR affected BI. These relationships were validated in the qualitative phase of the research presented in this thesis, which supported 10 out of 11 hypotheses. For each hypothesis (H1~H11), reporting, comparison and evaluation are detailed below.

6.2.1.1 There is a positive and significant relationship between buyer attitude (ATT) and buyer intention (BI).

The relationship between ATT and BI are discussed and in this section. The relationship between ATT and BI has a path coefficient value of 0.161 and a standard error value of 0.049, indicating a positive and statistically significant relationship between the variables at the 0.05 level of significance, $\beta = 0.161$, $p < 0.05$. That means a 1% change in ATT increases the BI by 16.1%. The corresponding t-statistics value is 3.286, greater than +1.96 (as a one-tailed test with 95% confidence level), also suggests the significant relationship between ATT and BI. According to Table 6.1, the variation investigated and justified from existing theoretical viewpoints across five previous studies is comparable to these findings. These comparisons are outlined further in Table 6.1

Table 6.1: Findings and comparisons with other studies

Studies (Author/s Name and Year)	Findings	Variance explained	Comparison of thesis findings to literature
Di Pietro & Pantano 2012	This study was conducted to examine the role of perceived usefulness, ease of use, and consumer's attitude towards behavioural buying intention. The findings suggest that consumers' usefulness perception of suggestions and recommendations on products on Facebook directly influence their attitudes around purchasing decisions. Consumer attitudes are also influenced by the perceived ease of use of given tools, and their satisfaction with using social media to seek information about products and brands. There was a solid, causal and positive correlation between attitude and behavioural intention to use the social network as a tool for supporting the buying decisions, $\beta = 0.71$, $p < 0.001$.	74% of the substantial variance in BI was explained by the attitude construct, which might exclude the presence of other unexpected constructs.	The findings presented in this thesis are consistent with Di Pietro & Pantano's (2012) work examining social network (Facebook) influence on consumer buying decisions. Supporting the strong, causal and positive relationship between ATT and BI when consumers use social media, the results of this thesis demonstrate a positive correlation between ATT and BI.
Al-Nahdi, Habib & Albdour 2015	This study found a positive significant correlation between ATT $(\beta = 0.278, p < 0.001)$ and SN $(\beta = 0.388, p < 0.001)$ towards the BI to purchase the residential property. The study further concluded PBC $(\beta = 0.019, p = 0.712)$ has no influence on BI to purchase real estate.	ATT and SN account for a 31.8% variance in the intention to purchase residential property.	The findings presented in this thesis are similar results to the empirical work of Al-Nahdi, Habib & Albdour (2015), who also noted a significant positive relationship between ATT and the BI to buy residential property.

Yazdanpanah & Forouzani 2015	This study's findings suggest ATT is a strong predictor of the BI, $\beta = 0.52, p < 0.001$. The study also found an insignificant effect of SN and PBC on purchasing behaviour. Therefore, SN and PBC were not significant contributors to the BI. The study also concluded that adding self-identity and moral norm as the additional constructs to the TPB increases the explanatory power of the standard model significantly.	The model explains the 65% of the substantial variance in BI by the ATT, moral norm, and self-identity constructs.	Yazdanpanah & Forouzani's (2015) study concluded that ATT is one of the strongest predictors of BI, indicating that attitude has a significant positive impact on BI. The findings presented in this thesis, which found ATT plays a significant role in BI regardless of outcome, are comparable to Yazdanpanah & Forouzani's (2015) study.
Al-Nahdi 2014	Al-Nahdi (2014) aims to determine the factors influencing consumers to buy residential properties. The study uses the TPB with one additional factor, 'location', to examine the BI of real estate property. The study found ATT and SN have a positive and statistically significant relationship regarding buying properties in Saudi Arabia, where $\beta = 0.299$ and $p = 0.000$.	32.2% variability in the intent to purchase real estate properties is explained by the significant number of dependent variables (ATT and SN).	Al-Nahdi's (2014) findings are confirmed by those presented in this thesis and other papers outlined in this table. That is, there is positive relationship between ATT and BI to purchase residential properties.
Ticoalu and Tielung 2015	Ticoalu and Tielung (2015) showed that attitude, belief and motivation do not significantly influence BI when purchasing real estate property. $\beta = 0.081, Standard Error = 0.080, p = 0.316$ and $t = 1.011$. However, perception and learning have a positive impact on the BI when buying residential real estate property.	55.3% variation explained by the independent variables in the dependent variable.	Ticoalu and Tielung (2015) findings do not align with those presented in this thesis. While they did not note any insignificant relationship between ATT and BI to purchase the residential property data in this thesis indicate a significant positive relationship between ATT and BI in purchasing residential property.

The data demonstrate that attitude has a statistically significant impact on buyer intention to purchase residential property through the use of digital marketing. Attitude had a direct and positive effect on buyer intention (H1), and it also had an indirect and positive impact on purchase behaviour (H13). Attitude is one of the determinants that influence individual buyer intention (Jung et al. 2020; Kamal & Pramanik 2015; Ajzen 2015). Earlier studies show a positive, steady and robust relationship between attitude and buyer intention (Di Pietro & Pantano 2012; Kim & Han 2010; Ramayah & Razak 2008; Gopi & Ramayah 2007; Wu & Chen 2005; Gibler & Nelson 2003; Cronin & Taylor 1992; Davis, Bagozzi & Warshaw 1989). In the context of the residential real estate industry, attitude is also found to be the strongest predictor of buyer buying intention (such as Al-Nahdi, Habib & Albdour 2015; Numraktrakul, Ngarmyarn & Panichpathom 2012), consistent with the findings of presented in this thesis. Therefore, it is clear that attitude influences buyer intention to purchase a residential real estate property among Australian buyers.

6.2.1.2 There is a positive and significant relationship between subjective norms (SN) and buyer intention (BI).

Subjective Norms (SN) are beliefs that a particular person or group of people will like, and support a specific behaviour. According to the findings from this research, the relationship between the SN and BI has a path coefficient value of 0.029 and a standard error value of 0.054, indicating a positive and statistically insignificant relationship between the variables at the 0.05 level of significance, $\beta = 0.029$, $p = 0.543$. The corresponding t-statistics value is 0.543, which is less than +1.96 (as a one-tailed test with 95% confidence level) also suggests the insignificant relationship between the SN and BI. Table 6.2 compares previous research' findings to the findings presented herein.

Table 6.2: Findings and comparison with other studies

Studies (Author/s Name and Year)	Findings	Variance explained	Comparison of thesis findings to literature
Al-Nahdi, Habib & Albdour 2015	This research examines the factors influencing consumers' intention to buy residential property. The study adopts the TPB (ATT, SN, PBC) to investigate the intention to purchase residential property. This research also takes into account demographics (citizenship) as a moderator. Based on 322 responses, the study findings suggest a positive significant relationship between ATT *(β = 0.278, p < 0.001)* and SN *(β = 0.388, p < 0.001)* towards the consumer's intention to purchase residential property. The study further concluded that PBC *(β = 0.019, p = 0.712)* does not affect BI to purchase residential property.	ATT and SN account for a 31.8% variance in BI to purchase residential property.	The current study was inconsistent with Al-Nahdi, Habib and Albdour's (2015) empirical work, which indicated a considerable positive correlation between SN and the BI to purchase real estate property. The current study concluded that there is an insignificant effect of SN on the consumer's buying intention to purchase residential real estate property.
Ramasubbian, Priyadarsini & Vasuki 2018	This study used the TPB to determine the behaviour of investors in real estate property. ATT, PBC, SN, and BI to purchase property are the precursors taken to measure the investment decision. The study suggests a positive and statistically significant relationship between SN and BI *(β = 0.227, p = 0.000)* towards investor's investment decisions on the real estate.	There was 39.3% variance in the BI by the predictors used in the study.	The current study's findings were inconsistent with Ramasubbian, Priyadarsini, and Vasuki (2018), who also found a positive relationship between the SN and BI towards the residential real estate property.
Yoke et al. 2018	Based on the TPB, the research aims to determine the factors that impact the	The study model explains 40.1%	Yoke et al. (2018) study's findings are also inconsistent with the current study's

Studies (Author/s Name and Year)	Findings	Variance explained	Comparison of thesis findings to literature
	consumers to buy real estate property. The study suggests a positive relationship between the SN, and BI *(β = 0.249, p = 0.000)* towards buying residential property. The study investigates the influence of SN, PBC, ATT, living space, location, and financial factors on the BI towards the real estate property.	variability in the BI to purchase residential property.	findings, which suggested a strong positive relationship between the SN and BI towards the residential property. However, Yoke et al.'s (2018) study was limited as it focuses only on the Klang Valley property market's selected geographical area.
Al-Nahdi 2014	Using the TPB, this study investigates the BI to purchase property. The study found that SN and ATT are positively and statistically significantly related *(β = 0.374, p = 0.000)* to buying residential real estate properties.	32.2% variability in BI in residential property is explained by the significant number of independent variables (ATT and SN)	The findings of our study were dissimilar to Al-Nahdi (2014), who contributed that SN have a statistically significant relationship with the BI to purchase real estate property. The current study suggests that SN do not influence BI to buy residential property.
Ab Yajid & Johar 2020	These researchers investigated the influence of ATT, SN, and PBC on BI. The study found a strong statistically significant relationship between SN and BI *(β = 0.407, Standard Error = 0.061, p = 0.000 and t = 6.740).*	The study model explains 81.9% variability in BI.	The current study's findings are inconsistent with Ab Yajid and Johar (2020) findings. When it comes to BI to purchase residential property, the current study shows no statistically significant relationship between SN and BI.

Making real estate property purchasing decisions is an exceedingly strenuous endeavour. Few studies have noted a relationship between subjective norms and buyer intention (Yoke et al. 2018; Ramasubbian, Priyadarsini & Vasuki 2018; Al-Nahdi, Habib & Albdour 2015; Alam & Sayuti 2011; Han & Kim, 2010). Other studies suggest that buyer intention is not affected by subjective norms (Yazdanpanah & Forouzani 2015; Bamberg & Moser 2007; Tarkiainen & Sundqvist 2005; Chau & Hu 2001; Petrea 2001; Trafimow & Finlay 1996). Many researchers found that the influence of subjective norms on buyer intention was usually weaker than the influence of attitude. In the current study, according to the results of the SEM analysis, subjective norms are not a significant predictor of buyer intention to purchase real estate property. This illustrates the possible lack of predictive power of subjective norms. As a result, people are regularly under attitudinal or normative control with regards to purchasing real estate.

6.2.1.3 There is a positive and significant relationship between perceived behavioural control (PBC) and buyer intention (BI).

The findings on the relationships among perceived behavioural control (PBC) and buyer intention (BI) are addressed in this section and compared with other studies. The correlation among perceived behavioural control and buyer intention has a path coefficient value of 0.196 and a standard error value of 0.064, indicating a positive and statistically significant relationship between the variables at the 0.05 level of significance, $\beta = 0.196$, $p < 0.05$. Thus, a 1% change in perceived behavioural control increases the buyer intention by 19.6%. The corresponding t-statistics value is 3.052, greater than +1.96 (as a one-tailed test with a 95% confidence level), suggesting a positive relationship between PBC and buyer intention. In Table 6.3, the variation explored and justified in five previous studies is compared to this research's findings and discussed in full detail.

Table 6.3: Findings and comparisons with other studies

Studies (Author/s Name and Year)	Findings	Variance explained	Comparison of thesis findings to literature
Lim et al. 2016	The purpose of this study was to investigate the correlation between SN, PBC, and e-shopping behaviour as mediated by BI. Lim et al.'s (2020) study depicted a positive relation between the PBC and BI at the 0.05 level of significance *(β = .348, p = .000, t = 6.078)*. The research data was collected from 622 participants. Based on the TPB and TAM, the findings of the SEM technique found that SN and PBC positively affect BI and BB.	SN and the PBC were performed together to interpret 51% of the variance in BI.	The current study's findings are consistent with Lim et al. (2016). The study found a positive correlation of PBC on online BI and BB. Similarly, the current study also found a positive and statistically significant relationship between the PBC and BI. It shows that PBC plays a vital role in BI and BB.
Yoke et al. 2018	Based on the TPB, this research group aimed to determine the aspects that impact consumers' purchasing of residential real estate property in Kuala Lumpur. The study suggests a direct and positive relationship between the PBC and BI *(β = .251, p = .000)* towards buying residential property. The study investigates the influence of SN, PBC, ATT, living space, location, and economic factors on the BI towards the real estate property.	The study model explains 40.1% variability in BI to purchase residential property.	The current study's findings are consistent with Yoke et al. (2018), showing a positive correlation between PBC and BI towards the real restate property.
Arora & Kishor 2019	The research adopted the TPB and an external variable brand image to determine the factors that affect BI towards brands in India. The SEM analysis was applied. The findings revealed that PBC positively	The model suggests that 79% variation in the BI towards products was explained by the	The study by Arora and Kishor (2019) revealed that PBC is one predictor of the intention to buy products, indicating that PBC has a significant positive impact on the BI. It is similar to the findings of the

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Studies (Author/s Name and Year)	Findings	Variance explained	Comparison of thesis findings to literature
	influence BI *(β = .25, p = .000)*. To achieve the research objectives, the data was collected from 815 luxury goods users in Delhi.	SN, ATT, PBC, and brand image.	current study that PBC has a substantial role in the BI to purchase real estate property.
Ab Yajid and Johar 2020	This research investigated the effects of PBC, SN and ATT on BI. The study found a strong statistically significant relationship between PBC and BI *(β = .046, Standard Error = .061, p = .455 and t = .749)*.	The study model explains 81.9% variability in BI.	A correlation between PBC and BI was established by Ab Majid and Johar (2020). That is in line with the current study's findings. The researcher observed that PBC and BI were strongly and positively linked.
Al-Nahdi 2014	The study aims to determine the factors influencing buyers to buy real estate property. The study depicted a positive relation between the PBC and BI *(β =.022, p = .000)*. The research found that ATT and SN have a positive and statistically significant relationship to purchase residential real estate property.	32.2% variability in the BI purchase property is explained by the significant number of independent variables.	The current study's findings are consistent with the earlier work of Al-Nahdi (2014), who also suggested that PBC has a statistically significant relationship with BI to purchase real estate property. The current study indicates that PBC positively influences BI to buy a residential property in Australia.

The phenomenon of perceived behavioural control (PBC) is based on people's beliefs about how easy or difficult it is to carry out certain behaviours. Factors that help or limit a person's ability to engage in certain behaviours are considered when calculating perceived behavioural control. Perceived behavioural control, according to Ajzen (1991), is an individual's perception of the subjective probability with which he or she would be able to accomplish the behaviour of interest, confirming the existence or unavailability of necessary resources and opportunities. Earlier studies suggest that perceived behavioural control is positively related to buyer intention to purchase products (Arora & Kishor 2019; Thogersen 2016; Loureiro & de Araújo 2014; Numraktrakul, Ngarmyarn & Panichpathom 2012 and Alam & Sayuti 2011). Numerous studies in many areas have also showed a significant relationship between perceived behavioural control and buyer intention (Baker & White 2010; Ramayah & Razak 2008; Gopi & Ramayah 2007; Wu & Chen 2005). However, exceptions, Pavlou and Chai (2002), and Yusliza and Ramayah (2011), find that the perceived behavioural control has no positive influence on the buyer intention of an individual.

6.2.1.4 There is a positive and significant relationship between digital marketing (DM) and buyer attitude (ATT).

In today's world, digital marketing (DM) has a significant impact on what people like, how they feel about buying things, and how they decide to buy things. According to the hypotheses tested in this research, the findings on the relationships between digital marketing and attitude are discussed, and the results compared with the literature. The relationship between digital marketing and attitude has a path coefficient value of 0.223 and a standard error value of 0.042, indicating a positive and statistically significant relationship between the variables at the 0.05 level of significance, $\beta = 0.223$, $p < 0.05$. It means that a 1% change in digital marketing increases the attitude by 22.3%. The corresponding t-statistics value is 5.260, which is greater than +1.96 (as a one-tailed test with 95% confidence level) also suggests the significant relationship between digital marketing and attitude. The variance explored and supported from current theoretical approaches in five prior studies is compared to the findings of this research and discussed further in Table 6.4.

Table 6.4: Findings and comparison with other authors

Studies (Author/s Name and Year)	Literature Findings	Variance explained	Comparison of thesis findings to literature
Ahmad & Khan 2017	In this study, the researchers used an 18-item scale survey instrument to explore the factors that determine users' ATT towards advertisements over digital networks. DM and ATT have a positive relationship with each other at the 0.05 level of significance (*β = .146, p = .039*). The study finds that word of mouth, reliability and usefulness are the critical factors in determining the social network user's ATT towards the advertisements.	According to the model, users' ATT towards advertising on digital networks and perceived usefulness and reliability factors are predicted to vary by 56%.	The findings in this thesis agree with Ahmad and Khan (2017), who found DM has a significant impact on ATT and how consumers feel about ads they have seen on their social media feeds and other digital platforms.
Baker & White 2010	This study tests the validity of an extended TPB model by incorporating self-esteem and group norm to predict adolescent engagement in the frequent use of digital channels. The study suggested a positive significant relationship between the DM and ATT (*β = .27, Standard Error = .09 and p = .000*). PBC and intention have a great impact on a person's behaviour. According to this and other studies such as Bala and Verma (2018), Mahalaxmi and Ranjith (2016), adolescent Socialization is increasingly dependent on digital media.	The predictors explain a 45% variation in the predicted variable.	According to Pai and Huang (2011), consumers believe the source's credibility if they hear favourable things about a product or service over the internet or social media. Baker and White's (2010) study findings also demonstrated the contribution of DM is changing the consumer's ATT towards a specific product or service. The current study supports this with a significant positive relationship between DM and ATT towards the real estate industry.
Basr & Daud 2020	The TPB model was used in this research to look at the impact of DM on individual BB. It has been found that there is a positive impact of DM on the consumer's	Significant variables explained a total of 5.6% of the variance	The results of the current study were found to be consistent with the empirical work of Basr and Daud (2020). Both their study and the results presented in this

Studies (Author/s Name and Year)	Literature Findings	Variance explained	Comparison of thesis findings to literature
	ATT *(β = .282, Standard Error = .083, p-value = .001, and t = 3.380)*. ATT, PBC, SN, and pricing were used as independent variables, while BB was dependent.	towards the dependent variable.	thesis suggest a significant positive relationship between consumers' BB and DM.
Dogra & Kaushal 2022	An analysis of the impact of DM on buyer ATT and BI is presented in this paper. Researchers discovered that the five antecedents of DM positively influence the perceived ease of use (PEOU) and perceived usefulness (PU). Furthermore, the TAM model's PEOU and PU variables considerably impact ATT and BI.	NA	The current study suggests that DM positively influences ATT. It is consistent with the work of Dogra and Kaushal (2021). According to their findings, DM positively impacts ATT and BI.
Farhangi et al. 2014	This study examined the impact of digital media on ATT towards the brand and BI. The results of structural equation modelling indicated that DM has a strong significant influence on the consumer's ATT compared to other variables at the 0.05 level of significance *(β = 0.789, Standard Error = 0.141, p = 0.000 and t = 6.231)*. However, the impact of conventional advertising was less than digital media.	79.2% variation is explained by the independent variables in the model.	The study by Farhangi et al. (2014) revealed that DM is one predictor of the ATT, indicating that DM has a positive influence on ATT. It is similar to the findings of the current research that DM has a substantial influence on ATT.

It was demonstrated that digital marketing had a statistically significant impact on attitude to purchase residential properties (H4), and an indirect and statistically negative impact on buyer intention (H12). The results of this research suggest that digital marketing can influence attitude and the way people think about a product or service for many reasons. The findings of our study are supported by other researchers (Saura et al. 2020; Alghizzawi 2019; Ramesh & Vidhya 2019; Bala & Verma 2018; Mahalaxmi & Ranjith 2016). Attitude to purchase a product or service is greatly influenced by digital marketing strategies, as reported by Treiblemaier (2019), Clohessy, Acton and Rogers (2018), and Akhtar, Tahir and Asghar (2016a). Nawaz & Kaldeen (2020) and Manzoor et al. (2020) have found that digital marketing has a considerable beneficial impact on attitude. However, marketers need to consider the reliability, perceived usefulness, and word-of-mouth (WoM) quality while marketing their products and services over digital marketing. These factors play a significant role in forming the users' positive attitude towards the product-related digital marketing campaign.

6.2.1.5 There is a positive and significant relationship between digital marketing (DM) and satisfaction (SAT).

To stay ahead of the competition in today's business world, digital marketing is essential. The rise of digital media has transformed buying and selling. Active participation through digital media may lead to beneficial outcomes for marketers if sellers use it to facilitate their own behaviours and behaviours of others. Digital marketing strategies assist in meeting customers' needs and increasing their satisfaction with the company. In this section, the findings on the relationships between digital marketing and satisfaction are discussed and compared with the literature on the hypotheses tested in this study. The relationship between digital marketing (DM) and satisfaction (SAT) has a path coefficient value of 0.432 and a standard error value of 0.043, indicating a positive and statistically significant relationship between the variables at the 0.05 level of significance, $\beta = 0.432$, $p < 0.05$. It means that a 1% change in DM increases satisfaction by 43.2%. The corresponding t-statistics value is 9.960, which is greater than +1.96 (as a one-tailed test with 95% confidence level) also suggests the significant relationship between DM and SAT. According to Table 6.5, the variation investigated and justified from existing theoretical viewpoints in five previous studies is compared to our findings outlined further in Table 6.5.

Table 6.5: Findings and comparison with other authors

Studies (Author/s Name and Year)	Literature Findings	Variance explained	Comparison of thesis findings to literature
Agnihotri et al. 2016	This study empirically tested a model using salesperson-reported data to investigate the relationship between social media use and customer SAT, with the mediating effects of salesperson information to consumers. The findings of SEM analysis depicted that salesperson's use of digital media was found to affect information communication behaviours, which in turn enhances customer SAT and salesperson responsiveness $(\beta = 0.570, p = 0.029, t = 5.008)$ and, as a result, increases consumer SAT.	DM accounts for 57% of customer satisfaction.	The current study suggested a positive correlation between DM and SAT in the real estate industry. However, Agnihotri et al.'s (2016) findings indicate that digital or social media contributes positively in communicating information to customers and is a vital determinant to influence the seller behaviours to enhance consumer SAT rather than a direct factor.
Jasem Moh'd 2017	This study investigated the influence of social media marketing on satisfaction levels via brand reputation. The information was gathered from 182 people. According to the findings, DM has a considerable impact on SAT.	Social media marketing accounts for 27.2% of the variance in customer SAT.	The findings of Jasem Moh'd (2017) show that DM has a positive influence on consumer SAT directly, which is consistent with the outcomes of this thesis.
Oladipupo 2021	The purpose of this research was to examine the impact of DM on SAT. The study employs Cochran's (1997)'s infinite sample size formula to obtain a representative sample of 384 respondents. Regression analysis was used to test the research hypotheses. The findings show that DM has a significant influence on	DM is responsible for 74.2% of the variability in consumer SAT.	Oladipupo's (2021) findings suggest that DM has a significant influence on SAT. The current research's investigation in the context of the real estate business supported these findings.

Studies (Author/s Name and Year)	Literature Findings	Variance explained	Comparison of thesis findings to literature
	SAT. The study concluded that all kind of DM are vital to satisfy customers and achieve a higher return.		
Ilyas et al. 2021	The study examines the influence of DM and perceived value on consumer SAT and loyalty. Using the SPSS and applying the multiple regression, the study found that DM and perceived value has a positively influence on SAT *(β = .371, Standard Error = .032, p = .000, and t = 3.712).*	According to the study, 33.7% of the variation in consumer SAT is driven by DM.	Buyers' requirements and expectations have been addressed by many businesses using DM technologies. Today, DM has become an essential aspect of every company's marketing strategy. The current study's findings are consistent with Ilyas et al. (2021), who also found that digital marketing has a significant influence on the SAT.
Mahmood & Mahmood 2021	The research aims to determine the importance of using DM to achieve a high client SAT level. Multiple regression findings depict a positive and statistically significant association between DM or e-marketing and SAT *(β =.749, p = .000 and t = 7.488).*	55.0% variability in the customer SAT driven by e-marketing.	Mahmood and Mahmood's (2021) study finds that DM channels are directly associated with SAT. They argued that organisations that use e-marketing have a high level of SAT compared to organisations using traditional advertising. This finding is also similar to the results in this thesis showing a positive and significant relationship between DM and SAT.

Many organisations have migrated from traditional methods of brand recognition to the digital age to digitalise their market and express their company's purpose and value to clients (Ismail, Khater, & Zaki 2017). This diversification demanded the use of digital marketing tools to fulfil the aims and objectives that the businesses had set for themselves. The findings of this thesis show that digital marketing has a positive correlation with and a considerable impact on satisfaction, which is critical to an organisation. This is in line with previous findings by Purthi and Gupta (2017), Järvinen and Karjaluoto (2015), Thirushen (2011), and Ling (2007). According to their research, SAT is positively influenced by search engine Optization, social media marketing, and email marketing. Researchers (Dwivedi et al. 2020; Rita, Oliveira & Farisa 2019; Khan & Islam 2017; Ramanathan, Subramanian & Parrott 2017; Mahalaxmi, & Ranjith 2016; Agnihotri et al. 2015; Tiago, & Veríssimo 2014; Ansari & Mela 2003), found that satisfaction is in the "satisfied" category following the introduction of digital marketing.

6.2.1.6 There is a positive and significant relationship between digital marketing (DM) and buyer intention (BI).

In this section, the findings on the relationships between digital marketing (DM) and buyer intention (BI) are addressed, and the results will be compared with other studies. The relationship between DM and BI has a path coefficient value of 0.172 and a standard error value of 0.046, indicating a positive and statistically significant relationship between the variables at the 0.05 level of significance, $\beta = 0.172$, $p < 0.05$. It means that a 1% change in DM increases BI by 17.2%. The corresponding t-statistics value is 3.716, greater than +1.96 (as the one-tailed test with 95% confidence level), suggesting a significant relationship between digital marketing and buyer intention. Table 6.6 compares five previous research findings to those in this thesis.

Table 6.6: Findings and comparison with other authors

Studies (Author/s Name and Year)	Literature Findings	Variance explained	Comparison of thesis findings to literature
Nawaz & Kaldeen 2020	This study aimed to investigate the relationship between DM, consumer engagement and BI. The study found that DM plays a significant role in improving customer engagement and BI *(β = .263, Standard Error = .045, p = .000 and t = 5.833)*. Using an online questionnaire adapted from various studies, the data was gathered from 363 participants. The study employed the PLS-SEM methodology to investigate the effect and correlation of each variable.	The independent variables, DM and customer interaction were substantially associated with 48.7% of the variance in BI.	The findings of the current study suggested a positive and statistically significant association between DM and BI in the real estate industry. The current study's findings are similar to Nawaz and Kaldeen (2020), who discovered that digital marketing substantially affects customers' BI. Digital or online media has a positive impact on the BI to buy a product or service.
Patil, Desai & Nimsarkar 2021	This study's main point of focus was on social media marketing and how it influences BI. According to the findings, DM, electronic word-of-mouth and trustworthiness have significant influence on BI *(β = .575, p = .004, and t = 7.013)*. Social media advertising, electronic word of mouth, and trustworthiness are the three key factors that are looked at using a convenience sample of 182 participants to gather the data.	55.3% variation in the intention to buy is explained by the independent variables that are social media advertisement, electronic word of mouth and trustworthiness	The study by Patil, Desai, and Nimsarkar (2021) does not show that digital or social media marketing affects BI. This is in contrast to the findings of the current study, which found that DM has a significant impact on BI.
Manzoor et al. 2020	This research determines the effect of digital marketing (DM) on BI. The research also examines the mediating role of trust (TR) between social media and BI.	Digital media marketing contributes 48.4% variability in the customer's BI.	The current study's findings are consistent with the work of Manzoor et al. (2020). They conducted a similar study to examine the relationship between DM and

Studies (Author/s Name and Year)	Literature Findings	Variance explained	Comparison of thesis findings to literature
	The study findings revealed that DM and TR significantly impact customer' BI *(β = .696, p = .000)*. The study further concluded that DM has a more significant impact than TR in BI through social networking sites.		BI while mediated by TR. The study found a positive association of DM on online BI. Similarly, the current study also exhibits a positive correlation between DM and BI.
Dastane 2020	DM's effect on BI was the focus of this research. The study findings concluded that there is a positive relationship between the DM and online BI *(β = .719, p = .000)*. It was shown that DM increased the likelihood of making an online purchase.	71.9% of the total variation in online BI is explained by DM.	Dastane's (2020) study findings were similar to the findings of the current study. It was concluded that DM directly influences BI and that the digital platform gives a comprehensive perspective of creativity and working to grab potential customers.
Subasinghe & Weerasisri 2019	The objective of this study was to determine the efficiency of DM in terms of BI. The study's findings revealed that there is a direct connection between DM and BI *(β = .279, Standard Error = .050, p = .000, and t = 5.643)*.	64% of the total variation in BI can be explained by digital content marketing.	The study by Subasinghe and Weerasisri (2019) similarly found a positive and statistically significant influence of digital or social media marketing on the BI, which is similar to the current study's findings.

The research findings indicate that digital marketing is a critical source of knowledge that influences customer decision-making. Businesses can utilise digital marketing and other digital platforms to deliver up-to-date information to their customers to influence their buying intention (Alalwan 2018). The results of this thesis showed digital marketing has a considerable effect on buyer intention, and the mediating effects of trust moderated the correlation between digital marketing and buyer intention. Based on the above findings, it was revealed that digital marketing is an excellent business tool can be used to communicate with their target audience. According to Treiblemaier (2019), Clohessy, Acton and Rogers (2018), Akhtar, Tahir, and Asghar (2016), digital marketing significantly influences consumers' intention to buy a product or service. The findings of Husnain and Toor (2017), and recently of Nawaz & Kaldeen (2020) and Manzoor et al. (2020), also indicated a significant positive impact of digital media (or social media) marketing on the buyer BI. Al-Azzam and Al-Mizeed (2021), Nawaz and Kaldeen (2020), Raji, Mohd Rashid and Mohd Ishak (2019), Rudyanto (2018), As'ad and Alhadid (2014) also suggested that digital marketing influences buyer intention, specifically through word of mouth and online communication. It helps people gain interactive advice from both familiar and unfamiliar individuals worldwide. Based on the above discussion, it can be suggested that marketing from digital platforms poses a significant effect on buyer intention.

6.2.1.7 There is a positive and significant relationship between digital marketing (DM) and buyer trust (TR).

According to the hypotheses tested in this research, the findings on the relationships between digital marketing (DM) and trust (TR) are discussed and the results will be compared with other research in this section. The relationship between DM and consumer TR has a path coefficient value of 0.341 and a standard error value of 0.049, indicating a positive and statistically significant relationship between the variables at the 0.05 level of significance, $\beta = 0.341$, $p < 0.05$. It means that a 1% change in DM increases the buyer TR level by 34.1%. The corresponding t-statistics value is 6.978, which is greater than +1.96 (as a one-tailed test with a 95% confidence level) also suggests the significant relationship between DM and TR. Variation is explored and justified in five previous studies and compared to our findings in Table 6.7.

Table 6.7: Findings and comparison with other authors

Studies (Author/s Name and Year)	Literature Findings	Variance explained	Comparison of thesis findings to literature
Enehasse & Sağlam 2020	This study examines the effect of DM and brand TR on consumer behaviour. The study also investigates the moderating effect of brand trust on the relationship between DM and consumer behaviour. Factor analysis and SEM analysis were applied to examine the correlations between the variables. The study suggested that DM significantly impacts customer behaviour *(β = .18, Standard Error = .07, p = .000 and t = 2.589)*. The findings also demonstrated that brand trust impacts the relationship between DM and consumer behaviour.	18% variation in brand TR is explained by the digital media marketing.	The findings of Enehasse and Sağlam's (2020) study demonstrated that DM has a beneficial influence on the consumer's online trust and behaviour. This finding is consistent with this thesis' findings, which also concluded that DM plays a significant role in buyer trust.
Manzoor et al. 2020	This research examined the influence of DM on BI. The study also examined the mediating role of TR between social media and BI. The study findings revealed that DM and TR significantly impact BI *(β = .658, p = .000)*. The study also contributed that DM positively affects the consumer's TR.	DM contributes 43.2% variability in the customer's TR.	The current study findings are also consistent with the earlier work of Manzoor et al. (2020). That is, there is a positive correlation between DM and TR.
Joko Wijoseno & Ariyanti 2015	This research examines the impact of consumers' TR on their BI. According to the research findings, there is a statistically significant relationship between online TR, perceived technology, and BI. The study further revealed that consumer TR	64.8% variation in the intention to buy is explained by the independent variables that are digital marketing, perceived	The research conducted by Joko Wijoseno and Ariyanti (2015) attempts to determine the influence of buyer TR on their BI when it comes to online shopping. The study exhibits that digital marketing significantly influences consumers' trust,

Studies (Author/s Name and Year)	Literature Findings	Variance explained	Comparison of thesis findings to literature
	mediates the effects of digital media marketing, perceived reputation, technology, and perceived risk towards online BI. Moreover, the study also suggests that DM significantly influences consumers' TR *(p = .000, t = 2.32)*, which affects their online BI.	risk, reputation, perceived technology, and consumer's online trust.	which affects their online BI. It is similar to the current research's findings in the context of the real estate industry.
Ebrahim 2020	This study aimed to examine the influence of social media marketing strategies on brand loyalty as measured by brand equity and trust. The study's findings revealed that social media marketing has a positive influence on TR at the 0.05 level of significance *(β = .164, p = .000, t = 2.32).* The study further emphasised the role of trust in effectively measuring the companies' social media marketing.	24.0% explanation in the TR variable is explained by the social media marketing activities.	The research conducted by Ebrahim (2020) revealed that social media marketing activities have a positive influence on TR. This is consistent with the current study's results which indicated that DM significantly affects consumer TR.
Hajli 2014	Consumers' perceived trust in businesses is highly influenced by their social relationships formed through social media. According to the findings, consumers' purchasing intentions are significantly influenced by their level of *TR (β = .428, p = .000).*	19% of the variance in trust was accounted for by social media.	Hajli (2014) findings were similarly consistent with the current study's findings, indicating that social media has enabled the interconnection of customers, resulting in improved TR and BI.

The concept of trust is important in the context of digital marketing since customers are responding to various interactions that they are subject to it, whereas trust plays a crucial role in delivering the impact of consumer purchasing behaviour (Tatar & Eren-Erdogmus 2016; Warner-Sderholm et al. 2018). Digital marketing provides essential opportunities for every small or large business entity to communicate with potential clients (Yasmin, Tasneem & Fatema 2015). Hajli (2014) argued that social support is developed through interactions on digital media, thus it affects online trust. Utz, Matzat and Snijders (2009) highlighted that more favourable ratings, feedback, and reviews also lead to greater trust. The findings of our study are supported by earlier studies noting that quality of information and customer reviews' consistency significantly impact consumer buying decisions by increasing their trust (Manzoor et al. 2020; Enehasse & Sağlam 2020; Chahal & Rani 2017; Lien et al. 2015). Educated customers search for information with various search engine tools. Komiak and Benbasat (2004) found that cognitive trust affects emotional trust, which in turn affects BI. Customers' willingness to buy is influenced considerably by their level of trust in product information and changes if that is inaccurate (Zhang et al. 2014).

6.2.1.8 There is a positive and significant relationship between buyer satisfaction (SAT) and buyer intention (BI).

The findings on the relationships between satisfaction (SAT) and buyer intention (BI) are discussed and compared with other research in this section based on the hypotheses tested in this study. The relationship between the SAT and BI has a path coefficient value of 0.208 and a standard error value of 0.059, indicating a positive and statistically significant relationship between the variables at the 0.05 level of significance, $\beta = 0.208$, $p < 0.05$. It means that a 1% change in SAT increases the BI by 20.8%. The corresponding t-statistics value is 3.555, greater than +1.96 (as a one-tailed test with 95% confidence level), suggesting the significant relationship between SAT and BI. Variation from existing theoretical viewpoints in five previous studies are compared to the results of this thesis in Table 6.8.

Table 6.8: Findings and comparison with other authors

Studies (Author/s Name and Year)	Literature Findings	Variance explained	Comparison of thesis findings to literature
Nizar & Janthanan 2018	This study aims to determine how social media advertising affects BI. The study also examines the role of information satisfaction on BI. A survey was used in the research, and 184 individuals responded to it after sending it via Google forms. According to the findings, there is a direct correlation between consumer SAT and BI.	Consumer's SAT level contributes 84.6% variability in the customer's BI.	Nizar and Janthanan (2018) study findings are consistent with the current study's findings, suggesting a strong statistically significant correlation between information satisfaction and BI. The findings of the current study also indicated a positive influence of SAT on the BI in the real estate industry.
Hu 2011	This study aimed to evaluate the relationship between perceived value, consumer SAT and BI in the context of e-commerce. According to the SEM study, perceived value has a considerable impact on consumer SAT. The likelihood that a client would make a purchase is strongly influenced by factors like perceived value and overall SAT. The study found that customer SAT has a significant effect on the BI ($\beta = 0.41$, $p = 0.000$).	NA	Hu (2011) revealed a positive direct effect of customer SAT on BI. Hu explored the relationship between the perceived values, consumer satisfaction, and BI in e-commerce. His study results are consistent with the current research's findings in the real estate market of Australia. It means that a satisfied customer tends to make an intention towards purchasing a real estate.
Espejel, Fandos & Flavian 2008	This research examined the correlation between loyalty, SAT and BI. The response was gathered from 223 participants using a 230 questionnaire with a seven-point Likert scale. According to the study findings, greater SAT results in increased loyalty and BI ($\beta = 0.70$, $p =$	88.0% explanation in the dependent variable (BI) by the independent variable (SAT).	Espejel, Fandos, and Flavian's (2008) research work also attributed similar results to the current study, that is, SAT leads to BI. It suggests that the satisfaction level of an individual highly impacts their intent to buy a particular good or service. Since higher satisfaction from a specific

Studies (Author/s Name and Year)	Literature Findings	Variance explained	Comparison of thesis findings to literature
	0.000). The SEM technique was applied to test the relationships between the variables.		product or brand leads to higher levels of loyalty towards the specific product or brand, an individual intends to buy the same thing over the period frequently.
Maharsi et al. 2021	This study was conducted to investigate the influence of service quality and customer SAT on BI. The study finds that buyer SAT affects significantly BI *(β = .830, Standard Error = .043, p = .000, and t = 19.302).* The study also demonstrates that service quality positively impacts customer SAT, but service quality does not directly influence BI.	The model explains that customer SAT explains 83.0% variability in the BI.	The findings of the Maharsi et al. (2021) study is consistent with the current research's findings that customer SAT significantly affects BI.
Mehmood & Shahfiq 2012	This study investigated the impact of customer SAT, brand image, and service quality on BI. Multiple regression and correlation analyses were applied to analyse the proposed research hypothesis. The study indicates that buyer SAT has a positively and statistically significant impact on BI *(β = 0.268, p = 0.003).*	15.9% variability in the dependent variable (BI) is explained by the independent variables (brand image, customer satisfaction, and service quality).	Mehmood and Shafiq's (2012) study indicates that buyer SAT has a positively and statistically positive influence on BI. Likewise, the current study also showed similar findings for the real estate market in Australia.

Previous studies show that customer satisfaction (SAT) is a significant determinant of subsequent buyer intention (BI) (Dash, Kiefer & Paul 2021; Ma 2017; Chu & Zhang 2016; Hu 2011; Taylor 2008; Chandrashekaran 2007; Paul & Richard 1997). Using digital marketing techniques, businesses can better serve potential clients and increase overall confidence in the business (Bala & Verma 2018). According to the research investigation by Dash, Kiefer and Paul (2021), satisfaction was found to be a strong predictor of buyer intention and the findings were supported by Alnawas and Aburub (2016), Alavi et al. (2016) and Bansal and Taylor (2015). The findings of this research also suggest that user information satisfaction affects buyer intention and buyer purchasing behaviour. The term 'information satisfaction' is an individual satisfaction or dissatisfaction with a piece of overall information for a particular product and service (Chen, Yan & Fan 2015). Due to this fact, when delivering products and services, it is necessary to provide customers with current information to meet their information requirements. This information should be clear and concise so that the customer may make an informed decision. As a result, it can be can predicted that customer satisfaction with information will influence purchasing decisions.

6.2.1.9 There is a positive and significant relationship between buyer trust (TR) and buyer intention (BI).

In this section, the findings on the relationships between consumer trust (TR) and buyer intention (BI) are addressed and results compared with other studies. The relationship between TR and BI has a path coefficient value of 0.289 and a standard error value of 0.069, indicating a positive and statistically significant relationship between the variables at the 0.05 level of significance, β = 0.289, $p < 0.05$. It means that a 1% change in TR increases the BI by 28.9%. The corresponding t-statistics value is 4.188, greater than +1.96 (as a one-tailed test with a 95% confidence level), suggesting the significant relationship between consumer TR and BI. Table 6.9 compares five previous research findings to the results presented in this thesis.

Table 6.9: Findings and comparison with other authors

Studies (Author/s Name and Year)	Literature Findings	Variance explained	Comparison of thesis findings to literature
Joko Wijoseno & Ariyanti 2015	This study investigated the influence of consumer TR on BI regarding online shopping. The study exhibits a significant positive correlation between TR and BI *(p = 0.000, t = 4.511)*. The study further revealed that consumer trust mediates the effects of DM, perceived reputation, perceived technology, and perceived risk towards online BI.	64.8% variation in the BI is explained by the independent variables: DM, perceived risk, reputation, perceived technology, and consumer's online TR.	Joko Wijoseno and Ariyanti (2015) showed that trust significantly influences consumers' online BI and DM significantly influences consumers' TR, which affects their online BI. This is similar to the findings presented in this thesis in the context of the real estate industry.
Manzoor et al. 2020	This study investigated the impact of DM on BI. TR plays a mediating role in DM and BI. Researchers employed a quantitative research methodology to gather data from the 190 participants. According to the study's conclusions, TR and DM influence BI. Furthermore, the study found that TR positively impacts BI *(β = .700, p = .000),* when consumers purchase on digital platforms.	DM contributes 43.2% variability in the customer's TR.	The current research shows a positive correlation between TR and BI. The findings of our study are similar to the earlier work of Manzoor et al. (2020), who discovered a favourable correlation between DM and customer TR and a significant relationship between online TR and BI.
Hajli 2014	This study was based on TAM and other research on how consumers trust digital media and how they use it. The study proposed the role of social media in the development of e-commerce into social commerce validated by SEM-PLS. According to the findings, BI significantly influenced TR. According to the study, the	TR and perceived utility account for 36.4% of all the variance when it comes to BI.	Hajli (2014) results were supported our study findings, which indicated the significant positive role of customer's TR on BI in the real estate market of Australia.

Studies (Author/s Name and Year)	Literature Findings	Variance explained	Comparison of thesis findings to literature
	perceived usefulness of a DM website was also a contributing factor to BI.		
Halim & Karsen 2020	This research aimed to investigate the correlation between TR, loyalty and BI. The investigation made use of SEM techniques. To look at the dataset, Smart PLS 3.0 software was used. According to the study's findings, TR has a considerable impact on BI $(\beta = .237, p = .000)$.	Consumer TR contributes 31.9% variability in the BI.	TR is a significant factor that affects consumer decisions and BI. Halim and Karsen's (2020) research study concluded that TR significantly impacts BI. It is consistent with the current research's findings, which also suggested that consumer TR has a statistically positive impact on BI to buy real estate property in Australia.
Li, Kim & Park 2007	This study determined the impact of consumers' TR on BI. The findings showed that the correlations among TR and BI are strong at the .05 level of significance $(\beta = .608, p = .000)$, besides the correlation between TR and perceived reputation.	37.0% variation in the model is explained by significant number of independent variables.	According to the findings of Li, Kim, and Park (2007), there is a significant correlation between TR and BI. Likewise, the current research also depicted a statistically significant correlation between TR and BI.

In e-commerce, trust is essential because customers are less likely to purchase from a website they don't trust. As the population of internet users rapidly grows worldwide, it has shifted the individual's consuming behaviour from shopping through physical stores into online shopping (Shin 2010). Earlier studies suggest that trust plays a crucial role in determining actual behaviour and consumers' behavioural intentions (Tsao & Hsieh 2012; McCole, Ramsey & Williams 2010; Gefen, Karahanna & Straub 2003). Thus, trust influences the consumer's intentions toward purchasing behaviour (Lăzăroiu et al. 2020; Sharma & Klein 2020; Sullivan & Kim 2018; Oliveira et al. 2017; Wang, Ngamsiriudom & Hsieh 2015). When consumers have confidence in digital marketing platforms and information, they are more likely to make a purchase. Trust in digital marketing information is also a strong predictor of intention to purchase and purchasing behaviour (Ponte & Escobar-Rodrigue 2015). The higher the level of trust in the digital marketing website, the greater the likelihood that they will make a purchase (Dahiya & Gayatri 2018). The research presented in this thesis supports this hypothesis that trust (TR) has a statistically significant positive correlation with buyer intention (BI).

6.2.1.10 There is a positive and significant relationship between buyer intention (BI) and buyer behaviour (BB).

In this section, the findings on the relationships between buyer intention (BI) and buyer behaviour (BB) are discussed and the results compared with other research. The relationship between buyer intention (BI) and buyer behaviour (BB) has a path coefficient value of 0.231 and a standard error value of 0.061, indicating a positive and statistically significant relationship between the variables at the 0.05 level of significance, $\beta = 0.231$, $p < 0.05$. It means that a 1% change in BI increases BB by 23.1%. The corresponding t-statistics value is 3.773, which is greater than +1.96 (as a one-tailed test with 95% confidence level) also suggests the significant relationship between the BI and BB. Variation from existing theoretical viewpoints in five previous studies are compared to the results of this thesis in Table 6.10.

Table 6.10: Findings and comparison with other authors

Studies (Author/s Name and Year)	Literature Findings	Variance explained	Comparison of thesis findings to literature
Sanne & Wiese 2018	This study's primary objective was to see if the TPB could be used to predict how people would respond to Facebook marketing. According to the research, SN and ATT were found to be the most important determinants of behavioural intention to engage in Facebook marketing. PBC had no substantial effect on BI or BB. However, a statistically significant positive relationship was identified between BI and actual behavioural engagement in the study $(\beta = .822, p =0.000)$.	According to the findings, BI accounts for 67.5% of the variation in actual engagement with Facebook marketing.	The findings of Sanne and Wiese (2018) suggest a positive association between BI and actual behavioural engagement. The current research's findings confirm that BI towards residential real estate leads to BB.
Kaplan 2018	The TPB was used to perform an empirical test of the elements that influence online purchasing behaviour. The study found that the BI variable positively affects BB $(\beta = .862, p = .000, t = 39.584)$. The regression analysis revealed that ATTs, PBC, and BI positively influence BB. Moreover, PBC directly influences BB.	The BI towards BB accounts for 82.8% of the entire variance in BB.	The findings of Kaplan's (2018) study were similar to the results of this study's investigation. Both studies found that BI is a significant factor in determining BB.
Baker & White 2010	According to this research, the results demonstrated that traditional TPB variables (ATT, SN, PBC, and group norms) and adolescents' intention to participate in regular digital channel use are strong predictors. In turn, the researchers discovered that intention and PBC both significantly predict behavioural	The predictors explain a 45% variation in the predicted variable.	The findings of Baker and White (2010) are supported by the current research. According to Baker and White (2010), ATT, SN, PBC, and group norms are all TPB variables that predict adolescents' tendency to use digital channels regularly. Intention and PBC have a strong correlation with behavioural performance.

Studies (Author/s Name and Year)	Literature Findings	Variance explained	Comparison of thesis findings to literature
	performance *(β = .62, Standard Error = .12, p = .000).* These findings provide insight into the factors contributing to regular interaction becoming an essential instrument for adolescent socialisation.		This is similar to the current study's results in the context of the residential real estate industry.
Pena-Garcia et al. 2020	This study explored the influence of TPB elements, ease of use, and perceived usefulness on BI and BB. The study suggests that there is significant evidence that proves the relationship between BI and impulsive BB *(β = -0.159, p = .000, t = 2.484).*	14.4% variation in the dependent variable by the independent variable.	The work of Pena-Garcia et al. (2020) suggests there is significant evidence that proves the relationship between BI and impulsive BB. It is consistent with the current study's findings, which demonstrate that BI to buy a property directly influences their BB.
Wee, Ariff, Zakaun & Tajudin 2014	The current study explored consumers' perception, BI and BB. The findings of the study revealed the BB was significantly affected by the BI *(β = .295, Standard Error = .072, p = .000 and t = 2.187).* The research's findings discovered that consumers' perception of safety, health, and environmental variables was significantly influenced by BI.	16.5% change in the BB is explained by the BI.	Wee, Ariff, Zakaun and Tajudin's (2014) study found that BI significantly affected the BB. This is in line with the results presented in this thesis for buyers in the real estate industry.

According to multiple regression studies, digital marketing (DM), attitude (ATT), perceived behavioural control (PBC), trust (TR), and satisfaction (SAT) all have an impact on buyer intention (BI). It was demonstrated that buyer intention had a statistically significant impact on buyer behaviour to purchase residential property through the use of digital marketing. The concept of buyer intention had a direct and positive effect on buyer behaviour (H10). Yadav and Pathak (2017), Lim et al. (2016), Wee et al. 2014 and have shown that buyer intention significantly impacts buyer behaviour, and this theory is consistent with their findings. The TPB uses behavioural intention as a strong predictor of actual behaviour (Sentosa & Mat 2012). It is defined as the amount of effort a person is willing to achieve a behaviour (Ajzen 1991). Earlier studies suggest that behavioural intention leads to behavioural action engagement (Rana & Paul 2017; Lim et al. 2016; Carrington, Neville & Whitwell 2014; Cheng & Huang 2013; Kim 2012). Therefore, organisations should identify the vital factors to predict the behavioural intent of their potential customers to maximize sales, revenues, and profitability.

6.2.1.11 There is a positive and significant relationship between the perceived behavioural control (PBC) and buyer behaviour (BB).

In this section, the findings on the relationships between the perceived behavioural control (PBC) and buyer behaviour (BB) are discussed and compared with other research. The relationship between the perceived behavioural control (PBC) and buyer behaviour (BB) has a path coefficient value of 0.368 and a standard error value of 0.045, indicating a positive and statistically significant relationship between the variables at the 0.05 level of significance, $\beta = 0.368$, $p < 0.05$. Therefore, a 1% change in PBC increases the buyer behaviour by 36.8%. The corresponding t-statistics value is 8.222, greater than +1.96 (as one-tailed test with 95% confidence level), which also suggests the significant relationship between PBC and BB. Variation from existing theoretical viewpoints in five previous studies are compared to the results of this thesis in Table 6.11.

Table 6.11: Findings and comparison with other authors

Studies (Author/s Name and Year)	Literature Findings	Variance explained	Comparison of thesis findings to literature
Kaplan 2018	The TPB was used in this study to test the influence of various factors on online BB. The data was collected from 327 participants using an online survey tool. The regression analysis revealed that PBC positively influence purchasing behaviours $(\beta = .144, p = .000, t = 4.197)$. Moreover, PBC directly influences BB. The study also found that the BI variable positively affects BB.	The PBC accounts for 67.2% of the total variation in BB.	Kaplan (2018) investigated the factors that influence online BBs and discovered that ATTs, PBC, and BI all positively influence BB. It follows that PBC directly impacts BB, which is consistent with the findings of this thesis.
Arora & Kishor 2019	This study showed the adoption of TPB and an external variable brand image to determine the factors that affect BI. The SEM analysis was applied. The findings revealed that PBC positively associate with BI $(\beta = .25, p = .000)$. The findings revealed that ATT, SN, PBC, and brand image are positively associated with BI.	According to the model, SN, ATT, PBC, and brand image account for 79% of the variation in BI.	The study by Arora and Kishor (2019) revealed that ATT, SN, PBC, and brand image positively associate with BI, affecting the BB. These findings were also similar to this thesis's findings in the residential real estate industry setting.
Lim et al. 2016	The aim of the research was to investigate the correlation between SN, PBC, and e-shopping behaviour as mediated by purchaser intent. Based on the TPB and TAM, the findings of the SEM technique found that SN and PBC impact positively significant on the online BI $(\beta = .41, p = .000$ and $t = 11.47)$. SN, on the other hand, have a negative impact on shopping	Due to the insignificant relationship between PBC and BB, there is no variability in the dependent variable by the independent variable.	A study by Lim et al. (2016) found that even while SN are insignificant, they have a negative impact on shopping behaviour. However, as found in the current study, the connection between BI and BB has a considerably significant influence on online shopping behaviour.

Studies (Author/s Name and Year)	Literature Findings	Variance explained	Comparison of thesis findings to literature
	behaviour. It's important to note that PBC has little impact on BB. BI was also found to have a considerable impact on online BB.		
Terry & O'Leary 1995	To assess the utility of the TPB, the present research was conducted to investigate the impact of PBC on the intention to engage in regular exercise and actual exercise behaviour. The study found that PBC had no effect on behavioural intentions to engage in regular exercise but significantly influenced the actual behaviour $(\beta = .27, p = .000)$.	27.0% change in the buyer behaviour is explained by the PBC.	Terry and O'Leary (1995) study contributed that PBC had no effect on behavioural intentions to engage in regular exercise but positively influenced the actual behaviour. The current research's findings also exhibit that PBC directly impacts the actual BB of customers in the real estate market.
Cheung & Chan 2000	The current study aimed to determine the role of PBC in predicting human behaviour. The findings suggest that PBC has significantly influenced behavioural intention and actual behaviour $(\beta = 1.72, p = .000)$. The study had employed the TPB to explore the relationship between the PBC, BI, and actual behaviour.	PBC explained 17.1% variation in the buyer behaviour.	The research work of Cheung and Chan (2000) suggest that PBC has exerted significant effects on behavioural intention and actual behaviour. This is consistent with the current study's results. That is, PBC plays a substantial role in predicting the customer's BI and actual behaviour.

Perceived behavioural control (PBC) refers to another important factor in determining intention resulting from control beliefs (Chen & Tung 2014). Perceived behavioural control is the self-efficacy explaining how easy or difficult it is for an individual to exhibit a behaviour (Shufiana, Sulhaini & Saufi 2021). Perceived behavioural control influences behaviour in two ways within the planned behaviour model. It can explain the behaviour directly through intention, and without intention indirectly. When the intention is held constant, perceived behavioural control can be directly explained if the effort to reach a successful result is possible by increasing perceived behavioural control (Javadi et al. 2012). The results presented in this thesis show that the perceived behavioural control variable had the most direct and overall impact on behaviour, which is supported by other studies (Soorani & Ahmadvand 2019; Arora & Kishor 2019; Mishra 2014; Cheng & Huang 2013; Yang 2012). Using the modified model, the analysis indicates that it suited the data very well. According to the results, all independent variables in the model showed direct and indirect effects on behaviour. BI and PBC were the only factors directly impacting behaviour, but ATTs, SN, DM, TR, and SAT also played a significant role.

6.2.2 Discussion relating to the indirect effect

Hypotheses	Path	Result
H12. Attitude (ATT) mediates the relationship between digital marketing (DM) and buyer intention (BI).	DM → ATT → BI	Not accepted ❌

Attitudes (ATT) does not act as a mediating variable between DM and BI. Thus, the research fail to reject the null hypothesis; thereby, H12 is not accepted. Indirect (or mediation) hypothesis testing suggests there is a statistically insignificant relationship between DM and BI when mediated by consumer ATT. In other words, there is no indirect effect of ATT on DM and BI in the real estate industry. This indicates that DM directly influences the BI to use or choose a specified product. Also, ATT does not directly impact the BI of the real estate buyer. In a study of consumers in South Africa, Redda (2019) noted that privacy, trustworthiness, security concerns determine people's ATT towards online shopping, which, in turn, impacts their online shopping intent and behaviour. Wibisurya (2018) further suggested that DM significantly influences consumer ATT and BI. However, ATT had no mediating role in the relationship between DM and

BB. Furthermore, the influence of DM on BB has been investigated, as well as the mediating effect of buyer ATT (Lim et al. 2017; Dastane 2020). Dastane (2020) found ATT to be a mediator in the relationship between DM and online BI, and Lim et al. (2017) shared similar findings.

Hypotheses	Path	Result
H13. Buyer intention (BI) mediates the relationship between buyer satisfaction (SAT) and buyer behaviour (BB).	SAT → BI → BB	Accepted ☑

BI act as a mediating variable between SAT and BB. Thus, we reject the null hypothesis in favour of the alternative hypothesis. Hence, H13 is also accepted. The findings of the indirect (or mediation) hypothesis testing suggest there is a statistically positive correlation between SAT and BB when mediated by the variable BI. Thus, there is an indirect effect of BI on the SAT level and BB in the real estate industry. This implies that if an individual intends to purchase real estate property, they are more likely to be satisfied with the actual engagement of buying the residential property. Few existing studies have explored the indirect effect of BI on the SAT level and BB under different settings across different countries. One rare example in real estate is a study by Kamal and Pramanik in 2015, exploring the relationship between customer SAT and BB mediated by BI. They found the customer's SAT level indirectly affects their BB through BI (i.e., SAT → BI → BB). Wahyuningsih (2012) also found that BI expressed by consumers depend on their levels of SAT. Labib et al. (2013) and Zadkarim and Emari (2011) found that buyers prefer a residential living environment, better communication with the workplace and transportation system availability in case of purchasing properties. Thus, in that study SAT factors and BB are indirectly impacted by the BI. Confirming this, Eisingerich et al.'s (2016) study empirically demonstrates that customers' BI plays an important role in understanding how SAT impacts on BB.

Hypotheses	Path	Result
H14. Buyer trust (TR) mediates the relationship between digital marketing (DM) and buyer intention (BI).	DM → TR → BI	Accepted ☑

Trust act as a mediating variable between DM and BI. The research rejects the null hypothesis in favour of the alternative hypothesis. Hence, H14 is accepted. The findings of the indirect (or mediation) hypothesis testing suggest that there is a statistically significant relationship between

DM and BI when mediated by the variable customer trust. Therefore, there is an indirect effect of TR on DM and BI in the real estate industry. Trust acts as a mediator to enhance the consumer's satisfaction level leading to positive BI. This finding is supported by Wang, Ngamsiriudom and Hsieh (2015), who state that consumers' beliefs, behaviours and attitudes can be influenced by information from a credible source. This is also consistent with the work of McLaughlin and Stephens (2019), who investigated the relationship between BI and e-commerce platforms and social networking sites and found that trust plays a crucial role within e-commerce transactions and digital marketing related business activities. Their study suggests lower levels of perceived risk if there is more trust and, not surprisingly, security and privacy factors surrounding personal information storage have a significant role in the adoption of e-commerce and digital marketing channels. This suggest that in the relationship between DM and BI is a TR factor. Manzoor et al. (2020) argued that consumer trust plays a vital part in e-commerce by directly impacting BI. They also note that social media advertisement and trust positively and significantly affect BI. In a similar study, Wijoseno and Ariyanti (2015) explained that one of the critical factors influencing BI online is TR.

Hypotheses	Path	Result
H15. Buyer intention (BI) mediates the relationship between digital marketing (DM) and buyer behaviour (BB).	**DM → BI → BB**	Accepted ☑

BI acts as a mediating variable between DM and BB. Thus, the research rejects the null hypothesis in favour of the alternative hypothesis. Hence, H15 is accepted. The results indicate there is an indirect effect of BI in the relationship between DM and BB in the real estate industry. These findings are similar to those of Nawaz and Kaldeen (2020), who emphasised that digital marketing is one of the most widely used marketing strategies today, and it is highly effective at increasing consumer involvement—a key factor in determining whether customers will make a purchase. They further emphasised that digital marketing greatly guides consumers intent towards a particular product and, in turn, influences them to engage with or purchase that product. Enehasse and Saglam (2020) also found that digital media marketing has a noteworthy and beneficial outcome on consumer behaviours.

Hypotheses	Path	Result
H16. Buyer intention (BI) mediates the relationship between buyer attitude (ATT) and buyer behaviour (BB).	**ATT → BI → BB**	Not accepted ❎

BI does not act as a mediating variable between ATT and BB. Thus, the research rejects the null hypothesis; therefore, H16 is not accepted. The findings herein suggest that the relationship between ATT and BB is not mediated by BI. Thus, BI does not act as a mediating variable between ATT and BB. These findings are inconsistent with earlier empirical studies focused on consequences of ATT on BI (Basr & Daud 2020; Arora & Kishor 2019; Ramasubbian, Priyadarsini & Vasuki 2018; Di Pietro & Pantano 2012; Baker & White 2010). Many researchers have also explored the relationship between ATT and intentions of real estate property buyers (Al-Nahdi et al. 2015). All these studies concluded that consumers' ATT has a significant influence on BI, positively affecting the BB. Harun and Husin (2019) found that three social media advertising dimensions—perceived trust, online communities, and entertainment—had significant effects on online BI, leading to the online BB of low involvement products. Dastane (2020) also noted a positive between digital marketing and the online BI of e-commerce consumers. Thus, consumers' online BI leads to BB, suggesting that intention plays a significant role in the relationship between digital marketing and actual behaviours. These studies and the results of this thesis are further supported by Ramsunder (2011) who explored the influence of digital marketing on purchase decisions and found that digital marketing is an appropriate strategy as it directly influences the consumers' buying intentions and behaviours.

Hypotheses	Path	Result
H17. Buyer intention (BI) mediates the relationship between Subjective Norms (SN) and buyer behaviour (BB).	**SN → BI → BB**	Not accepted ❎

BI does not act as a mediating variable between SN and BB. Thus, the research fails to reject the null hypothesis; thereby, H17 is not accepted. SN are the reaction taken from others, for instance, friends, family, and work colleagues, on a person (Amjad & Wood 2009). SN refer to the extent a person is influenced by the society around them to perform a certain task or not (Ajzen 1991). Arora and Kishor (2019) defined SN as an individual's perception of the likelihood of a particular

group engaging or not engaging in a given perceived behaviour. A study conducted by Fishbein and Ajzen (1975) concluded that a person's lifestyle could be influenced by the views, ideas, and actions of others. Sarlan et al. (2012) found that SN have a significant but negative impact on the intention to use a particular information system. Brown and Fiorella (2013) also postulated that factors affecting a consumer's BI are formed by dyadic relationships. A dyad can be described as a minor form of a social group that is composed of two people. In this scenario, a consumer's BI would then be influenced by a friend, a relative, or even a workmate, with common interests. The findings presented in this thesis are consistent with the work of Al-Gahtani, Hubona and Wang (2007) and Payne and Curtis (2008) who found that BI has no mediating role in the relationship between SN and BB. That is, there is no correlation between the Sydney residential real estate consumers SN and BB when mediated by the variable BI. Therefore, there is no indirect effect of BI on the SN and BB in the real estate industry. In other words, BI does not impact indirectly on the SN and purchase behaviour in the context of the real estate market.

Hypotheses	Path	Result
H18. Buyer intention (BI) mediates the relationship between Perceived Behavioural Control (PBC) and buyer behaviour (BB).	**PBC → BB → BI**	Accepted ☑

BI acts as a mediating variable between PBC and BB. Thus, the research rejects the null hypothesis in favour of the alternative hypothesis. Hence, H18 is accepted. PBC is a term that refers to a person's view of how easy or difficult it is to conduct a particular behaviour. According to Ajzen and Fishbein (1977), the PBC of a person differs depending on behavioural and environmental factors, and on the nature of the situation. The findings of indirect hypothesis testing suggest that there is a statistically significant relationship between the PBC and BB when mediated by the variable BI in the real estate industry. These findings are contrary to the work of Yazdanpanah and Forouzani (2015) study, who found that PBC was not a significant contributor to the people's intention to buy. Al-Nahdi, Habib and Albdour (2015) findings concluded that PBC does not affect the intention to purchase residential property. Yoke et al. (2018) aimed to determine the factors impacting consumers buying residential real estate property in Kuala Lumpur. The study found a positive relationship between the SN, PBC, ATT, and financial factors towards purchasing residential real estate property. It is argued that PBC directly predicts behavioural intentions, which

predict subsequent behaviours (Ajzen 1991). This was confirmed by, Ruangkanjanases et al. (2020) who concluded that PBC strongly impacts BI and positively correlates with the planned behaviour.

6.3 Discussion of findings relating to the research objectives

This thesis has addressed the following two objectives:
- To identify the behavioural factors that influence consumer buying behaviour in the residential real estate industry.
- To investigate the digital marketing factors that influence residential real estate buyers' buying decisions.

In the **first objective**, the predictive power of behavioural factors and their effects on consumers' buying behaviour in the residential real estate industry in Australia were examined. A total of eleven direct hypotheses and seven indirect (or mediating) hypotheses were formulated. Out of these eleven hypotheses, ten direct hypotheses (see Table 5.22) and four indirect hypotheses (see Table 5.23) were supported.

Two variables of TPB—attitude, and perceived behavioural control —had a statistically significant influence on the buyer's intention (BI) and buyer's behaviour (BB) in the residential real estate industry. These findings were consistent with the past studies of Al-Nahdi, Habib and Albdour (2015), Numraktrakul, Ngarmyarn and Panichpathom (2012), Phungwong (2010), Teo and Lee (2010), Baker and White (2010), and Ramayah et al. (2008). However, subjective norms had insignificant influence on the buyer behaviour in the residential real estate industry in Australia. Of these three TPB constructs, perceived behavioural control (PBC) was the key driver exerting the strongest influence (β_1= 0.368) on buyer behaviour (BB), showing that consumers in Australia have higher levels of volitional control over themselves when making decisions about their housing or real estate purchases. Concerning the additional constructs in the TPB model, buyer intention was influenced by the firm's digital marketing efforts, consumer trust and information satisfaction in the residential real estate industry. Consumer trust had the most significant influence on buyer intention in the real estate industry in Australia (β_1= 0.289), followed by SAT level (β_1=

0.208) and DM (β_1= 0.172), indicating that an individual with strong trust and satisfaction for a particular property more likely make purchase decisions.

The strongest predictors having the most significant influence on buyer intention in residential property purchases is perceived behavioural control. Perceived behavioural control is the last predictor of buyer intention in the TPB, which is defined by Ajzen (1991) as, an individual's assessment of how easy or difficult it would be to carry out the particular behaviour considering the resources and opportunities available. Perceived behavioural control has been shown to have a favourable correlation with buyer intention in many studies (Teo & Lee 2010; Baker & White 2010; Ramayah et al. 2008; Gopi & Ramayah 2007; Wu & Chen 2005). Although it is assumed or perceived by the consumers that factors such as time, money, location, infrastructure and security might inhibit their behaviours, if consumers perceive that switching to specific real estate is advantageous, then they are more likely to make a purchase.

Today, consumers can access all kinds of products or services through online shopping sites. Opportunities such as obtaining information about products and services and comparing prices via the Internet influence on consumer behaviours. Trust is critical in e-commerce, since buyers are hesitant to make purchases if they do not trust the seller's website. Earlier studies suggest that trust plays a crucial role in determining buyer intention and buyer behaviour (McCole et al. 2010; Yang et al 2009; Gefen et al. 2003). Thus, trust influences the consumer's attitudes toward purchasing behaviour in the residential real estate industry. The inclusion of trust as the second significant predictor affecting the intentions to purchase residential real estate, indicates that marketers should develop strategies that appeal to consumers' moral feelings and values to enhance trust. Thus, the significant drivers of buyer intention to purchase residential real estate are determined by personal factors (ATT, PBC, TR, SAT) rather than the social factors (SN).

The first objective was also to examine the ETPB model with the mediation effect that may close the intention-behaviour gap. While most prior studies have only measured the intention to purchase residential real estate, this research goes beyond that by exploring the interdependence of intention to buy real estate and actual behaviour of buying real estate in Australia. The findings show a relationship between satisfaction and buyer behaviour when mediated by buyer intention. Similarly, the results show a relationship between digital marketing and buyer intention when

mediated by the consumer trust. The results also confirmed a positive association between digital marketing and buyer behaviour when mediated by buyer intention and also showed that buyer intention mediates the relationship between perceived behavioural control and buyer behaviour. Used well, digital marketing has the capacity to close the gap between behavioural intention and actual behaviour in residential real estate. Earlier studies suggest that behavioural intention leads to behavioural actions; thus, organisations should identify the factors that are vital to predict the behavioural intent of their potential customers to maximise the sales, revenues and profitability (Ho, Liao & Rosenthal 2015). Harun and Husin (2019) found that three social media advertising dimensions—perceived trust, online communities, and entertainment—had significant effects on online buyer intention, which leads to online purchasing behaviour of low involvement products. These authors noted that behavioural intention is a very important variable in the TPB model because it directly predicts action and acts as a mediator between the perceived behavioural control and actual behavioural engagement.

The second objective was to investigate the digital marketing factors that influence residential real estate buyers' buying decisions. Digital marketing is used to promote the products and services of a company extensively by the marketers as it helps to transform the consumers into advertisers and marketers who can create a positive or negative impact on the goods and services offered by the company. It further allows marketers to exchange information and thoughts related to products and services (Tsai & Men 2013). However, marketers need to consider the reliability, perceived usefulness, and word-of-mouth quality while marketing their products and services via digital channels. These factors play a significant role in forming the users' attitude towards the advertisement campaign.

The results in this thesis revealed that digital marketing has a positive and significant relationship with buyer intention (BI) to buy the residential real estate in Australia. According to Akhtar, Tahir and Asghar (2016), digital or online media have a significant influence over the intention of customers to buy a product or service. This is supported by the findings of Husnain and Toor (2017), and recently of Nawaz and Kaldeen (2020) and Manzoor et al. (2020), which also indicated a significant positive impact of digital media (or social media) marketing on buyer intention. Poturak and Softic (2019) also suggested that social media marketing influences buyer intention, specifically through word of mouth and online communication. Many firms and business entities

prefer to use digital marketing methods as a way to increase client engagement, which, according to the findings herein and those of others, is a factor in determining the prevalence of a customer's purchasing intention. This study also investigated the influence of digital marketing on the residential real estate buyer's behaviour, intention, attitude, trust and satisfaction. The findings clearly show that digital marketing has a positive and statistically significant effect on buyers' behaviour, intention, attitude, trust and satisfaction.

This thesis also tested and validated the applicability of the TPB in determining buyer intention and buyer behaviour related to residential property in Australia. The core framework of TPB has provided an excellent outcome for conceptualising, measuring and empirically identifying factors that affect the purchase of residential real estate in Sydney. In terms of model variance, the results of the original TPB model (see Figure 5.7) reveal that the three antecedent variables included in this model can explain the variance of buyer intention to purchase residential property is 36.8%, and the variance of buyer behaviour to purchase residential property is 28%. Thus, additional components of the ETPB (see Figure 5.8) model do influence buyer intention to purchase real estate. Furthermore, the findings of the ETPB model show that this model has a strong predictive power compared to the original TPB model with the same dataset. The ETPB model revealed a satisfactory total variance to account for why Australian households are motivated in their buyer intention and buyer behaviour around residential real estate. The model was able to explain 48.5% of the variance in buyer intention and 28% of the variance in the observed behaviour. The study results indicated that the modified TPB model had a satisfactory fit to the data and the inclusion of these constructs significantly enhanced the predictive power of Australian household consumers' intention to buy real estate.

6.4 Discussion of the Measurement Model

The primary purpose of the measurement model is to investigate the relationship between the latent variables and the hypotheses relevant to the validity and reliability of the structural measurement model, which is referred to as the PLS Algorithm in the Smart PLS program. To begin with, when the PLS algorithm is executed, SmartPLS uses a value of +1 to initialize for the baseline values of all indicators used in establishing appropriate construct within the PLS (the default Smart PLS setting). Also, by default, the program predicts these weights, referred to as the 'paths' weighting

factor, to maximise the coefficient of determination (or R-square), and the variance elucidated sets the maximum weighted estimation iterations to 300 (which is helpful for exploratory models) and set the stop criterion to 10-7; this is a level that is typically considered to be of sufficient acceptable tolerance. Table 6.12 discusses the quality criteria used for the measurement model in the current study.

Table 6.12: Discussion on Evaluating the Quality of the Measurement Model

Quality criteria	Description	Result
R-square	R square (R^2) or the coefficient of determination measures the proposed model fitness to the observed data (Zhang 2017). It is the variance proportion of the dependent variable explained by the model's explanatory variables. The value of R^2 increases with the addition of more PLS factors as they measure the strength of the least-squares fit into the training set activities, whereas adjusted R^2 (adjusted R^2) values indicate whether the addition of variables adds value to the model or not (Sarstedt, Ringle & Hair 2017). It generally takes values between 0 and 1, where values closer to 0 represent poor fit and values closer to 1 illustrate a better fit. Because the measurement model satisfied both convergent and discriminant validities, it was determined not to be an estimating error but rather a research outcome.	Buyer Behaviour = 0.280 Buyer Intention = 0.485 For detailed discussion, refer to section 6.6 of chapter 6 (Results Discussion)
F square	F square (F^2) is an indicator that shows the degree of effect of independent variables on the dependent variable in the PLS-SEM approach (Hair Jr et al. 2014). It measures the variance explained by each exogenous variable in the model. Hair et al. (2011) proposed the following interpretation of F^2: 0.02 is a small effect, 0.15 is a medium effect, 0.35 is a large effect, and less than 0.02 has no effect, respectively. Higher numbers are commonly recognised as preferable, yet what constitutes "sufficiently high" levels will vary substantially depending on the circumstances.	Attitude > Buyer Intention = 0.005 Buyer Behaviour > Buyer Intention = 0.053 Trust > Buyer Intention = 0.106 Digital Marketing > Buyer Intention = 0.042 Satisfaction > Buyer Intention = 0.046 PBC > Buyer Intention = 0.043 Subjective Norms > Buyer Intention = 0.001

Construct Reliability and Validity	Cronbach's Alpha (α) or coefficient alpha is a constructed measure of the internal test or scale consistency or reliability, when used for a single administration (Adamson & Prion 2013). As a result, a value between 0 and 1 is generally returned, although a negative Cronbach's Alpha can also be returned, indicating that something is critically wrong with the procedure. The common standard for Cronbach's Alpha for construct Reliability and Validity are:	**Attitude**
		  α = 0.929
		  CR = 0.942
		  AVE = 0.700
		
		Buyer Behaviour
		  α = 0.932

	• Below 0.60 unacceptable • 0.60–0.70 minimally acceptable • 0.70–0.80 respectable • 0.80–0.90 very good • Above 0.90 strong All the variances and covariances associated with construct-related indicator variables are added together to derive composite reliability (CR), which is then divided by the composite's overall variability (Şimşek & Tekeli 2014). Similar to Cronbach's Alpha, the reliability indicator Cronbach's Alpha considers that factor loadings are the same for all items, while the reliability indicator Cronbach's Alpha takes into account the concept that factor loadings vary between items. According to most experts, acceptable levels of CR are between 0.7 and above. One of the most commonly used indicators of convergent validity is called the average of variance extracted (AVE), which assesses how much variance a construct captures compared to the amount of variance due to measurement error (Hair Jr et al. 2017). In most cases, an AVE of at least 0.5 or higher is required; otherwise, the variance of the error is more significant than the variance explained, which is deemed unacceptable. Finally, discriminant validity evaluates whether the constructs in the model are substantially connected with one another or not (Henseler, Ringle & Sarstedt 2015). The Square Root of the AVE of a certain construct is compared to the relationship between that construct and other constructs (Henseler, Ringle & Sarstedt 2015). In general, it is recommended that the Square Root of AVE be greater than the construct's relationship with other constructs (If not, the individual construct does not provide much discrimination, i.e., unique explanatory power).	CR = 0.949 AVE = 0.709 **Digital Marketing** α = 0.931 CR = 0.945 AVE = 0.709 **Perceived Behavioural Control** α = 0.946 CR = 0.957 AVE = 0.787 **Buyer Intention** α = 0.943 CR = 0.954 AVE = 0.746 **Satisfaction** α = 0.930 CR = 0.945 AVE = 0.741 **Subjective Norms** α = 0.870 CR = 0.905 AVE = 0.679 For detailed discussion, see chapter 5 (Results)

	In terms of Cronbach's alpha (α), Composite Reliability (CR), and the Average Variance Extracted (AVE) value of all constructs, they are statistically satisfactory and acceptable.	
Collinearity Statistics (VIF)	Variance Inflation Factor (VIF) is also generally applied to test the multicollinearity issue (Thompson et al. 2017). VIF is a statistical measure that explains how much variance of a predictor variable is influenced by its correlation with the other explanatory variables in the regression model (Shrestha 2020). A small VIF value means a low correlation between the variables under ideal conditions. Hair, Ortinau and Harrison (2010) recommended that multicollinearity is an issue if the VIF value is greater than 10.	Attitude = 1.483 Trust = 1.679 Satisfaction = 1.899 Subjective Norms = 1.525 Perceived Behavioural Control = 1.796 Buyer Intention = 1.933 Digital Marketing = 1.413
Model fit	Standardised Root Mean Square Residual is an index of the average of the standardised residual between the observed and the hypothesised covariance matrices (Shi, Maydeu-Olivares & DiStefano 2018). An acceptable adjustment is usually considered to be less than 0.10 or 0.08, even though suggestions vary between different sources. Chi-Square (χ2), an acceptable fit for a model is deemed to be achieved if the Chi-Square/df values are between 2 and 3 and with a maximum of 5.	For detailed discussion, refer to section 6.7 of chapter 6

6.5 Discussion of the Coefficient of Determination (R-square) for model prediction

In the regression analysis, R^2 measures the proposed model fitness to the observed data. It is the variance proportion of the dependent variable explained by the model's explanatory variables. It is either used for forecasting or hypothesis testing. The R^2 value is the goodness of fit and indicates the amount of shared variation between two or more variables (Henseler & Sarstedt 2013). The value of R^2 increases with the addition of more PLS factors as they measure the strength of the least-squares fit the training set activities, whereas adjusted R square (adjusted R^2) values indicate whether the addition of variables adds value to the model or not (Sarstedt, Ringle & Hair 2017).

In this section, R^2 or the coefficient of determination values are presented. As suggested by Hair et al. (2012) and Astrachan, Patel and Wanzenried (2014), the structural model's validity was evaluated based on the R^2 value and path coefficients. The prediction capability of the structural model can be evaluated through analysis (Sarstedt & Cheah 2019). Structural models are used to determine how much of a factor or variable's volatility can be accounted for by its independent variables. Table 6.13 presents the value of R^2 for five endogenous variables. It shows the significant impact of independent variables on dependent variables. ATT has an R^2 value of 0.05 indicating that 5% variability in this dependent variable is explained by the independent variables. BB has an R^2 value of 0.280, indicating that 28% variability in BB is explained by the independent variables. R^2 values of 0.485 show that the respective independent variables explain 48.5% of the variability in BI. Since the measurement model met convergent and discriminant validity (see Chapter 5), this was not an estimating issue but a research outcome. To further understand these findings, Table 6.14 shows comparisons to empirical evidence in previous research around the effect of BI on residential property purchases. Table 6.15 is a collection of opinions from different scholars on the R^2 value.

Table 6.13: R Squared (R2) and R (R2) Square Adjusted

	R Square	R Square Adjusted
Buyer Behaviour	0.280	0.276
Buyer Intention	0.485	0.477

Table 6.14: Comparison to literature

Author/s	Findings (R-Square)	Variance explained
Al-Nahdi, Habib & Albdour 2015	This study's findings suggest a significant positive correlation between ATT ($\beta = 0.278$, p < 0.001) and SN ($\beta = 0.388$, p < 0.001) towards the BI to buy residential property. The research further concluded that PBC ($\beta = 0.019$, p = 0.712) has no effect on BI buy the residential property.	ATT and SN account for a 31.8% variance in BI to purchase residential property.
Ramasubbian, Priyadarsini & Vasuki 2018	ATT, PBC, SN, and BI to buy residential property are the precursors taken to measure the investment decision. This study suggested that constructs of TPB have a positive influence on the consumers' investment decisions.	39.3% variance in the BI.
Yoke et al. 2018	This study suggested a positive relationship between the SN, PBC, ATT, and financial factors towards buying residential real estate property. However, there was no effect of living space and location on the BI of residential property.	The study model explains 40.1% variability in BI to purchase residential property.
Numraktrakul, Ngarmyarn & Panichpathom 2012	This study suggested that economic factors, government role, environmentally conscious behaviour, and TPB constructs (ATT, SN, PBC) significantly explain BI to buy green housing.	62.2% variance in intention to purchase green housing.
Al-Nahdi 2014	Applying the TPB, this study investigated the BI to purchase residential property. This research found that SN and ATTs have a positive and statistically significant relationship to purchasing residential property.	32.2% variability in BI to purchase residential property is explained by the significant number of independent variables (ATT and SN)
Arora & Kishor 2019	This study adopted the TPB and an external variable brand image to determine the factors that affect BI. The findings revealed that ATT, SN, PBC, and brand image are positively associated with BI.	The model suggests that 79% variation in the BI is explained by the SN, ATT, PBC and brand image.
Baker & White 2010	This research tested the validity of an extended TPB model by incorporating self-esteem and group norm to predict adolescent engagement in the frequent use of digital channels. These findings explain that the factors influencing regular engagement emerge as a primary tool for adolescent socialisation.	The predictors explain a 45% variation in the predicted variable.

Author/s	Findings (R-Square)	Variance explained
Al-Nahdi et al. 2015	This study explored the factors that affect the BI to purchase real estate property. ATT, SN, PBC and finance, were independent variables, whereas BI to buy real estate was the dependent variable. The findings depict that ATT, SN, and finance positively influence the BI to purchase residential real estate property.	32.9% variation in BI.
Dahiya 2019	Utilising the TPB, this study discussed the factors that play a prominent role in the BI. The study found that ATT has a positive influence on BI.	The model explains 40.1% variability in the BI.
Nawaz & Kaldeen 2020	This research aimed to examine the correlation between digital marketing, customer engagement and BI. The study found that digital marketing plays a significant role in improvising customer engagement and BI.	48.7% variance in BI.
McLaughlin & Stephens 2019	This study suggested lower levels of perceived risk if there is more trust, and unsurprisingly security and privacy factors surrounding personal information storage have a significant role in adopting e-commerce and digital marketing channels. It is suggested that the relationship between DM and BI is dependent on TR.	70.0% change in dependent variable.
Lee & Ong 2020	These researchers looked at how ethnic, socioeconomic, individual, and psychological factors and cost, place, security, social amenities, and uniqueness influence people's desire to buy a property. They found that these factors had a significant impact on people's desire to buy a home.	The model explains 28.6% change in BI.

R^2 has been most widely used as a measure of GOF. Social phenomena are complex and multidimensional, so acceptable R^2 values are dependent on the research context. In social or behavioural sciences, low R^2 values are often expected as they are a measure of explanatory power, not fit. We do not expect models to integrate all related predictors to explain an outcome variable. Even when they are low, R^2 values can be significantly different from zero, indicating that our regression model has statistically significant explanatory power (Frost 2013; Neter et al. 1996; Neter, Wasserman & Kutner 1990; Falk & Miller 1992; Cohen 1988). In the literature highlighted in Table 6.15, academics argue the practical significance of the R^2 value, hence academics

generally report it as an impact size (Grace-Martin 2012), and a low value of R^2 does not necessarily mean the influence is minor and insignificant (Glenn & Shelton 1983). According to Cohen (1992), and in line with several other researchers Van Tonder & Petzer (2018), Hair, Ringle and Sarstedt (2013), and Moksony and Heged (1990) an R^2 value of .12 or lower means a low impact size, a value between .13 and .25 indicates a medium effect size, and a value of .26 or higher indicates a significant effect size.

Table 6.15: Acceptable R-Square Value

Authors name	Acceptable R-square value
Cohen 1988	In accordance with Cohen (1988), the R^2 values for endogenous latent variables should be evaluated as follows: 0.26 (substantial), 0.13 (moderate), and 0.02 (weak).
Ballard 2019	Ballard (2019) suggested studies that attempt to predict human behaviour, generally have R^2 values smaller than 0.5. That is because humans are naturally unpredictable. He further asserted, in addition to having a high R^2 value, a model may have other problems, such as being over-fitted.
Falk & Miller 1992	For a given endogenous construct to be considered acceptable, Falk and Miller (1992) advised that R^2 values should be considerably greater than or equal to 0.10.
Chin 1998 & Chin, Marcolin & Newsted 2003	According to Chin (1998), and supported by Chin, Marcolin and Newsted (2003), the values of R^2 for endogenous latent variables, are as follows: 0.67 (substantial), 0.33 (moderate), and 0.19 (weak).
Henseler & Chin 2010	Henseler and Chin (2010) suggested that the R^2 value was deemed as follows: 0.19 (weak), 0.33 (moderate), and 0.67 (substantial)
Krueger & Lewis-Beck 2007	Krueger and Lewis-Beck (2007) also suggested that human intention or behaviour predicted research work, typically has R^2 values lower than 50%.
Itaoka 2012	Itaoka (2012) suggested an R^2 value of 9% to be considered respectable in social science settings.
Peterson 2016	A small R^2 is not a concern in studies in the arts, humanities, and social sciences due to a lack of precision in predicting human behaviour, whereas a high R^2 of above 0.6 is considered necessary for studies in the 'pure science' domain because, in pure science, it is possible to predict the behaviour of molecules and/or particles with some level of accuracy.

Field 2018	According to Field (2018), if we classify effect sizes as small, medium, or large, we need to be mindful as this totally depends on the research domain and phenomenon we are researching. For example, the impacts of R^2 in educational research tend to be small, while in consumer behaviour research, R^2 values of around 0.3 or less are very common.
Hair et al. 2011 & Hair et al. 2013	A general rule of thumb recommended by Hair et al. (2011) and Hair et al. (2013) is that R^2 values of 0.75, 0.5, and 0.25 for endogenous latent variables can be sequentially classified as substantial, moderate and weak.
Franzblau 1958	Franzblau (1958) recommended that for practical significance, where possible, the effect size of R^2 values should be a minimum of 0.2.
Lipsey 1998	Lipsey (1998) suggested that a minimum R^2 value of 0.2 indicates a cut-off for moderate effects.
Ferguson 2009	According to Ferguson (2009), the minimum effect size (R^2) for social science data is 0.04 and indicates a "practically" significant effect, whereas 0.25 indicates a moderate effect and 0.64 indicates a strong effect.
Rasheed et al. 2021	The author suggested that 0.1 is the minimum R^2 value required in social science settings.

Some scholars have attempted to compare Cohen's conventions to reported empirical effects by collecting effect sizes from a variety of fields. Hemphill (2003) observed a medium r = 0.20–0.30 from 380 meta-analyses of therapy and evaluation, but other studies revealed lesser effects. From 322 meta-analyses in social psychology, Richard, Bond Jr. and Stokes-Zoota (2003) found an average r of 0.21. From 87 meta-analyses on individual differences, Gignac and Szodorai (2016) found a median r of 0.19. Krueger and Lewis-Beck (2007) argued that any field that attempts to predict human intention or behaviour, typically has R^2 values lower than 50%. Itaoka (2012) suggested an R^2 value of 9% was respectable in social science settings. That is because humans are more complicated to predict than physical processes. Furthermore, if the R^2 value is low but the study model has statistically significant predictors, we may still draw meaningful conclusions regarding the relationship between changes in the predictor values and changes in the response value (Moksony& Heged 1990).

6.6 Discussion of the proposed model Goodness-of-Fit and relationships

The GOF is an index that measures the reliability and projection of the measurement model (Liu, Zheng & Shen 2008). In determining the overall GOF of a model, the goal is to determine compatibility between hypothesised model and the data gathered (Marcoulides & Yuan 2017). GOF is examined collectively by testing all the variables of the study for the final structural model. Smart PLS generates a large number of model-fit indices, each of which is associated with its own set of statistical functions (Joreskog & Sorbom 1989). According to the recommendations of numerous scholars, one or more instruments from each type of fit index should be used to validate the model (Hair et al. 1998; Schumacker & Lomax 1996; Tanaka 1993; Bollen 1989). Details of these fit indexes and their criterion are summarised in Table 6.16.

Table 6.16: Model Fit Summary

Fit Indices	Criteria	Results	References
SRMR	Less than or equal to 0.08	0.042	MacCallum et al. 1993; Hu & Bentler 1999; Mak 2001
Chi-square (Chi^2)	χ^2, df, p >0.05	3335.093	Joreskog & Sorbom 1989; Cadogan, Diamantopoulos & Siguaw 2002
NFI	Less than 0.9	0.821	Bentler 1990; Bryne 1994; Hu & Bentler 1995; Hatcher 1996; Chau 1997; Mak 2001
RMS$_{Theta}$	Less than 0.12	0.106	Henseler et al. 2014

The difference between the observed relationship and the model implied correlation matrix is known as SRMR. From Table 6.16, it is evident that the SRMR value in this research is 0.042. This is less than the threshold of 0.08 recommended by Hu and Bentler (1999), confirming the validity and reliability of the measurement model. Whereas, Chi^2 values do not provide rigorous details about the overall fit of the model in the PLS-SEM technique (Dash & Paul 2021). When utilising PLS-SEM to investigate composite and common factor models, researchers must precisely establish how to measure the df of these models. NFI calculates the proposed model Chi^2 value and compares it against a meaningful benchmark. Lohmoller (1989) suggests an NFI value of more than 0.85 is an acceptable fit. Table 6.16 shows that the structural model presented in this thesis has an NFI value of 0.821, indicating the measurement model's reliability. For a good model

fit, the RMS_theta value should be close to 0. From Table 6.16, it is evident that the RMS_theta value is 0.106, which is less than the 0.12 threshold value, as suggested by Henseler et al. (2014), confirming the measurement model validity. Model fit is improved by adding or removing parameters from the specified model (West, Taylor & Wu 2012; Cadogan, Diamantopoulos & Siguaw 2002). Model building procedures, based on incremental adjustments, were used to create a better measurement model and that is interpretable and meaningful to the researchers (Perry et al. 2015; Segars & Grover 1993; MacCallum, Roznowski & Necowitz 1992).

6.7 Discussion of the determinants of real estate consumer buying behaviour

6.7.1 Impact of digital marketing on consumer buying behaviour

The study's findings suggest a positive and statistically significant impact of digital marketing on consumer buying intention and buying behaviour. This indicates that digital marketing has a positive influence on buyer behaviour (BB), which ultimately leads consumers to buy in the real estate market of Australia. The findings are similar to the research of Nawaz and Kaldeen (2020) who discovered that digital marketing is among the most preferred marketing techniques used by businesses, and that it is quite effective in terms of increasing consumer engagement and retention. Digital marketing influences buyers' buying intention. They further emphasised digital marketing greatly moulds people's intent towards a particular product, specifically through email marketing and social media, which, in turn, influences them to engage with or purchase the product. Enehasse and Saglam (2020) also found that digital marketing has a noteworthy and beneficial outcome on consumer behaviours.

6.7.2 Impact of digital marketing on consumer buying intentions.

The relationship between digital marketing (DM) and buyer intention (BI) has a path coefficient value of 0.172 and a standard error value of 0.046, indicating a positive and statistically significant relationship between the variables at the 0.05 level of significance, $\beta = 0.172$, $p < 0.05$. The corresponding t-statistics value is 3.716, greater than +1.96 (as the one-tailed test with 95% confidence level), suggesting the significant relationship between digital marketing and buyer intention. Today, businesses and organisations require a high level of adaptability apart from creating new marketing values. Digital or online media has a positive influence on the intention of

consumers to buy a product or service. The research's findings are similar to the Nawaz and Kaldeen (2020) study, which examined the relationship between digital marketing, customer engagement and buyer intention. Their study found that digital marketing plays a significant role in improving customer engagement and buyer intention. Moreover, 48.7% variance in buyer intention was explained significantly by the independent variables: digital marketing and customer engagement. Manzoor et al. (2020) also determined the influence of social media marketing on buyer intention. The research findings revealed that digital marketing and trust significantly impact buyer intention. The study further concluded that social media marketing has a more significant impact than trust in buyer intention through social networking sites. As evidenced by the findings of Husnain and Toor (2017), and recently of Nawaz & Kaldeen (2020) and Manzoor et al. (2020), there is a significant positive impact of digital media (or social media) marketing on the buyer's intention. Irshad and Ahmad (2019), Husnain and Toor (2017) also suggested that social media marketing influences buyer intention, specifically through word of mouth and online communication.

6.7.3 *Impact of digital marketing on buyer attitudes.*

Digital marketing is used nowadays to promote the products and services of a company extensively by marketers as it helps to transform the consumers into advertisers and marketers who can create a positive or negative effect on the goods and services offered by the company. It further allows the marketers to exchange information and thoughts related to the products and services (Tsai & Men 2013). The relationship between digital marketing (DM) and attitude (ATT) has a path coefficient value of 0.223 and a standard error value of 0.042, indicating a positive and statistically significant relationship between the variables at the 0.05 level of significance, $\beta = 0.223$, $p < 0.05$. That means the availability of digital marketing channels can prove advantageous for marketers as more users are take advantage of social network sites, thus increasing the purchase of products online. However, marketers need to consider reliability, perceived usefulness, and word-of-mouth quality while marketing their products and services over digital channels. These factors play a significant role in forming the users' positive attitude towards the product-related advertisement campaign. The study concluded that digital marketing channels positively influence the consumer's attitude, consistent with the findings of Ahmad and Khan (2017), who demonstrated that online marketing is a critical factor in determining the user's attitude towards the advertisement. Baker

and White's (2010) study also revealed digital marketing changes consumer's attitude towards a specific product or service. The results this thesis are also consistent with the empirical work of Basr and Daud (2020), who suggested a significant positive relationship between buyer behaviour and digital marketing.

6.7.4 Impact of digital marketing on consumer trust.

E-commerce is critical because people do not buy things online if they do not visit the company's online platforms. As the population of internet users rapidly grows worldwide, it has shifted consuming behaviour from shopping through physical stores into online shopping (Shin 2010). The results in this thesis show a positive and statistically significant relationship between trust and buyer intention with a 0.05 level of significance. Previous studies also suggest trust plays a crucial role in determining actual behaviour and consumers' behavioural intentions (Hajli 2014; McCole et al. 2010; Yang et al. 2009; Gefen et al. 2003). Joko, Wijoseno and Ariyanti (2015) examined the impact of buyers' trust on their buyer intention in the context of online shopping. According to the study's findings, there is a statistically significant correlation between online trust, perceived technology, and buyer intention. Hajli (2014) also revealed that trust has a positive direct influence on buyer intention. Therefore, trust influences consumer's attitudes toward purchasing behaviour, which is similar to findings in this thesis in the context of the real estate industry. Thus, digital marketing has a positive and significant influence on the consumers' trust in the real estate industry of Australia. It is clear that marketers should promote their products and services on digital platforms (especially social media networks) to enhance the consumer's trust.

6.7.5 Impact of digital marketing on consumer satisfaction.

The relationship between satisfaction (SAT), buyer intention (BI) and buyer behaviour (BB) has a path coefficient value of 0.048 and a standard error value of 0.022, indicating a positive and statistically significant relationship between the variables at the 0.05 level of significance, $\beta = 0.048$, $p < 0.05$. This means buyer intention acts as a mediating variable between satisfaction and buyer behaviour. This implies that if an individual intends to purchase real estate property, buyer is apt to be satisfied to go for the actual engagement of buying the real estate. Few studies have explored the indirect effect of buyer intention on the satisfaction level and buyer behaviour under

different settings across different countries using different digital marketing channels. One rare example in real estate is a study by Kamal and Pramanik (2015) exploring the relationship between customer satisfaction and buyer behaviour as mediated by buyer intention where satisfaction influenced by digital marketing towards purchasing apartments in Dhaka, Bangladesh. They found that customer satisfaction indirectly affects buyer behaviour through buyer intention. In contrast, Labib et al. (2013) and Zadkarim and Emari (2011) found that buyers prefer a residential living environment, better communication with the workplace and transportation system availability when making a decision to purchase an apartment using digital marketing. Together these studies suggest that satisfaction side factors and buyer behaviour are indirectly affected by buyer intention. So, it is concluded that digital marketing has a significant influence on the satisfaction level of the consumers in the real estate industry of Australia.

6.7.6 Discussion summary

These days, many firms and business entities prefer to use digital marketing methods as one the most popular marketing approaches. Digital marketing is extremely successful in increasing consumer experience, which is an important factor in determining the prevalence of consumers' purchasing intentions. The above discussion summarises the impact of digital marketing on the buyer's behaviour, intention, attitude, trust and satisfaction level. The findings suggest that digital marketing positively and statistically significantly influences BB, BI, ATTs, and TR and satisfaction level. There is a strong need for business and marketing experts to use digital marketing channels to promote products and services as it enables consumers to become advertisers and marketers with the power to influence how goods and services are perceived. Digital marketing also allows the marketers to exchange information and thoughts related to the products and services. Digital marketing also allows marketeers to easily collect data and information to inform improvements in their marketing. Findings of this research will help to understand real estate consumers better so marketeers can incorporate this knowledge into improving practices and boosting sales.

6.8 Discussion of the Theory of Planned Behaviour

The theory of planned behaviour (TPB) variables were found to have a strong and statistically significant influence during the exploration and analysis of buyer intention (BI) and buyer

behaviour (BB) in the real estate market. Yet, the data did not fit well with the original TPB model. The revised alternate path model, however, was a much stronger fit and suggested that subjective norms (SN) and perceived behavioural control (PBC) simply underperformed in this study. If there was a perfect model to determine buyer intention (BI), businesses would have an overflowing toolkit of ways to entice consumers to purchase their products. While the application of TPB may not have merited a perfect ten, the model itself performed exceedingly well and led to significant findings that can influence digital marketing campaigns and possibly increase sales. To discover the variables that influence customer behaviour when buying residential real estate in Sydney, Australia, findings from this thesis informed the development of an integrated ETPB model. This ETPB model found both direct and indirect correlations among the model's eight constructs. This study evaluated the variables that real estate companies should consider when using digital marketing techniques to engage with residential real estate consumers in the Sydney market. Using the ETPB model results and effect analysis, the model fit was excellent, and the goodness-of-fit indicators were extremely high.

6.9 Chapter Summary

This Chapter provided a comprehensive discussion of the correlations between TPB constructs, and ETPB constructs affecting buyer intention (BI) and buyer behaviour (BB) among consumers in the residential real estate market in Sydney. This chapter reported relationships between the primary dependent variable (consumers BI) and the studied independent variables. The study proposed that BI in the residential real estate industry could be impacted significantly by internal psychological and external social factors. Buyer intention (BI) was influenced by the company's digital marketing efforts, consumer trust, and information satisfaction in the residential real estate industry. The empirical literature review suggested internal and external antecedents such as consumer's ATT, PBC, SN, SAT, DM, and TR, which were validated in the qualitative phase of the research. The data supported 10 out of 11 research hypotheses. Indirect hypothesis testing revealed a relationship between satisfaction and buyer behaviour when mediated by the buyer intention and a relationship between digital marketing and buyer intention when mediated by consumer trust. The results also confirmed a positive association between digital marketing and buyer behaviour when mediated by buyer intention and also showed that buyer intention mediates the relationship between perceived behavioural control and buyer behaviour.

CHAPTER 7: CONCLUSION AND IMPLICATIONS

7.1 Introduction

This section provides a concise summary of the research findings and a discussion of the contribution, implications and future directions of the work. The chapter is divided into the following five sub-sections. Section 7.1 introduces the chapter. Section 7.2 discusses the theoretical, practical and methodological contributions of the research. Section 7.3 outlines the research implications on consumer behaviour. Section 7.4 covers limitations and recommendations for future research. Section 7.5 provides an overall conclusion of this thesis.

7.2 Research contributions

The purpose of this study was to examine the impact of digital marketing and behavioural factors on the residential real estate consumer's buying behaviour in Sydney, Australia. At the epicentre of this research is the behavioural model, which provides both theoretically solid and quantitative results that marketers and professionals may use to make a strategic framework for residential real estate industries. This research lends credence to previous findings in the literature on the topic of digital marketing's increasing prevalence in the real estate industry, and it also has policy and academic ramifications. In the following sections, the research dives deeper into the research contributions from various theoretical, practical and methodological perspectives.

7.2.1 Theoretical contributions

The process based on the advancement of existing theory or theory development based on facts, logical and empirical adequacy is referred to as a theoretical contribution (Fisher & Aguinis 2017). This research contributes to the theories for answering questions about digital marketing as it relates to consumer behaviour. The study builds on previous literature on the factors that influence buyers' decisions and provides new information to help prospective purchasers and marketers make more informed decisions. The findings made several important contributions to the current body of knowledge, particularly from a theoretical viewpoint. The depth of this study's impact derives from the fact that it draws from a range of contexts and disciplines, influencing multiple

areas. It contributes to the fields of consumer behaviour and decision theory, which were fundamental to this investigation. This research was undertaken in response to identified gaps in the literature about the digital marketing factors that influence buying behaviour of residential customers in Sydney, Australia. These gaps include:

- Limited empirical research on the digital marketing factors influencing consumer buying behaviour of residential customers in Sydney, Australia.
- Lack of research into explanatory models and theories for understanding consumer behaviour as it relates to digital marketing.

According to the results, the current body of academic literature does not provide an appropriate explanation of the digital marketing factors that influence buyers to buy a residential property in the Australian context. Even though there has been some empirical research on the factors influencing customer behaviour in buying items using digital marketing, most of these studies were carried out in other countries and are based on other domains. To the best of the researcher's knowledge, this is the first study to examine the residential real estate market from a multi-disciplinary perspective and to employ cutting-edge data collection and analysis techniques, such as SEM and PLS analysis, to examine the impact of digital marketing on buyers' decisions and their theoretical implications. Next, a brief summary of the theoretical implications is provIded.

7.2.1.1 A new dimension of the research framework

Previous investigations into real estate buyer intention and buyer behaviour predominantly focus on psychological factors by applying the TRA (Hansen, Jensen & Solgaard 2004). However, in recent years, academics have acknowledged the limitations of the TRA in forecasting buyer behaviour and have sought to increase predictability by employing the TPB or by extending the TPB by adding more variables/factors (Shaw & Shiu 2003). This thesis goes well beyond the existing literature by developing an integrative theoretical model that considers internal and external factors influencing decisions to buy a residential property. This novel integrative model of residential real estate consumer buying behaviour incorporates psychological, personal and technological factors that are seldom empirically tested.

The TPB model developed by Ajzen (1991) was used as the foundation for this research to investigate how digital marketing influences customer'' decisions. The TPB model, which has been successfully applied in many western nations, can be used to identify the behavioural intentions of Australian consumers. The research found TPB to be the most influential theory for understanding consumer decision-making in relation to online buying. However, TPB on its own is not adequate to justify customer behaviour because it is limited to the impact of subjective norms, perceived behavioural control, and attitude on intent and behaviour (Hassan, Shiu & Parry 2016). As a result, the purpose of this thesis was to discover, which digital marketing factors influence customer behaviour when purchasing residential real estate. It considered the TPB together with other elements such as phycological and behavioural attributes influencing consumer behaviour to evaluate how buyers respond to digital marketing. Buyer intention was added to the psychological factors —ATT, SN and PBC—DM, together with consumer trust and satisfaction to determine the predictive power of consumers towards property purchase behaviour. It is the first study to measure and validate these six constructs together as determinants of residential property buyer behaviour in the Australian setting.

Understanding what influences and shapes property buyer behaviour is essential, and this is where the antecedent perspective of digital marketing comes in. This thesis adds a new dimension to the study of consumer buying behaviour prediction by incorporating behavioural characteristics in an extended version of the TPB (ETPB). The ETPB that the current research developed was designed to address how trust and satisfaction are influenced by digital marketing information on the central and peripheral pathways of the model. The research focuses on customer'' trust and satisfaction with digital marketing, and investigates consumer'' buying behaviour based on that information. The data suggest that greater consumer trust and satisfaction likely reflect a higher possibility of purchase. Therefore, trust and satisfaction are a moderator between digital marketing and consumer'' buying intention, which in turn helps to drive actual purchases. This thesis concludes that TPB, digital marketing, trust, and customer satisfaction can all work together to form ETPB and can explain how consumer'' attitudes towards purchase decisions are formed. The research further noted that satisfaction and trust had a positive and significant impact on buyer intention, and the influence of satisfaction and trust was mediated by the effect of digital marketing on buyer intention. By presenting a body of knowledge from the fields of digital marketing and consumer

behaviour, this study simultaneously fills in existing gaps and significantly advances the TPB model. It offers substantial theoretical perspectives on the role of customer behaviour and intent within the framework of digital marketing. According to the TPB, successful marketers need to have an intimate familiarity with the consumer experience, including the consume''s intentions and behaviours throughout the buying process, to deal with customers in online environments (Nigam 2012). As a result of this theor''s extension through this research, the elements that influence consumer'' intention to make a purchase can now be identified.

7.2.1.2 Comprehensive theoretical framework in an Australian setting

There are few explanatory models and theory-building studies on residential consumer buying behaviour using digital marketing, particularly in the Australian setting. This study makes two significant contributions to the theoretical framework for the research on the behavioural patterns of residential property buyers. First, the study broadens the entire body of theoretical knowledge around the TPB by extending the TPB framework to the setting of residential property purchases. Second, the study presents empirical findings that point out to the fact that the ETPB model for residential property purchase has important behavioural implications. In the Australian context, the factors driving residential property purchase intention and behaviour have not yet been fully explored based on the underlying structure of digital marketing. Therefore, this remains a crucial topic for researchers.

To examine the effects of digital marketing on consumer behaviour in Australia, this thesis built on the TPB framework, incorporating a set of novel antecedent variables. Our proposed ETPB is a holistic approach that enhances our understanding of significant behavioural, personal and psychological factors influencing the property purchasing behaviours of Australian consumers. It adds to the growing body of knowledge on digital marketing's influence the purchase residential property. Digital marketing is one of the most widely used marketing strategies and is very successful at increasing consumer engagement—a factor determining whether a consumer intends to buy. Table 7.1 shows the theoretical contribution based on the hypothesised model.

Table 7.1: Summary of Research Contribution

	Standardized β	t-value	p-value	Results	Current Research Contribution
H1: There is a positive and significant relationship between attitude and buyer intention to purchase real estate	0.161	3.286	0.000	Supported	Contributions reinforcing existing knowledge
H2: There is a positive and significant relationship between subjective norm and buyer intention to purchase real estate	0.029	0.543	0.587	Not Supported	Contributions reinforcing existing knowledge
H3: There is a positive and significant relationship between perceived behavioural control (PBC) and buyer intention to purchase real estate	0.196	3.052	0.000	Supported	Contributions reinforcing existing knowledge
H4: There is a positive and significant relationship between digital marketing and attitude	0.223	5.260	0.000	Supported	Contributions reinforcing existing knowledge
H5: There is a positive and significant relationship between digital marketing and satisfaction	0.432	9.960	0.000	Supported	Contributions providing new knowledge
H6: There is a positive and significant relationship digital marketing and buyer intention.	0.172	3.716	0.000	Supported	Contributions providing new knowledge
H7. There is a positive and significant relationship between digital marketing and consumer trust.	0.341	6.978	0.000	Supported	Contributions providing new knowledge
H8. There is a positive and significant relationship between	0.208	3.555	0.000	Supported	Contributions providing new knowledge

satisfaction and buying intention.					
H9. There is a positive and significant relationship between consumer trust and buyer intention.	0.289	4.188	0.000	Supported	Contributions reinforcing existing knowledge
H10. There is a positive and significant relationship between buyer intention and buyer behaviour.	0.231	3.773	0.000	Supported	Contributions reinforcing existing knowledge
H11. There is a positive and significant relationship between perceived behavioural control (PBC) and buyer behaviour.	0.368	8.222	0.000	Supported	Contributions reinforcing existing knowledge

7.2.1.3 Residential real estate and digital marketing

The Australian real estate industry is a high-involvement industry (Ratchatakulpat, Miller & Marchant 2009). Characteristics for this industry lend themselves well to digital marketing, which has a substantial advantage over traditional media in the form of two-way communication (Ching et al. 2013). This is the first study to prove that that, at least in Australia, consumers are likely to form intentions to purchase a residential property through the influence of digital marketing. Earlier empirical studies focus on consumer goods like clothing and food, but this research significantly contributes to the current literature and growing body of knowledge in residential real estate. Nonetheless, the findings have potential application to other products and services in Australia, contributing to the broader area of consumer behaviour studies related to factors influencing digital marketing. It also has implications for the rising application of technology and expansion of the real estate business and contributes knowledge to support marketing professionals to understand the advantages of digital marketing and how best to use it. It is the first study to empirically examine residential real estate buyers' buying behaviour simultaneously with digital marketing, consumer trust and satisfaction.

We also investigated the indirect effects of digital marketing (DM), satisfaction (SAT) and trust (TR) on buyer intention (BI) and actual buyer behaviour (BB) of residential real estate property

buyers. These findings represent novel discoveries in the fields of residential real estate and digital marketing, even though no questionnaires or hypotheses were created within this study to indicate the indirect correlations or the mediating role of purchasing behaviour. These findings also give credibility to the significance of digital marketing in the ETPB model to influence consumer buying behaviour in the real estate industry.

7.2.1.4 Extension of marketing theories

This study has made a significant theoretical contribution by updating outdated marketing theories and theories from other domains. The Social Capital Theory, for instance, has typically focused on how individuals of the same community may better communicate and work together (Vogel & Zhang 2016). The TPB was expanded into this work and applied to the digital marketing setting, which is a very new environment. This extension aims to help businesses in the real estate industry accomplish their goals in a manner that is both profitable and efficient. Furthermore, the theoretical integration carried out in this study extends well beyond the confines of any particular community or society. Therefore, this research contributes a fresh theoretical framework by re-imagining the use of established ideas to address problems associated with technological diffusion.

The combination of consumer behaviour research, digital marketing and the TPB are rapidly becoming major new areas of research. The ETPB Model establishes a theoretical framework and expands the application of many theories by identifying critical factors that affect consumer behaviour and highlighting the connections between those factors. The data argues, for real estate and professionals, that it is necessary to first understand the digital context of customers before focusing on buying intention or buying behaviour. The data also suggests that customers are more likely to make a purchase when positive buyer intention and buyer behaviour develop over a digital foundation. Previous studies address customer engagement through the collection of five attributes, which make up the TPB. This study goes further, using the ETPB Model to examine the influence of trust and satisfaction on buyer intention and buyer behaviour. The study shows that buyer trust and satisfaction can be influenced by digital marketing information and this impacts BB; buyers with a high level of involvement in digital marketing are more likely to make a purchase. This knowledge will allow marketers to uncover the unique digital marketing customer engagement experiences that matter most to buyers. It also aligns with a study by Cheung et al. in

2020 showing that consumers who value depth of information are more likely to use digital marketing to build adequate knowledge before committing to a purchase.

7.2.2 Practical contributions

Digital marketing is important for real estate businesses because it has a significant number of users and is seen as an excellent and versatile platform for selling real estate (Bala & Verma 2018). This thesis offers several practical contributions, theoretical insights and important implications around digital marketing, how it is perceived by Australian consumers and how it is used by businesses in Australia. The outcomes of this study provide beneficial interpretations of experiences that contribute to buyer intention and buying behaviour for residential properties. As mentioned previously, the results suggest that, engaging in digital marketing is an important determinant—both directly and indirectly—of buying intention among residential real estate consumers, and that this influences buyer behaviour. Businesses can bolster perceptions among residential customers by implementing digital marketing strategies through their public relations and advertising campaigns. Both government and businesses should use these results to develop policies that consider the ethical and legal implications of digital marketing and its practice.

There are several intriguing implications for consumers' and businesses' digital marketing strategies that can be drawn from the findings in this thesis. From a practical standpoint for marketing professionals, this study gives a benchmark for assessing how much digital marketing affects consumers' buying intention. The factors influencing consumers' purchasing decisions in response to digital marketing content, identified in this study, have significant practical applications for real estate business managers and marketing professionals. These factors can help real estate businesses and marketing professionals understand how digital marketing works, which can inform better marketing strategies that more effectively meet customer expectations. In particular, digital marketing information on real estate websites was shown to significantly influence consumer satisfaction and trust. From the consumer's perspective, this study provides evidence for the many benefits of digital marketing, including more options, lower pricing and simpler product comparisons. From a business viewpoint, the findings have practical implications for how digital marketers can best allocate resources and abilities to maximise profit and minimise negative customer experiences to promote favourable behavioural outcomes.

In the residential real estate market, factors affecting real estate property buyer intention and buyer behaviour are most frequently discussed theoretically and empirically based on economic factors. Most of the theoretical understanding of property purchases is grounded in the principles of utility maximisation and rational choice (Marsh & Gibbs 2011). But economic bias and theoretical advancements appear to be the dominating factors in this field. Thus, it seems reasonable to conclude that our current theoretical understanding of residential buyer behaviour is insufficient to grasp their actual behaviour. The scales used to measure variables in this thesis are novel to research in the context of the real estate market but were proven to be applicable to understanding behaviour of the six stated constructs.

Property buyers can benefit from the knowledge, interactions and engagements offered by digital marketing, which can influence residential buyer intention and buyer behaviour and help consumers make purchase decisions (Dabbous, Aoun Barakat & Merhej Sayegh 2020). To fully harness such benefit, this research's integrated ETPB model can be used by marketeers to enhance the use of digital marketing by improving customer satisfaction and trust in addition to other factors. To do this, business and marketing professionals must understand the social phenomenon influenced by digital marketing interactions to foster high levels of trust and satisfaction (Kwahk, & Kim 2017). The findings of this research make it easier to understand consumer buying patterns, the nature of digital interactions, and the factors that influence and motivate buyers to take positive action. Understanding key components of the ETPB Model and buyer behaviour assists in assessing buyers and their involvement, as well as segmenting the market depending on different attributes of the buyer. The ETPB Model encompasses factors influencing and motivating buyers, such as buyer intention, trust, and satisfaction, enabling real estate professionals to refine their marketing campaigns and practices and improve organisational performance. These findings should be considered to facilitate a better understanding of consumer buying behaviour for implementing better digital marketing strategies that meet marketing objectives and increase sales and financial performance.

The ETPB Model also considers behavioural factors, attitude (ATT), subjective norms (SN), and perceived behavioural control (PBC) together with digital marketing factors and how this influence residential real estate customer buying behaviour. It elaborates on the direct and mediating

relationships between factors like digital marketing and satisfaction on consumers' buying intention, which have not been investigated in the residential real estate industry previously. The ETPB model uncovered a positive mediating effect of satisfaction and trust in relation to digital and property purchases. Overall, this study provides valuable insights, because no other studies have empirically tested a predictive model that explains these determinants and dimensional perspectives of residential real estate consumer buying intention and buying behaviour. It provides a new framework of behavioural and digital marketing factors for predicting the real estate consumers' buying behaviour.

7.2.3 Methodological contribution

This study makes several methodological contributions that might help both researchers and marketing professionals. It contributes to the growing body of knowledge on the TPB as it applies to residential property buyer behaviour. It offers a new model, the ETPB model, for predicting real estate buyer behaviour by identifying the main psychological, behavioural and technological influences on real estate consumers in Australia. The unified ETPB was a significantly better and stronger fit than the TPB revealing significant findings around what factors influence digital marketing campaigns and increase property sales. We identified critical factors for consideration by real estate companies in Sydney using digital marketing strategies to connect with consumers. The model fit was excellent when the results of the ETPB model and its effect analysis and the goodness-of-fit indicators reached extraordinarily high levels, contributing to the body of metrological knowledge. The main methodological contribution was the application of the PLS-SEM. ETPB variables were found to have a strong and statistically significant influence, during the exploration and analysis, on buyer intention and buyer behaviour in the real estate market. The ETPB model successfully established both direct and indirect connections between the eight model constructs or variables. In the ETPB model, residential real estate consumers' buying intention was influenced by the business's digital marketing efforts, as well as consumer trust, and satisfaction with DM information. Trust and satisfaction were the strongest predictors with the most significant influence on buyer intention to purchase real estate property. Therefore, satisfaction and trust should be strongly considered in digital marketing of real estate. This adds value to existing methodological and practical knowledge of digital marketing.

The ETPB provides an all-encompassing strategy by simultaneously modelling customer behaviour and information characteristics. It introduces a unique methodology for adopting digital marketing information and offers fresh perspectives to scholars looking at consumer behaviour, marketing, and information systems (IS). A notable discovery is that the ETPB model emphasises the information satisfaction and trust process as an antecedent of buyer intention. These relationships between the steps in the information adoption process, can be considered in future studies to create new models. The comparative analysis presented here, confirms uncertainty in the fields of digital marketing and consumer behaviour. While some earlier studies addressed the trust issue in digital marketing, many others disagreed and predicted it would be more effective because digital marketing bridges the gap between businesses and their customers. The area of digital marketing and consumer behaviour research is relatively new, so until now this issue has not been empirically investigated. This study broadens scholarly understanding of purchase decisions that can be leveraged by businesses and marketing professionals. It can also aid academic researchers in understanding the motivations behind buyer buying intention in other industries.

7.3 Research implications

In this section the thesis looks at the research implications or significance of the research and how the findings will be relevant for fine-tuning specific theoretical models, practices, policy-making or future research studies (Talbot & Talbot 2015). An increasing number of customers are using digital technologies to obtain real estate information. Therefore, it is essential that our knowledge of the relationship between the use of digital marketing, planned decision-making processes, and the performance of consumer engagement be improved. Digital marketing is one of the most popular marketing approaches among businesses and organisations, as it has the potential to positively affect buyer intention and buyer behaviour (Bala & Verma 2018). Over the past decade, academics and key players in business have turned their focus to digital marketing as a promotional approach (Saura 2021). When it comes to digital marketing, there has not been much research done on the psychology and behaviour of customers, particularly in the context of the Australian market. Even though there have been significant contributions to the body of knowledge, there is still opportunity for development, especially considering the fast-paced nature of digital environments. The findings in this thesis extend our knowledge showing that digital marketing positively and statistically significantly influences residential real estate consumers' BB, BI, ATT, TR and SAT

levels. This research has provided a solid foundation and theoretical framework for use in other areas of digital marketing. From a practical point of view, the data justify the implementation of ATT, SN, PBC, DM, TR and SAT dimensions in policies and programs aiming to encourage Australian buyers to purchase residential real estate property.

In the modern digital era, consumer behaviour is dynamic (Dominika 2018), and there is no question that digitalisation has brought a positive change in consumer behaviour (Sama 2019). To create effective marketing strategies, it is crucial to clearly understand what consumers want and how they behave (Lemon & Verhoef 2016). One of the primary purposes of consumer research is to understand consumers' behaviour (Madhavan & Kaliyaperumal 2015). This study's primary goal was to determine consumer's thoughts, feelings and behaviours in relation to a product or service. In a broader sense, consumer research helps a business gain up-to-date, accurate, and reliable information on its target customers (Marbach, Lages & Nunan 2016). Consumers are demanding greater convenience, value and more options as a direct result of current trends in digital marketing and technology improvements, which have led to increased competitive pressures (Krizanova et al. 2019). This phenomenon challenges businesses and professionals with an immense number of obstacles, as well as a substantial number of opportunities. Implementing the findings of this study will provide in-depth and valuable insights on consumer behaviour in the digital era, and guide businesses to adopt strategies to sustain competitive advantage using digital marketing as a strategic instrument. Using digital marketing, real estate companies can maintain their market presence and relevance by monitoring consumer trends, preferences, and behaviour. Nowadays, real estate businesses should have a presence in digital marketing to increase engagement with clients, create leads and close deals.

The outcomes of this research will help understand how adoption of digital marketing affects interactions between information processes and customer behaviour by drawing connections between the underlying marketing philosophy and purchase intention. Using digital marketing, real estate businesses can better understand consumer behaviours and personalise their strategies to each individual customer. Consumers can precisely evaluate a product or service because of technological advancements, which have profoundly impacted how they behave when it comes to making purchase decisions. When digital marketing strategies are implemented, marketers can interact with consumers on a personal level, favourably influencing engagement levels and

ultimately influencing consumer buying decisions. The results herein show digital marketing significantly influences buyer intention, which ultimately leads consumers' buying behaviour in the real estate market of Australia. It is unquestionable that digital marketing significantly influences consumers' attitude and behaviours, increasing the likelihood of action, whether that action is interaction or purchase (Harms, Bijmolt & Hoekstra 2017). One of the most noticeable influences of digital marketing is the improved quality of service and greater flow of high-quality, up-to-date information for customers. These benefits support residential real estate consumers to make better purchasing decisions fostering a positive user experience (Bala & Verma 2018).

These days, the goal of any successful marketing strategy should not be to make a quick profit but rather to create a loyal customer base (Olson et al. 2021). The findings of this research provide some important implications for the real estate businesses, buyers and investors who wish to explore opportunities to raise people's awareness of real estate and get more people to buy real estate in Australia. Since digital marketing can turn customers into advocates for a brand's products and services, real estate companies would do well to adopt this strategy. Digital marketing allows the real estate companies to exchange information and opinions related to real estate, thanks to increases in the population of internet users worldwide. Using digital marketing, customers are kept informed about the most recent developments in the market through more accessible interactions between real estate marketers and buyers (Bala & Verma 2018). Strategically building consumer trust to influence buying behaviour requires establishing open communication between real estate and its customers, and this can be accomplished through digital marketing (Low et al. 2020; Bala & Verma 2018). Trust plays a significant role in forming the users' positive attitude toward the product-related advertisement campaign and building the consumer's trust. Developing relevant information is the most important component of digital marketing for building trust (Kannan 2017). A successful digital marketing campaign relies heavily on presenting relevant and appropriate content for the target audience (Bala & Verma 2018). If consumers do not have faith in digital marketing information presented by real estate, they are less likely to make purchases. In addition, previous research has indicated that customers' trust plays a significant role in shaping buyer intention and buyer behaviour (Kaur & Arora 2020; Al-Debei, Akroush & Ashouri 2016; Hao, Balaji & Kok 2015). In line with the literature, the

research in this thesis showed that digital marketing directly and substantially impacts consumers' trust in the context of the real estate market, which in turn affects consumer buying behaviour.

To use digital marketing to build trust, real estate companies need to know how people see trust and use that information to improve customer experiences and interactions. Real estate companies can build customer trust by sharing accurate information in a simple, easy-to-understand way. Trust is also essential for enhancing a business's value and retaining existing consumers (Nisar & Whitehead 2016). The main benefit of trust is customer loyalty, which in turn leads to a longer-term relationship, a more significant share of the wallet and greater advocacy or word-of-mouth (Sharma et al. 2020). Therefore, by implementing digital marketing strategies, real estate should build potential customers' trust to secure long-term relationships. In today's highly competitive real estate market, it takes more than just a high-quality product to attract the attention of savvy buyers. Customer satisfaction is key to the success of any business (Ramasubbian, Priyadarsini & Vasuki 2018). Digital marketing has allowed the buyer to get information about a property listing at any time and from anywhere (Olson et al. 2021). Thus, it is an excellent mechanism for enhancing consumer satisfaction. If real estate companies want to know how to improve customer satisfaction, they can start by delivering what their consumer wants.

Clear communication with buyers is made possible by digital marketing, allowing real estate companies to have a deeper understanding of their customers (Low et al. 2020). When creating content for digital marketing, businesses should ensure that it is exciting and informative (Olson et al. 2021). When customers feel acknowledged, they are more likely to make a purchase. The customer experience may be enhanced, and all touchpoints can be made more efficient with the help of digital marketing. Saleem et al. (2015) showed that customers will purchase products or support if they are satisfied with the marketing information. Chandrashekaran et al. (2007) mention clarity as a key factor in consumer satisfaction. The findings in this thesis build on this, examining how digital marketing information influences satisfaction and how satisfaction affects buyer intention and behaviour. The results have several implications for management. Interestingly, the research found that buyer intention acts as a connection between buyer satisfaction and buying behaviour. To enhance the customers' satisfaction level, real estate should improve service quality, which can be tricky in highly competitive markets (Preko, Agbanu & Feglo 2014). The research highlights the relevance of satisfaction from a hypothesised viewpoint

and demands a more comprehensive way for assessing satisfaction. Real estate companies should consider consumer experience measurement at the forefront of real estate markets. Real estate companies may also apply these findings to market experience for customers' effective purchase decision-making.

Companies operating in various markets invest millions of dollars in marketing endeavours. For this reason, stakeholders need to have a solid grasp of digital marketing to make informed business decisions. The results of this research provide a scaffold or framework to enable real estate companies to successfully incorporate digital marketing and improve business operations and capabilities. The findings could be used to generate strategies for better engaging with customers, developing trust and enhancing sales. The nature of the environment in which marketing takes place is constantly shifting. The results of this research offer a richer grasp of digital marketing's role, which will pave the way for a broader range of issues that are significant to diverse stakeholders. Industry experts might use the results to develop and implement digital marketing strategies to increase the success rates of organisation operations. The findings will support businesses to establish realistic goals that will assist them in increasing customer awareness and brand recognition, promoting brand content, and increasing exposure to generate traffic, leads, and sales, and simultaneously lowering business costs.

Business owners can use several digital marketing techniques to encourage more significant consumer interaction. Using digital marketing strategies, real estate companies can reach the most customers possible, create intelligent and innovative ways to communicate, use content creation strategies to get customers more involved and apply consistent digital marketing strategies to raise brand awareness. Governments have always been the main force behind economic growth, and the rise of digital marketing has changed how emerging markets in developed and developing countries work overtime. The results presented in this thesis show that companies focusing on digitalisation can outperform their more conventional counterparts in a variety of ways. Thus, governments should take advantage of the crucial insights from this thesis in formulating legislation for economic growth and prosperity using digital marketing as a strategic advisor while protecting consumers' rights.

7.4 Research limitations and future research directions

The purpose of this study was to broaden our understanding of digital marketing factors influencing the buyer behaviour of residential real estate customers in Sydney, Australia. However, the study was not free from limitations. Below is a list of limitations and future research opportunities.

- There is the potential concern in this research of participants self-selecting and reporting their own information. All participants in the survey were given an electronic questionnaire to fill out. Since respondents had the option to engage in this survey at their own discretion; the findings are likely biased toward those willing to participate. This may affect the external validity of the study. A test for non-response biases was conducted; however, respondent biases may still exist. In addition, participants supplied their own demographic and usage data, which was not independently verified. Only relative measurements can be derived from self-report statistical data. Thus, care must be taken when extrapolating these results to the broader population.

- There was no way to guarantee that every participant only participated in the survey questionnaire once. This is typically the most significant limitation of an online survey. To mitigate the impact of this phenomenon, the researcher did not offer participants any financial incentives and restricted electronic mail communication to participants who were included in the sample frame. In future studies, an extra software functionality can be incorporated to prevent a person from responding several times. However, this functionality was unavailable in Lime Survey features at the time the survey was conducted.

- This study was conducted in Sydney, Australia. Thus, the study findings may not be generalised to accurately reflect the customers' intention to buy real estate all over Australia or in any other part of the world. Future research should be conducted across a wider geographical area of Australia to get a holistic understanding of residential real estate consumers across the nation. Because digital marketing for real estate in Australia has not been studied before, the same research needs to be done in other markets, both in developed and developing countries, to confirm broader relevance of results. Cross-country analysis would offer additional value and help researchers find similarities and differences in

various research settings. It is highly probable that cultural norms and the degree to which a country has progressed in its digital marketing will lead to different outcomes. For example, digital marketing is relatively new in developing countries, so people living in these countries do not look at trust in the same way as people in developed countries.

- The study was limited to eight factors influencing customers' behavioural intention towards real estate in Australia. Inclusion of more variables may explain behavioural intention more succinctly. Future research may clarify what drives consumers to purchase real estate property if participants' demographic data are collected. Future research should include the impacts of social and psychological elements on digital marketing strategy development and decision-making related to communication and advertising initiatives.

- The current study used a survey instrument as the primary data collection tool, limiting the research to quantitative methods. In future, researchers can opt for the mixed methods approach to improve the generalisability of behavioural conceptual frameworks to other regions and countries with similar socio-cultural behaviours. A comparative study of both qualitative and quantitative data across developed and developing countries would reveal similarities and differences and help to better understand buying intention and buying behaviour of customers in real estate purchases.

- This study was limited by the use of closed-ended questionnaires. Thus, it is difficult to gauge participant misunderstandings of questions, and participants may have been exposed to concepts they would never have otherwise considered. Also, the 5-point Likert scale assumes that all points are equal, which makes it hard to find out how people really feel. It is also possible that respondents' opinions were influenced by information from earlier questions or that they focused mainly on one side of the agree/disagree scale. To mitigate this issue, future researchers could consider conducting in-depth interviews to learn more about consumer perspectives, decision-making processes and their interactions with various forms of digital marketing.

- Using a random sample hinders generalisability of research findings. Future researchers should devise a method of probability sampling that is more trustworthy and collect data to guarantee statistical reliability. This study used a cross-sectional research design, representing stable relationships between variables. Cross-sectional data reflect the

relationships between the variables at a single time point. If data were collected at different time points, it would be easier to identify and account for irregularities. The sampling was a non-probability method known as convenience sampling. When using this sampling method, the researcher selects the respondents based on how accessible they are. This increases the chance that the sample does not accurately represent the entire population.

- Many measurement scales were adopted from the TPB Model and the literature and then adjusted based on the findings of this pilot study. Even though the selected measurement scales had strong psychometric features, some were whittled down using exploratory research methods to help with parsimony. Therefore, it is impossible to know for sure whether the researchers were measuring the same construct. It has not been thoroughly investigated whether these scales can accurately reflect the intricacies of consumer behaviour and intentions. So, future researchers could use CFA to validate the current factor model and confirm these findings.

- "Product participation" was described as involvement with residential real estate. The study assumed that customers are very engaged with digital marketing for residential real estate. Future studies can get around this issue by explicitly identifying and describing the examined product and its associated product qualities as parts of the product attribute. Another drawback is that positive outcomes from any study using a model are relative rather than absolute (Hair et al. 1998). In other words, a good model fit does not imply that the model will accurately reflect reality (Hair et al. 1998). It is likely that certain significant elements were not adequately accounted for in the model or that the model's interactions with measurement were lacking (Bagozzi & Baumgartner 1994). To gain the best GOF, this research employed GOF assessments based on theoretical and practical aspects (Hair et al. 2019).

Together, these limitations do not compromise the value of the outcomes in this research and the details have been brought up to help focus future research.

7.5 Chapter Summary

This study examined the impact of digital marketing on residential real estate consumers' buying behaviour in Sydney, Australia. It looked at how using digital marketing to build customer

satisfaction leads them to purchase residential real estate property. Previous studies investigated the connectedness between residential real estate consumers' intention and their purchasing behaviour. But they have not explored the influence of digital marketing, customer satisfaction and trust factors that may confound the relationship between the consumer's buying intention and buying behaviour. To understand the essential considerations in the adoption of digital marketing and how it shapes residential real estate buyer buying behaviour, this thesis combined and examined eight novel constructs/variables in one unique research framework built on the foundations of the TPB – consumer ATT, SN, PBC, SAT, TR, DM, BI and BB. This study's findings suggest that an extended model (ETPB) based on the Theory of Planned Behaviour can successfully explain and forecast what motivates residential real estate consumers in Sydney, Australia, to purchase property. Ten out of eleven hypotheses about Australian customers' residential property purchase behaviour were found to be statistically significant. This research significantly contributes to the body of knowledge concerning the theory of behavioural intention in the context of digital marketing-based product purchases. The results offer important and novel understandings of consumer behaviour in the digital age, as well as suggestions for how companies could use digital marketing to maintain a competitive edge. Consumer buying behaviour is influenced by buying intention and planned digital marketing strategies. The novel ETPB framework can be leveraged by marketers and other stakeholders to improve real estate sales through better incorporation of digital marketing strategies that boost revenue. Marketers should invest in professional development to learn strategies for establishing rapport with clients, winning the trust and boosting satisfaction.

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APPENDIX A
Participant Information

Participant Information for USQ Research Project Questionnaire

Project Details	
Title of Project:	The impact of digital marketing on consumer buying behaviour in the residential real estate industry: A case study of Sydney
Human Research Ethics Approval Number:	H20REA097

Research Team Contact Details		
Principal Investigator Details (DBA Candidate)	**Principal Supervisor Details**	**Other Investigator Details (Co-Investigator)**
Fazla Rabby Email: Fazla.Rabby@usq.edu.au Telephone: +61 411 283 452 Mobile: +61 411 283 452	Dr Ranga Chimhundu Email:Ranga.Chimhundu@usq.edu.au Telephone: +61 7 4687 5759	Dr Rumman Hassan Email:Rumman.Hassan@usq.edu.au Telephone: +61 7 3470 4313

Description

This project is being undertaken as part of the Doctor of Business Administration degree.

The purpose of this project is to determine the most influential digital marketing factors affecting consumer buying behaviour and to investigate how digital marketing influences purchase decisions in the residential real estate industry in Sydney.

The research team requests your assistance because responses to this questionnaire will help us evaluate the effectiveness of digital marketing so that we   can design better marketing strategies to improve customer satisfaction and trust. The findings will make a contribution to the community with respect to improved customer service.

Participation

Your participation will involve completing a questionnaire that will take approximately 20 to 30 minutes of your time.

Questions will include expressing your agreement or disagreement with statements such as, "Digital marketing channels usually provide in-depth information" or "My experiences in purchasing real estate property through digital marketing channels were always satisfactory".

Your participation in this project is entirely voluntary. If you do not wish to take part, you are not obliged to. If you decide to take part and later change your mind, you are free to withdraw from the project at any stage. You may also request that any data collected about you be

withdrawn and confidentially destroyed OR You will be unable to withdraw data collected about yourself after you have participated in this questionnaire OR You will be unable to withdraw data collected about yourself after the data has been analysed. If you do wish to withdraw from this project or withdraw data collected about you, please contact the Research Team by using telephone number +61 411 283 452 or email address Fazla.Rabby@usq.edu.au.

Your decision whether you take part, do not take part, or to take part and then withdraw, will in no way impact your current or future relationship with the University of Southern Queensland.

Expected Benefits

This project will not directly benefit you. However, it may lead to a better understanding of consumers' perceptions of quality digital marketing, and may enable the development of a valid and reliable measure for the real estate sector. The research will provide practical information for researchers, customers, marketers and real estate owners and ultimately contribute to economic sustainability. The research will lead to a better understanding of consumer profiles and behaviours that are critical for segmentation, planning and strategy formulation, and it will help governments to set procedures and regulations for current and future plans. The results of this study will be relevant for real estate practitioners, and the aim is to enhance the employment of digital marketing in real estate and improve the consumer experience.

Risks

In participating in the questionnaire, there are minimal risks such as, discomfort or distress to the participant. To minimize this risk, before data collection the respondents will read this information sheet to participate in this survey. This information sheet invites you to be involved in this project. Your participation will completely voluntary, if you choose to participate. You are free to withdraw from participation in this questionnaire at any time. Any participant experiencing distress arising from this questionnaire is encouraged to withdraw from participation. However, completion of this questionnaire will be taken as consent to participate. The participants will also be informed of the approximate time they would require to complete the questionnaire. Also, aggregated findings, not individual responses will be presented in the final report.

Sometimes thinking about the sorts of issues raised in the questionnaire can create some uncomfortable or distressing feelings. If you need to talk to someone about this immediately, please contact **000**. You may also wish to consider consulting your General Practitioner (GP) for additional support.

Privacy and Confidentiality

- All comments and responses will be treated confidentially unless required by law.
- The names of individual persons are not required in any of the responses.
- Fazla Rabby and members of the research team will have access to the responses.
- No personally identifiable information will be associated with your responses to any reports of these data.
- Participants' data will be made available for future research purposes (whether for similar projects only or for full unspecified use) and non-identifiable data will be stored and shared.

- Research data will be securely stored on USQ servers, which aligns with research Data Bank, or ReDBank service to save. As a backup, the data will be stored in a locked filing cabinet in the researcher's office. Any computer storage will be password protected. Also, data will be stored in portable hard drive and cloud storage with password protection.
- Research results (only aggregate results) will be made available in the researcher's doctoral thesis and also via journal articles and/or conference papers.
- Any data collected as a part of this project will be stored securely as per University of Southern Queensland's Research Data Management policy.

Consent to Participate

The return of the completed questionnaire is accepted as an indication of your consent to participate in this project. Clicking on the 'Submit' button at the conclusion of the questionnaire is accepted as an indication of your consent to participate in this project.

Questions or Further Information about the Project

Please refer to the Research Team Contact Details at the top of the form to have any questions answered or to request further information about this project.

Concerns or Complaints Regarding the Conduct of the Project

If you have any concerns or complaints about the ethical conduct of the project, you may contact the University of Southern Queensland Manager of Research Integrity and Ethics on +61 7 4631 1839 or email researchintegrity@usq.edu.au. The Manager of Research Integrity and Ethics is not connected with the research project and can facilitate a resolution to your concern in an unbiased manner.

Thank you for taking the time to help with this research project. Please keep this sheet for your information.

APPENDIX B
Email to Survey Participants

Subject: Invitation to participate in a research survey

Dear Participant,

My name is Fazla Rabby and I am pursuing a Doctor of Business Administration degree. As a requirement for the research, I am writing to invite you to participate in a research survey. The study examines the impact of digital marketing on consumer buying behaviour in the residential real estate industry. Your responses to this survey will help us evaluate the effectiveness of digital marketing and the research insights will assist in the design of better marketing strategies to improve customer satisfaction and trust. The findings will contribute to the community with respect to the improvement of customer service.

The survey takes 20 to 30 minutes to complete. Your participation in this project is entirely voluntary. If you do not wish to take part, you are not obliged to. If you decide to take part and later change your mind, you are free to withdraw from the project at any stage. Your responses will be kept confidential and anonymous.

The survey information can be accessed via the attached survey link. Please read the survey information and click the consent button if you choose to proceed to the survey.
Should you have any comments or questions, please feel free to contact me at Fazla.Rabby@usq.edu.au or +61 411 283 452.

Survey Link: https://surveys.usq.edu.au/index.php/178398?lang=en

Thank you very much for your time.

Fazla Rabby
Principal Investigator
DBA Candidate
School of Management & Enterprise; Faculty of Business, Education, Law & Arts
University of Southern Queensland
Toowoomba | Queensland | 4350 | Australia

APPENDIX C
Survey questionnaire

SURVEY INSTRUCTIONS

Thank you for accepting participation in this survey. Participants will indicate their response by selecting a number ranging from 1-5 (strongly disagree to strongly agree, etc). This survey will be uploaded to limesurvey.org upon USQ approval. Please be assured your information is STRICTLY SECURED AND CONFIDENTIAL. It is however important you answer all the questions, even if some similarities occur. Each section has instructions that can guide you to successfully answer the questions.

Section 1: Demographics

This section is about the demographic profile of respondents. This information is required for the validation purpose of the questionnaire. Please complete the questions by selecting the answer that best suits you, from the list of choices.

1. What is your gender?
   - ☐ Male
   - ☐ Female
   - ☐ Other
   - ☐ Prefer not to answer

2. Please indicate which age group you belong to:
   - ☐ 26-35
   - ☐ 36-45
   - ☐ 46-55
   - ☐ 56-65
   - ☐ 66 and above
   - ☐ Prefer not to say

3. Which of the following best describes your current occupation?
   - ☐ Professional (e.g. Teacher/ Doctor/Lawyer/Journalist, etc.)
   - ☐ Executive (e.g. Administrator/manager, etc.)
   - ☐ Security (e.g. Army/Police, etc.)
   - ☐ Fieldworker (e.g. social worker/salesman/technician etc.)
   - ☐ Homemaker/housewife
   - ☐ Own business
   - ☐ Student
   - ☐ Unemployed/seeking employment
   - ☐ Retired
   - ☐ Other (please specify):_____

□ Prefer not to say

4. Please indicate your level of education below:
  □ No formal qualifications
  □ Primary school
  □ High School
  □ Trade/ tertiary qualifications
  □ Bachelor's degree
  □ Postgraduate qualification (i.e. Master, Doctoral)
  □ Prefer not to say

5. What is your current employment status?
  □ Full-time
  □ Part-time
  □ Casual
  □ Self-employed
  □ Retired
  □ Other
  □ Prefer not to say

6. What is your marital status?
  □ Married
  □ Not married
  □ De facto
  □ Prefer not to say

Section 2: Experiences

In this section, it is important you provide appropriate responses that are relevant to your experiences. It must be noted that there are no right or wrong answers in this section.

Attitude (ATT):
ATT has a powerful influence over behaviour and psychological constructs that directly influence consumer purchase intention. The following are some related items. Please evaluate each of the items that best suit your opinion by selecting one answer from the defined list of choices.

ITEMS	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Buying real estate property through digital marketing channels is a wise decision (ATT_1)	1	2	3	4	5
I am interested in digital marketing content (advertisements/information) (ATT_2)	1	2	3	4	5

ITEMS					
I feel comfortable with digital marketing content (advertisements/information) (ATT_3)	1	2	3	4	5
My attitude toward digital marketing content (advertisements/information) is positive (ATT_4)	1	2	3	4	5
I think engaging with digital marketing information is beneficial to me (ATT_5)	1	2	3	4	5
I feel buying residential real estate property through digital marketing channels is a good idea (ATT_6)	1	2	3	4	5
I will consider purchasing residential real estate property through digital marketing channels (ATT_7)	1	2	3	4	5

Trust (TR)

Trust is an emotional norm that positively affects consumer purchase intention. The following statements are relevant to the trust construct. Please evaluate each of the items that best suit your opinion by selecting one answer from the defined list of choices.

ITEMS	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I feel very comfortable purchasing through digital marketing channels (TR_1)	1	2	3	4	5
My privacy would be guaranteed on digital marketing channels (TR_2)	1	2	3	4	5
Digital marketing information is reliable (TR_3)	1	2	3	4	5
Real estate information on digital marketing channels is trustworthy (TR_4)	1	2	3	4	5
I believe that digital marketing channels have my best interests in mind (TR_5)	1	2	3	4	5
Real estate information through digital marketing channels is trustworthy (TR_6)	1	2	3	4	5
Digital marketing channels give the impression that they keep promises and commitments (TR_7)	1	2	3	4	5

Buying behavior (BB)

Buying behaviour is the sum of the attitudes, subjective norm, perceived behaviour control, trust and satisfaction regarding the consumers' behaviour and the decision-making process when purchasing a product or service. The following statements are relevant to corporate performance in the community. Please evaluate each of the items that best suit your opinion by selecting one answer from the defined list of choices.

ITEMS	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I intend to engage in digital marketing channels (BB_1)	1	2	3	4	5
I feel comfortable buying residential real estate property over digital marketing channels on my own (BB_2)	1	2	3	4	5
I am very motivated to read digital marketing posts by a real estate agent regarding the residential property (BB_3)	1	2	3	4	5
I want to buy a real estate property (BB_4)	1	2	3	4	5
Digital marketing channels are a reliable way for me to take care of my personal affairs. (BB_5)	1	2	3	4	5

Satisfaction (SAT)

Satisfaction is a psychological perception that acts to fulfill a need or desire, and consumer satisfaction is a significant predictor of consumer purchase intention. The following statements are relevant to satisfaction. Please evaluate each of the items that best suit your opinion by selecting one answer from the defined list of choices.

ITEMS	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I feel very satisfied with my overall experience on digital marketing channels and their content (SAT_1)	1	2	3	4	5
I feel absolutely delighted with my overall shopping experience on digital marketing channels and their content (SAT_2)	1	2	3	4	5
I feel very pleased with my overall shopping experience on digital marketing channels (SAT_3)	1	2	3	4	5

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Digital marketing channels usually provide in-depth information (SAT_4)	1	2	3	4	5
Digital marketing channels provide me with information that benefits me (SAT_5)	1	2	3	4	5
The real estate information from digital marketing channels always catches my attention (SAT_6)	1	2	3	4	5

Subjective Norms (SN)

Subjective norm is believed to have a relationship with attitudes, and subjective norms are important factors affecting consumers' purchase intention. Please evaluate each of the items that best suit your opinion by selecting one answer from the defined list of choices.

ITEMS	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
My family thinks that I should buy real estate property (SN_1)	1	2	3	4	5
My family thinks that buying real estate property is a wise decision (SN_2)	1	2	3	4	5
People with whom I have similar ideas and opinions are encouraging me to search for real estate information through digital marketing channels (SN_3)	1	2	3	4	5
People who are important to me think that I should check real estate property on digital marketing channels (SN_4)	1	2	3	4	5
People who influence my behaviour would think that I should buy real estate property over digital marketing channels (SN_5)	1	2	3	4	5

Perceived Behavioral Control (PBC)

Perceived behavioural control refers to consumers' perceptions of their ability to perform a given behaviour. Attitudes, social norms, and perceived behavioural control factors together influence behavioural intentions and behaviours. Please evaluate each of the items that best suit your opinion by selecting one answer from the defined list of choices.

ITEMS	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I have enough time to make a decision to buy real estate property (PBC_1)	1	2	3	4	5

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I have enough skills and real estate property knowledge to make my own decisions (PBC_2)	1	2	3	4	5
Digital marketing channels improve my purchasing productivity (PBC_3)	1	2	3	4	5
I can choose the digital marketing channels I want to engage with (PBC_4)	1	2	3	4	5
I have the resources needed to access digital marketing channels (PBC_5)	1	2	3	4	5
Buying things over digital marketing channels is entirely within my control (PBC_6)	1	2	3	4	5

Purchase Intention (PI)

Purchase intention is related to the behaviour, perceptions and attitudes of consumers where consumers tend to buy a certain product under certain conditions. The following statements are significant to purchase intention with respect to digital marketing in the real estate industry. Please evaluate each of the items that best suit your opinion by selecting one answer from the defined list of choices.

ITEMS	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Using real estate digital marketing channels helps me to make better decisions before purchasing property (PI_1)	1	2	3	4	5
Using real estate digital marketing channels increases my interest in buying property (PI_2)	1	2	3	4	5
I intend to purchase property through real estate digital marketing channels I follow. (PI_3)	1	2	3	4	5
I have the intention to engage with digital marketing channels (PI_4)	1	2	3	4	5
I intend to research real estate listings on my own through digital marketing channels in the future (PI_5)	1	2	3	4	5
I will use digital marketing channels frequently (PI_6)	1	2	3	4	5
I have the intention to use digital marketing information to purchase residential real estate property as much as possible (PI_7)	1	2	3	4	5

Digital Marketing (DM)

Digital marketing leads to purchase intention and is considered as playing an important role in customer buying decisions. The following statements are relevant to real estate. Please evaluate each of the items that best suit your opinion by selecting one answer from the defined list of choices.

ITEMS	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
My experiences in purchasing real estate property through digital marketing channels were always satisfactory (DM_1)	1	2	3	4	5
Information from digital marketing channels always catches my attention (DM_2)	1	2	3	4	5
Digital marketing channels provide me with information that benefits me (DM_3)	1	2	3	4	5
I feel comfortable using digital marketing channels (DM_4)	1	2	3	4	5
I find digital marketing information useful (DM_5)	1	2	3	4	5
I like to use digital marketing channels to increase my knowledge about real estate property (DM_6)	1	2	3	4	5
I am satisfied with the digital marketing of the real estate I follow (DM_7)	1	2	3	4	5

THANK YOU FOR YOUR PARTICIPATION!

APPENDIX D
Recruiting voluntary survey participants (LinkedIn)

Job description

Dear Participant,

My name is Fazla Rabby and I am pursuing a Doctor of Business Administration degree. As a requirement for the research, I am writing to invite you to participate in a research survey. The study examines the impact of digital marketing on consumer buying behaviour in the residential real estate industry. Your responses to this survey will help us evaluate the effectiveness of digital marketing and the research insights will assist in the design of better marketing strategies to improve customer satisfaction and trust. The findings will contribute to the community with respect to the improvement of customer service.

The survey takes 20 to 30 minutes to complete. Your participation in this project is entirely voluntary. If you do not wish to take part, you are not obliged to. If you decide to take part and later change your mind, you are free to withdraw from the project at any stage. Your responses will be kept confidential and anonymous.

The survey information can be accessed via the attached survey link. Please read the survey information and click the consent button if you choose to proceed to the survey.
Should you have any comments or questions, please feel free to contact me at Fazla.Rabby@usq.edu.au or +61 411 283 452.

Survey Link: https://surveys.usq.edu.au/index.php/334544?lang=en

Thank you very much for your time.

Fazla Rabby
Principal Investigator
DBA Candidate
School of Management & Enterprise; Faculty of Business, Education, Law & Arts
University of Southern Queensland
Toowoomba | Queensland | 4350 | Australia

Industry
Higher Education

Employment Type
Volunteer

APPENDIX E
Recruiting voluntary survey participants (Gumtree)

Recruiting voluntary survey participants

Sydney NSW

Dear Participant,

My name is Fazla Rabby and I am pursuing a Doctor of Business Administration degree. As a requirement for the research, I am writing to invite you to participate in a research survey. The study examines the impact of digital marketing on consumer buying behaviour in the residential real estate industry. Your responses to this survey will help us evaluate the effectiveness of digital marketing and the research insights will assist in the design of better marketing strategies to improve customer satisfaction and trust. The findings will contribute to the community with respect to the improvement of customer service.

The survey takes 20 to 30 minutes to complete. Your participation in this project is entirely voluntary. If you do not wish to take part, you are not obliged to. If you decide to take part and later change your mind, you are free to withdraw from the project at any stage. Your responses will be kept confidential and anonymous.

The survey information can be accessed via the attached survey link. Please read the survey information and click the consent button if you choose to proceed to the survey.

Should you have any comments or questions, please feel free to contact me at Fazla.Rabb******@******.au + click to reveal or ********** 452 + click to reveal .

Survey Link: https://surveys.usq.edu.au/index.php/334544?lang=en

Thank you very much for your time.
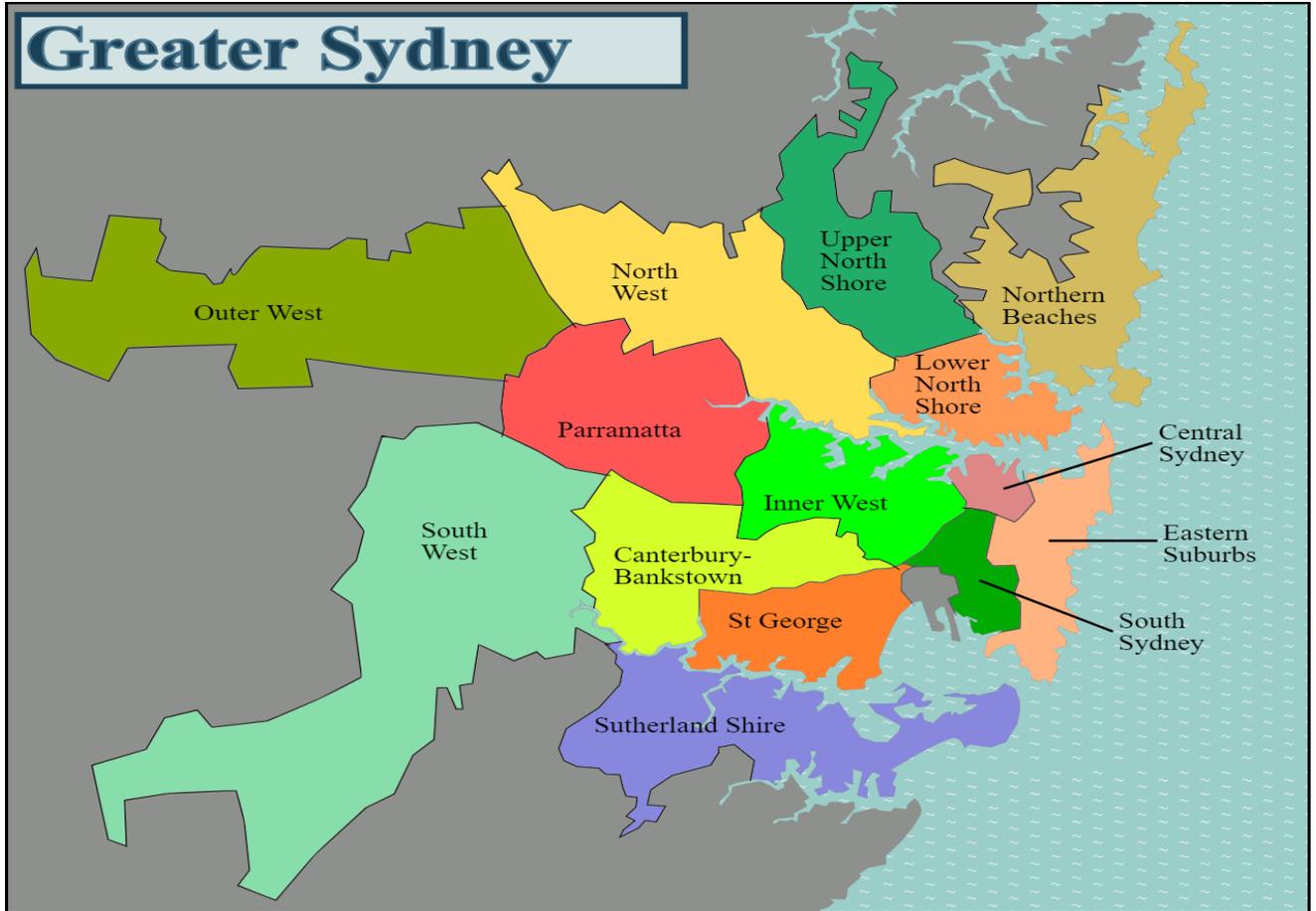
Fazla Rabby

Principal Investigator

DBA Candidate

School of Management & Enterprise; Faculty of Business, Education, Law & Arts

University of Southern Queensland
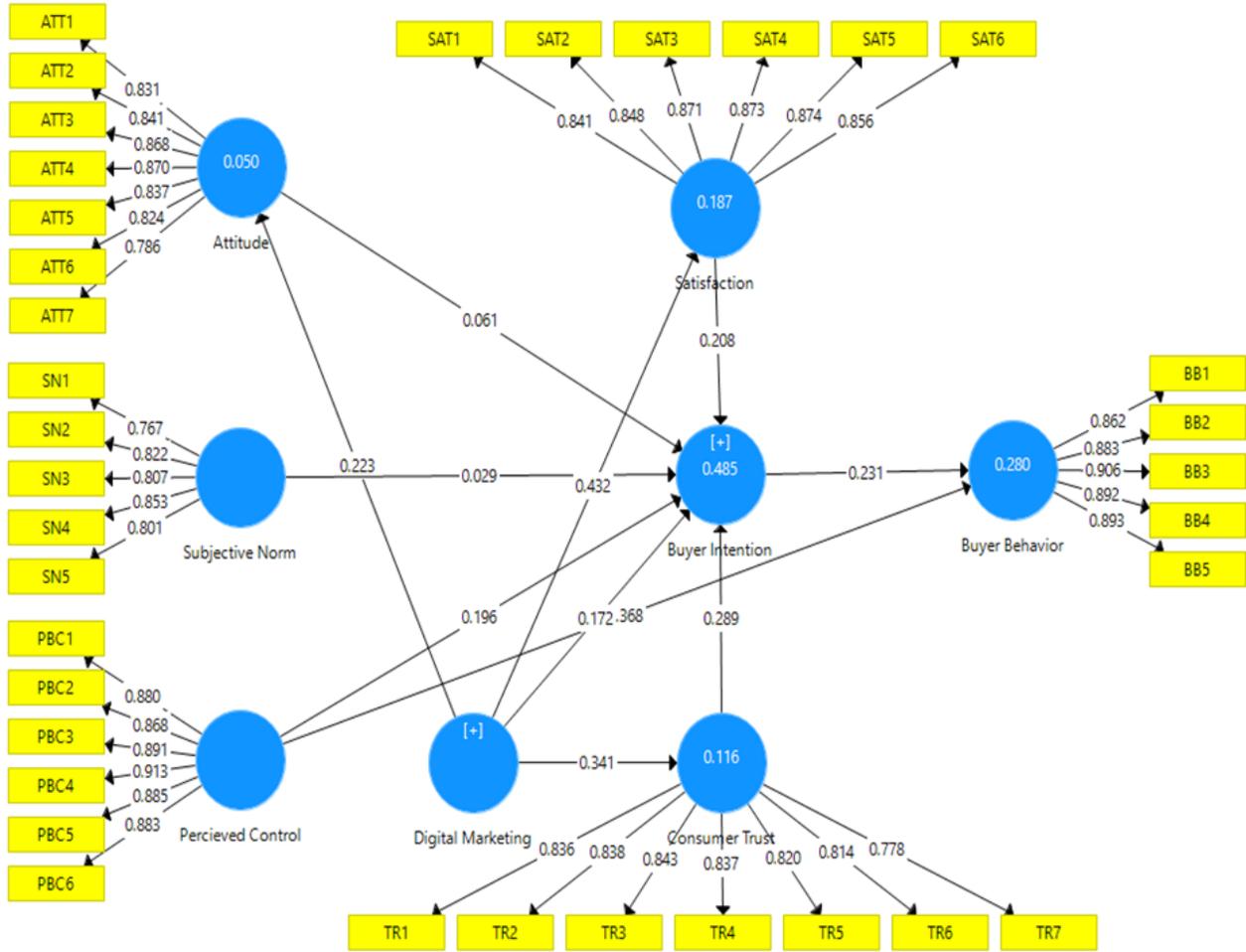
Toowoomba | Queensland | 4350 | Australia

APPENDIX F

Greater Sydney Map

Source: Wikimedia Commons

APPENDIX H

Path Coefficients and P-Value (Pilot Study)

Relationships	Path Coefficients	P-Value
Attitude → Buyer Intention	-0.077	0.503
Subject Norms → Buyer Intention	0.181	0.004
Perceived Behavioural Control → Buyer Intention	0.087	0.307
Digital Marketing → Attitude	0.842	0.000
Digital Marketing → Satisfaction	0.802	0.000
Digital Marketing → Buyer Intention	0.651	0.000
Digital Marketing → Trust	0.848	0.000
Satisfaction → Buyer Intention	-0.150	0.226
Trust → Buyer Intention	0.301	0.106
Buyer Intention → Buyer Behaviour	0.829	0.000

APPENDIX I

Results of the Structural Model (ETPB-Pilot Study)