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Thesis Submission

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Bachelor of Law

Masters of Business Administration – Master of Professional Accounting

Exploring Regional Small Business engagement with Facebook technology

This thesis is submitted in fulfilment of the requirement for the degree of

Doctor of Philosophy, Management and Commerce,

College of Business, Law and Governance,

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June 2020

STATEMENT OF AUTHENTICATION

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I hereby declare that I have not submitted this material, either in full or part, for a degree at this or any other institution.

Tracey Michelle Mahony

June 2020

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‘It takes a village to raise an [academic] child’ (African proverb)

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ABSTRACT

Key Words: Regional Small Business, Technology Acceptance, Engagement, Facebook, UTAUT.

The motivation for this research was to learn more about technology acceptance for marketing communication in a Regional Small Business (RSB) context.

The extant literature indicates that an active online presence is important to small businesses maintaining competitive advantage. However, industry observations are technology acceptance rates by small business in Australia remains low and the position of small businesses in regional areas under explored. To address this gap, research objectives aim to (1) discover characteristics of RSB likely to decide for and against the acceptance and use of marketing communications technology, (2) assess the extent to which RSB regard engagement with customers and consumers as being important for their marketing communications, and (3) provide insights on RSB Use through application of the UTAUT model.

The research scope was defined by the selection of business size, regional location and social media technology type; being small business in Townsville, North Queensland using the Facebook platform. The research uses mixed methods to collect data from RSB Facebook users and non-users. Qualtrics assisted the administration of a quantitative online survey of RSB in the focal locale. SPSS and Stata assisted in the descriptive, inferential and multivariate regression analysis of the quantitative data. The data was explored using RSB personal and business characteristics, engagement dimensions and the Unified Theory of Acceptance and Use of Technology (UTAUT) model framework. Qualitative interviews followed with a sample of RSB owners adding clarification and depth of understanding to issues identified in the quantitative analysis. Leximancer assisted the analysis of the qualitative data.

The research produces a regression model predicting RSB Use. The model uses personal demographics of the RSB owner/manager and business related characteristics of the RSB with a new variable the Perceived Importance of Engagement (PIE) as an attitudinal variable. The findings show the older age of an RSB owner, lack of business or marketing plan and budget between \$1000 and \$10,000 have a negative impact on RSB Use. The model also

shows in this context the RSB owner/manager being male has a positive impact on Facebook technology acceptance and use.

There are unique aspects of the RSB context affecting UTAUT factor formation whereby PE, EE, SI, FC and PV scale items provide unique insights through exploratory factor analysis into the RSB context. Qualitative analysis identifies Privacy Protections, Advertising Noise and Negative Feedback Controls and Education (PANE) as to barriers of technology acceptance and continued use by RSB.

The results of this research enables policy decision makers, stakeholder organisations, marketing professionals and UX developers, better support RSB Use for marketing communications engagement of RSB.

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LIST OF ACRONYMS

ABN	Australian Business Number
ABS	Australian Bureau of Statistics
AM	Amotivation
ANZSIC	Australia and New Zealand Standard Industry Classification
ATO	Australian Taxation Office
AU	Actual Use
BI	Behavioural Intention
BPR	Binary Probit Regression
CCIQ	Chamber of Commerce and Industry Queensland
CFA	Confirmatory Factor Analysis
C-TAM-TPB	Combined Technology Acceptance Model and Theory of Planned Behaviour
CTH	Commonwealth
CU	Continued Use
EE	Effort Expectancy
EFA	Exploratory Factor Analysis
EM	Extrinsic Motivation
EU	Ease of Use
FBU	Facebook User
FBV	Facebook Business Value
FC	Facilitating Conditions
FLE	Facebook Learning Ecosystem
FP	Foundational Premise in SD-L
FSC	Facebook System Compatibility
GDP	Gross Domestic Product
IMC	Intrinsic Motivation
IMC	Integrated Marketing Communication
IDT	Innovation Diffusion Theory
IV	Instrumental Variable
JCU	James Cook University
KMO	Kaiser-Meyer-Olkin
Leximancer	Leximancer 5.0
LGA	Local Government Area

MM	Motivational Model
MLE	Maximum Likelihood Estimation
MPCU	Model of Personal Computer Utilisation
MSI	Marketing Science Institute
NAICSC	North American Industry Classification System Codes
NBN	National Broadband Network
NFBU	Non-Facebook User
OBC	Online Brand Community
OLR	Ordinal Logistic Regression
PAF	Principal Axis Factoring
PAN	Privacy Protections, Advertising Noise and Negative Feedback Controls
PCFA	Partial Confirmatory Factor Analysis
PCA	Principal Component Analysis
PE	Performance Expectancy
PIE	Perceived Importance of Engagement
PEOU	Perceived Ease of Use
PU	Perceived Use
PRISMA	Preferred Reporting Items for Systematic reviews & Meta-Analysis
RMT	Relationship Marketing Theory
RSB	Regional Small Business
SC	System Compatibility
SCT	Social Cognitive Theory
SET	Self Efficacy Theory
SD-L	Service Dominant Logic
SI	Social Influence
SNS	Social Networking Site
SPSS	Statistical Package for the Social Sciences (Version 25)
TAM	Technology Acceptance Model
TAM2	Technology Acceptance Model 2
TPB	Theory of Planned Behaviour
TRA	Theory of Reasoned Action
TRA-TPB	Combined Theory of Reasoned Action and Theory of Planned Behaviour
UGC	User Generated Content

UN-SDG	United Nations Sustainable Development Goals
UTAUT	Unified Theory of Acceptance and Use of Technology
UTAUT2	Unified Theory of Acceptance and Use of Technology 2
UX	User Experience

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1 INTRODUCTION

1.1 Objectives of the Chapter

The topic of this thesis is technology acceptance for marketing communications by Regional Small Business (RSB). The thesis is cross disciplinary in nature, drawing literature from technology acceptance and online engagement from a marketing communications perspective.

Chapter 1 will provide a brief overview of the thesis. The chapter commences by introducing the thesis topic, outlining the practical problem observed, selecting the theoretical framework, stating the research goals and objectives, highlighting the importance of the research, outlining preliminary scoping decisions and key definitions in relation to the context of the research, and raising delimitations and ethical considerations of relevance to the research. Chapter 1 also provides organisational guidance of the thesis chapter flow.

1.2 Practical Problem

Small business activity is a significant contributor to the Australian economy. Between June 2009 and June 2014, small business average contributions are reported at 45% of total employment, 35% of industry value add and 34% of the service and sales income figures (Gilfillan, 2018). Sales of final goods and services account for 48.4% of total small business income (the remaining income stems from sales of intermediate goods and services). Small business has reported that 87% of their total sales (on final and intermediate goods and services) stems from local demand (local consumers and businesses) with distance from a customer reducing the likelihood of a small business selling to that customer (Zhou, 2011). This means small business are conducting the majority of their transactions face-to-face and/or via online transactions with customers located within their immediate geographic locale i.e. their local market.

The observation of geographic proximity between small business and consumers is important from two perspectives. Firstly, it emphasises the importance of technology that could enable small business to develop long-term relationships with the consumers in the immediate locale

and retain their consumer base. Secondly, the potential of technology acceptance by small business that could provide online access to markets outside the immediate locale. Accessing markets further afield may help insulate small businesses from local economic conditions and provide potential growth opportunities in markets further afield (Mustaffa & Beaumont, 2004). A corollary to the second point is that low rates of technology acceptance allows non-local businesses to invade your local market. Hence, not accepting technology may not only lead to lost growth opportunities elsewhere, it could also place the small business at risk of losing business share in its local market.

New marketing methods of communication for small business have become rapidly available since the development of the internet from static web pages to include dynamic participatory content in web 2.0 (Newman, Chang, Walters, & Wills, 2016). The most widely accessible of the web 2.0 enabled technologies are social media platforms e.g. Facebook, Twitter, YouTube, Instagram. Sensis (2011) reported Australian national social media usage in a cross-industry study of the acceptance of social networking sites of the most widely accepted technologies including Facebook, YouTube and Google+, at only 15% for small business. In 2015, social media technology acceptance was reported as increasing for small business to 31% and increasing to 47% in 2017 (Sensis, 2017). In Queensland, small businesses acceptance of social media technology follows a similar trend, rising from 20% in 2011, to 32% in 2016, and 50% in 2017. However, a 9% drop in use has been reported by business in early 2020 (Chamber of Commerce & Industry Queensland, 2020).

The Australian Government recognises the importance of social media in the measurement of digital opportunities stated as vital to progressing the development of communities in major population centers, although this measurement is yet to extend to the regional areas (Australian Government, 2017). Perhaps unsurprisingly, there was little information provided by Sensis on social media usage outside major city centers i.e. in regional, rural or remote communities.

The Australian Government has previously recognised regional communities as being subject to disadvantage through digital, technological and social isolation that present barriers to economic growth (Australian Government, 2015). For example, in the State of Queensland, there is an identified need for further research on business engagement with online environments. Industry lead cross-sector 'Digital Readiness' surveys by peak business body the Chamber of Commerce and Industry Queensland indicate Queensland businesses are less

digitally ready in 2015, upon the commencement of this research, than they were in 2012. These industry surveys identify a disconnect between business strategy and digital consideration, a lack of IT skills and digital marketing strategy to underpinning social media activities conducted by small business (Chamber of Commerce & Industry Queensland, 2015). The survey findings are consistent with other industry stakeholder based technology acceptance surveys across small business reporting less than 50% of Australian small businesses having a web presence (Chamber of Commerce & Industry Queensland, 2015; Sensis, 2017; Telstra, 2018). The peak business body for Queensland, the Chamber of Commerce and Industry Queensland (CCIQ)(Giles, 2015), reported key results of a state wide digital readiness survey for business, as:-

'61 per cent of companies receive less than 10 per cent of revenue from online sales

60 per cent of businesses have reported a security breach in the past year

59 per cent of businesses don't have a digital marketing plan underpinning social media activity

28 per cent of businesses believe there is a disconnect between technology and business strategies

26 per cent of businesses said they did not have enough IT staff

25 per cent of businesses worry about a digital skills shortage'

Since the commencement of this research, there have been a number of stakeholder initiatives to improve business digital readiness i.e. the acceptance and use of available technology in business activity. For example, from 2017, peak bodies such as Advance Queensland have provided grant funding focused on providing social media strategy masterclasses, small business digital grants programs, entrepreneur grants programs and innovation initiatives all to support and educate small business development into the online environment (Queensland Government, 2019). It is likely that these measures have influenced the use of social media technology by small business in Queensland during this period. However, at the time of commencing this research, there were no measurements of program impacts at a regional

level or qualitative data to support the reported phenomenon publically available. The CCIQ reports businesses are less optimistic to obtain an advantage from technology from 2016 to 2020 (pre-Covid-19), with 35% believing technology use favours larger business (Chamber of Commerce & Industry Queensland, 2020). The impact of Covid-19 since the commencement is currently still unfolding.

Low small business' technology acceptance rates have no clear explanation in the existing literature. Some suggest that limited technology acceptance means that Australian small businesses are not getting '*the right stuff*' (Fishman, 2004) for widespread access to online environments, but perhaps an internet presence may not be necessary or desirable for all types of businesses. Quite simply, it is unknown if the observed low web presence of small businesses in Australia is the outcome of sensible business choices, or alternatively, if low web presence signals the existence of underlying problems that are constraining small business development, with wider economic implications for all Australians. SME's reluctant to engage with digital technology is been reported in the UK (Stankovska, Josimovski, & Edwards, 2016).

What can be gleaned from the literature to date is that an '*if we build it they will come*' approach to information technology infrastructure does not necessarily resolve the wider issues of digital readiness or technology acceptance and use (Adams, 2010). For example, the National Broadband Network (NBN) project to upgrade Australian internet infrastructure making the internet accessible, faster, more reliable and affordable for commercial and domestic use than previously available services with national access anticipated for completion in 2020 (Campbell, O'Driscoll, & Saren, 2013). The roll out of the NBN is designed to increase access to the online environment for businesses and personal users and supply a means of increased access to online markets (Australian Government, 2016). However, having a significant web-presence could be a waste of time and money for some types of businesses, suggesting that policies that attempt to encourage these businesses to increase their web-presence are at best, a waste of time, and at worst, encouraging inefficient practices.

The findings of the industry surveys results appear to be counter intuitive to the existing academic literature identifying technology acceptance as vital for small business to effectively engage with consumer markets to gain and maintain competitive advantage (Kim, Lee, & Lee, 2011; Neirotti & Raguseo, 2017). Better understanding small business

technology acceptance may assist policy supporting small business development, particularly in regional areas.

1.3 Theoretical Framework

The theoretical framework proposed to develop research aims should also produce practical solutions to problems that support the wider community, in this case, small business (Handriana & Dharmmesta, 2013). Theoretical framework choices also consider those providing opportunities for theoretical contributions. Two theoretical frameworks identified to resolve the practical problem and provide opportunities for theoretical contributions are online engagement and technology acceptance.

There is a need for further development in the field of online engagement. There is no universally defined concept of engagement in the literature; a detailed discussion can be located in section 2.5.1. Engagement is an important topic of research amongst academics of many disciplines, particularly in the fields focusing on the public good such as: health (Hardyman, Daunt, & Kitchener, 2014); public relations (Emery, Mulder, & Frewer, 2014); and education (Heaslip, Donovan, & Cullen, 2014). Engagement is also an important topic of research in business disciplines exploring work environments including human resources and employee relations (Fletcher & Robinson, 2014); and in marketing research (Baldus, Voorhees, & Calantone, 2015; Brodie, Ilic, Juric, & Hollebeek, 2013; Gummesson et al., 2014).

However, the majority of online engagement literature in marketing focuses on consumer needs conceptually (Brodie et al., 2013; Gummesson et al., 2014; Hollebeek, Glynn, & Brodie, 2014; Van Doorn et al., 2010) and empirically (Baldus et al., 2015; Verhagen, Swen, Feldberg, & Merikivi, 2015). As identified by Brodie (2013), there is a need to strengthen engagement research through methodology which utilises both qualitative and quantitative techniques across a variety of online environments.

The proposed research approaches the concept of engagement from an alternative perspective to the consumer focus of the existing literature. There is scant literature covering online engagement considered from the perspective of a business. Some studies were located that did consider the business however this remained focused on an outcome for consumers in terms of attitude or sentiment. For example, van Noort and Willemsen (2012) noted an increase in positive attitude toward a brand when the business responded to negative posts

using a human voice. Similarly, Coyle, Smith, and Platt (2012) found a higher positive attitude toward a brand when the brand empathized with the consumer and then went on to problem solve with/for them. Homburg, Ehm, and Artz (2015) found that if a business increases its online engagement via responses in forums, this in turn increases the engagement intentions of consumers. The proposed research answers calls to contribute to the body of work on online engagement from the RSB perspective. In the proposed research, key aspects of online engagement from a consumer perspective will be utilised to gauge if small business also perceive those engagement aspects as important. This will enable future research to identify alignment between small business and consumers perceptions on the importance of engagement.

The second body of literature drawn upon to form the theoretical framework for the proposed research is technology acceptance. An examination of the available technology acceptance literature is contained in section 2.6. A model that met the requirements of the needs of the practical problem and seeking further calls to research was located in the literature, being the Unified Theory of Acceptance and Use of Technology (UTAUT) model.

In this research, technology acceptance theory is explored through application and expansion of the UTAUT model (Venkatesh, Morris, Davis, & Davis, 2003). Williams, Rana, and Dwivedi (2015, p. 470), acknowledge the UTAUT model as relatively unexplored and call for further research stating,

‘there are still ample and clear opportunities for researchers to engage with and further shape and develop the field...to embark on original studies of culture and context-related UTAUT research’.

The UTAUT model is suitable for this research purpose as it synthesizes components from a diverse array of technology acceptance models in the existing literature. The UTAUT model literature currently applies to situations of individual consumer acceptance and use of particular technologies relating to electronic commerce (e-commerce) and mobile commerce (m-commerce). For example, recent studies conducted of consumers acceptance and use of new technologies in mobile banking (Ahmed, Kader, Md Harun Ur, & Nurunnabi, 2017; Singh, Srivastava, & Sinha, 2017), electronic banking, mobile shopping (Madan & Yadav, 2018), the introductions of plastic money (Makanyeza & Mutambayashata, 2018) and in hotel-tourism contexts (Kim, Mejia, & Connolly, 2017; Tan, Lee, Lin, & Ooi, 2017).

Broader applications of the UTAUT model in the literature retain the focus on individual user acceptance and use of a specific technology, but refer to areas outside commerce, including open educational resources (Padhi, 2018), e-Government services (Khaled Ahmed Al, Sarabdeen, & Tchantchane, 2018), mobile apps and gamification (Baptista & Oliveira, 2017) and healthcare (Gao, Li, & Luo, 2015).

In an organisational context, the UTAUT model assesses individual employees' acceptance and use of enterprise social media impacts on human resource management (Offong & Costello, 2017). Detailed discussion of the UTAUT model and its latter iterations by its creators are contained in section 2.6.3. However, the UTAUT model is unexplored in an RSB context to adopt and use technology for engagement with marketing communications. Using the UTAUT model expands knowledge on the model itself and has the potential to add new understanding for the RSB context.

1.4 Research Goal and Objectives

The goal of this research is to learn more about marketing communications technology acceptance by RSB. The overarching goal has been broken down into three (3) specific research objectives (RO):-

RO1: Discover characteristics of RSB likely to decide for and against the acceptance and use of marketing communications technology

RO2: Assess the extent to which RSB regard engagement with consumers as being important for their marketing communications

RO3: Provide insights on positioning RSB in the existing technology acceptance and use literature

These three objectives require elemental choices as to the type of business, region of business and type of technology to be included in the research. The literature review informs the research objectives providing refinement into research questions addressing any gaps located and thereby providing a contribution to existing knowledge from this research.

1.5 Importance of the Research

This research is important to the research priorities stated by leading marketing discipline organisations and governments at a global, national, state and local level. For example, the importance of engagement in the online environment in the research priorities of the US-based Marketing Science Institute (MSI). The MSI is a not-for-profit organisation developed in 1961 as a ‘think tank’ organisation comprising leading academic and industry leaders to,

‘Contribute to the emergence of a definitive science of marketing’ [and] ‘stimulate increased application of scientific techniques to the understanding and solving of current marketing problems.’

The purpose of the MSI priority is to bridge the gap between marketing theory and business practice (Marketing Science Institute, 2015). Through the identification of research issues and allocation of research funding, the MSI has supported important marketing developments including the foundation of consumer ethnography. The MSI recognises engagement in marketing as theoretically underdeveloped and prioritises research in this area as Tier 1, being its most important research priority category for the 2014 to 2016 period. This study is within the research properties of the MSI as defined by,

‘Research Priority 1 RP1: Understanding the Customers and the Customer Experience, Topic C. How should engagement be conceptualized, defined, and measured? How do social media and other marketing activities create engagement?’ (Marketing Science Institute, 2014).

The MSI Research Priority 1 RP1 flowed into the 2016 – 2018 Research Priorities RP3: ‘Making sense of changing decision processes’ and the opportunities business has to engage with consumers in a connected online space (Marketing Science Institute, 2016). Leading business academic universities including Harvard Business School and global corporates including IBM and McDonalds support the MSI. By obtaining the support of large international businesses for its research agenda the MSI gains credibility and influence of industry and the public.

Small business is a major contributor to the many economies at national level. One indicator of economic health are small business survival rates (Bank, World, & Weltbank, 2011). The Australian small business survival rate from June 2007 to June 2011 was 59.7 per cent,

compared with medium business at 76.8 per cent and large business at 74.3 per cent. Hence, there is a difference of approximately 16 per cent in the survival rate based on business size between small and medium business. Research that contributes to the understanding of small business decision making in accepting technology for market communications has the potential for supporting economic health.

Examining small business at an Australian state level also reveals geographic disparity. Historically, Australian business counts and survival rates are comparable with population size in the states of New South Wales, Victoria and Queensland. However, over the past decade, Queensland is reported as suffering the largest decline in total business categories by count of any state in Australia, and this is disproportionate to the standard population comparison (Cilliers & Flowerday, 2013)—see a detailed discussion in section 2.2.4 Selection of Focal locale Region. Research that contributes to the understanding of small business decision making in accepting technology for market communications has the potential for identifying opportunities to restore parity at a state level.

As a lone author in a single thesis, there are simply not sufficient resources to undertake research that comprises all of the areas identified as relating to the practical problem to understand the gap between what is known and unknown in small business technology acceptance for market communication in metropolitan and regional areas of Australia. To assist in making the research manageable for the available resources, consideration is needed as to the scope and key definitions to form a workable approach to the practical problem (Evans, Gruba, & Zobel, 2014).

1.6 Scope and Key Definitions

Three key elements are identified in the practical problem addressed by this research; business size, business location and type of technology for acceptance and use by the business. An exploration of the elements will assist in forming the scope of the research.

1.6.1 Business Size

To define the scope of the study requires consideration of what businesses should be included in the research. Business literature often divides businesses into categories based upon the characteristic of size, for example small, medium and large businesses. In Australia, the

small business category often comprises an additional subcategory of micro businesses. Consideration of business size is important as business size is linked to the structure of the organisation and the resources it has access to, and in turn the strategic decisions on technology acceptance (Jones, Simmons, Packham, Beynon-Davies, & Pickernell, 2014). Consideration of the size of business is relevant to drawing inferences and comparisons when interpreting results to enable the comparing like businesses.

As Australia is a signatory to the United Nations Sustainable Development Goals (SDG), and those goals provide guidance on the selection of business category for inclusion in the research (United Nations, 2015),

UN SDG Goal 8: Decent work and economic growth, 8(3) Promote development-orientated policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services

UN SDG Goal 9: Industry, Innovation and Infrastructure, 9C significantly increase access to information and communications technology and strive to provide universal and affordable access to the internet in least developed countries by 2020.

Due to the number of small businesses in Australia and the significance of their contribution to the economy globally (refer section 1.2), together with the nation's commitment to the SDG's that include supporting technology access and development for small business, small business is selected as the focal business category for this research.

A definition of small business will assist in categorising businesses that will define the scope of the research. There were many definitions applying to defining a small business located in the literature. For example, in Australia the following definitions can deem a business to be in the category of small business for a variety of purposes:-

- Australian Tax Office (ATO) defines a small business entity as 'an entity which operates a business with an aggregated turnover of less than \$2 million', (Australian Taxation Office, 2014). Turnover drives this definition of small business with the interest of tax collection paramount.

- s.6D(1) of the *Privacy Act 1988* (Cth) defines a small business as ‘ a business is a small business at a time (the *test time*) in a financial year (the *current year*) if its annual turnover for the previous financial year is \$3,000,000 or less’. This definition introduces flexibility for the definition to change in and out of meeting the requirements of a ‘small business’ with a given time in any financial year.
- s.23 *Fair Work Australia 2009* (Cth) defines an RSB as one with less than 15 employees that depending on the circumstances may or may not include some casual employee counts. The focus of this legislation is to provide certainty of employment through enforceability of dismissal laws.
- *Workplace Gender Equality Act 2012* (Cth) uses the Australian Bureau of Statistics (ABS) segmentation of businesses based on the number of employees being small 0 – 19, medium 20 - 199 and large 200 plus. However, there is no reporting aspect for those under 100 employees or if previously over 100 threshold but have dropped under 80 employees for six (6) non-consecutive months.

From examining small business definitions contained in the literature, differences occur to align their purpose. For example, the ATO definitional driver is the collection of taxation, the establishment of legal rights and obligations, and meeting Government reporting requirements.

The ABS definition provides the most appropriate definition for this research. The ABS definition of small business states:

‘a business employing less than 20 people. Categories of small business include:

- non-employing businesses - sole proprietorships and partnerships without employees;
- micro businesses - businesses employing less than 5 people, including non-employing businesses;
- other small business - businesses employing 5 or more people, but less than 20 people’, (Australian Bureau of Statistics, 2009).

It is important to note a number of parameters within the ABS small business definition. Firstly, size refers to a ‘headcount’ rather than full-time equivalent employment positions in the business. Secondly, a small business excludes independent contractors. Finally, the

small business must be actively trading to be included as determined through transactions listed in its taxation records. Table 1.1 outlines Business type definitions based upon the number of employees.

Table 1.1 ABS Business Size Definitions (Australian Bureau of Statistics, 2009)

Business Type	Number of Employees			
	(0 – 4)	(5 – 19)	(20-199)	(200+)
Micro	✓			
Small		✓		
Medium			✓	
Large				✓

However, care is also required when considering and comparing literature from global locations as the numbers forming the boundaries of those categories can be vastly different. The inconsistencies identified with the potential to influence the review of the literature or application of the results of this study to other geographical areas highlighted in Table 1.2 Comparative Global Business Definitions. For example, the ‘Headcount’ column demonstrates a significant difference in the number of employees used to defining the category of small business depending on different countries. An Australian small business is categorised with 5 to 19 people and is more akin to a micro business in the European Union with less than 10 staff, whereas in the United States less than 100 staff is the equivalent to a mid-category medium sized business in Australia.

Table 1.2 Comparative Global Business Definitions

Country	Business Category	Headcount
Australia (ABS 2009)	Micro	<5
	Small	<20
	Medium	20 - 199
	Large	200+
European Union (2003)	Micro	<10
	Small	10 - 50
	Medium	51 - 250
United States (Eastman 2010)	Small	<100
	Small-Medium	100 - 199
	Medium	200 - 9999
	Large Enterprises	10,000+

A review of the literature found the variable terminology when refer to business size in different geographic locations (McCann & Barlow, 2015). For example, what would be referred to as a microbusiness in Australia was called a minute business in European literature (Eastman, 2010; Guzzo, Ferri, & Grifoni, 2015).

As with Australia’s multiple definitions of small business, some overseas countries also had multiple definitions operating to define small business classification. While the European Union has provided guidance in definitions for member countries, this has not resolved the issue of comparative research prior to annexation, nor to definitions applying differently internally to those countries depending upon different government department usages. For example, in Ireland the definition is referred to as ‘enterprise’ and a small enterprise is, ‘*an enterprise that has fewer than 50 employees and has either an annual turnover and/or annual Balance Sheet total not exceeding €10m*’ (Bryson, Atwal, Chaudhuri, & Dave, 2015). In August 2015 with a conversation rate of EU 1 = 1.56 AUD, this is approximately \$15,600,000 AUD.

The United Kingdom has many definitions of small business that operate between Government departments similarly to Australia. However, the United Kingdom also use the

European Union definition '*RSB is one that has fewer than 50 employees & a turnover under €2 million*' (Guzzo et al., 2015, p. I. 124/139). In August 2015 with a conversion rate of EU 1 = 1.56 AUD, this is approximately \$3,120,000 AUD.

There were differences in the definition of small business based on how the information is collected and by whom. For example, the United States Census Bureau collects data based on industry sector codes and does not categorise business into large or small. This appears left to the parties using the information to extrapolate for the purpose of the data use. As a result many different definitions are being used, for example, Oracle, Sage Software and Hewlett-Packard (HP) have divided the businesses using different definitions of small business to analyse trends and provide information to the public (Eastman, 2010). The United States Government have different definitions for eligibility of small business for government programs based on the North America Industry Classification System Codes (NAICSC) set by average number of employees and average annual number of receipts (United States Census Bureau, 2015).

Research was also located that combined business categories rather than dealing exclusively with a single category such as small business, for example, studies using small to medium sized business (Durkin, McGowan, & McKeown, 2013). The relevance of the differences identified in the literature review is to ensure care is taken that any research findings compare like sized businesses with similar internal structures and resources (Barnes et al., 2012).

In summary, the focus of this research is small business. The ABS definition of small business is selected to define small businesses by number of employees based on head count as 0 to 19 employees (Australian Bureau of Statistics, 2009). Comparisons between the literature and the current context need caution as do generalisations of findings due to different definitions of small business in different jurisdictions. Consideration now turns to the selection of an appropriate location to conduct the research.

1.6.2 Regionality

Small businesses exist globally in large numbers and a decision as to where to locate the research will assist in efficiently allocating available resources. For this reason, Australia as the author's home country is the most obvious limiting scope (see section 1.2). However, Australia is a vast country in land mass. The maps that follow in Figure 1.1 Map comparing size of Australia with Europe & Figure 1.2 Map comparing the size of Australia with United

States of America, indicate the comparative land area of Australia against that of Europe and the United States respectively to provide perspective on the distances involved in Australia (Queensland Department of Natural Resources and Mines, 2015).



Figure 1.1 Map comparing size of Australia with Europe



Figure 1.2 Map comparing the size of Australia with United States of America

Within Australia, small business can be categorised by their geographical area of operations, being small businesses operating in cities, metropolitan areas, and regional, rural and remote areas. The industry and academic literature centers on small businesses within cities and metropolitan areas (e.g. western Melbourne)(Burgess & Paguio, 2016); or grouped all small business together on a cross sectional basis not focused on the impact of geographic location (Poon & Swatman, 1997); or studies that considered the general acceptance of the internet or IT systems in computing activities transformational effects on business operations and entrepreneurship. However, large numbers of small businesses exist outside cities and metropolitan areas in Australia's regional, rural and remote communities and there was scant literature located focusing on technology acceptance for marketing communications from that perspective. This was an interesting observation as regional, rural and remote communities in Australia have additional contextual challenges due to their location.

The distances of communities from a major city in Australia can pose challenges specific to regional populations in the form of geographic, economic, social and technical isolation. Geographic isolation refers to isolation due to a place being in a physical location removed from a metropolitan population source. Economic isolation refers to the limiting of growth or

market access in an economy and can be due to physical distance increasing trade costs or lack of resourcing such as transport infrastructure. Social isolation refers to members of a society being denied access to, and involvement with, the wider community at an individual, local, or regional level (Sabi, 2014). Technology can assist with social and geographic isolation through providing a means to connect with others in the community. However, technology that decreases the need for interpersonal contact and thereby creates efficiency can also exacerbate individual isolation, unless it occurs in a way that supports community interaction. Technological isolation (also referred to as digital isolation) occurs due to a lack of access to technology due to factors such as age, access to infrastructure and educational resourcing. In recognition of the additional challenges faced in Australian regional, rural and remote areas, the Australian government tracks a measure of remoteness from access to services to assist research and statistical data, see Figure 1.3 Map of the 2016 Remoteness Areas for Australia.

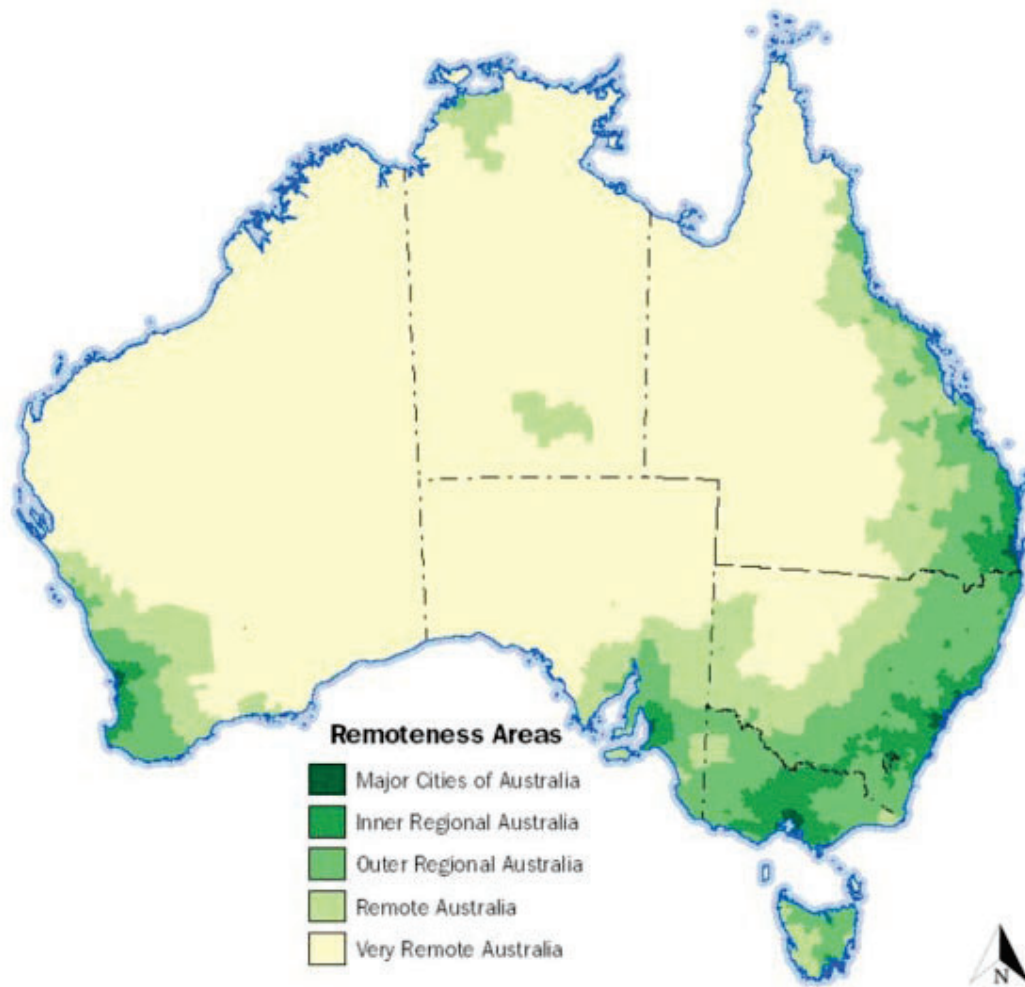


Figure 1.3 Map of the 2016 Remoteness Areas for Australia, Australian Statistical Geography Standard (ASGS) Volume 5 – Remoteness Structure (cat. No. 1270.0.55.005)

The availability of information technology infrastructure is a factor affecting the selection of whether to include regional, rural or remote small businesses in the research. The purpose of this delimitation is due to the different factors affecting the existence of and access to internet services forming additional infrastructure barriers affecting the acceptance and use of technology for both the small business and consumer market. However, regional Australia has internet service infrastructure available with fewer access restrictions than rural and remote areas. For this reason, the research will focus on regional small businesses and restrict the number of infrastructure variables influencing acceptance of technology.

Regional Australia has been defined as *‘including all of the towns, small cities and areas that lie beyond the major capital cities (Sydney, Melbourne, Perth, Adelaide and Canberra)’* (Regional Australia Institute, 2017). There is no exact number of kilometers placed on the distance to define the concept of regionality. A regional location is simply one that is physically located at a distance from a city or metropolitan area, and involves a restriction of access to services and types of isolation due to that location. Taking action to address all forms of regional isolation are recognised as matters of national importance to supporting the future growth of business in Australian regions (Australian Government, 2015). A selection is required as to what regional area would be appropriate to conduct the research.

1.6.3 Focal Locale

As significant portions of Australia are classified as regional (refer Figure 1.3 Map of the 2016 Remoteness Areas for Australia), and research resources are limited, an examination was then conducted to select an appropriate Australian region to conduct the research. During the scoping period of the research, the Australian Government was developing policy to assist the northern regions of Australia to increase their economic capacity through infrastructure and policy to promote an effective business environment (Australian Government, 2015). For this reason, the northern region of Queensland will be the research focus. Conveniently, this was also the author’s home region and area serviced by the author’s educational institution, James Cook University.

The northern region of Queensland is further segmented into the local government areas (LGA’s) of Townsville, Burdekin, Charters Towers, Flinders, Richmond, McKinlay, Cloncurry and Mount Isa, Hinchinbrook and Palm Island, Figure 1.4 Map of Queensland Regions (Queensland Government, 2015).

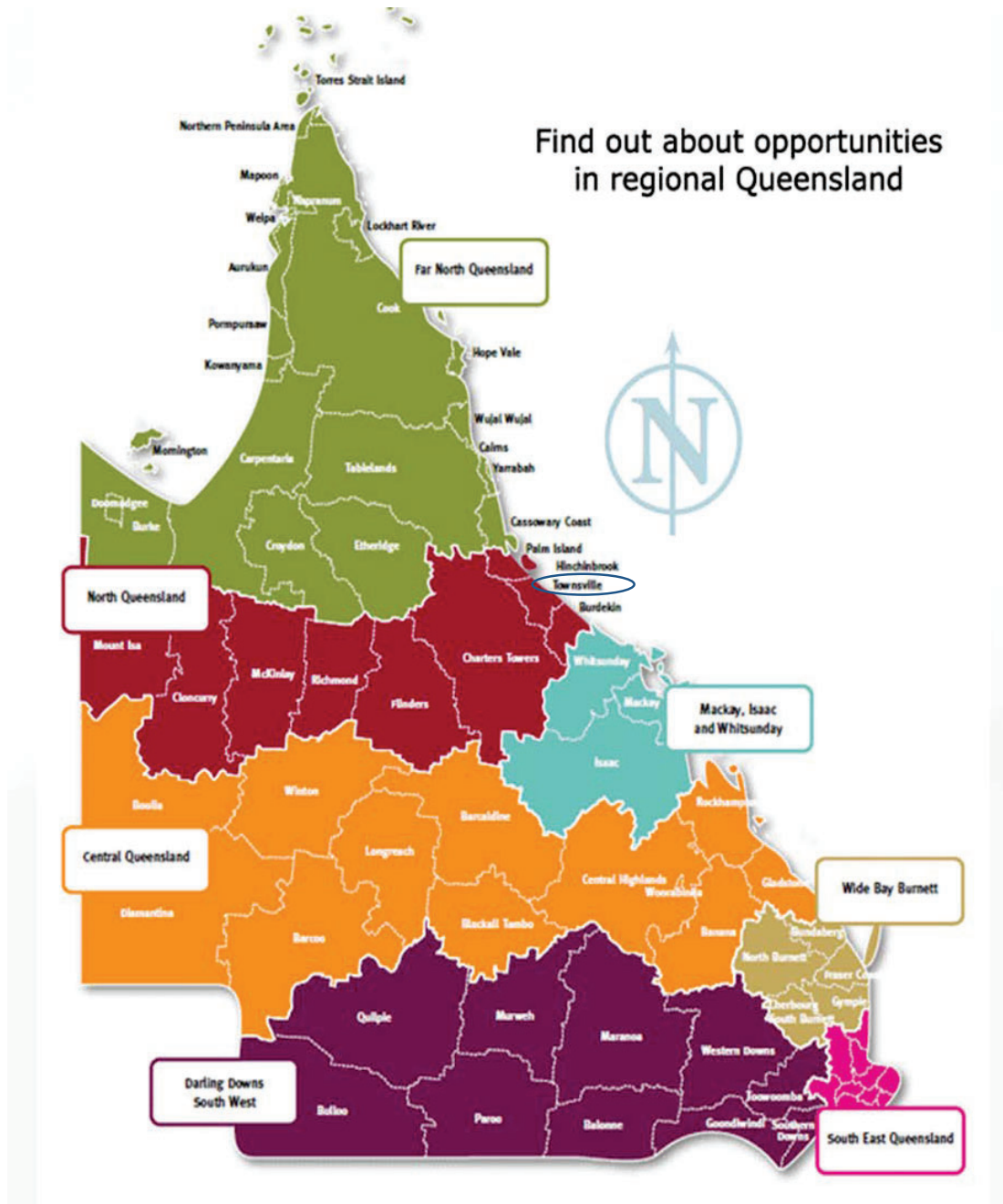


Figure 1.4 Map of Queensland Regions (Queensland Government, 2015)

Townsville will be the regional focal locale for the research. A deciding factor in choosing Townsville as the regional focus of this study, was the remainder of the LGA’s within northern region are classified as either rural and/or remote communities rather than regional.

Townsville meets the definition of regionality selected, as it is geographically isolated from the closest major city being Brisbane, the capital city of Queensland. It is a distance of

1,335km by road from the regional center of Townsville to the nearest major city center the Queensland state capital of Brisbane. Townsville is also geographically isolated due to the vast distances across the land mass within its own region covering over 3,727 square kilometers (Australian Bureau of Statistics, 2017).

General information on the Townsville business community can provide relevant background to the research. Townsville houses the largest population (and potential market and consumer base) outside of a capital city in Queensland. At the commencement of this study, the population of Queensland in December 2014 was 4,750,513, Northern Region 267,107 and Townsville 192,038, ABS (2014).

Table 1.3 Population of Northern Region by Local Government Areas adapted from ABS (Australian Bureau of Statistics, 2014, 2017)

Local Government Area	Population per capita 2014	Population per capita 2016	% Population change
Mt Isa	22, 717	19,332	(-17.51%)
Cloncurry	3,999	3,114	(-28.42%)
McKinlay	1,083	810	(-33.7%)
Richmond	847	800	(-5.9%)
Flinders	1,822	1,569	(-16.2%)
Charters Towers	12, 517	12,074	(-3.7%)
Townsville	192,038	192,058	0.1%
Burdekin	17,916	17,313	(-3.5%)
Hinchinbrook	11,541	10,990	(-5%)
Palm Island	2,617	2,602	(-1%)
Total Population Northern Region	267,107	260,662	(-2.5%)

Townsville is the largest regional center in Queensland by population and by industry sector diversity. Over 95 per cent of Townsville, North Queensland businesses were classified as small business within the ABS definition (Upadhyay & Chattopadhyay, 2015).

Table 1.4 Business Numbers in Townsville, (Australian Bureau of Statistics, 2014, 2017)

Business Size	2012	2013	2014	2015	2016
Non-employing businesses	10,090	9,859	9,732	9,438	Not yet available
1 - 4 employees*	4,577	4,479	4,443	3,371	
5 - 19 employees*	2,042	2,023	2,101	1,986	
20 or more employees	488	521	503	473	
Total Businesses	17,197	16,882	16,779	16,368	

* indicates business employee categories included within the definition of 'small business, refer section 1.6.1

Until 2014, Townsville experienced economic prosperity buoyed by the Queensland mining boom. However, 2014 saw a large downturn in the mining sector and this had a substantial impact on the prosperity of the region. Businesses servicing fly-in/fly-out and drive-in/drive-out populations utilising Townsville as a base for rural and remote mines in northern Queensland communities were the hardest hit from the mining downturn in 2014-2017, with substantial shift cancellations and mine closures during this period. In Townsville, this resulted in the highest unemployment rates for over a decade at 11.8 per cent (Creighton, 2014).

Many Townsville small and medium sized businesses directly and indirectly forming part of the mining industry supply chain struggled to stay afloat. At the commencement of this research, in the 2015 March quarter, Townsville was recorded as having the highest number of personal business related insolvency debtors in Queensland and this status is retained as at 2018 June quarter (Australian Financial Security Authority, 2015, 2018). The economic conditions in this regional center have created a challenging operating environment for RSB.

Arguably, during such periods of economic downturn there is an increased importance on developing relationships with local consumers and accessing new markets for products and services via online engagement to consumers further afield and potentially increasing resilience to future economic events.

The Australian Government policy focus is on developing infrastructure in north Queensland. This focus was consequently reflected in amendments to the Townsville City Economic Development Plan (1994) and specifically embodied in section 5.14 *'increase awareness and utilisation of digital communications'* and section 6.0 *'business support and skills development strategy'*.

Efforts to bolster economies in northern Australia saw Townsville's selection as one of the first sites to roll out new NBN technology infrastructure. The NBN roll out commenced in Townsville in 2014. The purpose of this upgrade was to *'fuel growth and drive improvements to local economies, businesses and homes, bringing new opportunities to the whole country'* (Australian Government, 2016). The increase of services through the roll out of the NBN proposed to decrease the effects of geographical and technological isolation through and a decrease in 'digital' isolation of individuals and business. However, having that as the aim makes an unsubstantiated assumption that 'isolation' is a barrier to web-presence that negatively influences business operations, research to determine if that is indeed the case. There may be other barriers of more significance to RSB. An objective of this research is to learn more about the characteristics influencing technology acceptance by RSB, and determine when and where (i.e. for which types of businesses) certain characteristics exist.

As at 2019, the NBN roll out in Townsville was incomplete. There was no publically available information detailing economic advancements resulting from the provision of NBN infrastructure in Townsville. An in depth discussion of the NBN and its impact on Townsville as a regional area is reserved for future research and is outside the scope of this study. However, the impact of these infrastructure upgrades does not appear to have been utilised on the available anecdotal evidence on acceptance rates new technology reported by peak bodies generally in Queensland (Chamber of Commerce & Industry Queensland, 2020).

In summary, the focal locale selected for the research is Townsville, Queensland. Townsville's background information discussed issues of economy and digital infrastructure

access where relevant to this research. Consideration now turns to the selection of a suitable focal technology for marketing communications.

1.6.4 Focal Technology

The advancements in technology have changed the ways businesses can communicate with their market (Weaver & Morrison, 2008). Businesses have traditionally communicated to the market through a variety of media channels including newspaper and print media, television. The development in the internet through web 2.0 expands available options to include online social media environments.

It can be argued that the underlying premise for humanities acceptance of social media remains its ability to foster a connection between people and communities as a primal human need (Maffesoli, Felski, Megill, Rose, & Eagleton, 2004). Marketing communications literature supports such an argument as communications have been found of the highest impact when the human dimension of the connection is supported, as exemplified in extreme cases such as brand communities (Muniz & O'Guinn, 2001) (McAlexander, Schouten, & Koenig, 2002) (De Vries & Carlson, 2014) and tribes (Cova & Cova, 2002) with the concept of linking value (Cova, 1997; O'Reilly, 2012) and transcendent experience (Goulding, Shankar, & Canniford, 2013). The nature of online consumer groups are more socially active and participative communitarians than the traditional offline consumer groups (Kucuk, 2008), providing businesses that use marketing communications via social media technology with the opportunity to increase brand loyalty and co-creation, thereby impacting the success of their business through gaining competitive advantage (Brodie et al., 2013; Van Doorn et al., 2010).

The development of social media would not have been possible without the development of Web 2.0. An in depth discussion of the development of the Internet through the creation of Web 2.0 is outside the scope of this research. However, it is important to note that with the further development of the Internet came Web 2.0 and the rise of social media as a communication tool (Kleinrock, 2010). There is no universal definition of social media, however, Charlesworth (2011, p. 1) defines social media as,

'any web presence where users can add their own content but do not have control over the site in the same way as they would their own website'.

Kaplan and Haelein (2010, p. 61) provide a deeper definition stating,

'Social media is a group of internet based applications that builds on the ideological and technological foundations of Web 2.0 and that allows the creation and exchange of User Generated Content'.

Social media allows for communications via blogs, microblogs, forums, message boards, video and photo sharing sites, podcasts, search engine marketing, social bookmarking and information sharing sites, social networking sites. Social media communication can occur at many levels, for example, between individuals, organisations and on mass to the general public (Frey, 2000). The distinguishing feature of social media communication is that it allows for real time interaction between users and between users and the business. This unique feature results in a shift of the balance of power in the marketing communications relationship from the business towards the consumer through feedback and rating systems (Mangold & Faulds, 2009).

The literature exploring engagement with social media for marketing communications is largely from a consumer perspective i.e. focusing on what the consumer values, what the consumer wants, how consumers feel when engaging with the technology and the frequency of contact welcomed by consumers from businesses (Zheng, Cheung, Lee, & Liang, 2015). However, the importance of the RSB perspective on marketing communications using those communication technologies is still developing.

Of central importance to the general appeal of social media for marketing communications is the potential for relationship building (to retain existing customers) and the ability to access User Generated Content (UGC) (providing new customers, ideas through co-creation and trust). The power of UGC originates in the concept of word-of-mouth marketing in that peer-to-peer recommendation is more credible and influential than marketing communications from a business (Cheung & Thadani, 2012; Christodoulides, Michaelidou, & Argyriou, 2012; Khanlari, 2015), affecting brand attitude, brand equity and purchase intention of consumers (Schivinski & Dabrowski, 2014) and further that a company can manage their web presence to foster positive UGC (Huotari, Ulkuniemi, Saraniemi, & Mäläskä, 2015). Accessing a market that can help protect existing customer base and wider market access through UGC for RSB provides a distinct competitive advantage.

However, Durkin (2013) asserts that social media is of limited marketing value for established brands due to the lack of penetration where there is already a broad consumer base and a bias towards personal communication. Interestingly, personal communication bias is one that supports the building of relationships and may provide an equalizing opportunity for RSB over larger corporations explored in this research.

Social media is the umbrella term under which many social networking sites operate (SNS). The literature contained many hundreds of SNS globally, far too many for a cross sectional study to produce meaningful answers to the research objectives with the available resources. To select a single technology it was important to find an option that demonstrate longevity (for relevance of the study outcomes for RSB) and provided wide market appeal (to suit cross sectional nature of the study and future replication in other regional communities). For continued acceptance and use of a technology, it is important for there to be the perception of a critical mass of users (Boyd & Ellison, 2010; Ilie, Van Slyke, Green, & Lou, 2005; Lou, Luo, & Strong, 2000; Shen, Cheung, & Lee, 2013; Sledgianowski & Kulviwat, 2009; Van Slyke, Ilie, Lou, & Stafford, 2007). Reviewing the top of social media global listings revealed Facebook as the lead technology, distantly followed by Twitter, Instagram and Snapchat, in terms of the most market penetration and reach while retaining organic growth opportunities over the longest period of time (Kemp, 2020). Due to Facebooks' consistent listing as the highest sustained platform globally in western developed countries, it is the SNS selected as the focal technology.

Facebook is an SNS developed during the Web 2.0 era from 2004 to 2008. The public stock exchange listed Facebook in 2012. On 13 July 2015, Facebook became the fastest company in the Standard & Poor 500 (S&P 500) index to reach a market cap of \$250 billion, doubled the Nasdaq Internet Index and is the 9th biggest Nasdaq listed company with a market value of \$253 billion and advertising revenue forming 90 per cent of total sales (Gangwar, Date, & Raoot, 2014). By fourth quarter 2017, Facebook growth throughout that year was reported at 2.13 billion active users worldwide, almost double that of 2015 reports and an increase of 14 percent in that year alone (Facebook, 2017). In 2019, despite the impact of the Cambridge Analytica scandal, Russian influence campaigns, the use of platform by extremists to spread racial hatred in Sri Lanka and UN condemnation for inciting genocide in Myanmar (TRT World, 2019), Facebook remains the largest SNS with over 2.38 billion users globally, significantly in front of Twitter in second position with 321 million users (Kellogg, 2019,

June 11). As a global GDP size comparison, Facebook would rank it 90th of 193 country economies listed with the World Bank (Review, 2019).

While initial Facebook usage was by private communications between individuals, the size and frequency of usage provides business with significant marketing opportunity for ready access directly to a large online consumer market. Facebook developed 'Facebook for Business' to cater for this market and offering different functionality on newly developed pages to individual user profiles. Similar to individual page creation, Facebook for Business allowed the creation of pages, which allowed organisations, businesses, brands and public figures to have a presence on Facebook. This market consists of consumers who may be geographically located in the immediate region, interstate, nationally and even internationally. As a result, increasing numbers of businesses are venturing into the use of Facebook for commercial purposes. Facebook has shown to create growth and both direct and indirect value for small businesses through word-of-mouth, recommendation and social influence (Hopkins, 2012).

Businesses wishing to utilise Facebook can do so through the creation of their own Facebook page or through the purchase of advertising space. Facebook provides specific services to assist business use such as encouraging businesses to use their Facebook pages better by easily discoverable search terms, timely posting of tailored messages to consumers and to analyses the analytics to understand their customer base. Facebook informs businesses to be authentic in their communications with online consumers, and promotes repeating posting activities observed by the business to engage consumers measured through consumers' clicks i.e. likes, shares and comments. Posts that contain photos, videos and links are suggested as the best way to use Facebook to build brand awareness and loyalty to increase consumer purchases, repeat purchases and consumer advocacy for the business (Facebook for Business, 2015).

Crucial to the selection of this media channel for this research, is that there is a low financial barrier to entry for RSB as Facebook is free to join and use. This is because Facebook generates profit through advertising revenue and not join up or ongoing membership or usage fees, in 2017 fourth quarter over 88% of Facebook revenue was sourced from mobile advertising space (Facebook, 2017). However, advertising is optional and business Facebook pages are free. Therefore, this type of SNS would seem appealing to RSB that may not have the finances or access to professional services to develop and regularly update and maintain

more complex interactions, e.g. such as a website. There is a difference in the use of Facebook between small business and medium to large business. Medium to large businesses often do not consider Facebook a low cost communication channel and have the resources to allocate large proportions of their marketing budgets to generate content for Facebook sites. This observation is consistent with the literature on business size influencing available resources described in section 1.6.1.

The way in which consumers are engaged on Facebook is also vital, with posts that focus on obviously promotional content unlikely to secure conversions for business. This makes engagement in UGC even more important for RSB. The result of the implementation of the new Facebook newsfeed algorithm creates barriers for RSB using Facebook to engage with consumers purely from advertisements. RSB is likely to have to pay Facebook advertising space to get the same promotion of products and services available through access to consumer newsfeeds it previously could access free of charge.

Facebook algorithms are constantly changing and this means business need to understand their online consumers better and adjust their marketing communications strategies using Facebook to maintain relevance in this channel. Facebook has identified this issue adversely affecting small business who do not have the big budget to spend on paid Facebook advertising space. Therefore, an integrated online marketing strategy, metrics and tracking become of increased importance to achieve the best 'bang for buck' outcomes for RSB if adding Facebook to their marketing mix. These come at a price to the small business and there is often not the access to expertise to interpret the results or funding to seek professional help through a market research business. The constant changes in algorithms may also create uncertainty for small business trying to measure value from their Facebook activity. In this research, technology acceptance and use will focus on free organic content and advertising activities charged by Facebook.

In summary, the justification of the scope and selection of key definitions of this research have been outlined as small business (section 1.6.1), within a regional area (section 1.6.2) being the focal locale of Townsville, Australia (section 1.6.3)1.6.2, and considering the focal technology of Facebook (section 1.6.4).

1.7 Delimitations

Delimitations are those restrictions purposely imposed in designing the scope of the research. The purpose of design delimitations is to manage the size and scope of the research, to have meaningful contributions to existing literature and to support replicability of the research and any studies it contains. There are three (3) delimitations in this research forming the contextual boundaries. The first delimitation restricts the business type based on size determined by the number of employees. This research will focus on small business; refer section 1.6.1. The second delimitation restricts the geographical locale of the small business to a regional area. This research will focus on the regional locale of Townsville, Queensland; refer sections 1.6.2 and 1.6.3. The third limitation focuses on the technology acceptance under examination. This research will focus on the SNS of Facebook; refer section 1.6.4. It is important to understand delimitations as they influence the generalisability of research findings and therefore its future application.

1.8 Ethical Considerations

The Australian Code for the Responsible Conduct of Research and the James Cook University ethical guidelines frame the conduct of this research. Ethics application H6690 approved by James Cook University upon completion of the confirmation of candidature process and prior to any data collection being conducted for this research.

1.9 Organisation of the Thesis

This thesis is organised with Chapter 1 containing an introduction, Chapter 2 the literature review, Chapter 3 the methodological overview, Chapters 4 and 5 containing analysis of the data, and Chapter 6 the discussion and conclusion. An overview of the organisation of chapters outlined in Figure 1.5 Thesis Chapter Flow.

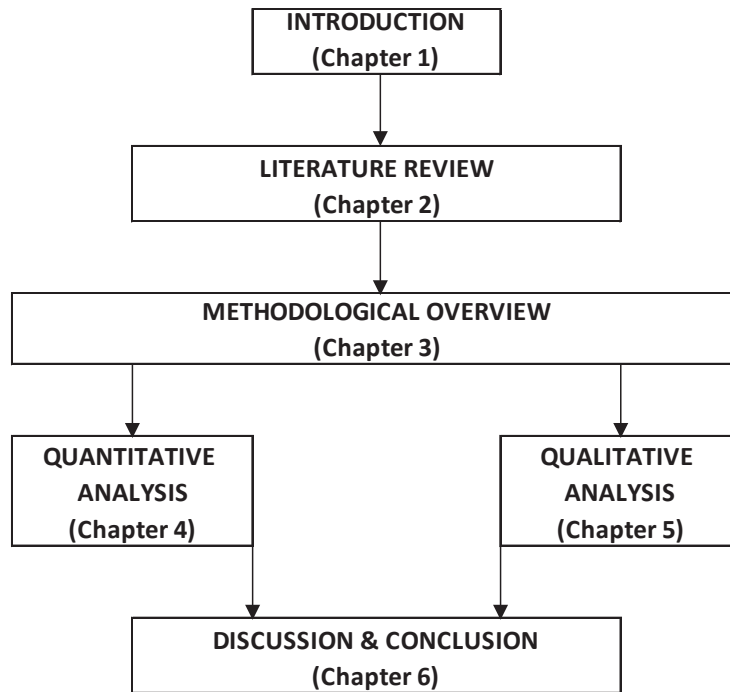


Figure 1.5 Thesis Chapter Flow

Each thesis chapter commences with an introduction containing information on the previous chapter, the aims of that chapter and a connection to the next chapter topic. A summary of the contents of each chapter listed below.

Chapter 1 provides an overview of the thesis outlining the overarching goals of the research, practical issues, importance and proposed format of this study.

Chapter 2 discusses the relevant bodies of literature identified necessary to conduct the study. This Chapter generates the research gaps used to formulate research questions for the study.

Chapter 3 provides the overall research philosophy, outlines the design process and states the proposed research methodology. This chapter discusses the mixed methodological approach used to answer the research questions.

Chapter 4 analyses the data collected from the quantitative online survey administered to RSB.

Chapter 5 analyses the data collected from the qualitative one-on-one interviews conducted with RSB.

Chapter 6 contains a discussion and conclusion of the thesis by triangulation of the qualitative analysis results (Chapter 4) and the quantitative analysis results (Chapter 5). This chapter provides the limitations and future research opportunities.

1.10 Chapter Conclusion

This chapter (Chapter 1) has introduced the overarching goal of this thesis to learn more about technology acceptance and use by RSB for marketing communications. The choices made in the thesis justify the focus on small rather than medium or large business, regional rather than metropolitan small businesses, the need to investigate RSB perceptions of the importance of online engagement, and the uptake of technology that can foster RSB online engagement.

The scope and key definitions provided for use in this research are:

- Small business as a business employing under 20 employees (Australian Bureau of Statistics, 2009) in section 1.6.1,
- Regionality as a place that is located in an area distanced from a metropolitan area and includes characteristics of digital, economic and social isolation in section 1.6.2,
- Regional Small Business (RSB) being a small business located in a regional area,
- Townsville in Queensland's selection as the focal locale in section 1.6.3, and
- Facebook as the platform selected as the focal technology in section 1.6.4.

The author provided ethical reassurance of this research through stated compliance with the Australian Code for the Responsible Conduct of Research in section 1.8 and approved research application H6630 from James Cook University.

Finally, details on the organisation of the thesis along with a roadmap to aid in following the research journey of the thesis are visualised in section 1.9.

The next chapter, (Chapter 2), will critically review existing online engagement and technology acceptance literature relevant to the research. This chapter will report on any gaps identified in the literature relevant to this research. Gaps formulate research questions to assist in resolving the practical problem addressed in this research.

2 LITERATURE REVIEW

2.1 Introduction

The previous chapter, (Chapter 1), provides a general overview of the practical problem sought to be addressed by this research and outlined some initial scoping decisions and key definitions made when considering that problem.

This chapter, (Chapter 2), contains a review of the relevant literature selected to conduct the study (Figure 1.2 Thesis Detailed Overview Map). Section 2.2 discusses the conceptual lens for the review. Section 2.3 outlines the systematic process used to undertake the review. Identification of relevant literature occurs in section 2.5 and in section 2.6. The gaps identified in the literature generate questions for exploration in the research in section 2.7. The literature review will also identify appropriate theoretical models to operationalise the answering of the thesis research questions.

The next chapter, (Chapter 3), explains the methodology for the research, details the philosophy behind the research, research design and execution, data collection techniques, limitations and biases for consideration.

2.2 Conceptual Perspective

Marketing communications literature is the lens provided perspective for this research. Early marketing communications theory focuses on individual advertising campaigns and singular, direct, one-way communications by the business to the market. In the 1990's, Integrated Marketing Communication (IMC) emerged providing a paradigm shift to a more strategic approach to marketing activity (Schultz, Tannenbaum, & Lauterborn, 1992). IMC recognises all marketing activity (including communications through a variety of channels) needs to be carefully designed, unified fit for best results from the market, producing consistent messaging from the business to the (Kliatchko, 2005, 2008) consumer. IMC is considered the dominant approach to marketing activity for the planning and execution of marketing communications (Belch, Belch, Kerr, & Powell, 2014; Kitchen, Schultz, Kim, Han, & Li, 2004; Percy, 2008; Varey, 2002). Consequently, while the focal technology is singular in the

selection of Facebook, this would not necessarily be the only communication channel being utilised by RSB to connect with consumers in either the online and/or offline environment.

As the origins of marketing theory arise in part from the economics discipline, it follows that early marketing thought held with a dominant logic focused on the exchange of operand resources (physical assets) being tangible commodities and products with embedded value and transactions (Achrol & Kotler, 2012; Jones & Shaw, 2018). This being the case, in marketing theoretical development it makes sense that early marketing theory perspective was a goods orientation rather than a service orientation. A good's dominant focus, which was flavoured by historical context through the advancement of national wealth building originally brought by the 19th century industrial revolution with its focus on the efficient production of goods. Goods focused logic emphasises the producer's creation of product and resulting want to sell to the consumer, naturally suited to marketing communications consisting of one-way messaging from the business via mass media campaigns.

Services dominant logic (SD-L) was originally theorised by Vargo and Lusch (2004). SD-L is a paradigm shift away from this inherited view to a new dominant marketing thought and practice centered on operand resources (intangible assets). An SD-L approach promotes the integration of goods and intangible service provision (Ballantyne & Varey, 2008). The paradigm shift to SD-L is an important perspective for this research as it allows for the application of technology, knowledge and skills in the same way for products and services based businesses. SD-L logic places emphasis on the consumer and value co-creation rather than producing and selling of the actual goods themselves and is consequently a more natural fit with marketing communications needing to facilitate relationship building and UGC via Facebook technology for the RSB.

Initially SD-L was based on 10 foundational premises (Vargo & Lusch, 2004) as listed in Table 2.5 The 10 Foundational Premises of Service Dominant Logic (SD-L). However, further research revised FP1, FP6, FP9 and FP10 as the true foundational premises, with the other previously identified FP's being derivatives of those four premises (Lusch, Vargo, & Wessels, 2008).

Table 2.1 The 10 Foundational Premises of Service Dominant Logic (SD-L) (Lusch et al., 2008; Vargo & Lusch, 2004)

10 Foundational Premises (FP) of Service Dominant Logic (SD-L)	
FP1	Service is the fundamental basis of exchange.
FP2	Indirect exchange masks the fundamental basis of exchange.
FP3	Goods are a distribution mechanism for service provision.
FP4	Operant resources are the fundamental source of competitive advantage.
FP5	All economies are service economies.
FP6	The customer is always a cocreator of value.
FP7	The enterprise cannot deliver value, but only offer value propositions.
FP8	A service-centered view is inherently customer oriented and relational.
FP9	All social and economic actors are resource integrators.
FP10	Value is always uniquely and phenomenologically determined by the beneficiary.

SD-L has received criticism for swinging the pendulum too far from goods orientation to service orientation, essentially imposing a hierarchical one-way relationship between operant and operand categories and thereby missing the exploration of the complex interaction between the two, i.e. there can be no service without goods (Campbell et al., 2013). Despite this criticism, SD-L remains the alternative marketing theory to goods dominant logic (Vargo & Lusch, 2014). SD-L is an appropriate conceptual fit for the cross industry nature of the RSB population and type of technology acceptance in the proposed research. SD-Ls also noted that FP4 supports the industry, government and existing business literature that access to operant resources (e.g. NBN, social media) promotes competitive advantage.

2.3 Process for literature review

The literature review is guided by the Preferred Reporting Items for Systematic reviews and Meta-Analysis (PRISMA) (Liberati et al., 2009). The PRISMA approach is a systematic standardisation of literature review containing decision stages for the identification, screening, eligibility, and inclusion criteria for selecting relevant literature. Modifications to

the PRISMA process allow for social science research. For example, in the original PRISMA process after initial identification of materials there is a step to review medical records and exclude unnecessary records. Medical records are not relevant to this research and this step is omitted, refer Figure 2.1 PRISMA Flow Diagram, adapted from Liberati et al. (2009).

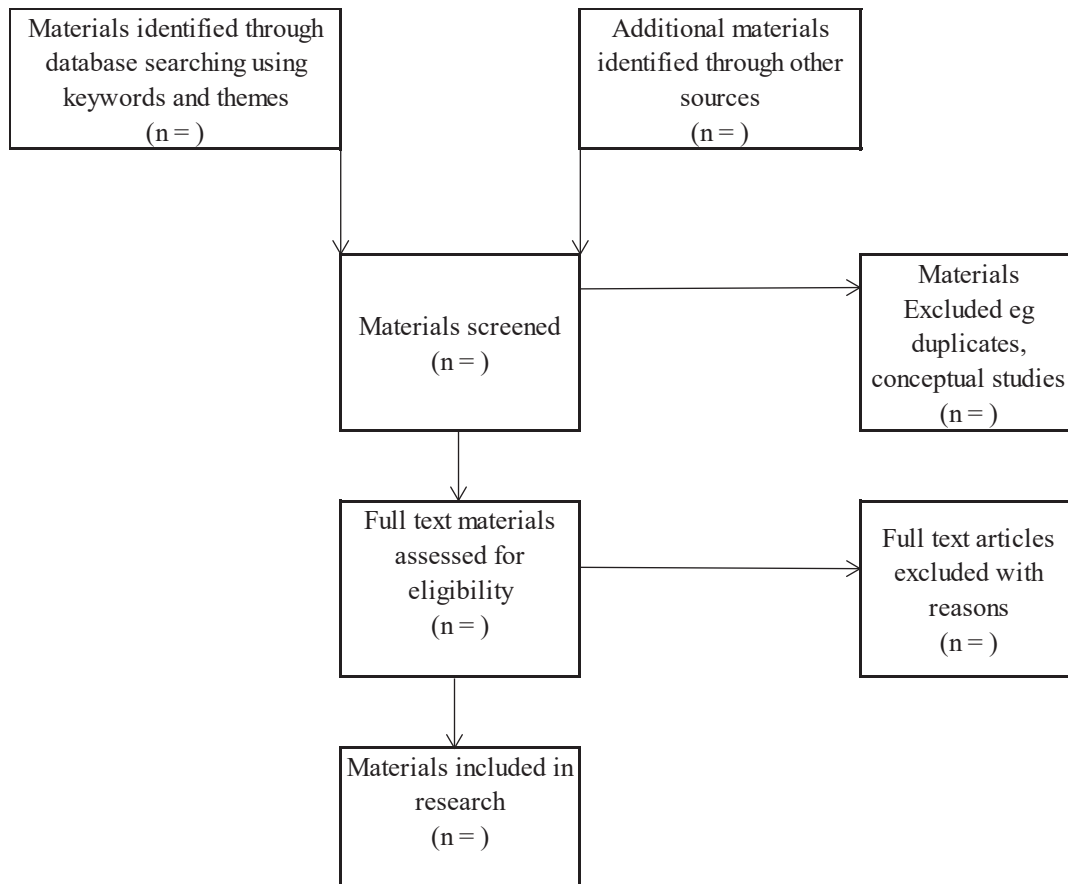


Figure 2.1 PRISMA Flow Diagram, adapted from Liberati et al. (2009)

Online literature is located using a search strategy based on the keyword search terms and combinations of keyword search terms. For example, for the online engagement literature, search terms included ‘online brand communities’ and ‘engagement’; and for the technology acceptance literature, search terms include ‘UTAUT’, ‘Facebook’ and ‘small business’, as outlined in Appendix 1.

The database searches commenced with the Onesearch database and then repeated in specific databases of ProQuest Business, Emerald insight and Informit Business Collection. The

keyword searches were then repeated using Google and Google Scholar and SCOPUS. Initial searches applied a limit to publications from 2010 to 2015, to capture the most current materials of the past five (5) years. There was an exception to this approach where topic areas for historical analysis of literature was required. The database searches resulted in a pool of potentially relevant information.

Titles and abstracts of the materials located in the pool were then screen according to inclusion and exclusion criteria. Inclusion criteria included a decision to retain relevant materials for consideration if materials located contained the key search terms. The materials were sorted into topic areas e.g. engagement definitions, qualitative studies and quantitative studies etc. Exclusion criteria applied to remove irrelevant materials from consideration, for example, articles not available in the author's native English language, duplications in materials, and content listed as being outside the scope of this research such as conceptual or technical articles on the operation of the internet itself. A citation search captured any remaining materials not found in the original database searches. A review of the materials identified data from materials identified with reference to the framing questions of the literature review. Reference materials in the summary data are managed using Endnote software. The literature review remained iterative during the course of the research following the PRISMA process for online engagement and technology acceptance and use literature. A summary of the literature review for RSB demographics, online engagement and technology acceptance models follows.

2.4 RSB Demographics

While an entrepreneurial innovation approach is not the perspective of this research, the wider literature identifies demographics and characteristics of small business as influencing implementation of social media technology (Bulearca & Bulearca, 2010; Eggers, Hatak, Kraus, & Niemand, 2017). The inclusion of demographics such as gender and age, are also relevant to the technology adoption literature selected as the theoretical framework for this research as they form moderators of between model constructs and usage behaviour discussed later in detail in section 2.6.

In the initial scoping of this research in section 1.6, a number of commonly collected publically available data on individuals and businesses are located from industry reports, Government sources and academic literature to commence inquiry into RO1:

RO1: Discover characteristics of RSB's likely to decide for and against the acceptance and use of marketing communications technology

The following discussion outlines the definition of demographics and the selection of demographics in this research.

2.4.1 Definition of demographics

Demographics refer to the characteristics that can be used to describe a population (Salkind, 2010). In this research, 'demographics' is used as an overarching term referring to data on the RSB population and includes characteristics used to describe both the RSB owner operator (e.g. age, gender, personal use of technology) and the characteristics of their business (e.g. number of employees, industry sector and annual marketing budgets). Selection of RSB demographics

There is a very wide range of demographics for use in examining RSB owners, the RSB and Facebook technology use, too many to include all possibilities in a single survey.

Demographics are from publically available Government data and digital and social media based industry reports, refer section 1.2. The common demographics located are categorised into four (4) main topic areas: (1) those that relate to the personal demographics of the business owner, (2) the business characteristics of the RSB, (3) those that relate to business strategies of the RSB, and (4) digital challenges faced by the RSB. Assessment of the data sources for the demographics determined relevance of the data to RSB and the focal locale as outlined in Table 2.2.

Table 2.2 Demographic data selection

Data Grouping	Data Variable Located	SME Public Data Source Located				
		Govt. Data	Industry Reports	Acad. Lit.	On RSB	Focale Locale
Personal Demographics	Age	✓	✓	✓	✓	✓
	Gender	✓	✓	✓	✓	✓
	Experience	Limited	✓	✓	Limited	✗
Business Characteristics	Business size	✓	✓	✓	✓	✓
	Operation mode	✗	✓	✓	✓	✗
	Industry sector	✓	✗	✓	Limited	✓
	Facebook User	✗	✓	Limited	Limited	✗
Business Strategy	Business plan	✗	✓	✓	Limited	✗
	Marketing plan	✗	✓	✓	Limited	✗
	Social Media plan	✗	✓	✓	Limited	✗
	Digital strategy	✗	✓	✓	Limited	✗
	Marketing budget	✗	✓	✓	Limited	✗
	Negative online feedback policy	✗	✓	✓	Limited	✗
Digital Challenges	Internet access	✗	✓	✓	Limited	Limited
	Impact of NBN	✗	✓	✓	Limited	Limited

The first demographic category is Personal Demographics and in this research relates to the RSB Respondent's age, gender and personal experience with Facebook technology. Age was selected as a demographic to include in this research as in the wider literature studies on individual's Facebook use (not specific to RSB) result in Age being an important indicator for acceptance, use on an individual level. For example, Age is demonstrated as negatively related to the acceptance and frequency of Facebook use; meaning a younger person is more likely to be communicating with this technology (Ozimek & Bierhoff, 2016). Studies have

also explored age in terms of an individual's use of Facebook to overcome social and geographic isolation (Nowland, Necka, & Cacioppo, 2018), particularly as individuals enter retirement (Choudrie & Vyas, 2014; Jung, Walden, Johnson, & Sundar, 2017). This research seeks to ascertain if the individual results of Facebook use based on Age holds in the RSB environment.

Similarly, studies using an individual's gender indicate females are more likely to use Facebook technology, use more frequently, and have wider networks on Facebook than males (McAndrew & Jeong, 2012; Stefanone, Lackaff, & Rosen, 2011). The gender gap for Facebook usage is particularly relevant as a development indicator in developing countries (Fatehkia, Kashyap, & Weber, 2018).

There is the capacity to interact on Facebook as an individual or organisation level as discussed in 1.6.4. The personal use variable relates to the RSB owners use of Facebook in a personal capacity. Due to the numbers of Facebook users reported on the platform, expectations are that the majority of RSB respondents will be personal Facebook users. However, it is unknown if this personal use translates to RSB Use.

The second demographics category is business characteristics and relates to the RSB including the business size, mode of operation of the business (online only / physical presence only / both online and physical presence), industry sector. The use of business size as a demographic relates to the design scoping decision to limit the research to small business and the literature informing on organisational size affecting resource decisions (Jones et al., 2014), refer section 1.6.1. This demographic section also includes whether or not the RSB uses Facebook technology now and their intention to continue using the technology into the future.

Accessibility of data is a consideration in the selection of demographics in this research. Personal demographics data for small business owners and small business data is commonly reported in industry surveys on social media use by small business in Australia (Chamber of Commerce & Industry Queensland, 2015, 2020; Sensis, 2014b, 2017) and available in ABS census results for small business (Australian Bureau of Statistics, 2015) and the general population in the focal locale (Australian Bureau of Statistics, 2015).

The third demographics category is Business strategy, focusing on methods RSB may have in place to assist with planning of business activities such as a whether they have a business

plan, marketing plan, social media plan or digital strategy. A lack of planning is a restriction on SME growth and sustainability in the academic and industry lead literature. Universities teach the importance of planning for business in undergraduate and postgraduate business studies. Government websites stress the importance of planning for SME and provide free tools and banks require some planning for small business loans. Despite the importance of planning stressed by these stakeholders, SME are not commonly undertaking planning activities and the position is unknown for RSB. To successfully use Facebook for marketing communications, RSB need to plan in terms of content, target markets, timings to boost organic engagement (Stone, 2019; Treadaway, Smith, & Facebook, 2012). Data is sought that can enlighten on the relationship between planning and RSB acceptance and use of Facebook technology.

The business strategy category also includes data on annual marketing budgets. There is no hard and fast rule in the literature on SME spends on marketing. However, industry reporting advises startups and SME should aim to allocate an annual marketing budget between 12% to 20% of gross revenue (Flannagan, 2019) and on average around 11% is being reported by SME in Australia (Sensis, 2018). There is no publically available data on suitability of a targeted percentage of gross revenue spend by RSB in their marketing budgets.

The final demographics category is Digital Challenges and relates to major IT infrastructure upgrades (NBN) occurring throughout the research in Australia and anecdotally reported in the press to impact RSB technology adoption, refer section 1.6.3. By including data on this issue in the research, provides empirical evidence to clarify the NBN's relevance to the RSB decision to accept and use Facebook technology.

There are a number of demographic variables that common to Information Systems research used in technology adoption models. In the personal demographics category this includes the moderators of age, gender and experience. In the business characteristics demographics, the use and intention to use Facebook demographics. A detailed discussion of the demographic used in technology adoption literature selected for this research is in section 2.6.4.

2.4.2 Summary of Demographics

In summary, a range of data is publically available on RSB from industry reports, Government databases and academic literature. However, there was little available in the extant literature that brings the different RSB data on owner demographics and characteristics together to

explain RSB acceptance and use of Facebook technology generally, nor is it sufficiently regionally focused to meet the needs of this research. The extant literature is useful in forming a list of RSB demographics to provide an opportunity for this research to form part of the wider RSB narrative.

Grouping of the demographics produced categories of (1) personal demographics, (2) business characteristics, (3) business strategy, and (4) digital challenges. Personal demographics will include age, gender and personal experience with Facebook technology. Business characteristics will include business size (micro/small), operation mode (online/physical/both) and Industry sector. Business strategy will gather data on RSB planning documentation and marketing expenditure. Digital strategy will focus on any positive or negative impacts of the NBN implementation on RSB decision to accept and use Facebook technology.

From the literature review, the first research objective (RO1) is refined to form the first research question (RQ1):

RQ1: What are the demographic characteristics of RSB that do, and do not, accept and use Facebook technology?

The literature review now considers online engagement literature, followed by technology adoption literature in relation to each of the research goals and their refinement into research questions.

2.5 Online Engagement Literature

Reviewing literature relevant to online engagement was to fulfill:

RO2: Assess the extent to which RSBs regard engagement with consumers as being important for their marketing communications

This research seeks to understand the importance of online engagement to RSB; and how this may, or may not, influence the RSB decision to accept and use Facebook technology. The literature review develops an understanding the concept of engagement, provides a working definition of engagement for the proposed research, identifies objects the engagement and

finds a measurement for the type and level of engagement perceived as important by RSB for their marketing communications. As stated by (Hanna, Rohm, & Crittenden, 2011, p. 267),

‘marketing can no longer solely be about capturing attention via reach; instead, marketers must focus on both capturing and continuing attention via engagement. This calls for a blend of both traditional and social media.’

To introduce the concept of engagement in this research for effective RSB acceptance and use of Facebook requires a definition of engagement in the online and offline space for marketing communications of the business.

2.5.1 Definition of Engagement

To define engagement guidance initially sought from common language understanding of the term found in English language dictionaries. The word ‘engage’ developed from a combination of late Middle English (ingage) and French (engager) and meant to ‘pledge oneself to do something. The term was applied in the mid-16th century to mean ‘*involve oneself in an activity*’ and ‘*enter into combat*’ further developed in the mid-17th century to ‘*involve someone or something else*’ (Shortis, 2011). Engagement is the noun used for the act of being engaged and is currently defined in the Collins Dictionary (Engagement, n.d.) as:-

- ‘1. a pledge of marriage; betrothal, or*
- 2. an appointment or arrangement, especially for business or social purposes, or*
- 3. the act of engaging or condition of being engaged.’*

From this common definition, engagement encompasses an interaction of a personal nature, in a business or social context, and an element of an individual’s particular state of being that results in an action performed by that individual.

Jeung (2011), in an examination of academic practice across business professions and consultancies, is commonly cited for criticising the concept of engagement as ‘*being no more than old wine in new bottles*’, as a catch-all phrase used to cover previously existing studies identifying and encompassing elements of commitment, satisfaction, involvement, passion, inspiration and affirmation. This sentiment does not appear to have been widely accepted, as

the majority of articles reviewed quoted Jeung and then proceeded with their own studies attempting to define engagement, and others used the term engagement without definition.

After examining a common meaning of engagement and an overview of engagement in the wider context of academic disciplines, attention turns to literature within the marketing discipline. The constructs and definitions identified central concepts aids in producing a holistic view of engagement in the marketing discipline in Table 2.3 Overview of engagement conceptualisations in marketing literature. Engagement is conceptualised and defined differently depending upon the context. For example, when engagement occurs in an online brand community (Baldus et al., 2015), refers to a consumer engagement process (Brodie et al., 2013) and general customer engagement (Bowden, 2009; Kumar et al., 2010; Mitussis, O'Malley, & Patterson, 2006; Van Doom et al., 2010).

Table 2.3 Overview of engagement conceptualisations in marketing literature, adapted from (Brodie et al., 2013; Hollebeek et al., 2014)

AUTHOR	CONSTRUCT	ENGAGEMENT DEFINITION	CENTRAL CONCEPT
Barger, Peltier, and Schultz (2016, p. 279)	Social Media Engagement	A mutually beneficial process through which firms and consumers co-create brand-related content and social experiences on social media.	Interplay between consumer engagement and firm engagement.
Baldus (2015)	Online brand community engagement	Online brand community engagement is the compelling, intrinsic motivations to continue interacting with an online brand community.	Engagement dimensions are the best measure of consumer motivations to engage online.
Briedbach, .C.F. Brodie, R. & Hollebeek, L. (2014) p.604	Customer engagement	Engagement ecosystems are constellations of physical and virtual EP's [Engagement Platforms] used by a focal engagement firm to enable interactions with, as well as among, its customers.	Transmedia lens applied to view Engagement occurring within an ecosystem joining online and face-to-face environments.

AUTHOR	CONSTRUCT	ENGAGEMENT DEFINITION	CENTRAL CONCEPT
Brodie, R.J. Hollebeek, L.D. Juric, B. and Illic, A.1 (2013, p.105 & 113)	Consumer engagement	Engagement is 'a complex multidimensional and dynamic nature...which may emerge at different levels of intensity over time, thus reflecting distinct engagement states. Further, the consumer engagement process comprises a range of sub-processes reflecting consumers' interactive experience within online brand communities, and value co-creation among community participants. Engaged consumers exhibit enhanced consumer loyalty, satisfaction, empowerment, connection, emotional bonding, trust and commitment.'	Multidimensional nature of engagement with variable levels over time.
Wirtz (2013, p.229)	Online brand community engagement	OBC engagement refers to the positive influence of consumers identifying with an OBC [Online Brand Community], defined as the consumer's intrinsic motivation to interact and cooperate with community members.	Active Interaction.
Vivek, Beaty and Morgan (2012, p.133)	Customer engagement	Intensity of an individual's participation in and connection with an organization's offerings or organizational activities, which either the customer or the organization initiates.	Emotional state & Active Interaction.
Brodie (2011, p.259)	Interactive customer experience	A psychological state that occurs by virtue of interactive, co-creative customer experiences with a focal agent/object (e.g. a brand) in particular service relationships.	Active Interaction.
Hollebeek (2010)	Customer engagement	The level of expression of an individual customer's motivational, brand-related & context-dependent state of mind characterised by a degree of	Multidimensional nature of engagement with variable levels over time.

AUTHOR	CONSTRUCT	ENGAGEMENT DEFINITION	CENTRAL CONCEPT
		activation, identification & absorption in brand interactions.	
Kumar et al. (2010, p.297)	Customer engagement	A customer's active interactions with a firm, with prospects and with other customers, whether they are transactional or non-transactional in nature.	Active Interaction.
Mollen and Wilson (2010, p.919)	Customer brand engagement	A cognitive and affective commitment to an active relationship with the brand, as personified by the web site.	Cognitive and affective customer commitment.
Van Doom et al. (2010, p.254)	Customer engagement behaviour	Customers' behavioural manifestation toward a brand or firm, beyond purchase, resulting from motivational drivers, including word-of-mouth activity, recommendations, helping other customers, blogging & writing reviews.	Beyond transactions.
Pham and Avnet (2009, p.2)	Engagement	An emotional state related to involvement and absorption of attention (...) inferred from a pattern of action or withdrawal with respect to the target object.	Emotional state.
Bowden (2009a)	Customer engagement	A psychological process that models the underlying mechanisms by which customer loyalty forms for new customers of a service brand, as well as the mechanisms by which loyalty may be maintained for repeat purchase customers of a service brand.	Psychological process generating customer loyalty.
Higgins and Scholer (2009)	Engagement	A state of being involved, occupied, fully absorbed or engrossed in something (i.e. sustained attention), generating the consequences of a particular attraction or repulsion force. The more engaged individuals are to approach or repel a target, the	Sustained attention arising from value.

AUTHOR	CONSTRUCT	ENGAGEMENT DEFINITION	CENTRAL CONCEPT
		more value is added to, or subtracted from it.	
Patterson et al. (2006, p.1)	Customer engagement	The level of a customer's physical, cognitive & emotional 'presence' in their relationship with a service organisation.	Service focus.

Online engagement within the marketing discipline is a topic of academic interest. It is widely believed that through engaging an individual enhances business outcomes. For example, an engaged consumer is more likely to purchase, spread positive word-of-mouth, remain loyal, repeat purchases and even co-create value with the company to improve existing and/or create new products. The positive effects of engagement are theorised to occur when links to the values of the consumer on a deeper personal level are formed (Baldus et al., 2015; Bowden, 2009; Brodie & Hollebeek, 2011; Van Doorn et al., 2010).

Engagement within the marketing discipline is also described as an iterative process (Baldus et al., 2015), indicating an ongoing commitment is required from the RSB. According to Brodie et al (2011), there is an initial need that triggers a consumer to initiate the engagement process with an online brand community. There are then interrelated consumer engagement sub-processes, that can occur in isolation or simultaneously, to explain the interactions within the community being Sharing, Co-development, Socialising, Advocating and Learning. At any stage during this sub-process, consumer engagement may go through a period of dormancy and then disengagement with the online brand community. These sub-processes provide opportunity for touch points to engage with consumers for the RSB. The product of this consumer engagement process is consumer loyalty and satisfaction, empowerment, connection and emotional bonds, and trust and commitment between the consumer and the focal object; all of these products are aimed at inducing purchase acts from the individual i.e. bottom line sales for the business. While providing a detailed consumer perspective on engagement, there does not appear to be an equality of voice for the business in these definitions.

Barger et al. (2016, p. 279)'s definition of engagement is selected for this research as the RSB perspective is the focus of this research and there is recognition in the literature that engagement requires the mutual benefit of all participants:

'a mutually beneficial process through which firms and consumers co-create brand-related content and social experiences on social media'.

Considerations favouring this definition are its origins in business context, consideration of online community engagement, recognition of co-creation between business and consumers, and formation in a social media study. As a definition has now been selected recognising two sites to the engagement process, consideration turns to with whom the engagement occurs.

2.5.2 Objects of Engagement

The literature refers to 'Objects of Engagement' (also referred to as 'focal objects') to explain the 'things' that are interacted with in the course of the act of engagement. For example, objects of engagement may include brands, products, services, organisations, an industry and/or the community itself (Brodie et al., 2013; Muniz & O'Guinn, 2001). This research considers engagement from the RSB perspective as an organisation or brand.

The potential objects of engagement for RSB explained in this research are with the online brand based community as a whole, that encompasses the individual community member, particularly when a potential consumer for the RSB. The progression of social media technology has altered the way a community is perceived, as the online environment removes the aspect of geographic boundaries (Dholakia, Bagozzi, & Pearo, 2004) and changes the way that communications can be controlled by the RSB (Kohli, Suri, & Kapoor, 2015). This makes understanding online brand communities important for RSB in approaching online engagement platforms.

From the online consumer engagement literature, engagement results in consumers identification with a brand, leading to positive behaviours e.g. increasing loyalty to the brand (Marzocchi, Morandin, & Bergami, 2013) and corporate outcomes including increasing value creation (Vescovi 2007)(Schau, Muñiz, & Arnould, 2009).

An in depth discussion on online consumer communities is outside the scope of this research as here the focus is on RSB and not consumers. There are many types of communities in the online and physical world available for RSB engagement. There is information available

relevant to RSB on key aspects of online brand communities. Von Loewenfeld (2006, p191) summarises important characteristics of brand communities and identifies those that apply to both the online and offline environments, stating they are:

- *‘Based on interests and geographically independent,*
- *Occurring in both online and offline environments,*
- *High identification potential,*
- *Fans, admirers of the brand, and customers with a general interest in the brand,*
- *Social interaction of brand community members and between brand and members,*
- *Sense of community and social identity, and*
- *Connection of values and needs’.*

Distinguishing online brand communities from other marketing tools such as brand websites or valued-customer clubs, (who also have high identification and are established for a commercial purpose), is their ability to provide social interaction (Dholakia & Algesheimer, 2009).

The other type of community located in the literature that can provide social interaction suitable for RSB choosing to accept and use the focal technology are ‘tribes’. Tribes form when members with similar needs or passions group virtually or in reality. Tribes can form for example around recreational activities such as football (Dionísio, Leal, & Moutinho, 2008) and dance (Elliott, Goulding, & Shankar, 2002), celebrity culture (Hamilton & Hewer, 2010) and around brands such as perhaps the most famous of all academically reported tribes Harley Davidson (Schouten & McAlexander, 1995). Unlike traditional historical concept of tribalism, where a member belonged exclusively to a single tribe, modern tribes have members that are also members of as many other tribes as they wish (Richardson, 2013).

The distinguishing feature of a tribe is the occurrence of a ‘conversion experience’ or ‘transcendent experience’ that alters the perception of the brand to form a sacred tribe-brand bond. Tribes can be ephemeral or they can be long lasting communities, the distinction can be made on the longevity of the emotional experience involved (Kozinets, 2008; Richardson, 2013). Tribes can accept more than one brand (Richardson, 2013). Tribal marketing is distinct from other forms of social media marketing as there is no ‘target market’ or ‘market segment’ and it is this unique feature that makes authentic RSB interaction so important (Richardson, 2013). It is fundamentally concerned with supporting the values and interests of

tribes and consumption occurs from relationship building and co-creation, and not through any form of coercion (Adams & Smith, 2008; Cova & Cova, 2001; O'Neil, 2009).

Corporates are failing to realise the potential of tribal marketing using social media as a broadcasting tool rather than a co-creation tool or a means to identify the linking value of the tribe (Maffesoli et al., 2004).

For the RSB to engage with a tribe, the RSB must recognise the values to understand why the market offerings has been selected as integral to their identity and what distinguishes them from other tribes. This is because it is the primary role of the RSB to support the linking value of the tribe and allow the unrestricted freedom to self-generate brand meaning and values (Richardson, 2013). Richardson (2013) concurs with Kozinets (2010) that the RSB can obtain '*cultural entrée*' through participant observation techniques as a new member of the culture to ensure an 'insider' perspective is gained. Social media such as Facebook allow the Tribe to communicate, unfettered by time or distance, and maintain a consciousness of kind including devotion to the Tribe and/or a market offering (Kozinets, 2008). Tribes cannot be forced to form, they can only be facilitated through providing a context (Charmley, Garry, & Ballantine, 2013; Goulding et al., 2013).

There is stepped guidance available to RSB in the literature on how to connect with tribes. Cova and Cova (2002) provide four steps necessary to implement tribal marketing. Firstly, identify whom the tribes are that the business may be able to support. Secondly, identify the tribal linking value by identifying the values and rituals of the tribe that distinguish them from others. Thirdly, engage the tribe by demonstrating an authentic commitment to supporting their values and rituals and invite participation in the development or improvement of products and services supporting the linking value, i.e. leading into co-creation. Finally, in launching products or services use the language and communication media suitable to the tribe. When successfully integrated with the tribe through the identification of the linking value, the market offering becomes promoted by the tribe and potential problems for the marketer become opportunities from the tribe to work together to resolve the issue at the same time strengthening their tribal bond, and in turn their loyalty to the market offering (Richardson, 2013).

There is a lack of clarity in the literature on the characteristics required to distinguish a Brand Community from a Tribe. There is also a lack of clarity surrounding why such a distinction is necessary. Dahl (2014) proposes Brand Communities are subsets of Tribes. The current

marketing industry practice focuses on specific Brand Communities rather than Tribes. This is a lost opportunity for RSB who may disregard the wider product category or competing brands also participated in by the Brand Community and the wider relationships, with which communities are involved in other Tribes. This perspective would mean that to be affective in online communications, the RSB would need to establish a network of Brand Communities and Tribes when initially planning, implementing and monitoring their engagement strategies.

Richardson (2013) cautions criteria that provide absolute distinguishing characteristics between tribes and brand communities and suggests a more fluid and evolutionary relationship can occur with development from one to the other, stating the two are so similar they do not require a difference in marketing approach as the same underlying principles apply and should all be practically considered as consumer communities. The literature reviewed concerning online and offline brand communities and tribes is conceptualised for this research in Figure 2.10 Conceptualisation of Community of Consumption.



Figure 2.2 Conceptualisation of relationships between types of consumer groups

In the Online Communities of Consumption literature, there is a recognised need for further study to gather knowledge on the interaction with the concept of consumer engagement, cross sectional studies and new contextual applications of engagement conceptual frameworks (Brodie et al., 2013; De Vries & Carlson, 2014; Hollebeek et al., 2014; Wirtz et al., 2013) and on social media sites (Carvalho & Fernandes, 2018). In order to further this research agenda, both parties to the interaction of engagement warrant investigation. If both parties do not perceive an act of engagement as important, then it may be unlikely to meet the definition of engagement in this research, refer 2.5.1. A method of measuring the perception of RSB importance of the engagement dimensions is required to progress the research.

2.5.3 Measuring Engagement

Reviewing the literature, much of the work considers conceptual frameworks, with fewer authors performing empirical studies. This means that scant information was available on how to measure engagement. However, Baldus et al. (2015) identified online consumer engagement dimensions using a grounded theory approach combined with engagement dimensions sourced from the existing literature. The engagement dimensions and their associated definitions are in Table 2.4 Online Brand Community Engagement Dimension and Definitions (Baldus et al., 2015, p. 981) Table 2.4 Online Brand Community Engagement Dimension and Definitions (Baldus et al., 2015, p. 981).

Table 2.4 Online Brand Community Engagement Dimension and Definitions (Baldus et al., 2015, p. 981)

Engagement Dimension	Definition of Engagement Dimension
Brand influence	The degree to which a community member wants to influence the brand.
Brand passion	The ardent affection a community member has for the brand.
Connecting	The extent to which a community member feels that being a member of the brand community connects them to some good thing bigger than themselves

Engagement Dimension	Definition of Engagement Dimension
Helping	The degree to which a community member wants to help fellow community members by sharing knowledge, experience or time.
Like-minded discussion	The extent to which a community member is interested in talking with people similar to themselves about the brand.
Rewards (hedonic)	The degree to which a community member wants to gain hedonic rewards (e.g. fun, enjoyment, entertainment, friendly environment, and social status) through their participation in the community.
Rewards (utilitarian)	The degree to which a community member wants to gain utilitarian rewards (e.g. monetary rewards, timesavings, deals or incentives, merchandise, and prizes) through their participation in the community.
Seeking assistance	The degree to which a community member wants to receive help from fellow community members who share their knowledge, experience, or time with them.
Self-expression	The degree to which a community member feels that the brand community helps them to stay informed or keep up-to-date with brand and product related information.
Up to date Information	The degree to which a community member feels that the brand community helps them to stay informed or keep up-to-date with brand and product related information.
Validation	A community members' feeling of the extent to which other community members affirm the importance of their opinions, ideas, and interests.

Baldus et al. (2015) formed the 11 consumer engagement dimensions into a scale that was empirically tested and validated through large cross sectional surveys conducted of online brand communities in the United States of America. The data collection underpinning the short form scale was obtained through a five (5) point Likert-type scale ratings of the respondents' perceived importance of each engagement dimension where 1 = Extremely Important; 2 = Very important; 3 = Moderately important, 4 = Slightly important; and 5 =

Not at all important. This research proposes to use the engagement dimensions identified and formed into a scale by Baldus (2015), to guide the exploration of RSB perceived importance of those same consumer engagement dimensions. Operationalisation of the engagement dimensions for this research is in Table 2.5.

Table 2.5 RSB Operationalisation of Engagement Items, adapted from Baldus (2015)

Engagement Item	RSB Operationalisation of Engagement Item
Brand Influence	Encourages comments and suggestions from others
Brand Passion	Motivates others to be passionate about your business
Connecting	Connects with the online community
Helping	Allows for others to interact on the business page
Like minded discussion	Encourages the discussion of opinions on products or services
Hedonic rewards	Provides posts that are entertaining
Utilitarian rewards	Provides posts that contain prizes and discounts
Seeking assistance	Allows others to share experiences
Self-Expression	Allows others to express their opinions and interests
Up to date information	Provides the most up to date information about the business offerings
Validation	Provides recognition to participants

The modified engagement dimensions provide a potential measurement of engagement to assist in exploring the RSB perceived importance of conducting activities that the literature on online engagement states are perceived as important by consumers.

2.5.4 Summary of Engagement

In summary, the engagement literature review informs the second research objective:

RO2: Assess the extent to which RSBs regard engagement with consumers as being important for their marketing communications

Review of the online engagement literature identified a working definition for engagement that encompasses the need for mutual benefit between the RSB as the firm engager and consumer community (Barger et al., 2016), refer section 2.5.1. The objects of the engagement are identified as the RSB (as an organisation or brand) and as market participants being the online community of consumption or individual actual and/or potential consumer, refer section 2.5.2. A way of measuring RSB perceptions of the importance of consumer engagement has been identified in the literature (Baldus et al., 2015), refer section 2.5.3.

However, there were gaps in the engagement literature preventing an explanation of the importance of consumer engagement from an RSB perspective. Further, whether those perceptions affect RSB operational decisions. From the identified gaps in the engagement literature, the second research objective can be refined forming Research Question 2 (RQ2):

RQ2: How do RSB perceive the importance of consumer engagement; and does the perceived importance vary between RSB that are FBU and NFBU?

After consideration of the engagement literature, discussion turns to a review the technology acceptance literature.

2.6 Technology Acceptance Literature

The final part of the literature review was to consider this research context in light of extant technology acceptance literature as guided by the final research objective:

RO3: Provide insights on positioning RSB in the existing technology acceptance and use literature

To explain technology acceptance by RSB within the existing literature requires a theoretical framework and a technology acceptance model. The essence of technology acceptance models is to provide the best possible prediction of actual human behaviour to accept and use technology in a given situation, either directly through actual use, or alternatively, through an interim step of behavioural intention towards a future use of the technology being examined.

Technology acceptance literature is a rich and expansive field of research with a wealth of theories available for use including the Theory of Reasoned Action (Ajzen & Fishbein, 1975), Social Cognitive Theory (Bandura, 1977, 1986), Technology Acceptance Model (Davis, Bagozzi, & Warshaw, 1989) and its extension TAM2 (Venkatesh & Davis, 2000), Theory of Planned Behaviour (Ajzen, 1991), Motivational Model (Davis, Bagozzi, & Warshaw, 1992), Combined TAM-TPB (Taylor & Todd, 1995), Innovation Diffusion Theory (Moore & Benbasat, 1991) and Model of PC Utilisation (Thompson, Higgins, & Howell, 1991; Triandis, 1977). Figure 2.3 outlines the development of models identified in the literature review from 1975 to the commencement of this research.

Figure 2.3 Timeline of Technology Acceptance Models

1975	Theory of Reasoned Action (TRA)
1977	Social Cognitive Theory (SCT)
1986	
1989	Technology Acceptance Model (TAM)
1991	Theory of Planned Behaviour (TPB)
1992	Motivational Model (MM)
1995	Combined TAM-TPB Innovation Diffusion Theory (IDT) Model of PC Utilisation (MPCU)
2000	Technology Acceptance Model 2 (TAM2)
2003	Unified Theory of Acceptance and Use of Technology (UTAUT)
2012	UTAUT2

The theoretical lens addressing technology acceptance and use in this research is the UTAUT model. A discussion now follows on the UTAUT model's inception, contributing technology models, justification for selection, model criticisms, core determinants and moderators considered for use in this research.

2.6.1 Contributors to UTAUT Model development

In 2003, Venkatesh et al., identified a research problem that a technology model was needed to assist managers understand the drivers of technology acceptance in users less inclined to stop and use new systems in order to design appropriate interventions. Rather than using an existing technology acceptance model, a review was conducted of all of the existing technology acceptance models at that time with a view to addressing academic discussion in the literature on the need to harmonise areas of research (Venkatesh et al., 2003). In his review, Venkatesh et al. (2003) observed a common approach between eight (8) of the models as they focused on behavioural intention and/or actual usage as the dependent variable. A decision was made to create a new model by combining the identified models

with the aim of strengthening behavioural intention as a predictor of actual behaviour (Ajzen, 1991).

As raised in section 1.3, opportunities to contribute theoretically influence this research. Technology acceptance research is a maturing field for many of the models. However, the UTAUT model being a relatively new technology acceptance model presents a greater opportunity for theoretical contribution than more mature models (Dwivedi, Rana, Jeyaraj, Clement, & Williams, 2017; Williams, Rana, Dwivedi, & Lal, 2011; Williams et al., 2015) in organisational and individual acceptance settings. An overview follows of the development of the UTAUT model.

2.6.1.1 Theory of Reasoned Action (TRA)

The earliest theory utilised by the UTAUT Model to explain and predict human behaviour is the Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1975). Based in social psychology, the TRA focuses on behavioural intention as the primary determinant in explaining or predicting an individual's actual behaviour. The two factors that form Behavioural Intention are a person's attitude towards a behaviour and the subjective norm. Attitude toward behaviour is defined as 'An individual's positive or negative feelings (evaluative effect) about performing the target behavior' (Ajzen & Fishbein, 1975, p. 216). The subjective norm is defined as 'the person's perception that most people who are important to him think he should or should not perform the behavior in question' (Ajzen & Fishbein, 1975, p. 302). A visual presentation of the TRA is contained in Figure 2.4 Theory of Reasoned Action.

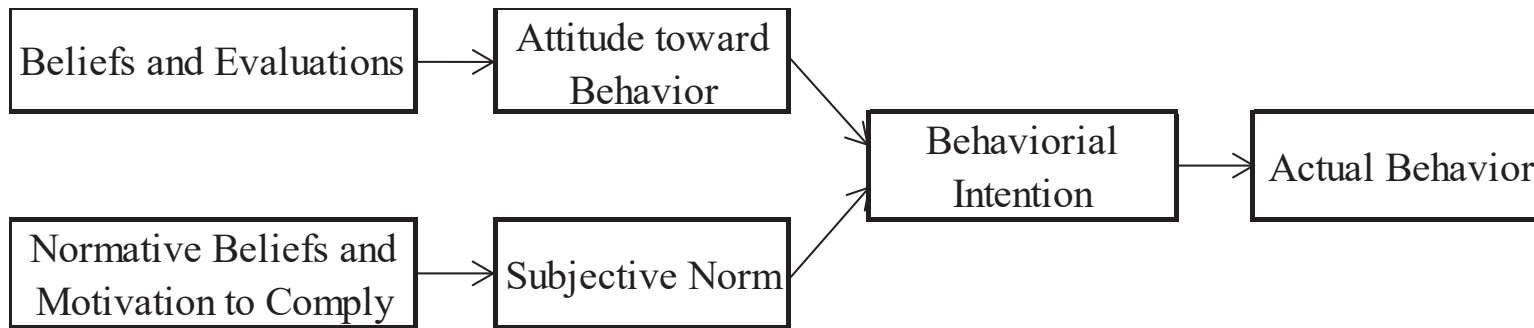


Figure 2.4 Theory of Reasoned Action (Ajzen & Fishbein, 1975)

However, the TRA has limitations, as behavioural intention does not guarantee actual behaviour. The TRA also assumes that behaviour is under complete volitional control and does not allow for the influences of habit or other emotionally based decision-making constructs.

2.6.1.2 Technology Acceptance Model (TAM/TAM2)

The Technology Acceptance Model (TAM) based in information systems research and designed through a conceptual shift to consider technology use as an actual behaviour. TAM includes elements of attitude, belief and intention (Davis, 1989). To explain computer usage behaviour, TAM deconstructs TRA's Attitude component into Perceived Use being '*the degree to which a person believes that using a particular system would enhance his or her job performance*' (Davis, 1989, p. 320); and Ease of Use defined as '*the degree to which a person believes that using a particular system would be free of effort*' (Davis, 1989, p. 320). TAM theorises that external variables affect an individual's Perceived Use and Ease of Use. These use factors affect an individual's attitude towards using a particular technology, and that in turn affects their Behavioural Intention to use the technology, ultimately affecting their actual use of the technology as outlined in Figure 2.5 Technology Acceptance Model (TAM).

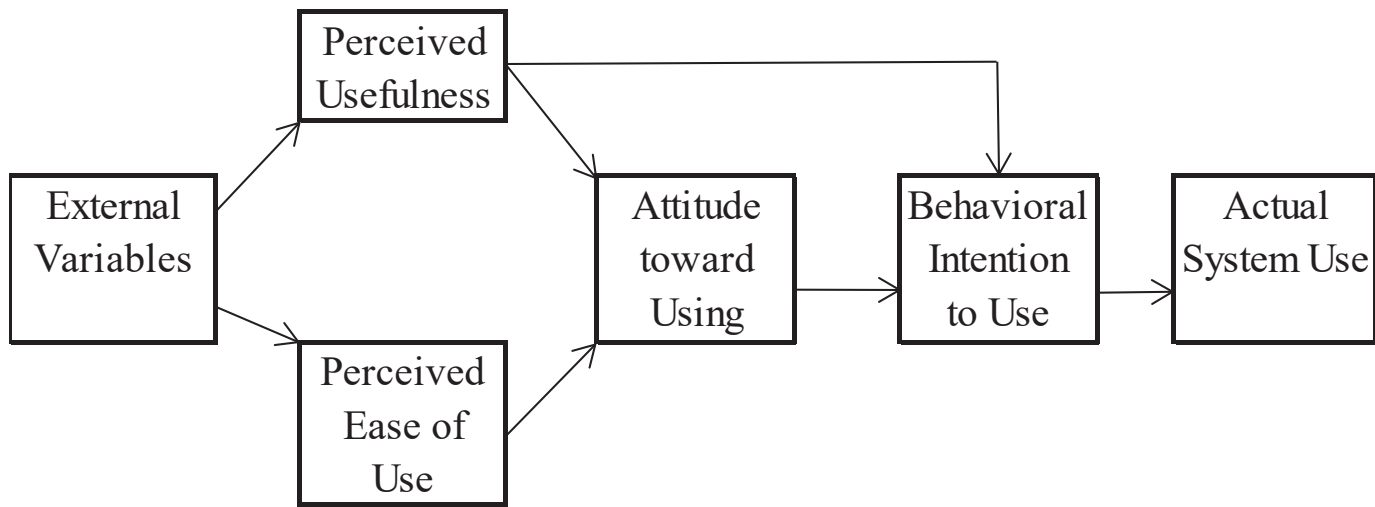


Figure 2.5 Technology Acceptance Model (TAM) (Davis et al., 1989)

The strength of the TAM model is the generalisability of application to a wide variety of contexts. However, this is also a weakness as there is limited ability to identify antecedents that influence perceived usefulness and perceived ease of use (Venkatesh & Davis, 2000). If TAM applied to this research, it would provide information as to Perceived Use and Ease of Use. However, it would fail to provide insight into what beliefs RSB hold to determine their perceptions of Facebook as a suitable technology for acceptance and use within their business.

The failure to address external variables was one of the criticisms of TAM in the literature reviewed (Ajzen, 1991; Benbasat, Barki, Montréal, & University of British Columbia, 2007; Chuttur, 2009; Mathieson, 1991; Venkatesh & Davis, 2000). To address this limitation in the model, TAM extended into TAM 2 through the addition of the Subjective Norm, Image and Voluntariness (social influence processes) and Job Relevance, Output Quality and Result Demonstrability (cognitive instrumental processes) as predictors of Behavioural Intention where use of technology in the workplace was mandatory. The concept of Subjective Norm for TAM2 was adapted from TRA/TPB (Venkatesh & Davis, 2000).

The TAM2 does not include perceived behavioural control updated in the TPB and the Social Influence construct in UTAUT (Venkatesh, 2000). TAM also fails to acknowledge a 'fit for purpose' component, being the how well the technology fits the problem to be solved by the user, and the skills of the potential user, both aspects found to increase actual use of technology (Mathieson, 1991). TAM assumes behavioural intentions lead to actual behaviour, and that there are other external psychological determinants preventing actual acceptance of the technology. On average TAM has only been able to explain up to 40 per cent of the variance in behavioural intention (McFarland & Hamilton, 2006; Venkatesh & Davis, 2000).

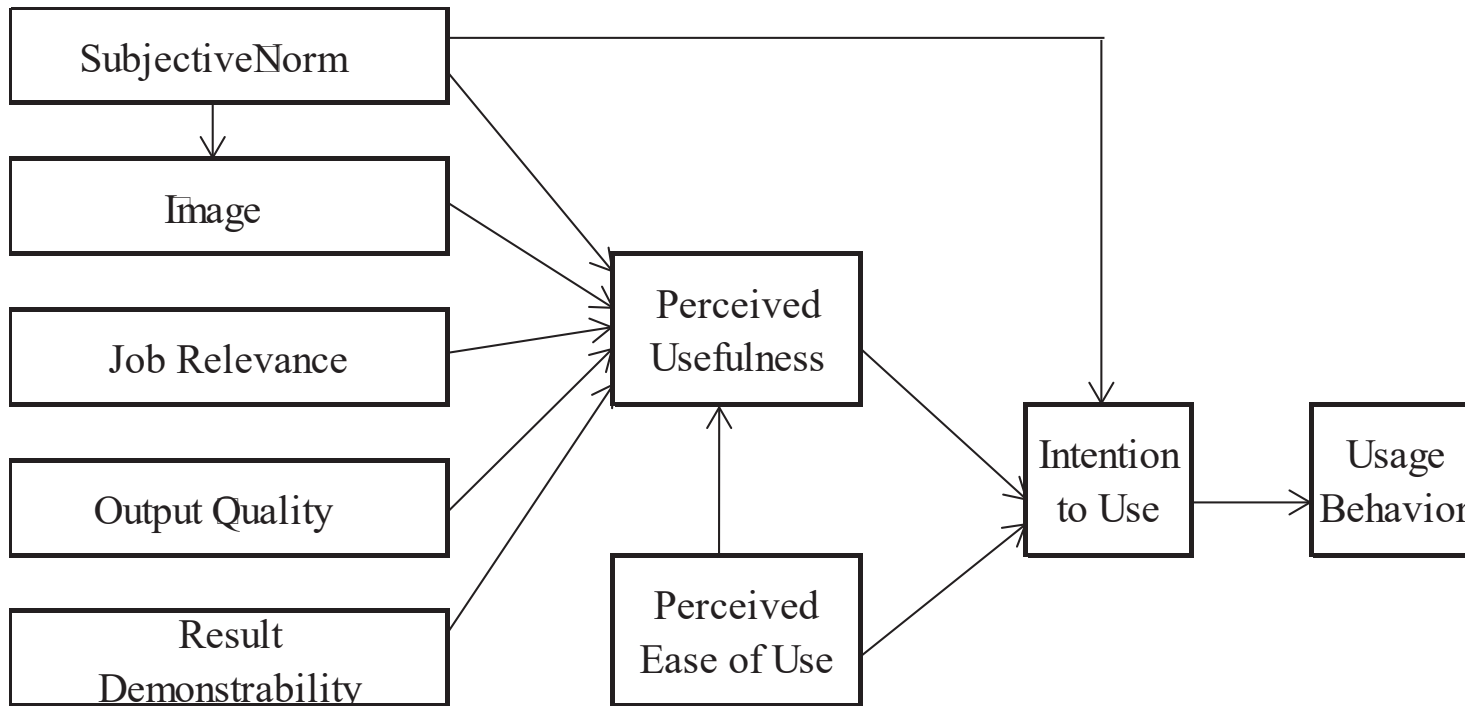


Figure 2.6 Technology Acceptance Model 2 (TAM2)(Venkatesh & Davis, 2000)

TAM/TAM2 based models are the most widely used technology acceptance models due to their generalisability and ease of application. However, the ability for numerous extensions means that there are so many 'TAM' that it is difficult to ascertain which to use (Benbasat et al., 2007). As TAMs focus is on cognition rather than affect, it is more appropriate where adoption of technology is mandatory within an organisation rather than through free choice selection (Hans van der, 2004; Kulviwat, Bruner Ii, Kumar, Nasco, & Clark, 2007; Sherrie & Benbasat, 2006), such as RSB free choice to accept and use Facebook technology. From a theoretical contribution perspective, TAM is a mature theory providing little opportunity to add to the theoretical body of knowledge.

2.6.1.3 Theory of Planned Behaviour (TPB)

Ajzen (1985) developed the Theory of Planned Behaviour (TPB) by extending the TRA to improve the uncertainty created by assuming volitional control. The predictive power of TRA improved the TPB through the inclusion of perceived behavioural control to determine behavioural intention. Perceived Behavioural Control is originally a component of Self-Efficacy Theory (SET), in turn derived from Social Cognitive Theory (SCT). The TPB theorises that Attitude toward behaviour, Subjective Norms and Perceived Behavioural Control influence Behavioural Intention; and in turn, Behavioural Intention influences Actual Behaviour.

The TPB is presented visually in Figure 2.7 Theory of Planned Behaviour, where it is noticeable that perceived behavioural control has the opportunity to impact actual behaviour directly, and indirectly through an influence on behavioural intention (Ajzen, 1991). Where the individual has complete control over the behaviour, behavioural intention alone should be the predictor of actual behaviour. Conversely, where an individual has no control over the behaviour, perceived behavioural control is the predictor of the actual behaviour.

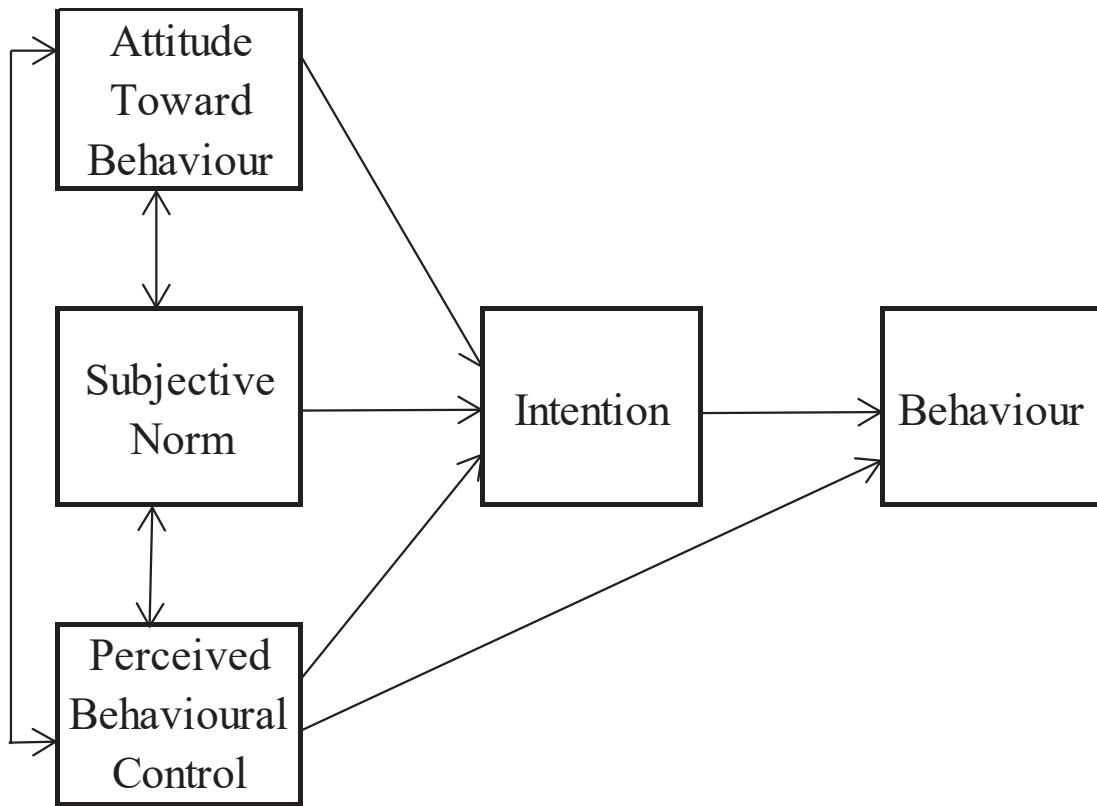


Figure 2.7 Theory of Planned Behaviour (Ajzen, 1991)

While the TPB has been commonly used by researchers in advertising, public relations and healthcare when considering individuals' actions in an organisational setting (Ajzen, 1991). The literature raises concerns on the validity and utility of the TPB model. As with the TRA, a weakness was identified in accounting for individuals who form a Behavioural Intention that is not followed by the anticipated behaviour (Orbell & Sheeran, 1998). Criticisms of the TPB were also raised by Taylor and Todd (1995), concerning the clarity of using a cover all variable to account for all non-controllable elements within the model suggesting a number of beliefs behind perceived behavioural control, which should be explored to improve predictions and to identify possible biases.

Post inclusion of the TPB in the UTAUT model by Venkatesh and Davis (2000), the TPB has been the subject of further academic debate suggesting that the predictive power has been observed to drop with longitudinal studies. Sniehotta, Pesseau, and Araújo-Soares (2013, p. 3) questioned whether it was *'time to retire the theory of planned behaviour'* due to concerns

about validity and made strong statements on the model that *'some of the theory's propositions are patently false...and are in conflict with evidence'*.

Ajzen (2015) rebutted criticisms of the TPB stating the observations were made as a result of a failure to properly prepare for the research conducted, a misunderstanding of the conditions present and operation of the model components, rather than an inadequacy of the TPB model itself. On the maturity of the TPB model Ajzen (2015, p. 132) acknowledged:

'Even when the measures are carefully constructed, reliabilities rarely exceed .80, suggesting that the predictive validity for intentions may be getting close to the theoretical limit'.

A note of caution from the discussion is noted, namely that the approach of applying structural equation modelling in many studies relies on a small number of items used to explain the underlying construct in the model. This approach results in an incomplete capturing of the construct and as such impairs validity and leads some researchers to the finding of theoretical insufficiencies and the need to add more variables to improve predictability (Ajzen, 2015). However, the TPB has been found to have the highest prediction amongst young, fit, affluent populations on self-reported behaviour (Sniehotta et al., 2013). This observation is important as the TPB (as with the TRA) has no inclusion of demographic variables, while the results of its usage has emphasised the contextual importance of population demographics.

2.6.1.4 Combined Theory of Planned Behaviour and Technology Acceptance Model (C-TAM-TBP)

The C-TAM-TPB combines constructs of attitude toward behaviour, subject norm and perceived behavioural control adapted from the TRA-TPB with the Perceived Use construct adapted from TAM. This model theorises that Perceived Ease of Use influences both Perceived Use and Attitude. Perceived Use also directly influences Attitude and Behavioural Intention. Attitude, Subjective Norm and Perceived Behavioural Control influence Behavioural Intention as in Figure 2.8. The Attitude, Subjective Norm and Perceived Behavioural Control constructs are adapted from TRA-TPB and as such use the same definitions as those models. The Perceived Use construct is adapted from TAM and uses the same construct definition as that model.

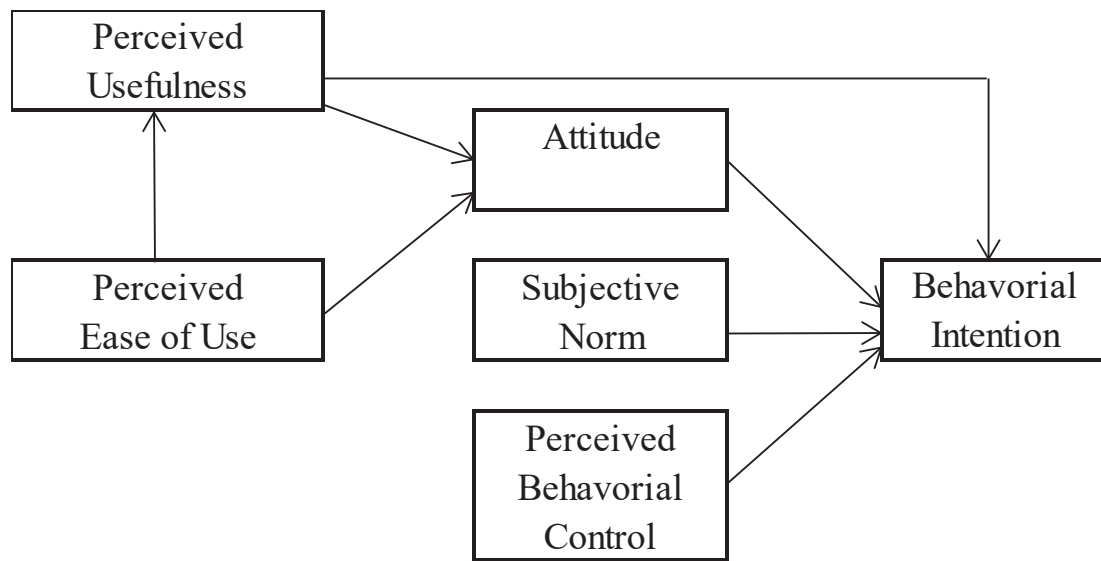


Figure 2.8 Combined TAM-TPB Model (Taylor & Todd, 1995)

The key findings of the study generating the C-TAM-TPB model are that variables influence changes with user experience over time and *'the augmented version of TAM can be used to predict subsequent usage behaviour prior to users having had experience with the technology'* (Taylor & Todd, 1995, p. 565). The strongest predictor of Behavioural Intention was Perceived Use for inexperienced users i.e. lesser importance given to control information to generate intentions, and Perceived Behavioural Control for experienced users.

Expectations were found to be similar to Perceived Use, with the challenge being to set realistic expectations for inexperienced users to ensure appropriate design and prevent failure in implementing a system (Szajna & Scamell, 1993; Taylor & Todd, 1995).

The originating TAM-TPB study used student participants. Generalising the results to cover workplace situations may not be relevant due to the subject limitations included a difference in Subjective Norms and Perceived Behavioural Control. The relationship between experience with moderators such as age were not tested and it applies to only one form of IT usage being a computer information resource center (Taylor & Todd, 1995).

2.6.1.5 Motivational Model (MM)

The UTAUT model utilises two types of motivation, intrinsic and extrinsic motivation. The Motivational Model in Figure 2.9 identifies and defines the motivational constructs reflecting those in the TAM/TAM2 models. Intrinsic motivation is the joy of conducting the activity for its own sake. Extrinsic motivation is performance of the activity because it is a necessary way of achieving some other outcome. Davis (1992) identifies Perceived Use as containing both extrinsic motivation and intrinsic motivation, with the latter as the major determinant to predict intentions of use of computers in business.

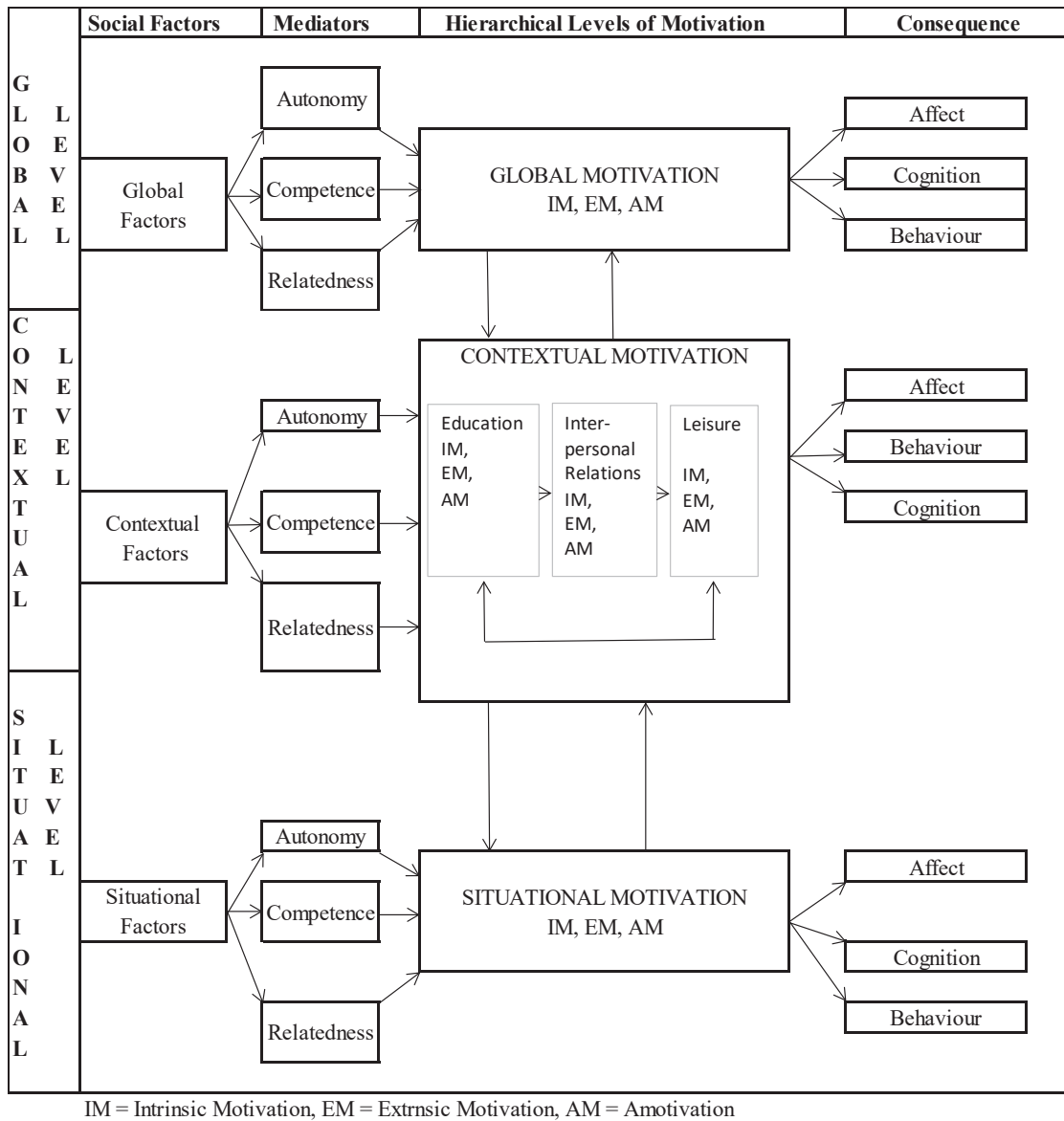


Figure 2.9 Motivational Model

2.6.1.6 Innovation Diffusion Theory (IDT)

Innovation Diffusion Theory (IDT) (Rogers, 1995) emerged from sociology to study a variety of innovations and was not technology specific. It was applied to information systems technology acceptance by Moore and Benbasat (1991) to identify the factors that lead to technology acceptance. It is a psychologically based decision process whereby a person first knows about an innovation (knowledge), then forms an attitude about the technology (persuasion), that leads to a decision on whether to use the technology (decision), followed by actual use of the innovation (implementation) and then whether one later continues or discontinues use of the innovation (evaluation) (Rogers, 2003). The ability to diffuse innovation occurs in the persuasion stage. The core constructs of the persuasion stage of the model are independent variables that impact the acceptance of a technology and are defined as (Moore & Benbasat, 1991, pp. 195, 203):

- *Relative advantage* - ‘the degree to which an innovation is perceived as being better than its precursor’
- *Ease of Use* – ‘the degree to which an innovation is perceived as being difficult to use’
- *Image* – ‘the degree to which use of an innovation is perceived to enhance one’s image or status in one’s social system’.
- *Visibility* – the degree to which one can see others using the system in the organization’.
- *Compatibility* – ‘the degree to which an innovation is perceived as being consistent with the existing values, needs, and past experiences of potential accepters.’
- *Results Demonstrability* – ‘the tangibility of the results of using the innovation, including their observability and communicability’.
- *Voluntariness of Use* – ‘the degree to which use of the innovation is perceived as being voluntary or of free will’.

The IDT model is in Figure 2.10.

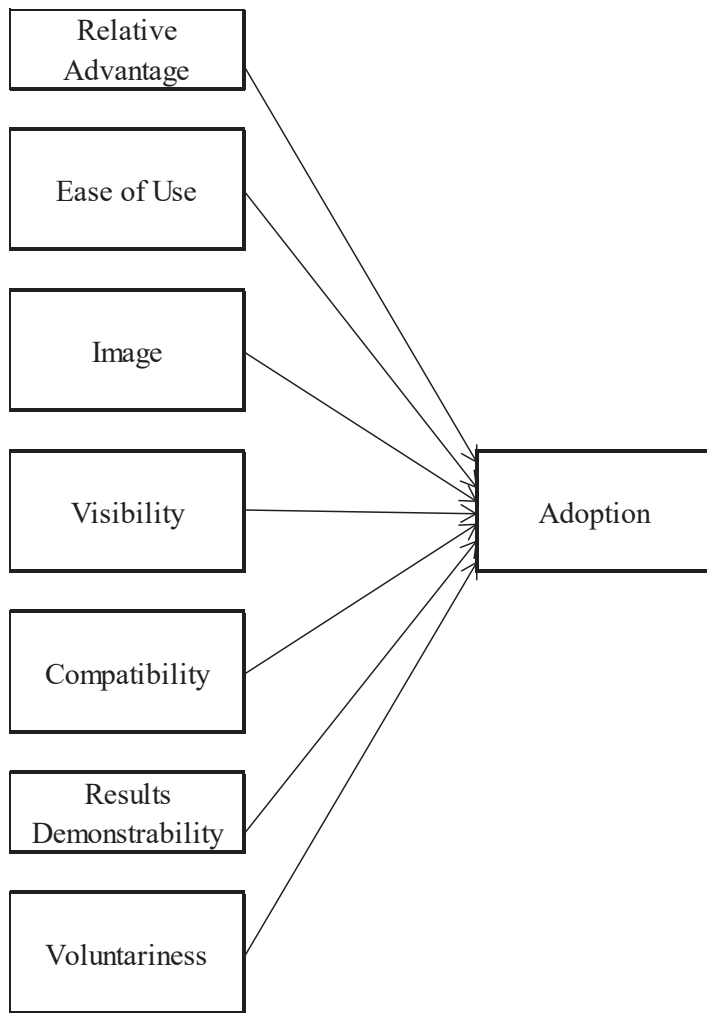


Figure 2.10 Persuasion Stage of Innovation Diffusion Theory (Moore & Benbasat, 1991)

IDT has been observed to be conceptually similar in some components to TAM2 with relative advantage approximated for Perceived Usefulness, complexity to Perceived Ease of Use and compatibility to Perceived Relevance and observability to Output Quality (Karahanna & Straub, 1999). If this is the case, TAM2 leaves Trialability as the only difference between IDT and TAM2. This observation supports the suggestions by Holden and Karsh (2010) and Dahl (2015), that these models are variations on a larger theme.

Criticism of IDT and TAM2 included the assumption that the perceived qualities of the technology are the only determinants of acceptance. Further, variables such as perceived cost of the technology have been suggested as an impact on technology acceptance (Wu & Wang, 2005). This being the case, IDT does not assist this research to explain why RSB are not readily accepting Facebook with low perceived cost for marketing communications.

IDT has also been widely criticised for its lack of explanatory and predictive power and demand rather than supply of innovation focus (Attewell, 1992). An empirical study of small business use of Facebook in Australia was located in the review applying IDT and found the model constructs were not distinct in explaining Facebook use, with the degree of 'sense of community' (i.e. level of consumer engagement sought by the business) being more relevant to predictions (Abedin, 2016). Green (2001) also proposed that social circumstances rather than technological qualities posed in IDT and TAM2 are better determinants of technology use. Following this suggestion, the inclusion of Social Cognitive Theory (SCT) in the UTAUT model will allow for the testing of Social Influence (SI) to explain possible reasons for RSB to accept Facebook technology, or not.

2.6.1.7 Social Cognitive Theory (SCT)

SCT is an interpersonal learning theory based on the concept that humans learn from watching behaviours modelled by others (Bandura, 1977, 1986, 1986). SCT uses three constructs to determine human behaviour being Personal Factors (thoughts, beliefs and feelings), Environmental Factors and Behavioural Factors. These three (3) factors are in a relationship of reciprocal determinism, meaning that each factor influences, and is influencing, the other factors in the model.

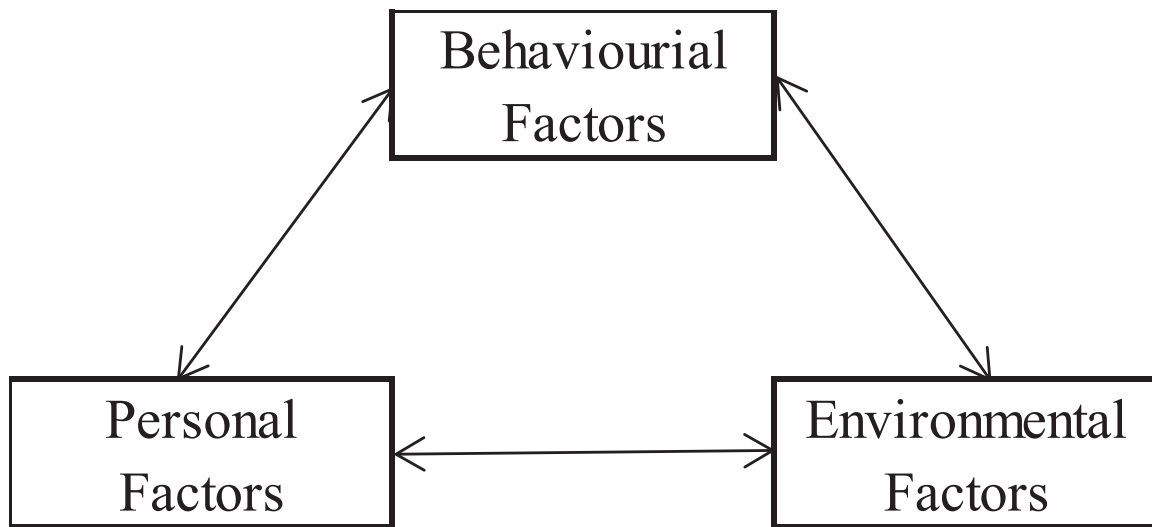


Figure 2.11 Social Cognitive Theory: Triadic Reciprocal Determinism (Bandura, 1977, 1986)

The importance of SCT to the development of the UTAUT model is the demonstration of Social Influence on individual behaviours (Venkatesh et al., 2003, p. 432):-

- *Outcome Expectations* - performance & personal
- *Performance* defined as ‘*the performance related consequences of the behaviour*’.
Specifically performance expectations deal with job related outcomes defined as ‘*the personal consequences of the behaviour*’.
- *Self-efficacy* - ‘Judgement of one’s ability to use a technology to accomplish a particular job or task’.
- *Affect* - defined as ‘an individual’s liking for a particular behaviour’
- *Anxiety* - defined as ‘evoking anxious or emotional reactions when it comes to performing a behaviour’.

SCT applied to organisational contexts with job satisfaction as the behavioural factor, self-efficacy as the personal factor and job culture as the environmental factor. However, the concepts behind the theory that our actions are just reactions to experiences, does not allow for a full exploration of the practical problem addressed by this research.

2.6.1.8 PC Utilisation (MPCU)

The Model of Personal Computer Utilisation (MPCU) was developed by Thompson et al. (1991) as a technology specific application of a subset of human behaviour theory (Triandis, 1977). It provided an alternative theoretical approach to the applications of the TRA (Ajzen & Fishbein, 1975; Ajzen & Fishbein, 1980) to information systems research occurring at the time and was the first application of the theory to that context. The difference being the TRA considers all of the beliefs a person has towards a behaviour, rather than linking emotions to the moment of action and future consequences. The MPCU states,

‘that utilisation of a PC by a knowledge worker in an optional use environment would be influenced by the individual’s feelings (affect) toward using PCs, social norms in the work place concerning PC use, habits associated with computer usage, the individual’s expected consequences of using a PC, and facilitating conditions in the environment conducive to PPC use’ (Thompson et al., 1991, p. 126).

From this definition, Thompson et al. (1991) tested the constructs relating to expected consequences of a behaviour:-

- job-fit – ‘the extent to which an individual believes that using a PC can enhance the performance of his or her job’ (Thompson et al., 1991, p. 129) and is acknowledged as being similar to the construct of perceived usefulness in the TRA (Davis, 1989)
- complexity – is the opposite of perceived ease of use and therefore has a negative relationship between this construct and PC utilisation (Thompson et al., 1991)
- long-term consequences – defined as ‘outcomes that have a pay off in the future’ (Thompson et al., 1991, p. 129)
- affect toward use –the good and bad emotions of the individual toward the act
- social factors –being a mix of social norms and belief of the individual (Triandis, 1971)
- facilitations conditions for PC use - including ‘objective factors, “out there’ in the environment, that several judges or observers can agree make an act easy to do” Triandis (1980) in (Thompson et al., 1991)

It is important for this study to note the negative relationship between Complexity of Use and PC utilisation; with complexity meaning the opposite of Perceived as Ease of Use and thus

lessening Behavioural Intentions, i.e. if a technology is perceived to be complex in the effort required to use it, it is less likely to be actually used.

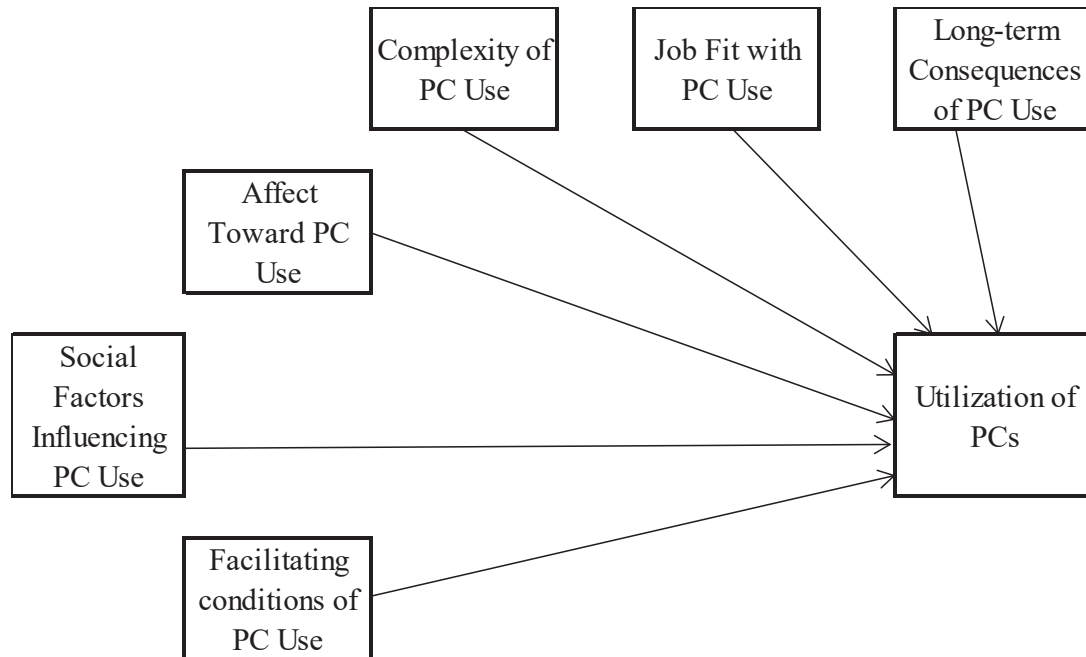


Figure 2.12 Model of PC Utilisation (Triandis, 1977)

The construct of Habit was not included in the original UTAUT model as proposed by Venkatesh et al. (2003) and is incorporated as a core determinant in the revised UTAUT2 for the context of consumer e-commerce (Venkatesh, James, & Xu, 2012). Habits were defined by Triandis (1971) as behaviour sequences that occur without self-instruction, measured by the frequency of the occurrence of the behaviour. As this was the same measure used for utilisation in the MPCU it was excluded as a separate construct for this model (Thompson et al., 1991).

2.6.1.9 Unified Theory of Acceptance and Use of Technology (UTAUT) Model

This model was developed through a review of the 8 existing technology models with a view to unify the literature to form a single model (Venkatesh et al., 2003). The underlying justification for unifying these models is that Venkatesh (2003) observed that there was a common basic concept to all of the models being that individual reactions to using information technology affect intentions to use information technology that impact the actual

use of information technology. All models experienced unexplained variance between behavioural intention and actual use.

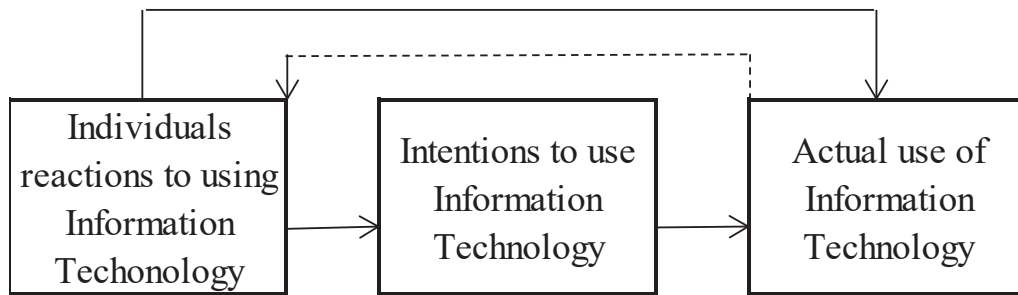


Figure 2.13 Basic Concept Underlying User Acceptance Models (Venkatesh et al., 2003)

The technology model contributors to the UTAUT Model are contained in Table 2.6. The TPB, IDT and TAM2 are the highest contributors to the UTAUT model with input into seven (7) of the nine (9) constructs; closely followed by the TAM and MM with input into six (6) of the nine (9) constructs. Behavioural Intention is the only construct included in UTAUT from the SCT. Of the constructs in the UTAUT model Experience is the most common construct being present in seven (7) models, Performance Expectancy and Social Influence are common to six (6) models. The only demographics included in the UTAUT model are the constructs of Age contributed from the TPB and Gender by the TAM and TPB models.

Table 2.6 UTAUT Constructs showing original model contributors, adapted from Venkatesh et al., (2003)

Original UTAUT Model Contributors									
UTAUT Construct	TRA	SCT	TAM	TPB	MM	TAM-TPB	IDT	MPCU	TAM2
PE			✓		✓	✓	✓	✓	✓
EE			✓				✓	✓	✓
SI	✓			✓		✓	✓	✓	✓
FC				✓		✓	✓	✓	
BI	✓	✓	✓	✓	✓	✓	✓	✓	✓
GDR			✓	✓					✓
AGE				✓					
EXP	✓		✓	✓		✓	✓	✓	✓
VOL	✓		✓	✓			✓		✓

A longitudinal study was then conducted of four (4) organisations over six (6) months applying each of the eight (8) models and their respective constructs (Venkatesh et al., 2003). The study was cross sectional for industries selected (Entertainment, Telecomm Services, Banking and Public Administration), the functional area of the organisation accepting the technology (product development, sales, business account management and accounting), the type of technology being accepted (online meeting manager, database application, portfolio analyzer and an accounting system) and the voluntariness of the technology acceptance (mandatory or voluntary use). Data collections occurred through three surveys taken before, during and after the acceptance process. The sample sizes taken from the organisations varied from 38 to 54 participants. The predictive power of the eight individual technology models varied from 17 to 53 per cent of the variance in user intentions towards technology.

A comparison was then made of the performance of each technology model. When empirically tested against the individual performance of the eight (8) individual models using the same study data, the UTAUT model was found to have an explanatory power of an adjusted R^2 of 69 per cent, far higher than that achieved by any of the eight models predicted when applied individually to the dataset (Venkatesh et al., 2003). Later studies by the model author have applied the UTAUT model returning results of an R^2 of 70 per cent of behavioural intention and 52 per cent of actual technology use (Venkatesh et al., 2012; Venkatesh et al., 2003).

The UTAUT model's explanatory power has been confirmed in subsequent studies as being higher than all of its contributing technology acceptance models (Hsiao & Tang, 2014) supporting the robustness and explanatory power of the model (Williams et al., 2015), with components of Performance Expectancy, Effort Expectancy and Social Influence explaining technology acceptance in a wide range of contexts (Khechine, Lakhel, & Ndjambou, 2016). The UTAUT Model is in Figure 2.14.

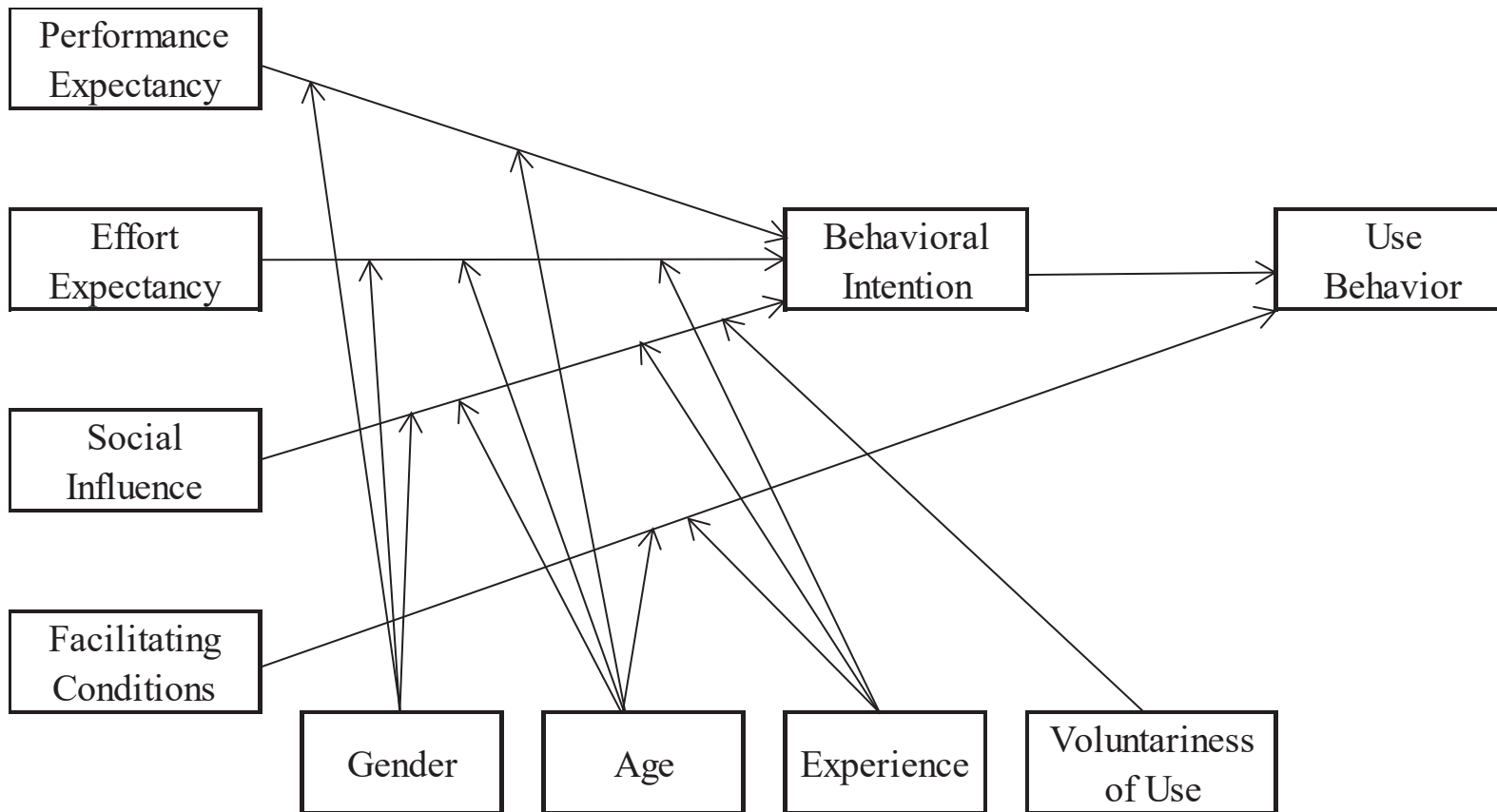


Figure 2.14 UTAUT Model (Venkatesh et al., 2003)

The UTAUT model has been criticised as being a more complicated version of TAM with differentiated variables rather than a unique model in its own right (Dahl, 2015; Holden & Karsh, 2010). The idea of creating a unified research model is a noble idea worthy of further exploration to simplify existing literature. UTAUT is a proven model that has been widely applied across a range of disciplines yet is relatively unexplored in marketing communications in the RSB context and focal technology.

2.6.1.10 UTAUT2

As with the eight (8) models used to develop the UTAUT model, the UTAUT model itself has continued to evolve since its inception to suit different contexts. UTAUT2 emerged in 2012 (Venkatesh et al., 2012) as a review of studies using the original UTAUT model and to contextualise the original UTAUT model to suit consumer acceptance and use of technology as outlined in Figure 2.15.

To achieve the distinction between an organisational workplace and consumer space, UTAUT2 contains additional constructs of hedonic motivation (affect through enjoyment), price value (monetary constraints beyond the resource constraints of time and effort contained in UTAUT) and habit (automaticity to support intentionality as driver of behavioural intention), (Venkatesh et al., 2012). Each of the new core constructs of Hedonic Motivation and Habit; moderated by Age, Gender and Experience. The moderator of voluntariness was not included in the UTAUT2 moderators. Voluntariness from a workplace employee's obligations under a workplace mandate as in the business application designed for the original UTAUT (Venkatesh et al., 2012).

Upon a review of the reasoning of the new constructs in UTAUT2, it appears that some may be useful in this research; a detailed discussion is contained in sections 2.6.3 and 2.6.4. An overview of the UTAUT2 model is in Figure 2.15.

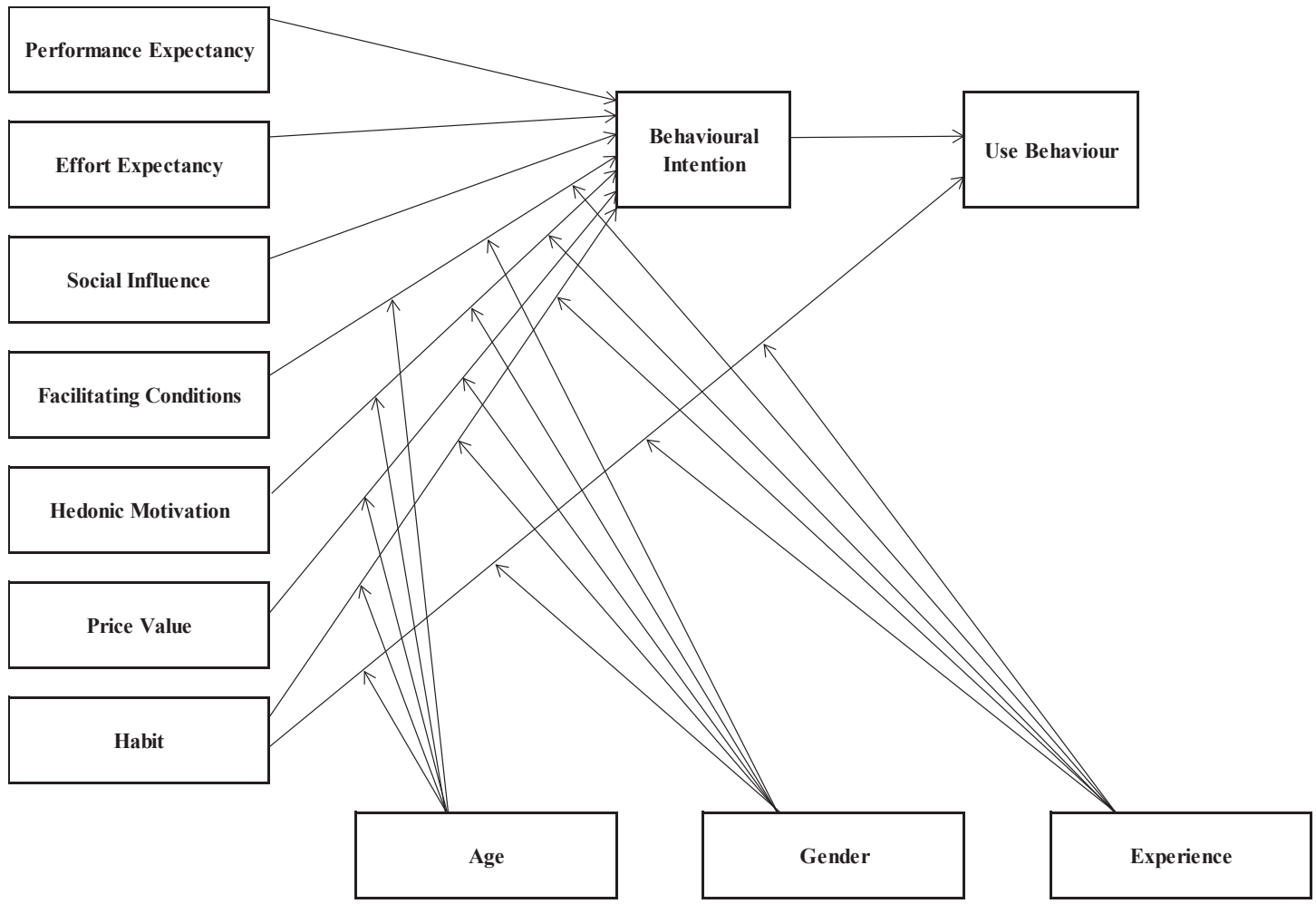


Figure 2.15 UTAUT2 Model (Venkatesh et al., 2012)

2.6.2 UTAUT Literature

A general overview of the UTAUT literature is provided by the meta analysis of 174 studies using the UTAUT model from 2004 to June 2011 conducted by Williams et al (2015). Of interest to the current research, is that the Meta analysis included 135 studies of a cross sectional nature and 25 studies on communications systems within businesses. A large majority of the studies, 102 of the 174 reviewed are quantitative studies, with structural equation modelling using AMOS the most explored statistical analysis technique and data analysis tool, followed by Regression analysis using SPSS. The major criticisms of the UTAUT model reported are a singularity of focus in the subject/person/technology of the study, not longitudinal, the full model was not tested, no moderators tested, no exogenous factors included, integration with other theoretical models and small sample sizes.

However, there have also been significant criticisms of UTAUT model as there are mixed results for studies only partially validating construct relationships or invalidating relationships between constructs altogether (Khechine et al., 2016). Weighted analysis of UTAUT model relationships found PE and BI were the only two variables to meet the benchmark weight of 0.8 to be included as best predictor category factors (Jeyaraj, Rottman, & Lacity, 2006; Khechine et al., 2016; Williams et al., 2015).

Further application of the UTAUT model calls for a variety of disciplines and contexts to improve understanding and importance of the model stating '*there is still ample opportunity for researchers to conduct innovative work*' (Williams et al., 2015, p. 468). It was suggested that '*self-reported usage, use of student samples, and lack of consideration of moderating variables*' in predicting technology use were issues to be addressed by future studies (Williams et al., 2015, p. 470). This research includes self-reported usage by RSB.

However, the research answers the call in the literature by collecting RSB data rather than student samples; and, considers moderating variables through the exploration of RSB demographics and measurement of perceived importance via the engagement literature.

For UTAUT literature for this research, a search using Google Scholar and Onesearch located studies from June 2011 until March 2015 and updated periodically until June 2020. The PRISMA process applied to locate the relevant literature, as depicted in Figure 2.1. Search results are included if the study is a business context, solely applied the UTAUT model and if an English translation was accessible. The PRISMA process recovered 70 empirical studies

of relevance to different aspects of this research. It is possible that studies of significance are missing from the literature reviewed where the search terms not have been included as a key terms, refer Appendix 1. An examination follows of the original UTAUT model and extended UTAUT2 model constructs with reference to the studies located and their relevance to this research.

The literature review identified the use of the UTAUT model as appropriate given the application to a number of different business contexts that complement but do not replicate the current research. The UTAUT model has been widely used from a consumer perspective in their transactions with a business where the decisions relate to individuals acceptance and use of a particular technology. Examples of UTAUT model studies in different business contexts include in consumer acceptance and use of electronic and mobile technology including m-banking (Ahmed et al., 2017; Sarfaraz, 2017; Yu, 2012), m-commerce (Blaise, Halloran, & Muchnick, 2018; Jaradat & Al-Rababaa, 2013; Noha Bendary, 2018), m-shopping (Hino, 2015; Madan & Yadav, 2018), e-banking (Qeisi & Al-Abdallah, 2013; Saibaba & Murthy, 2013; Sarfaraz, 2017; Wang, Cho, & Denton, 2017) and mobile business based apps (Hew, Lee, Ooi, & Wei, 2015; Tan et al., 2017).

Studies have applied the UTAUT model within organisations internally through employee acceptance and use of different technologies, to various sizes of businesses, including social media use contexts and specifically on Facebook technology acceptance and use. The organisational settings for UTAUT model studies relate to an individual employee's acceptance and use of in-house technology in large organisations such as Enterprise Resource Planning implementation (Fillion, Braham, & Ekionea, 2012; Ling Keong, Ramayah, Kurnia, & May Chiun, 2012). The RSB selected in this research were all owner/managers as the decision makers to accept technology and also the users and/or overseers of the use of the technology within their business. From this perspective, RSB are different from the medium or large organisational structures that distance decision making and technology use functions. Of interest in this research is whether the UTAUT model would be effective at bridging the gap between individual and closely bound organisational structures in explaining technology acceptance and use for a RSB. UTAUT studies were located considering SME acceptance and use of IT innovations (Moghavvemi, Mohd Salleh, Zhao, & Mattila, 2012).

The literature review located studies applying the UTAUT model to business organisations using social media. The UTAUT model has been applied to examine the differences in social

media acceptance and use depending upon business size (Araujo & Zilber, 2016; Verheyden & Goeman, 2013) and by microbusinesses (Mandal & McQueen, 2012). UTAUT model studies were located on social media use by specialists in marketing communications such as public relations organisations (Alikilic & Atabek, 2012), on communications as an e-collaborative tool (Chan, Chong, & Zhou, 2012; Fillion et al., 2012).

Empirical UTAUT studies were located on the acceptance and use of Facebook technology within a business context. These studies include the use of Facebook technology by business communities for socio-economic development (Liew, Vaithilingam, & Nair, 2014), for use by microbusinesses (Mandal & McQueen, 2012) and on specific industries such as construction (Sargent, Hyland, & Sawang, 2012).

Review of the UTAUT model literature supports the suitability of this model's use for this research providing studies to inform on various aspects considered in the current research. However, no single study contained all of the considerations necessary to answer the research questions proposed in this research, also supporting the need for the research. The UTAUT model is the technology model for this research and a discussion follows on the core determinants and moderators for selection in this research.

2.6.3 Core Determinants

The UTAUT model has four core constructs forming the independent variables of performance expectancy (PE), effort expectancy (EE), social influence (SI) and facilitating conditions (FC) used to predict behavioural intention (BI) and lead to Actual Use (AU) of the technology (Venkatesh et al., 2003).

Further development of the UTAUT model led to the UTAUT2 Model designed for a consumer context and including the core constructs of Hedonic Motivation (HM), Price Value (PV) and Habit. A discussion follows of each core determinants for the UTAUT and UTAUT2 models in terms of the original construct creation, subsequent literature findings and inclusion in this research.

2.6.3.1 Performance Expectancy

The first core determinant in the UTAUT model (and included in the UTAUT2 model) is PE. PE is defined as *'the degree to which an individual believes that using the system will help him or her to attain gains in job performance'* (Venkatesh et al., 2003, p. 447). PE is a

construct derived from perceived usefulness in both TAM/TAM2 and C-TAM-TPB, extrinsic motivation from the MM, job fit from the MPCU, relative advantage from IDT and outcome expectations from SCT (Venkatesh et al., 2003). PE is the underpinning construct of the UTAUT model and is the strongest predictor of an individual's behavioural intention to use a technology of all constructs in the model (Davis, 1989; Venkatesh & Davis, 2000; Venkatesh et al., 2003). PE is a significant measurement for both voluntary and involuntary use of IT systems (Venkatesh et al., 2003). In the revised UTAUT model, PE is synonymous with the user perceptions of usefulness (Bhattacharjee & Premkumar, 2004; Venkatesh, Thong, Chan, Hu, & Brown, 2011).

However, studies located in the literature cast doubt the strength and the usefulness of PE in the RSB context and raises questions for focal technology. As an RSB owner can be arguably closer to individual 'free choice' decision making than an employee in a large organisational setting, PE may not be the leading predictive construct as has been found in the mobile commerce consumer context (Slade, Dwivedi, Piercy, & Williams, 2015). Further, when UTAUT is applied to microbusiness, PE can be insignificant in predicting social media use with business owner characteristics key to use behaviour (Mandal & McQueen, 2012).

The goal of this research is to provide insight through RSB use of Facebook technology within the UTAUT literature. Therefore, PE will be included in the research based on the original UTAUT model. The definition of PE is modified to suit the RSB context, *'the degree to which an RSB owner/manager believes that using Facebook technology will help him or her to attain gains in RSB performance'* (Venkatesh et al., 2003). The expectation of PE follows the original model, that PE will positively influence through BI to predict RSB Use.

2.6.3.2 Effort Expectancy

The second core determinant in the UTAUT model and the UTAUT2 model is Effort Expectancy (EE). EE is defined as *'the degree of ease associated with the use of the system'* (Venkatesh et al., 2003, p. 450). The EE construct is derived from the TAM/TAM2 construct of perceived ease of use and furthers the concept to describe an individual's perception of the degree of ease of using the technology, complexity from MPCU and ease of use from IDT (Venkatesh et al., 2003). EE is most significant in the early stages of a

technology acceptance and found to become weaker over time with sustained usage (Davis, 1989; Taylor & Todd, 1995; Venkatesh et al., 2003). Self-efficacy and anxiety are considered to be fully mediated by perceived ease of use with no direct impact on behavioural intention, and similarly attitude was considered akin to intention through effort expectancy and performance (Davis, 1989; Venkatesh, 2000).

In the wider UTAUT literature, empirical studies expect EE to have a positive effect on Behavioural Intention (Hino, 2015). Although the position of EE in the UTAUT model for a business context using the focal technology has mixed results. In a business context, EE has been found significant in the early stages of acceptance of Facebook technology by business in developing countries using the technology for socio-economic benefits and diminishes with subsequent use (Liew et al., 2014). However, EE has also been found insignificant for predicting BI for microbusiness use of social media technology (Mandal & McQueen, 2012).

To align with the research goals, EE will be included in this research. The definition of EE is modified for the context of this research as *'the degree of ease associated by the RSB owner/manager with the use of Facebook technology'* (Venkatesh et al., 2003). The expectation is from the original UTAUT model that EE has a positive relationship through BI in predicting RSB Use.

2.6.3.3 Social Influence

The third core determinant in the UTAUT model is social influence (SI). In the UTAUT2 model SI is defined as the *'degree to which an individual perceives that important others believe he or she should use the new system'* (Venkatesh et al., 2003, p. 451). The SI construct derives from the subjective norm construct in the TRA, TAM2, TPB and C-TAM-TPB, the social factors from the MPCU and image from the IDT. SI centers on the individual's perception of the importance of peers beliefs about their technology use (Ajzen, 1991). SI constructs are most significant where use of a system is voluntary where it influences perceptions of the technology and in mandatory settings with inexperienced users; again lessening in impact over time and sustained usage (Taylor & Todd, 1995; Venkatesh & Morris, 2000; Venkatesh et al., 2003).

UTAUT studies have found SI of significance to BI significant for individual consumer predictions of technology use in e-commerce (Bozorgkhou, 2015; Slade et al., 2015).

However, for the acceptance and use of social media by microbusiness, SI did not influence BI (Mandal & McQueen, 2012).

Again, as the literature contains mixed results and a new RSB context, the premise of the original UTAUT model is applied. SI will be included in the UTAUT model for the current research. SI in this research is defined as the '*degree to which an RSB owner/manager perceives that important others believe they should use Facebook technology*' (Venkatesh et al., 2003). The expectation is that SI has a positive relationship through BI to predict RSB Use.

2.6.3.4 Facilitating Conditions

The final core determinant in the UTAUT model is Facilitating Conditions (FC). FC is defined as '*the degree to which an individual believes that an organisational and technical infrastructure exists to support the use of the system,*' (Venkatesh et al., 2003, p. 453). The FC construct derives from perceived behavioural control in the TPB and C-TAM-TPB, FC in the MPCU and Compatibility in the IDT. There is an anomaly recognised with this construct in that there is an overlap with EE (Venkatesh et al., 2003). The result of this anomaly is that when PE and EE are included in the model, FC becomes an insignificant predictor of BI. However, empirical testing of the UTAUT model found a relationship beyond BI directly with UB (Venkatesh et al., 2003).

The FC in an information and communication systems context relates to the individual's perceptions of help mechanisms available in terms of resources and support to use the technology. For example, the availability of training and self-help functions (Venkatesh et al., 2012; Venkatesh et al., 2003). FC have been found to be a predictors of UB (increase technology acceptance) in developing countries while having little impact in developed countries (El-Masri & Tarhini, 2017).

In this research, FC is defined as '*the degree to which the RSB owner/manager believes that RSB organisational and technical infrastructure exists to support the use of Facebook technology*' (Venkatesh et al., 2003). The expectation is that FC will be a predictor of BI for RSB Use.

2.6.3.5 Hedonic Motivation

Hedonic Motivation (HM) is a construct arising in UTAUT2, based on enjoyment and complements utility designed for the context of consumer product use. However, the literature has shown that consumers value technology differently to employees, emphasising the importance of context of the specific technology (Hans van der, 2004; Hong & Tam, 2006; Orlikowski & Iacono, 2001; Thong, Venkatesh, Xu, Hong, & Tam, 2011). Hedonic motivation has not been selected for inclusion and testing in the proposed model for this study due to the RSB business context. Although, data collection will be conducted from RSB owners on the perceived importance of enjoyment activities for consumers from the engagement literature.

2.6.3.6 Price Value

The original UTAUT model considers resource components of time and effort. UTAUT 2 expands resource considerations to include the effect of monetary costs affecting the consumers' decision of technology acceptance (Venkatesh et al., 2012). The definition of Price Value (PV) is a '*consumers' cognitive tradeoff between the perceived benefit of the applications and the monetary cost for them*' (Venkatesh et al., 2012, p. 165). The UTAUT2 approach to PV differentiated consumer users from workplace contexts on the assumption that consumer users are responsible for the costs of use unlike employees in an organisational setting. The PV relationship is positive when the monetary cost is less than the perceived benefits of using the new technology and results in an increase in BI (Venkatesh et al., 2012).

Later UTAUT studies have supported that PV positively affects BI where the perceived benefits and monetary cost to the technology user is favourable (Escobar-Rodriguez & Carvajal-Trujillo, 2014; Yu, 2012). The value component of this construct is sourced through the economic use behaviour defined as, '*using Facebook for economic benefits in business development*', (Liew et al., 2014, p. 349).

RSB have a more direct 'hands on' relationship between owning and operating the business, so not removed as in the employee cost posed in UTAUT2 for consumers. On this basis, PV is a construct for this research. The definition of PV in this research is, '*RSB owners/managers cognitive tradeoff between the perceived benefit of Facebook acceptance and use and the monetary cost for the RSB in terms of economic benefits in business development*' (Venkatesh et al., 2012). The expectation is that PV has a positive effect on BI.

2.6.3.7 Habit

Including the construct of habit in UTAUT2 nullifies a counter position that BI is not the key or sole predictor of AU (Venkatesh et al., 2012). Habit assists as the driver of AU, and limits the relationship between BI and AU (Limayem, Hirt, & Cheung, 2007; Ouellette & Wood, 1998; Venkatesh et al., 2012). Habit, while related, is separate to the Experience construct from the original UTAUT. The constructs of Habit and Experience operationalise in different ways and have no set definition. In the extant literature, Experience may be the opportunity to use a technology over time and occurs post implementation of the technology. Habit has been distinguished from experience, in that experience is needed to form habit; habit extends to prior behaviour; and experience can form different levels of habit for the user of the technology and in this case measured the perceived degree of automation (Kim, Malhotra, & Narasimhan, 2005). As there is a lack of clarity concerning a definition of the construct of Habit, it not selected in this research due to its focus on initial triggers for acceptance of technology and is not a construct for this research.

2.6.3.8 Behavioural Intention

All eight (8) models used to derive the original UTAUT model rely on the underlying premise that BI is the best predictor of AU (Venkatesh et al., 2003). BI is defined as '*the degree to which a person has formulated conscious plans to perform or not to perform some specific future behaviour*' (Warshaw & Davis, 1984).

The UTAUT model, as with all eight models founding it, has generally been criticised due to the gap between BI and AU, not accounting for external factors affecting an individual's intention prior to their actual behaviour (Moghavvemi & Salleh, 2014). The UTAUT empirical studies generally support BI's prediction of AU. However, other studies hold mixed results. For example, business goals have been the better predictor of AU than BI for microbusiness (Mandal & McQueen, 2012).

As BI is a distinguishing feature of the UTAUT models in unifying previous TAM based models, it has been included in the current research. However, it is anticipated that there will be mixed responses on use behaviour by RSB as some will be users of Facebook for their business and others others will not. This means that BI in this context will encompass the intention to continue to use Facebook for FBU after experiencing use of the system for their business (Bhattacharjee & Premkumar, 2004; Venkatesh et al., 2011). For NFBU RSB

intention refers to commence the use of Facebook for their business. In this research, the definition of BI is *'the degree to which an RSB owner has formulated conscious plans to perform or not to accept and use Facebook technology in the next 12 months'*. In the RSB context, the expectation is that BI has a positive relationship with RSB Use.

2.6.3.9 Use Behaviour

All UTAUT models (as with TAM based models) contain a construct of actual use of the system whose use is sought to be predicted (Venkatesh et al., 2003). In this research actual use behaviour (UB) is defined as *'the use of Facebook technology for marketing communications by the RSB'*. Expectations are that some of the RSB owners will already be users of Facebook technology for their business and others will not. However, the level of RSB Use is unknown in the focal locale.

2.6.4 Moderating Constructs

Moderating constructs affect the strength and direction of core constructs relationships with actual use behaviour, in the original UTAUT model, these include gender, age, experience and voluntariness of use. Although it is noted by the model originator that moderators are usually dropped from research into the UTAUT model (Venkatesh et al., 2012; Venkatesh et al., 2003). Moderating variables affect the direction and strength of the relationship between other core determinants (Baron & Kenny, 1986). A discussion follows on the moderating constructs to be included in this research.

2.6.4.1 Gender

The first moderator is Gender. This moderator has been found to modify the core determinants of PE, EE and SI (Venkatesh et al., 2003). Further research finds Gender is an increased moderating effect on SI for females than male technology users (Nysveen, Pedersen, & Thorbjørnsen, 2005; Venkatesh & Morris, 2000). SI also has been found to have a greater moderating effect for older men and women technology users (Arenas-Gaitán, Peral-Peral, & Ramón-Jerónimo, 2015). Gender can also affect the levels of technology use (José Liébana-Cabanillas, Sánchez-Fernández, & Muñoz-Leiva, 2014). In this research, the expectation is Gender moderates the core determinants of PE, EE and SI.

2.6.4.2 Age

The second moderator in the UTAUT model is Age (Venkatesh et al., 2012; Venkatesh et al., 2003). In the original research, age was found to moderate all four determinant constructs of PE, EE, SI and FC (Venkatesh et al., 2003). However, subsequent studies have shown mixed results on whether age is considered. Aging has been found to impact the perceived ability of the elderly both to accept change and therefore to engage with new technology (Nikou, 2015). In this research, the expectation is that Age moderates the core determinants of PE, EE, SI, FC and PV.

2.6.4.3 Experience

The third moderator in the UTAUT model is Experience (Venkatesh et al., 2012; Venkatesh et al., 2003). Experience moderates user expectations, behavioural intentions and actual behaviours (Bandura, 1977; Jones & Jones, 1995). Experience has been found to effect the core determinants of PE, EE, SI, FC and PV (Venkatesh et al., 2012; Venkatesh et al., 2003) and lessens in impact over time (Kim et al., 2005). In a social media context the moderator of Experience refers to previous experience with social media (Workman, 2014). The expectation in this research is that Experience moderates the core determinants of PE, EE, SI and PV.

2.6.4.4 Voluntariness of Use

The final moderator in the original UTAUT model is voluntariness of use. This moderator has been found to only affect the core determinant of social influence (Venkatesh et al., 2003). Voluntariness has been redundant to social media contexts (Workman, 2014) RSB use of Facebook technology is a free choice by RSB owners/operators, so there is no support for including Voluntariness of Use in this research.

2.6.5 UTAUT Summary

In summary, the UTAUT literature review informs the final research objective (RO3):

RO3: Provide insights on positioning RSB in the existing technology acceptance and use literature

Technology adoption literature provides a number of model options to structure a theoretical framework for data collection in this research. An examination occurred of the UTAUT literature of existing core and moderating constructs from the original models. The literature review identified constructs from the original UTAUT Model (PE, EE, SI and FC) and a single UTAUT2 model core construct (PV) as possibly relevant to the RSB Use.

The UTAUT model does not contain an 'Attitude' based construct. At the inception of the UTAUT model, Venkatesh et al. (2003), stated attitude as the strongest predictor of BI in the TRA, TPB/DTPB and MM. Venkatesh et al. (2003) states Attitude is spurious when models have strong predictors of behavioural intention through the constructs of PE and EE, and as a result, there are no Attitude constructs in the UTAUT models. Although more recently, Attitude based constructs have been found to mediate exogenous constructs and be central to BI (Dwivedi et al., 2017). This research explores Attitude through the lens of the perceived importance of engagement in the RSB context. The identification of a theoretical framework allows for the refining of the final research objective (RO3) into the third research question:

RQ3: What is the role of the UTAUT model in predicting RSB acceptance and use of Facebook technology?

This research's aim is to explore a new combination of context and focal technology. The UTAUT model is to facilitate the research aim by providing theoretical grounding, and focus is not to expressly confirm the UTAUT model itself. The literature review identified constructs from different models that depart from the original UTAUT model. The literature review identified the majority of studies report only partial use of the UTAUT models with limited constructs, no moderators, external variables, and in combination with other theories, only 3.6% (16 of 406 studies reviewed in met-analysis) implemented the full UTAUT core constructs (Williams et al., 2011).

2.7 Presentation of Research Questions and Hypothesis

From the literature review, research gaps identified in online engagement literature and technology adoption literature influencing the ability to address the practical problem and goals of this research. The identified gaps formulate the research questions for this research. The research questions fulfil the objectives outlined in section 1.4. The first gap relates to a

lack of information available that is relevant to the focal locale and RSB Use. In response to this gap, the first research question is:

RQ1: What are the demographic characteristics of RSB that do, and do not, accept and use Facebook technology?

Due to the lack of information available in the existing literature, primary data collection will be required in this research on RSB characteristics that have a significant relationship with RSB Use. The hypothesis formed from the literature to assist in answering RQ1 are:

- H1: Younger Age of RSB respondents is positively related to RSB Use
- H2: Female RSB respondents are positively related to RSB Use
- H3: Personal experience of RSB respondents with Facebook technology is positively related to RSB Use
- H4: Smaller business size is negatively related with RSB Use
- H5: RSB with an online presence are positively related to RSB Use
- H6: RSB retail industry sectors are positively related to RSB Use
- H7: RSB undertaking formal planning processes are positively related to RSB Use
- H8: RSB with a higher marketing budget are positively related to RSB Use
- H9: The NBN and internet access have no impact on RSB Use

The second gap relates to a lack of information on the development of the concept of online engagement generally; and specifically, on the perceptions of online engagement from an RSB organisational perspective. In response to this gap the second research question is:

RQ2: How do RSB perceive the importance of consumer engagement; and does the perceived importance vary between RSB that are FBU and NFBU?

To assist with answering this question, the literature review identified engagement dimensions that can be operationalised to assist in obtaining RSB perceptions of the level importance of different consumer engagement activities (Baldus et al., 2015). The expectation from the engagement literature review forms a hypothesis for testing in this research:

H10: The perceived importance of Engagement factors is greater for RSB who are FBU than those who are NFBU

The third gap relates to the exploration of ways to explain RSB Use. As discussed in section 2.6.2, the existing empirical research on UTAUT models tests an individual consumer's acceptance and use of technology perspective and employee's within a company perspective. Both the individual and business based perspectives studied are of interest in this research on RSB Use. The UTAUT literature provides an appropriate framework to explore the current research covering the acceptance and use decision sits with the individual (as with consumer based studies); and, the individual is the owner/manager of a small business (as with the company based studies). In response to this gap the third research question is:

RQ3: What is the role of the UTAUT model in predicting RSB acceptance and use of Facebook technology?

To help answer this question the UTAUT literature will provide a framework to find the latent factors to best find meaning in describing the new RSB content (Osborne, 2014). This aspect of the research is exploratory in nature, so there are no hypothesis for confirmation and extension of the model through new theory development.

2.8 Chapter Conclusion

This chapter, (Chapter 2), provided a conceptual perspective to approach the research in section 2.2. This was followed by a systematic process applying a modified PRISMA (Liberati et al., 2009) for reviewing of the existing online engagement and technology adoption literature relevant to this research in section 2.3. Drawing on the observations in the literature review, this chapter outlined the relevant conceptual lens of IMC (Schultz & Kitchen, 2000) and SD-L (Vargo & Lusch, 2004) to guide the research goal and objectives in section 1.4.

Online engagement definitions were reviewed and a definition selected that suits the RSB context and focal technology (Barger et al., 2016) in section 2.5.1. The objects of engagement for RSB are the organisation and/or brand, and the online individual and/or member of an online community of consumption in section 2.5.2. A means of measuring

engagement for empirical study was located through the Baldus (2015) engagement dimensions rating perceived importance of aspects of consumer engagement modified to suit RSB in section 2.5.3.

The technology adoption literature was overviewed and the UTAUT based models justified and selected as suitable for this research in section 2.6. The UTAUT Model (Venkatesh et al., 2003) and UTAUT2 Model (Venkatesh et al., 2012) core determinants and moderators were reviewed in sections 2.6.3 and 2.6.4, respectively. The core constructs of PE, EE, SI, and FC from the UTAUT model; PV from the UTAUT2 model; and, a possible new construct of Engagement were included in a conceptual model proposed for use as the framework to explain RSB Use in section 2.6.5. Finally, the research gaps of the literature review of online engagement and UTAUT literature related to this research were summarised; and research questions presented with corresponding hypothesis in section 2.7. By maintaining alignment between the research goals, the gaps in the existing research, the tools located in the literature review to assist with filling those gaps will enhance the ability of this research to address the practical problem in the RSB context (Evans et al., 2014).

Chapter three (3) will outline matters concerning the research philosophy, design and execution chosen for the thesis to best meet the overarching research goals, answer the research questions and test the research hypothesis. This chapter will also address limitations and ethical considerations of this research.

3 METHODOLOGY

3.1 Introduction

The previous chapter, Chapter 2, detailed UTAUT based literature and online engagement literature relevant to furthering knowledge and understanding technology acceptance by RSB.

This chapter, Chapter 3, examines the methodology for conducting the research. Chapter 3 commences with the research philosophy through the identification of paradigms to guide the research design in section 3.2, the research design decisions in section 3.3, selection of data collection tools, techniques and steps used to execute the research in section 3.4. This chapter discusses limitations where they are inherent in the research design in section 3.5.

The next chapters present the results and analysis for the quantitative study (Chapter 4) and the qualitative study (Chapter 5) conducted in this thesis.

3.2 Research Paradigms

Paradigms in social science provide ways of explaining one's philosophical world view (Guba & Lincoln, 2005). A paradigm helps the researcher communicate what assumptions and beliefs guide the framing of research problems and explains the choices made during the research design and execution processes. Researchers have used different frameworks to explain world-views. Some social science research separates paradigms into categories of Positivism, Post Positivism, Critical Theory, and Constructivism (Guba & Lincoln, 2005). Looking at the aim of the research inquiry and the philosophy of the nature of knowledge for each paradigm can assist to align researcher and research projects to relevant paradigms. For example, the current research paradigm seeks to explain the technology acceptance of Facebook by RSB and proposes a modified existing model to explain and predict future outcomes highlighted in Table 3.1. Post positivism appears the best paradigm fit for this research project when considering the aim of inquiry (to explain RSB technology acceptance and use) and nature of the knowledge produced (using hypothesis from literature when applying the UTAUT model, recognising the non-absolute truth).

Table 3.1 Paradigm Aims of Inquiry, adapted from Gruba & Lincoln (2005), p.110.

Paradigm	Aim of Inquiry	Nature of Knowledge
Positivism	Explanation, prediction and control	Verified hypothesis established as facts or laws.
Post positivism	Explanation, prediction and control	Non-falsified hypothesis that are probable facts or laws.
Critical Theory	Critique and transformation restitution and emancipation.	Structuralist/historical insights.
Constructivism	Understanding reconstruction.	Individual or collective reconstructions coalescing around consensus.
Participatory	Transformation based on democratic participation between researcher and subject.	Extended epistemology primacy of practical knowing critical subjectivity, living knowledge.

A review of the research philosophy literature reveals more than one way to categorise paradigms. For example, Burrell and Morgan (1979) developed research paradigms based in organisational research that separate world views into four (4) categories determined by the level of subjectivity / objectivity of the research and the regulatory dimension, see Figure 3.1 Four Paradigms in Social Sciences adapted from Burrell and Morgan (1979, p. 22).

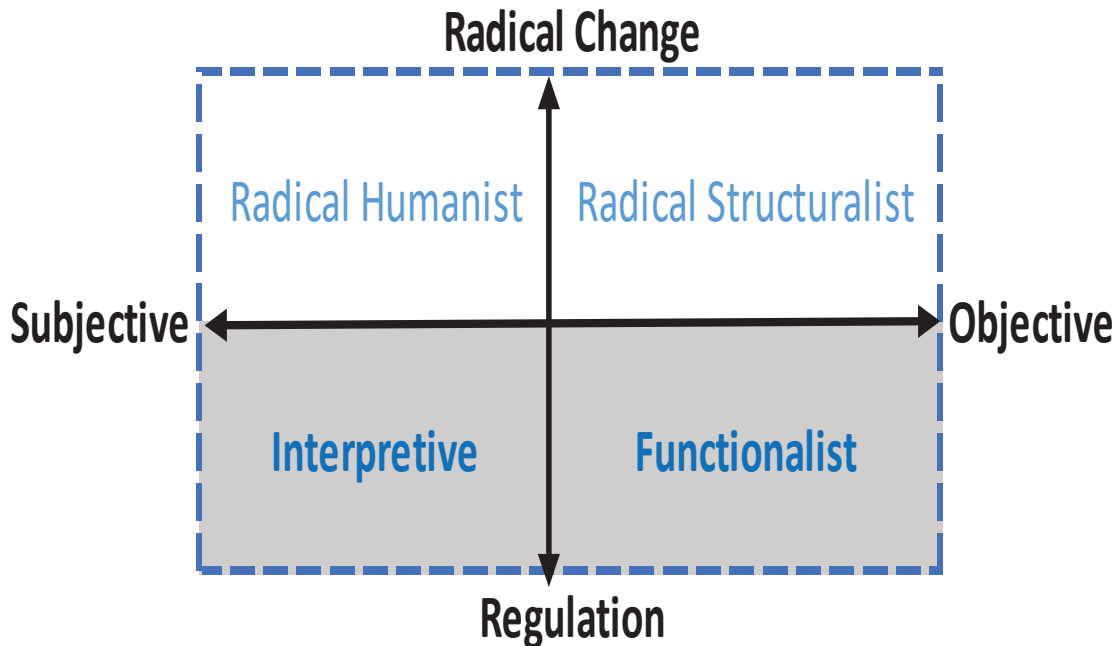


Figure 3.1 Four Paradigms in Social Sciences adapted from Burrell and Morgan (1979, p. 22)

The four (4) paradigms formed by the x-axis (horizontal) and y-axis (vertical) positioning are the Radical Humanist, Radical Structuralist, Interpretive and Functionalist. Looking to the definition of each paradigm world-view can assist in locating the research paradigm in a particular category. For example, paradigms Radical Humanist and Radical Structuralist both represent high levels of radical change by seeking to free groups in society and based on power struggles. The difference between the radical paradigms are that radical humanists are focused on changing power bases through the subjective thought of the dominant groups in society e.g. disparities being caused by gender or race. While radical structuralists believe power is sourced from the objective structure of society i.e. organisations and positional power. Neither of the radical paradigms relate to the research problem explored in this thesis. The practical problem and research questions do not seek to free society and are not focused on a power struggle that form the base proposing societal change. However, there are two paradigms based on the concept of reality and human state of interaction that are of interest when considering the current research, being the Functionalist and Interpretivist paradigms. The Functionalist paradigm commonly used in social science research uses a systematic

approach to find practical solutions to practical problems. The Functionalist paradigm forms a world-view from objective reality and regulatory dimensions, seeking to uncover rational explanations for research problems assuming a socially steady state for human interaction.

The Interpretivist paradigm shares the same regulatory dimension of the Functionalist paradigm, assuming a steady human state for human interaction. However, an individual's subject reality finds areas of shared meaning. An Interpretivist approach provides the worldview that includes an assumption of socially constructed reality rather than the universal singular discoverable truth of positivism (Merriam, 2014), and as such it sits more comfortably with this paradigm and qualitative research methods (Hiles, 2008). The current research, as with Gruba and Lincoln's (2005) category of 'Participatory research', participatory research practices and the use of in-depth interviews are included in the Interpretivist paradigm to enable the researcher to be enlightened on the subjective experience.

The current research demonstrates a consistency of approach when considering either of the research paradigm structures (Four Paradigms in Social Sciences and Paradigm Aims of Inquiry). Consistency is in the use of similar elements in the paradigms. Based on Burrell and Morgan (1979), this research would be predominately functionalist with some interpretive use. Based on Guba and Lincoln (2005), the world view of this research draws largely from post positivism, that in itself is a mix of paradigm categories.

Traditionally, not fitting squarely into a single research paradigm may have been a cause for great concern as research philosophy provided alternative paths of inquiry, i.e. researchers were restricted to a singular research paradigm for each research project (Schwandt, 2001). As foreseen by (Geertz, 1993), research paradigms have expanded with some researchers exploring the use of multiple research paradigms for individual research projects. Initially conducting research using multiple research paradigms created philosophical tensions in academia with diverse opinions on the validity of multiple paradigm use known as the 'paradigm wars' (Sherry, 2014).

However, now many disciplines are not restricted to a singular paradigm selection when conducting research, and can combine paradigms according to the needs of the research problem (Neuman, 2014). There are no dominant research paradigms in the marketing discipline (Handriana & Dharmmesta, 2013), and this provides researchers with the ability to

draw from various paradigms to suit the specific research problem that can be viewed as an interdisciplinary research strength (Brennan, Voros, & Brady, 2011).

An understanding of paradigms and their components remains important to ensure researchers approach the genres with understanding and justification for the research problem. Research paradigms contain four (4) components: axiology, epistemology, ontology and methodology. The belief systems of the paradigm components are aligned with the particular paradigm category (Babbie, 2015). The paradigm category of post positivism applies to this research refer Table 3.2.

Table 3.2 Paradigm Basic Beliefs, adapted from Gruba & Lincoln (2005), p.111.

Paradigm Category	Basic Beliefs by Paradigm Component			
	Axiology	Epistemology	Ontology	Methodology
Positivism	Conventional benchmarks of rigor. Internal and external validity, reliability and objectivity.	Dualist/objectivist; findings true.	Native realism – ‘real’ reality not apprehensible.	Experimental/manipulative; verification of hypothesis; chiefly quantitative methods.
Post positivism	Conventional benchmarks of rigor. Internal and external validity, reliability and objectivity.	Modified dualist/objectivist; critical tradition/community; findings probably true.	Critical realism – ‘real’ reality but only imperfectly and probabilistically apprehensible.	Modified experimental/manipulative; critical multiplism; falsification of hypothesis; may include qualitative methods.
Critical Theory			Historical realism – virtual reality shaped by social, political, cultural, economic, ethnic, and gender values	Dialogic / dialectical

Paradigm Category	Basic Beliefs by Paradigm Component			
	Axiology	Epistemology	Ontology	Methodology
Constructivism			crystalized over time. Relativism – local and specific co-constructed realities.	Hermeneutical / dialectical
Participatory			Participative reality is subjective-objective reality; co-created by mind and given cosmos.	Political participation in collaborative action inquiry, primacy of the practical; use of language grounded in shared experiential context.

Post positivism is the best singular paradigm fit to resolve this research problem because the basic beliefs of the paradigm components of post positivism combine uniquely to allow for the testing of technology acceptance models and the use of measures for validity, reliability and objectivity. Post positivism also considers the use of quantitative and qualitative research design and recognises the imperfection of probabilities i.e. not claiming absolute singular truth in research results.

The first paradigm component axiology, refers to study of an object's value referring to aesthetic beauty, or an action to make a judgement as to whether something is good, and if so, its level of goodness (Rescher, 2013). In post positivism, goodness is determined through benchmarks of internal and external rigor internal and external validity and reliability. Axiology centers on the value of the actions undertaken by the researchers in adhering to extrinsically provided objective ethical principles (Guba & Lincoln, 2005; Handriana & Dharmmesta, 2013).

Epistemology is defined as '*a philosophical topic concerning the systems of knowledge*' (Babbie, 2015, p. 6) and the '*origins, sources, methods, structure and validation or truth of*

knowledge' (Handriana & Dharmmesta, 2013). A system of knowledge is formed through perception, introspective thought, prior experience, intuition and inductive generalisations that form the basis for beliefs, justification and knowledge (Audi, 2013). Post positivism approaches epistemology through the use of statistics to approximate reality (Guba & Lincoln, 2005).

Ontology is a branch of metaphysics consisting of formal and material objects as the substance of knowledge and focuses on the nature and structure of reality or being (Guarino, Oberle, & Staab, 2009; Hunt, 1992). The researcher's ontological beliefs influence the level of objectivity required for the particular research. From a post positivist ontological perspective, the research project should be adding to the building blocks of existing knowledge, providing '*generalisations and cause and effect linkages*,' (Guba & Lincoln, 2005, p. 110). These building blocks work towards discovering as much as possible of an absolute singular reality. Reality is never completely known; as evidenced by the continual discovery of infinite variables.

The final component for philosophical consideration is methodology. Methodology is '*a subfield of epistemology...the science of finding out; procedures for scientific investigation*' (Babbie, 2015, p. 6). The methodologies drive the researcher's ontological and epistemological beliefs. Traditionally, methodology was qualitative or quantitative in nature. The expansion of thought on research paradigms has led to a third category of research methodology called mixed methodology that uses both quantitative and qualitative techniques.

A key advantage of using a mixed methodology in the research design is that it allows the researcher to utilise multiple approaches to explore the research problem, providing greater flexibility from the limitations faced by using quantitative or qualitative design alone. Central to the debate in the 'paradigm wars' was the appropriateness of combining quantitative and qualitative methodologies traditionally viewed as distinct, opposed and competing techniques coming from separate paradigms (Bryman, 2014). However, new research methods are encouraged within the marketing discipline to assist with the building of theory and knowledge without the restrictions of tradition as the primary influencer in how research can be conducted (Gonzalez-Padron et al., 2015). The researcher is seeking to statistically test variables using a unifying method with a view to creating new knowledge (Guba & Lincoln, 2005).

To apply the literature on research philosophy to this research, the approach is from a traditional western contemporary philosophy using a post positivist paradigm. A post positivist paradigm provides the worldview that the truth or ‘realism’ is out there waiting to be discovered through the objective use of scientific method and supports the use of both quantitative and qualitative research methods (Babbie, 2015). The mixed methodology proposed is driven by the contextual needs of the research problem (Brennan et al., 2011) to enable theoretically plausible findings to a study’s research questions (Venkatesh, Brown, & Bala, 2013) and backed by technical training of the researcher (Guba & Lincoln, 2005). A philosophical position for this research has been located and the design phase can commence.

3.3 Research Design

The following discussion outlines the development of and justification for the research design following the content of the research questions, the source of the data, an appropriate way to ask those research questions when required, and a suitable way of collecting usable data to answer the research questions. This study examines the business decision to use or not to use a particular technology and analyses business responses in relation to a number of variables. Babbie (2016, p. 100) defines the unit of analysis as ‘*those things we examine in order to create summary descriptions...to explain differences among them.*’ Therefore the unit of analysis for this study is per business unit. The first research question is,

RQ1: What are the demographic characteristics of RSB that do, and do not, accept and use Facebook technology?

There are a number of considerations in answering the first research question. The literature review identified a lack of knowledge concerning RSB technology acceptance. Literature searches revealed no previous studies, archival data or secondary data addressing the research problem with the relevant context, focal locale and focal technology. Therefore this research design needed to include primary data i.e. data obtained directly from participants in the focal locale. To collect primary data means the research design needs to consider survey based approaches i.e. the use of surveys, interviews and/or focus groups to collect data for the study (Denscombe, 2014).

To select an appropriate survey type, the nature of the data sought for the research question and the techniques used to collect similar data observed in the literature review needs consideration. Survey approaches commonly include the collection of general demographics obtained directly from participants; for example, questions requesting data on the age, gender and industry category of participants. Researchers can use closed ended categorical questions to collect demographic and general business operational data. There are existing categories commonly used to collect this data such as using the ABS census age brackets (Australian Bureau of Statistics, 2015) and ANZSIC industry classification codes to describe business sectors (Australian Bureau of Statistics, 2006). The creation of the research design considered the comparability of any possible study results to existing academic and industry literature. By using existing techniques to collect data, there is a greater ability to compare data obtained for analysis and improve the reproducibility of a study.

For general business information, existing industry studies had obtained data on business planning levels (Chamber of Commerce & Industry Queensland, 2015) using binary responses, categorical or closed ended questions to obtain data on ‘what’ was occurring. For example, ‘*Does your business use a Business Plan?*’ However, as with existing industry surveys, the story behind ‘why’ and ‘how’ RSB was dealing with the ‘why’s’ could be obtained in greater depth through conversations with the study participants in focus groups or interviews.

The literature review identified digital readiness as a barrier to technology acceptance for small business. Data on how RSB in the focal locale were conducting business to gauge the level of involvement in the digital environment were absent. For example, whether RSB were operating physical premises, had an online presence, or a combination of both physical and online environments to conduct their businesses. Researchers could gather data on the method of operation for RSB, which could be through categorical closed ended questions. However, the reasons behind why RSB were selecting between methods for greater depth would require free text responses in a survey, or face-to-face communications in focus groups or interviews.

The literature review identified dealing with negative feedback online as a barrier to Facebook technology acceptance for small business. A closed binary question obtains data on policy, for example, ‘*Do you have a policy in place for handling negative feedback online?*’ A short answer question in a survey may provide some further detail. However, to

find out the story behind why a policy existed, whether it was effective in the particular business or the reasons this barrier existed, direct conversation with the participants would provide a higher level of detail.

To consider the data required in the second research question:

RQ2: How do RSB perceive the importance of consumer engagement; and does the perceived importance vary between RSB that are FBU and NFBU?

The literature review identified a need to collect data on the perceived importance of consumer engagement. The Baldus et al. (2015) scale was identified as a tool to provide guidance for this data collection. The Baldus et al. (2015) scale used an online survey with a five (5) point Likert-type rating scale. The decision to use an existing scale and adjust the wording to suit the RSB and focal technology context was part of the research design; refer Table 2.5 RSB Operationalisation of Engagement Items, adapted from Baldus (2015).

The literature review identified measuring results from online engagement with Facebook technology as a barrier to acceptance and use of the technology for small business. Data on whether this barrier applied to the focal locale area, and if so, how businesses were currently trying to measure those results would assist in resolving the research problem. Researchers can collect data by providing closed ended questions, and further detail obtained through short answer responses. However, this approach is likely to require a research design that provided greater depth through direct conversation with participants.

And for the issues concerning collecting data to address the final research question,

RQ3: What is the role of the UTAUT model in predicting RSB acceptance and use of Facebook technology?

Data was also required for analysis of the UTAUT model (Venkatesh, 2012). The original UTAUT model generated a seven (7) point Likert scale surveys to collect data on each model component. In the literature, studies testing the UTAUT model components and context application have used the original scale with adjustments to suit the specific technology and context of the study. For this study, the Likert scale would need modification of the question wording to suit the Facebook technology and to maintain relevance to the technology acceptor and non-accepter participants, refer Appendix 3 Operationalised Engagement Dimensions adapted from Baldus (2015).

The next research design decision was to establish an appropriate way to collect the data required to answer the research questions. Traditionally, research design was either quantitative or qualitative in nature. Quantitative research is commonly used in the sciences and social sciences and is useful for numerically measuring characteristics, quantifying, validating and testing hypothesis across large populations samples (McGivern, 2013). Quantitative research is also commonly used in the social sciences and marketing research (Hair, Wolfinbarger, Money, Samouel, & Page, 2015). Qualitative research has no exclusively distinct paradigm or methodologies, it is traditionally used in social sciences and in marketing research (Denzin & Lincoln, 2013). The aim of qualitative research is to understand human behaviour by investigating ‘why’ and ‘how’ of decisions making. Consequently, a qualitative approach deals with words and images providing a richness to data that is not available through quantitative methods alone (Ritchie, Lewis, McNaughton Nicholls, & Ormston, 2014). Silverman (2011) also distinguishes qualitative methods by the generation of propositions at the data analysis stage in contrast to quantitative methodology where hypotheses are commonly stated at the outset of the research. The qualitative data collection will clarify topics identified in the quantitative survey analysis using one-on-one interviews. As both quantitative and qualitative data are required to answer the research questions, a mixed methods approach is an appropriate research design for this thesis.

Mixed methods research is a relatively new methodology in technology acceptance research, providing opportunity for this study to offer contributions to methodological knowledge in addition to theoretical and practical contributions (Venkatesh et al., 2013). Mixed methodology defined as:

“an approach to research in the social, behavioural, and health sciences in which the investigator gathers both quantitative (close-ended) and qualitative (open ended) data, integrates the two, and then draw interpretations based on the combined strengths of both sets of data to understand research problems,”
(Creswell, 2014, p. 2).

To maintain a systematic approach in conducting the research, four (4) design questions were used to guide the research decisions determining the mixed methods design strategies available; the different characteristics of data collection; and, the timing and purpose of analysis (Creswell, 2003, p. 211):

- (1) *“What is the implementation sequence of the data collection?”*
- (2) *What method takes priority during data collection and analysis?*
- (3) *What does the integration stage of findings involve?*
- (4) *Will a theoretical perspective be used?”*

The four (4) design questions assist in selecting the appropriate mixed method design. The research objectives assist in guiding the implementation sequence required for this research. The research philosophy assists in answering the question on implementation order for data collection. Quantitative methods utilise a positivist approach to find the ‘truth’ in the RSB context, i.e. ‘what’ is occurring. Qualitative methods utilise an Interpretivist approach to discover ‘why’ this ‘truth’ occurs (McGivern, 2013). A greater richness can be added to the quantitative data through enabling a deeper understanding of what lies behind the numbers obtained through the analysis of qualitative data (Ritchie et al., 2014). Here, the objectives are to establish firstly ‘*what*’ is happening in terms of RSB technology uptake; and then enlighten on the reason ‘*why*’ those happenings may occur. To achieve the research objectives therefore needs an implementation sequence where quantitative data collection (the ‘*why*’) occurs first in the sequence.

The second question requires consideration of the method with priority during data collection and analysis. In this research, the quantitative data collection needs to occur first for implementation as discussed in answering the first design question. To identify and address the issues from the quantitative data collection will also require the analysis to occur prior to the qualitative data collection or analysis. Therefore, the quantitative analysis will need to take priority during data collection and analysis in this research.

The third question considers how the quantitative and qualitative data collection and analysis are integrated. In a mixed methods research design it is important to design how the quantitative and qualitative analysis will interact in the study. This research uses triangulation as the element connecting the quantitative and qualitative research design. Triangulation as a concept in social science research has been defined as ‘*the observation of a research issue from a minimum of two points*’ (Flick, 2006). Triangulation applies differently in quantitative research and qualitative research. In quantitative research, triangulation confirms results. In qualitative research, triangulation assesses the completeness of results. The use of triangulation has been criticised in mixed methodology research when used in the

analysis stage of research to compare the findings between quantitative results and qualitative results for the purpose of establishing the supremacy of a particular research methodology (Archibald, 2016; Denzin, 1994; Fielding, 2012).

This research is not subject to the criticisms of triangulation, as the purpose of the triangulation will be to provide depth to the quantitative data. Triangulation in this research does not compare findings between the two methods to state quantitative methods produced better results than qualitative methods, or vice-versa. The quantitative and qualitative data are not ‘mixed’ together and maintained as intrinsically different data types. In this research, there is an integration of the meaning gleaned from each data source in the studies to find a common way of thinking to explain the phenomenon observed and assist in answering the research questions Fielding (p77) in Mertens & Hesse-Biber (2012).

The final question addresses any requirements of theoretical perspectives for the research. The benefit of combining research methods is supported in the literature in the original study generating the UTAUT model (Venkatesh et al., 2013).

Answers to the four (4) design questions then guide the selection of a mixed method design types. There are a variety of mixed methods design types as outlined in Table 3.3, distinguished by their characteristics of data collection and analysis and the purpose of the analysis.

Table 3.3 Selection of Mixed Methods Design Strategy, adapted from (Biddix, n.d; Creswell, 2014)

Mixed Methods Design Type	Characteristics of Data Collection & Analysis Order	Analysis Purpose
Sequential Explanatory	Collection and analysis of quantitative data followed by a collection and analysis of qualitative data.	To use qualitative results to explain and interpret the findings of a quantitative study.

Mixed Methods Design Type	Characteristics of Data Collection & Analysis Order	Analysis Purpose
Sequential Exploratory	Qualitative data collection and analysis followed by quantitative data collection and analysis.	To explore a phenomenon. This strategy may also be useful when developing and testing a new instrument
Sequential Transformative	Collection and analysis of either quantitative or qualitative data with results integrated in analysis.	To employ the methods that best serve a theoretical perspective.
Concurrent Triangulation	Concurrent data collection using two or more methods used to confirm, cross-validate, or corroborate findings within a study.	Methods used to overcome a weakness in using one method with the strengths of another.
Concurrent Nested	A nested approach that gives priority to one of the methods and guides the project, while another is embedded	The purpose of the nested method is to address a different question than the dominant or to seek information from different levels.
Concurrent Transformative	The use of a theoretical perspective reflected in the purpose or research questions of the study to guide all methodological choices.	To evaluate a theoretical perspective at different levels of analysis.

Upon review of the characteristics of data collection and analysis and the purpose of the design type, sequential explanatory design fits the requirements of this research (Creswell, 2003; Creswell, 2014). Sequential explanatory design allow for the implementation order of quantitative data collection, prioritises quantitative data in the collection and analysis stages of the research, integrates the mixed methods through using the ‘why’ to explain the ‘what’ providing depth to the quantitative analysis and is supported by the theoretical model under consideration in this research.

In summary, a sequential explanatory design will use mixed methodology design strategy. The proposed research uses a quantitative data collection followed by a clarifying qualitative data collection. The data collection and analysis for both quantitative and qualitative methods will cover three broad categories based on (1) general demographics and business operational characteristics, (2) engagement perceptions and (3) constructs of the UTAUT model. The categories align with the three research questions. Integration of the quantitative and qualitative analysis will be occur through triangulation by using the qualitative results to assist in interpreting the quantitative findings, thereby adding depth through further explanation of those findings. A visualisation of the strategy for the research design is summarised in Figure 3.2 Research Design Flow Chart.

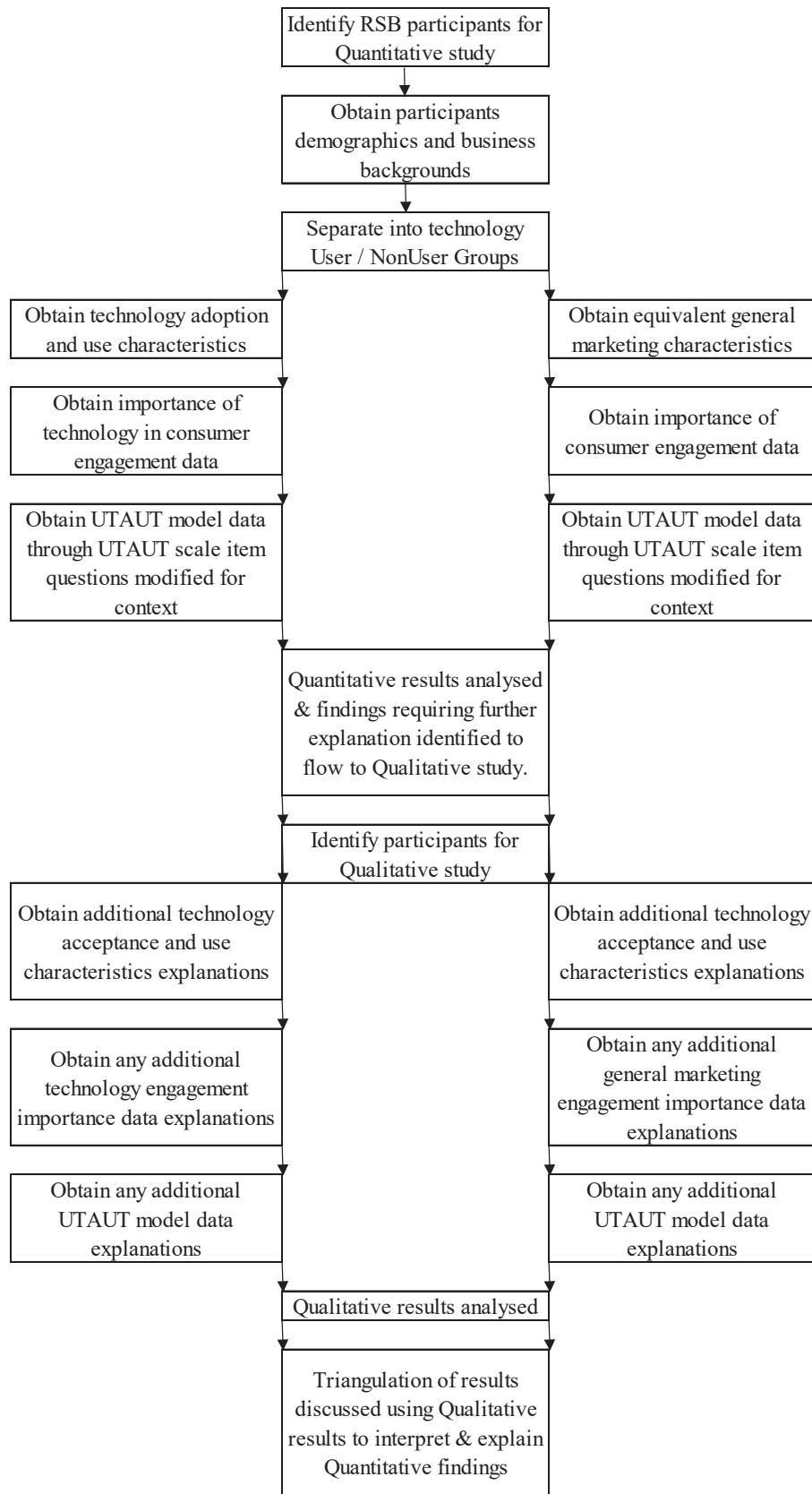


Figure 3.2 Research Design Flow Chart

3.4 Research Execution

Following the sequential explanatory mixed methodology research design format, the research contains a quantitative data collection followed by a qualitative data collection; refer Figure 3.2 Research Design Flow Chart. The quantitative data collection will use a deductive empirical process originating in the philosophical epistemology of positivism and ontologically objectivist. The literature review and research design process identified engagement dimensions and the UTAUT technology model as be tested through data being collected in categorical and numerical form for analysis to test hypotheses (Bryman & Bell, 2015) listed in section 2.7. Anomalies between the literature and the actual data from RSB will progress for further explanation in the qualitative data collection.

Qualitative methodology is an inductive process originating in constructivism and generates theory via data collection through lived experiences, that are then analysed and interpreted to produce a contextually specific understanding (Bryman & Bell, 2015). A discussion of the execution of the quantitative and qualitative data collections now follows.

3.4.1 Quantitative Data Collection

The quantitative data collection uses a survey approach. This section outlines the survey drafting process producing the online survey instrument, followed by the data collection process using that online survey instrument.

3.4.1.1 Survey Planning

The research questions provide sequential structure for the survey as outlined in Table 3.4.

Table 3.4 Business Owner Survey Structure

Research Question	Question Nu.	Question Content Focus	Respondent Group
RQ1	Block 1 Q1 to Q18	Personal and Business Characteristics of RSB	All Respondents
RQ2	Block 2 Q19 to Q33	General Literature Review & PIE	Facebook Users
RQ3	Block 3 Q34 to Q58	UTAUT Item Questions	Facebook Users
RQ2	Block 4 Q59 to Q73	General Literature Review and PIE	Non-Facebook Users
RQ3	Block 5 Q74 to Q98	UTAUT Item Questions	Non-Facebook Users
RQ1, RQ2, RQ3	Block 6 Q99 to Q102	Competition entries & further participation in qualitative study	All Respondents

The content areas for RQ1 obtain general information applying to all participants. Questions 1 to 18 of the survey relate to the first research question:

RQ1: What are the demographic characteristics of RSB that do, and do not, accept and use Facebook technology?

Contained in this section of the survey are screening process questions to confirm participants as suitable for the study. For example, questions to confirm the scope of the study including the position of the respondent as the owner/manager of the business; the locale of business

operation via the postcode; and confirming the small business size definition used in the thesis through obtaining the number of employees in the business. A copy of the online web based survey is contained in Appendix 7.

This section of the survey focuses of the participants' demographics and data on their business operations background. For example, the personal particulars of the participant including age, gender and private use of the Facebook platform. The business activities information sought included the mode of business operation being bricks and mortar, fully online or a combination of both; and general planning characteristics including the use of business plans, marketing plans and digital strategies. The survey asks whether NBN infrastructure roll out had played any part in their decision to acceptance and use of Facebook technology.

The survey aligns data in the format of studies located in the literature review whenever possible. For example, demographic data used the same age brackets categories as the ABS reporting; business planning and platform use was collected using the formatting of the Digital Readiness (Giles, 2015) and Yellow Social Media Reports (Sensis, 2014b, 2017). The purpose of replicating the data format was to allow for the integration of this study into the body of academic and industry knowledge to be relevant and provide easily identifiable key contributions to existing knowledge gaps identified in the literature review. To conclude the first section of the survey and RQ1 data focus, a binary closed ended question obtains data on actual acceptance of Facebook technology by RSB:

Q18. Does your business use its own Facebook page? Yes/No.

Question 18 also serves to branch participants into tailored questions based on their acceptance of Facebook technology for the data collection relating to RQ2 and RQ3; refer Table 3.4. By separating user groups in this way facilitates tailored questions relevant to the data collection from each user group.

For Facebook Users (FBU) the survey gathers responses relevant to general interest items from the literature such as the existence of policies to handle negative feedback, use of success measurements for marketing activities, posting frequency and combinations of media channels within the business. For RSB who are Non-Facebook Users (NFBU), this section focuses on preferred types and frequency of communications with customers, the use of

marketing channels for their business, and demographics of person responsible for business marketing not using Facebook technology.

The next section of the survey aims to provide data to answer the second research question:

RQ2: How do RSB perceive the importance of consumer engagement; and does the perceived importance vary between RSB that are FBU and NFBU?

The second section of the survey contains questions guided by the engagement literature review and is based on a 5 point Likert type scale (Baldus et al., 2015). The survey branches into Block 2 and Block 3, based on whether the participant accepts Facebook technology in their RSB. The separation of the survey into these blocks enables the wording of questions to be relevant to each of the technology user groups.

The third section of the survey maintains the separation of participants based on technology use in Block 4 and Block 5 and focuses on the third research question:

RQ3: What is the role of the UTAUT model in predicting RSB acceptance and use of Facebook technology?

This section of the survey will gather data based on the UTAUT (Venkatesh, 2013) that form constructs of interest in the literature to the current context. The UTAUT based data collection uses a 7-point Likert-type scale for respondents to rate importance for each scale item. UTAUT scale items had wording adjustments to suit FBU and NFBU participants and the focal technology. Figure 3.3 maps a clear link from issues identified from the literature review into the contributing areas of the core determinants and moderators.

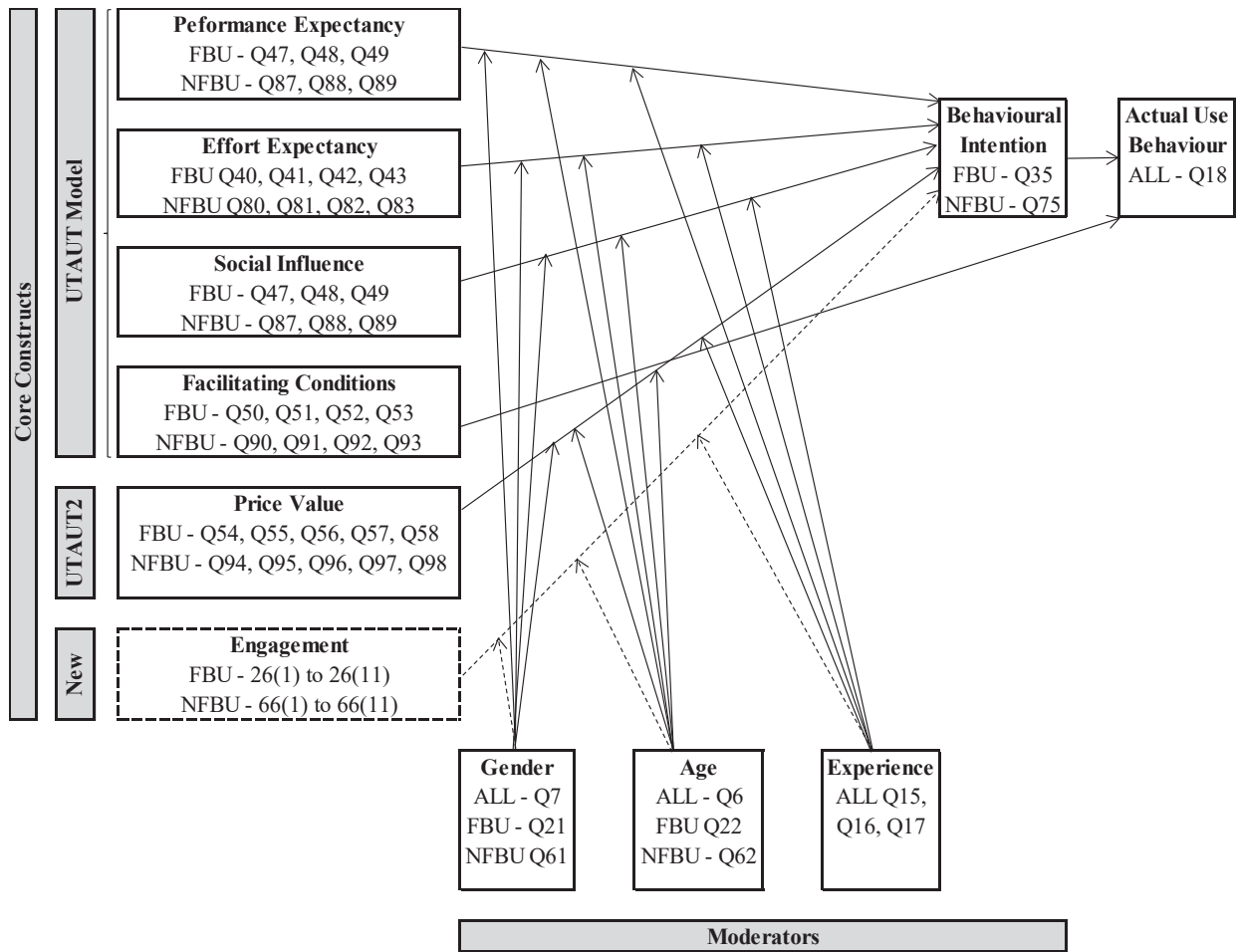


Figure 3.3 Literature based conceptual model used to map to survey questions

The final section of the survey, Block 6, rejoins the survey blocks based on technology use into a single group as the questions apply to all participants. This section focuses on collecting details from participants for the prize draw offered upon completing the survey and identifies interest in participating further in the research in the qualitative data collection.

3.4.1.2 Survey Pretesting

Pretesting of the data collection instrument assists with refinement of the design prior to administration. The purpose of pretesting was to improve usable results through reducing ambiguity, bias and jargon that may be contained in the question wording of the data collection instrument (Aaker, 2013). There is no consensus in the literature review on the need for, size, or quality of survey pretesting for survey research (nor for one-on-one interviews as discussed in the second qualitative study). As stated by Orstein (2013, p. 14),

‘What constitutes a sensible pretest depends on a researcher’s confidence in the quality of a draft survey and the size and importance of the survey’.

A recommended number of pretests was located in the literature review of between 5 and 10 participants (Burns & Bush, 2010). The pretesting also tested for readability on respondent devices. For example, a suitable layout of content for either a computer or mobile device screen. The survey was pretested on seven (7) RSB owners matching the quantitative data collection criteria, within the parameters of 5 to 10 participants suggested in the literature.

Resulting from the pretesting, alterations of the data collection instrument improved the wording of questions, clarification of definitions and visual layout to suit mobile device viewing by participants. The use of pretesting was beneficial for improvements to the survey structure, wording, length and online presentation. Additional feedback received during the pretesting was that the survey contained too many questions making it too long and onerous to complete. The length of a survey is important as participants may become disinterested or time poor and discontinue the survey prior to completion. This feedback resulted in the removal of several questions from the survey. The removal of some questions may influence the strength of certain findings, as discussed later in the quantitative analysis in Chapter 4. Following completion of the pretesting amendments, the survey was ready for administration.

3.4.1.3 Survey Administration

Administration of the survey using the data collection instrument occurred online using a web link to Qualtrics software. Social science researchers commonly use Qualtrics to facilitate the collection of survey data relating to customer experience and general market research. The provision of a web link provides distribution options across multiple communication channels e.g. email, posted to websites, or shared on social media. The software is simple, the reports auto-generated and there is an option to share results with respondents. Qualtrics is compatible with many other software packages through upload of the data file. The Qualtrics qualities and functionalities matched the research design requirements of the quantitative study making the software a suitable selection for administration of the survey.

Administration of the data collection instrument occurred via a Qualtrics web link. The administration period was from November 2016 to March 2017. Qualtrics received 302 responses during the administration period. These responses were exported from the Qualtrics platform and uploaded into the software program SPSS (Statistical Package for the Social Sciences), version 25.

The uploaded SPSS data file was error checked. A data cleaning process commenced. Data cleaning is important as *'missing or erroneous data can pose a significant problem to the reliability and validity of study outcomes'* (Salkind, 2010, p. 325). Records of data cleanse are contained in Appendix 9. Respondents were removed from the dataset if no data had been collected i.e. no survey responses had been completed by the participant as this would provide no value to the analysis. Data screening ensures the adherence to the scope of the research design. For example, in survey *'Q3 What is the postcode of your primary place of business?'*, responses were received indicating postcodes from outside the focal locale of Townsville, or no postcode was listed, or a partial postcode that was not able to be otherwise confirmed was provided, then the participants responses were removed from the dataset. After the data cleanse, the participant responses meeting all of the screening criteria form the dataset ready to proceed to analysis. The results of the quantitative data collection are analysed in Chapter 4.

The sequential exploratory research design orders the research to order studies firstly with the collection and analysis of quantitative data. This is to assist in answering the research questions based on establishing 'if' different things are occurring. For example, if Facebook

technology is being accepted by RSB in the focal locale. However, analysis of the responses will not provide the reasons behind ‘why’ those answers occurred from RSB. To add greater depth and additional insight in answering the ‘how’ and ‘why’ components of the research problem a qualitative data collection follows, refer Figure 3.2.

3.4.2 Qualitative Data Collection

The quantitative elements of this research were designed to identify specific issues surrounding RSB technology adoption decision making that required further explanation that could not be drawn from the existing literature (Creswell, 2003; Creswell, 2014). These issues then form the basis of inquiry in the qualitative data collection. One-on-one semi-structured interviews are the qualitative data collection method for this research. One-on-one interviews were the preferred option as the data collection is cross sectional in nature and therefore there is the potential for issues and attitudes impacting the technology acceptance and use to be quite different between RSB making group discussions such as focus groups a less effective means to collect the data (Morgan, 2008).

3.4.2.1 Interview Planning

An interview proforma guides the content and conduct of the interviews, forming the data collection instrument for the second study. The mixed methods research design guided the structure of the interview format (Creswell, 2014). For clarity and consistency with the quantitative study, the qualitative interview format followed the research question content sequentially; see Appendix 13.

The first section of the interview plan relates to personal and general business operational business characteristics identified in the corresponding section of the quantitative data collection, and to add depth to research responses obtained answering RQ1:

RQ1: What are the demographic characteristics of RSB that do, and do not, accept and use Facebook technology?

An example of an interview question in this section is, ‘*How do you feel about the usefulness of planning documents (such as business, marketing or digital strategies) in your business?*’ Responses to Q8, Q9 and Q10 covering the topic of planning within the business in the

quantitative study used to form interview questions as the data indicated a low level of planning being conducted by RSB.

In the second section of the interview plan, the questions align with items identified in the analysis of the survey responses on engagement by RSB to enhance data on the second research question:

RQ2: How do RSB perceive the importance of consumer engagement; and does the perceived importance vary between RSB that are FBU and NFBU?

An interview question example in this section includes, ‘*What has been your experience with customer communications that promote prizes and discounts?*’ Responses to FBU Q26 and corresponding NFBU Q66 of the quantitative data collection relate to this interview question. The quantitative analysis showed a very high level of agreement between FBU and NFBU subsamples, sparking curiosity as to finding the reasons why this result have been obtained from RSB.

In the final section of the interview plan, the questions based upon the UTAUT model constructs:

RQ3: What is the role of the UTAUT model in predicting RSB acceptance and use of Facebook technology?

Interviewees receive definitions for UTAUT constructs; ensuring consistency in understanding the concept as advised by the pretesting of the quantitative data collection instrument, refer section 3.4.1.2. For example, this question relates to the responses received and analysed for FBU Q40-43 and NFBU Q81-84.

‘Effort Expectancy refers to the ease of access, ease of becoming skillful, expected actual use of and generally learning to operate Facebook for your business. Are there any effort expectancy areas that you feel concerned about when using/considering using social media, and specifically Facebook, for your business?’

The reason the interview was semi-structured (and not fully structured) was to provide interviewees with the opportunity to provide information in addition to the questions raised by the researcher (García, 2011). In addition, the interview concluded with a general open-

ended question to interviewees providing an opportunity to raise any other matters of relevance to the studies that they would like to discuss. The interview format, including the specific survey, literature and research question mapping references are contained in Appendix 13.

3.4.2.2 Interview Pretesting

The draft interview format was pretested. The purpose of pretesting the interview format was to improve usable results through reducing ambiguity, bias and jargon that may be contained in the questions (Aaker, 2013), to test the timing of the interview and receive general feedback on any issues for improvement in conducting the interview. The pretesting feedback resulted in minor amendments to the wording of two interview questions. Following the pretesting, an additional question captured changes to the RSB acceptance of Facebook technology over the 12 month period between the two data collections. The pretesting confirmed the approximate time taken to conduct the interview of 25 minutes to 30 minutes.

Interview pretesting provides an opportunity to indicate the meaningfulness of the delimitations of regional locale and business size imposed by the study design. An interview occurred with an RSB living immediately outside the focal locale in an area classified as rural. The interview data received supported the exclusion of rural areas from the study in that IT infrastructure and connectivity concerns were different to those of RSB. This interview was not included in the sample to be further analysed in the study. An interview occurred in the focal locale with a medium sized business owner, being outside the business size scope of the study. This interview supported the exclusion of medium size businesses from the study in that the internal structure of the business had access to internal division of staff positioned outside the regional base solely focused on the provision of marketing services. These two interviews support the meaningfulness of the boundaries of the study in delimiting the sample to small business in the focal region. The results supported existing literature reviewed that business size affects decisions to accept and use technology in small business (Campbell, Pitt, Parent, & Berthon, 2011a; Eggers, Hatak, Kraus, & Niemand, 2017; Nguyen, Nguyen, Newby, & Macaulay, 2013). These interviews were not included in the data set further analysed in this study.

3.4.2.3 Conducting Interviews

Potential interviewees from the dataset formed in the quantitative study underwent a screening process. A list was made of the respondents from the quantitative survey dataset who had indicated a positive response when asked if they would be prepared to participate further in the research.

A selection process for the Interviewees was important to support the qualitative data collection being representative of the quantitative data set. Precise replication of all characteristics between the quantitative data set and the qualitative data set is unlikely and not anticipated in the research design, as this would require 100% of survey respondents to continue with the research by free choice. In this case, less than the Sample were available for the quantitative interviews, and that in turn, affects the exact replication of data between the two collection methods for the research.

However, the quantitative data in refer Table 4.1 was reviewed for characteristics that could be replicated from the respondents who were prepared to participate further in the research. For example, there was approximate gender balance in the quantitative survey, so the qualitative data set emulated approximate gender balance. Similarly, the cross-sectional nature of the study reflects in the quantitative data from many industry sectors. As a result, the qualitative data set screening ensured inclusion of a diversity of industry sectors in the qualitative data set. There was a difference in the respondent numbers between FBU and NFBU subsamples in the quantitative data. While conscious of proportionality in the qualitative dataset, it was a subservient consideration to saturation as the driver of interview data sufficiency.

The researcher then contacted potential interviewees by telephone and invited them to continue their participation into the qualitative data collection. Where the potential interviewees wished to proceed with the interview, a time and location were agreed.

Interviewees provided consent for electronic recording of their interviews. Professional transcriptions were made of all interview recordings and saved as Microsoft Word files. The Microsoft Word files checked for accuracy against the interview recordings. The interview recordings and transcribed files were then retained as original documentation and copies made to be used for the purpose of analysis.

Interview transcripts were screen before proceeding to analysis. One (1) business had grown size and employed in excess of 20 employees and the RSB no longer met the scope of the research and was excluded, refer section 1.6.1. At the conclusion of the qualitative data collection procedure and screening process, 20 interviews (FBU n=12 and NFBU n=8), formed the data set for the qualitative analysis, refer Chapter 5.

3.5 Limitations

There are limitations inherent to the methodologies of the quantitative and qualitative studies in this thesis. The limitations were risk managed in the research design to minimise impact on analysis and results. The main limitations for consideration in this research concern survey errors and biases (relating to the quantitative study) and interview biases (relating to the qualitative study).

3.5.1 Survey Errors and Biases

Methodological literature provides guidance on the errors and biases relevant to conducting studies where data collection using surveys. Surveys are subject to coverage error, sampling error, nonresponse error and measurement error (Dillman, Smyth, & Christian, 2014). Ideally, a survey would cover 100% of any target population on a research topic. However, there is a need to focus available resources and take a sample of that population. The difference between the makeup of the population and the makeup of the sample may cause coverage error. Coverage error is the risk that significant proportions of the target population are not included in the survey. The impact of coverage error is that the survey results are not truly representative of the target population. It is therefore very important that researchers consider the sample frame to ensure the list of potential participants covers as much of the target population as possible to increase generalisability of results. The risk of coverage error can be limited through the research design in using a number of contact methods to widen the sampling frame including local television, telephone, email and internet platforms (Dillman et al., 2014).

To address coverage error, the researcher should implement design strategies to maximise coverage (and thereby minimise coverage error). RSB are the aspirational target population described and results generalised for in this research. Therefore, a range of participant

identification and contact methods were utilised to access as much of the target population as possible i.e. drawing from a wide sampling frame. Public registers in the focal locale formed email lists of potential respondents, e.g. the Yellow Pages and Local Business Directories. An email to RSB contained the Qualtrics survey link and research explanation. There remains a risk that a small number of businesses may not be operating using email, internet or technology included in the data collections.

Email follow-ups within a week of the initial email as increased contacts can increase response rates for online surveys. A second email was sent to businesses promotional posting on Facebook community pages posted after the peak response period to maximise response rate (Dillman, Smyth, & Christian, 2014). However, no further emails were sent as to prevent SPAM concerns for local business and a diminishing return has been found in online environments (Solomon, 2001). Additional promotion of the survey from that point onwards was via postings on Facebook community and business pages with the permission of respective page administrators.

Sampling error occurs when less than 100 per cent coverage of the population included in the sample responses. Minimising sampling error where possible is important to maximise the wider application of the findings of the research. Where the survey sample does not represent the population, it may contain an error or bias within the data collection that affects the accuracy of the analysis.

There are a number of nonresponse biases and errors to consider in studies that contain voluntary surveys being nonresponse bias, nonresponse error, selective item nonresponse error and nonselective item nonresponse error. Non-Response Bias is the risk of survey participants not being representative of the wider population. Armstrong and Overton (1977) stated one way of testing the survey population is to compare early and late participant responses. A comparison of the first 30 and last 30 responses received in Qualtrics identified no significant differences between the survey participant's responses to indicate nonresponse bias between early and later respondents in this study, refer Appendix 10.

Nonresponse error is the risk that the link to surveys that were sent out were not completed by those businesses that were of interest to the study (Toyin & Gawe, 2014). As there were 890 businesses directly contacted in various means and 236 responses in the dataset for analysis, the response rate for this survey is approximately 27 per cent.

Item Nonresponse Error can be either selective or nonselective in nature and refers to the missing data for individual questions within the survey. The dataset scan for systematic missing data revealed no evidence of patterns indicating selective nonresponse error.

Nonselective nonresponse error refers to a random nature in the missing data that may affect the analysis outcomes.

Acquiescence bias refers to the tendency of a participant to agree with any statements made and can occur in survey responses and interview situations (Mehrani & Peterson, 2018; Rammstedt & Farmer, 2013). Qualtrics also has functionalities to assist researchers manage the risk of biases e.g. acquiescence can be managed through applying choice randomization for question blocks ("Qualtrics," 2019).

Total Survey Error refers to the accumulation of all possible error types within the survey (Biemer et al., 2016). The risk of total survey error was limited with initial screen questions for participants and use of the Qualtrics functionality to prevent ballot box stuffing. A mixed mode of data collection kept the error level low and minimised cost (Dillman, 2014).

3.5.2 Interview Biases

Interview biases are relevant to one-on-one interviews in relation to the researcher and the interviewee. Researcher awareness of these biases and putting in place reflective practices assists in ensuring high quality qualitative research. Possible researcher biases including culture bias, halo effect, question-order bias, biases created through using leading questions and wording and confirmation bias. There are a number of possible interviewee biases that the researcher was aware of as relevant to the qualitative study including acquiescence, social desirability and habituation.

Social desirability bias is the tendency for a recipient to engineer responses perceived to be socially acceptable, rather than a true reflection on an individual's thoughts and/or actions. For example, in underreporting of perceived bad behaviour and over reporting perceived good behaviour. As with acquiescence, this bias can occur in both survey and interview data collections. Social desirability bias is relevant during analysis of data reporting possible taboo subjects for RSB such as revealing marketing annual spends or frequency of interaction with Facebook technology. This bias affects averages and/or general statements gleaned from the data. Social desirability bias can be managed by rapport building to increase the respondent's confidence with the interviewer (Cannell, Miller, & Oksenberg, 1981).

Habituation bias refers to when a participant becomes disinterested in the completion of the survey or interview and provides inadequate or inaccurate responses. In the survey, this bias was minimised by keeping questions to a minimum, changing question wording, changing response types and make participation as interesting visually as possible for the participant. A semi-structured interview approach allows individual stories to be revealed addressing habituation.

3.6 Ethical Considerations

Ethics encompasses the concept of axiology and refers to the goodness of an activity conducted as valued by society refer section 3.2. In a research context, the definition of ethics is:

'the application of moral rules and professional code of conduct to the collection, analysis, reporting and publication of information about research subjects, in particular active acceptance of subjects' right to privacy, confidentiality, and informed consent' ("research ethics. A Dictionary of Sociology,").

Social and technological change impact ethical practices, particularly since the availability of the internet and web 2.0 (Heider & Massanari, 2012; Miller, Birch, Mauthner, & Jessop, 2012). Concerns raised in the global academic community focus on best practice protocols for online research. These concerns relate to the covering the security and storage of the data collected, the use of survey design features and researcher familiarity with software, understanding IT system based respondent anonymity, underage participant controls and appropriate informed consent wording. Also raised in the literature is the reputational risk to universities with surveys viewed as 'spam' on distribution, and the general lack of researcher understanding of compliance regulations in an online environment (Buchanan & Hvizdak, 2009).

This research follows the Australian Code for the Responsible Conduct of Research and the James Cook University ethical guidelines. Ethics Approval H3360 authorises this research. The practical steps taken by the researcher to enact ethical approval include: a drafting process for all communications ensuring written in plain language in all data collection instruments, clear statements about voluntary participation in the studies, and the use of

anonymous links and random identifiers to protect respondents data and any commercially sensitive data of the business. The ethical issues identified for this research are summarised in Table 3.5.

Table 3.5 Ethical practices for research

ETHICAL ISSUE IDENTIFIED IN LITERATURE	ACRCR / JCU Guideline	RESEARCHER ACTION
Security & Storage of Data Collected	ACRCR Section 2.2 Management of Research Data & Primary Materials - Responsibilities of Researchers JCU Code of Responsible Conduct of Research JCU HDR Code of Practice	Data stored with security measures in hard copy & electronically.
Researcher familiarity with software	ACRCR Section 1.3 Train Staff JCU Code of Responsible Conduct of Research, Part A - Section 1 General Principles of Responsible Research JCU HDR Code of Practice, s3.2.1 Development Activities	Instructional sessions attended on using Qualtrics & SPSS; with assistance acknowledged on contributions title page of thesis.
Protection of Anonymity	ACRCR Section 2.7 Maintain Confidentiality of Research Data & Primary Materials	For Study 1 - Qualtrics and SPSS use unique identifiers for online survey data.

	JCU Code of Responsible Conduct of Research, Section 2.6 Data & Confidentiality	For Study 2 – transcripts were de-identified to protect anonymity of interviewees.
	JCU HDR Code of Practice, 2.2 Candidates to follow University Guidelines	
Underage participant controls	ACRCR Section 1.8 Respect Research Participants JCU Code of Responsible Conduct of Research, Part A - Section 1 General Principles of Responsible Research JCU HDR Code of Practice, Section 2.2 Candidates to follow University Guidelines	JCU Ethics Application H3360 Low/Negligible risk project. Underage participants are not targeted in this research. Age data sought in initial survey screening questions.
Informed consent	ACRCR Section 1.8 Respect Research Participants JCU Code of Responsible Conduct of Research, Part A - Section 1 General Principles of Responsible Research JCU HDR Code of Practice, Section 2.2 Candidates to follow University Guidelines	JCU Ethics Application H3360 Low/Negligible risk project. Consent via Appendix 6 consent letter for online survey and recorded prior to conduct of interviews.
Reputational Risk re spamming	ACRCR Section 1.3 Consumer and Community Participation in Research	Risk of spamming averted by sending personalised emails individually to potential participants.

	JCU Social Media Policy	
	JCU HDR Code of Practice, Section 2.2 Candidates to follow University Guidelines	
General compliance in online space	JCU Social Media Policy JCU HDR Code of Practice, Section 2.2 Candidates to follow University Guidelines	Permission requested of online site admins prior to all general postings promoting research project.

3.7 Chapter Conclusion

In summary, Chapter 3 identified the research philosophy as drawing from post positivist philosophy; refer section 3.2. The overall research design was justified in section 3.3. The research execution using a quantitative online survey and qualitative interviews.

The first study is a quantitative data collection consisting of a survey administered via a survey instrument disseminated online through a Qualtrics web link; refer section 3.4.1. An outline provided the pretesting process along with subsequent adjustments on the overall length, question wording and mobile device layout suitability. There were 302 responses recorded by Qualtrics during the administration period for the quantitative data collection. The dataset contained 239 responses to proceed for analysis, refer section 3.4.1.2.

The qualitative data collection consists of a series of one-on-one semi-structured interviews with RSB selected from respondents to the quantitative study. The issues identified in the quantitative data collection and analysis guide the interview format, refer sections 4.3.3, 4.4.7 and 4.5.6. The interview format was pretested and adjustments made based on the feedback as to overall length of the survey and some question wording. All interviews followed the interview proforma, electronically recorded, professionally transcribed and checked for accuracy by the researcher; refer section 3.4.2.3. The interview transcripts were screened and 20 interviews (FBU n=12 and NFBU n=8), formed the data set for the qualitative analysis.

The literature concerning errors and biases guided the research design to minimise risk, refer section 3.5. The design of the quantitative study considered the risks of survey errors coverage error, sampling error, nonresponse error, measurement error and total survey error, refer 3.5.1.

In the qualitative study possible limitations were identified and risk management design controls initiated for researcher biases (culture bias, halo effect, question-order bias, biases created through using leading questions and wording and confirmation bias); and interviewee biases (acquiescence, social desirability and habituation), refer section 3.5.2.

The next chapter, Chapter 4, presents the results of the quantitative data analysis, followed by the results of the qualitative data analysis in Chapter 5.

4 QUANTITATIVE RESULTS

4.1 Introduction

The previous chapter, (Chapter 3), provided a detailed explanation of the mixed methods approach used to collect data in this thesis.

This chapter, (Chapter 4), presents the results and analysis the quantitative data collected from the online survey. The chapter commences by presenting the results of the preliminary analysis using descriptive statistics and inferential statistics to provide a general overview of the results at a Sample and subsample level. The analysis follows the structure of the literature review presenting discussion in topic segments of RSB personal and business demographic responses, engagement item responses and UTAUT item responses.

The chapter then more deeply explores scale formation of the engagement items and regression of the link between RSB demographics, engagement and RSB Use in section 4.4. UTAUT item exploration is in section 4.5. The chapter concludes by identifying areas of interest brought forward to frame inquiries for the qualitative study interviews in section 4.6, following the research design depicted in Figure 3.2.

The next chapter, (Chapter 5), contains the analysis of the qualitative results of data collected from the one-on-one interviews providing depth on the issues raised in the quantitative analysis.

4.2 Selection of Quantitative Data Analysis Tools

The quantitative analysis for this research uses two data analysis tools, both commonly used in social sciences, IBM Statistical Package for the Social Sciences (SPSS) and (STATA). SPSS functionality provides for the descriptive and inferential statistical testing of the dataset variables including descriptive, bivariate analysis, normality testing, reduction techniques, factor analysis and binomial regression anticipated for this analysis (Pallant, 2013).

However, once the analysis required more sophisticated testing for endogeneity in multiple regression it was more practical in the researcher's context to use the advanced functionality available through STATA (Pevalin & Robson, 2009). STATA replicated the initial analysis

in SPSS, and while certain statistics calculate slightly differently between packages for some tests, the outcomes were consistent for all tests providing additional confidence in the robustness of the results now presented. Syntax of the analysis is available on request. The results of the quantitative data analysis follow.

4.3 Sample Overview

The analysis commences by providing a general overview of the data obtained from the online survey. The data is considered at a Sample level (whole of dataset obtained from the online survey) and Subsample level (subset of Sample data separated into two groups based on usage FBU and NFBU contained within the Sample). The dataset for quantitative analysis comprised a Sample (N = 236) and Subsamples of (FBU n = 185) and NFBU (n = 51). Statistical analysis of the demographic response data assists in a preliminary answer to the first research question:

RQ1: What are the characteristics of RSB that do, and do not, accept and use Facebook technology?

To provide a sample overview of the survey data obtained uses descriptive statistics to obtain basic properties of the data and inferential tests for associations between demographic variables.

4.3.1 Descriptive statistics for RSB demographic data

The descriptive statistics of the survey responses analysed in this section are from data collected from Question 1 to Question 25 of the quantitative survey, Appendix 7. Question 18 identified RSB as users (FBU) or non-users) NFBU of Facebook technology, referred to as the RSB Use variable.

SPSS ran the descriptive tests refer section 4.2. The descriptive statistics used are frequencies (counts and percentages), medians (middle score for dataset responses), modes (most frequent score) as appropriate to the particular variable (Field, 2018) at a Sample and subsample level. The results of the descriptive statistics tests are summarised in Table 4.1, highlighting the Mode where applicable.

Table 4.1 Sample Overview of Personal and Business Characteristics

Sample Overview of Personal & Business Characteristics						
	Sample (N = 236)		Subsamples			
	Frequency Count	%	FBU (n = 185) Frequency Count		NFBU (n = 51) Frequency Count	
			%	%	%	%
RSB Respondent Personal Variables						
Age						
- 19 to 24 years	5	2.1	5	2.7	0	0
- 25 to 34 years	48	20.3	42	22.7	6	11.7
- 35 to 44 years	59	25	50	27	9	17.6
- 45 to 54 years	68	28.8	54	29.1	14	27.4
- 55 to 64 years	40	16.9	24	12.9	16	31.5
- 65+ years	16	6.8	10	5.4	6	11.7
	Median	45-54 years	35-44 years	55-64 years		
Gender – Male	116	48.9	84	45.1	32	62.3
Personal Facebook Acceptance	200	84.7	171	92.4	29	56.7
- Yes						
Personal Facebook Use						
- Once a Day	36	15.3	26	14	10	19.6
- Multiple times a day	128	54.2	116	62.7	12	23.5
- Once a week	11	4.7	8	4.3	3	5.9
- Multiple times a week	15	6.4	12	6.5	3	5.9
- Once a month	4	1.7	4	2.1	0	0
- A few times a year	5	2.1	4	2.1	1	1.9
Mix Personal & Business use on personal Facebook page – Yes	(n = 29)		(n = 171)		(n = 29)	
	105	44.5	96	51.9	9	17.6
RSB Business Characteristics Variables						
Business size						
Micro (0-4 employees)	167	70.8	124	67	43	84.3
Small (5–20 employees)	69	29.2	61	32.9	8	15.7
Industry sector						
Accom & Food Services	15	6.4	14	7.6	1	2
Support Services	16	6.8	13	7	3	5.9
Agriculture, Forestry & Fishing	5	2.1	2	1	3	5.9
Arts & Recreation Serv.	10	4.2	10	5.4	0	0
Construction	23	9.7	10	5.4	13	25.5
Education & Training	9	3.8	8	4.3	1	2

Sample Overview of Personal & Business Characteristics						
	Sample (N = 236)		Subsamples			
	Frequency		FBU (n = 185)		NFBU (n = 51)	
	Count	%	Count	%	Count	%
Electricity, Gas, Water & Waste Services	2	0.8	1	0.5	1	2
Financial & Insurance Services	5	2.1	4	2.2	1	2
Health Care & Social Assistance	15	6.4	14	7.6	1	2
Information Media & Telecommunications	9	3.8	7	3.8	2	3.9
Manufacturing	13	5.5	10	5.4	3	4.9
Mining	1	0.4	1	0.5	0	0
Personal Services	7	2.9	7	3.8	0	0
Professional, Scientific & Technical Services	33	13.9	24	12.9	9	17.6
Public Admin & Safety	1	0.4	0	0	1	2
Rental, Hiring & Real Estate Services	9	3.8	8	4.3	1	2
Retail Trade	30	12.7	25	13.5	5	9.8
Transport, Postal & Warehousing	7	2.9	4	2.2	3	4.9
Wholesale Trade	5	2.1	3	1.6	2	3.9
Other	11	4.6	10	5.4	1	2
Unsure	1	0.4	1	0.5	0	0
Planning Conducted						
Business Plan -Yes	120	50.8	100	54	20	39.2
Marketing Plan - Yes	98	41.5	84	45.4	14	27.4
Digital Strategy - Yes	97	41.1	86	46.5	16	31.4
Social Media inclusion - Yes	172	72.8	163	88	9	17.6
NBN impact on Facebook Adoption						
- Yes	26	11	21	11.3	5	9.8
- No	186	78.8	146	78.9	40	78.4
- Unsure	24	10.2	18	9.7	6	11.7
Business Operations						
- Physical Store Only	83	36.2	56	30.3	27	52.9
- Online Store Only	34	14.4	29	15.7	5	9.8
- Physical & Online	119	50.4	100	54	19	47.2
Online Negative Feedback Policy						
	(n = 222)		(n = 171)		(n = 51)	
- Yes	78	35	68	39.8	10	19.6
Total Annual Marketing Budget						
	(n = 225)		(n = 175)		(n = 50)	
1. Under \$1000	146	64	128	73.1	18	36
2. \$1000-\$1999	23	10.2	13	7.4	10	19.6
3. \$2000-\$4999	16	7.1	10	5.7	6	12

Sample Overview of Personal & Business Characteristics							
		Sample (N = 236)		Subsamples			
		Frequency		FBU (n = 185)		NFBU (n = 51)	
		Count	%	Count	%	Count	%
4.	\$5000-\$9999	12	5.3	4	2.3	8	16
5.	\$10000 - \$15000	4	1.8	3	1.7	1	2
6.	Other	24	10.7	17	9.7	7	14
		Median	\$1000-\$1999	\$1000-\$1999		Under \$1000	
Marketing budget value for money		(n = 223)		(n = 175)		(n = 48)	
-	Definitely yes	48	21.5	34	19.4	14	29.2
-	Probably yes	63	28.3	49	28	14	29.2
-	Might or might not	57	25.6	47	26.9	10	20.8
-	Probably not	40	17.9	33	18.9	7	14.6
-	Definitely not	15	6.7	12	6.8	3	6.2

Note: Sample and subsample levels results have Mode highlighted for ease of reference.

The overview considers the data at a Sample level. The first category of data in Table 4.1 relates to personal characteristics of the RSB respondents Age, Gender, Use, and frequency of use. The Sample RSB respondents have a median of 45-54 years of age. There is an approximate balance of RSB respondent gender (48.9% male) in the Sample. RSB respondents reported personal experience with Use (84.7% with personal Facebook accounts) and 69.5% accessed their personal Facebook page daily (15.3% once a day; 54.2% multiple times a day). Of those with a personal Facebook account in the Sample, 44.5% reported a mix personal and business use on their personal Facebook accounts.

The second category of data in Table 4.1 relates to the RSB business characteristics of business size, industry sector, planning, NBN impacts, business operations, online negative feedback policy, marketing budget and perceptions of value for money of the marketing budget. Business size categories for RSB respondents are 70.8% micro businesses (0-4 employees) and 29.2% small businesses (5-20 employees). The respondent RSB came from a wide range of industry sectors with the largest individual sectors represented being construction (9.7%), professional scientific and technical services (13.9%) and retail trade (12.7%). Over 20 industry sectors are represented in the Sample supporting the cross sectional nature of the research. A number of small counts for individual sectors resulted in

collapse of the industry variable to facilitate further analysis. The variable was collapsed into a two (2) sector model with combined primary (n = 5) and secondary (n = 60) industry sectors as category 1 and tertiary (n = 171) industry sector as category 2 to overcome small cell counts for later statistical testing.

RSB respondents reported having a business plan (50.8%) and/or marketing plan (41.5%). Where the RSB reported a business plan or marketing plan, a digital strategy was in place for a minority of businesses (41.1%). Where any form of planning documentation was in place, the majority of RSB considered social media as part of that plan (72.8%). However, whether or not the RSB had any form of planning in place, many RSB reported having no policy in place to deal with negative feedback online (65%). The majority of RSB did not report the NBN influenced their decision concerning RSB Use (78.8%).

RSB reported mode of business operations with a physical store only (36.2%), an online store only (14.4%) and having both physical and online trading options (50.4%). The majority of RSB reported marketing budgets under \$1000 (64%) and \$1000-\$1999 (10.2%). RSB opinion was divided on whether their marketing budget was a value for money spend (49.8% yes, 25.6% unsure, 24.6% no).

The descriptive statistics at a sample level provided a general overview of the demographic data properties obtained from RSB respondents in the online survey. The analysis next considers inferential statistics to commence discovering links between the demographic response variables and taking into account the size disparity between the subsamples further exploring the descriptive observations.

4.3.2 Inferential statistics for RSB Demographics

This section of the analysis is seeking to discover (1) significant associations between demographic variables and the variable of RSB Use at a sample level; and (2) whether the differences in RSB use observed in the descriptive statistic observations at a subsample level are proportionally significant. The analysis uses two types of Chi-Square tests, Chi-Square test of association and Chi-square test of homogeneity. The data met assumptions for Chi-Square test application being categorical variables (nominal data), with independent observations and cell counts greater than 5 (Laerd Statistics, n.d.).

Chi-Square test of association in this analysis provide a reference point for links between variables in more advanced statistical testing later in the analysis at a Sample level. The null hypothesis in Chi-Square tests is there is no association between the variables compared. The Chi-Square tests were run in SPSS with a significance level of $p < .05$, Cramér's V provided effect size, and these are categorised in the results as small 0.1, medium .3 and large .5 (Cohen, 1988).

The purpose of the Chi-Square tests of homogeneity is to test for statistically significant differences in probability distributions between independent multinomial demographic variables (3 or more response categories) and the dependent dichotomous variable RSB Use. Where there are statistically significant differences between the response categories of the test variable, post hoc z-tests of two proportions, using a Bonferroni adjustment for multiple comparisons, determines the specific response cell in which the differences occurred for detailed interpretation. The interpretation of results includes allowance for unequal subsample sizes (FBU $n = 185$) and NFBU ($n = 51$).

4.3.2.1 Age

The literature on individual technology acceptance and use in section 1.6.4. found it is more likely to occur in younger people (Ozimek & Bierhoff, 2016). Age also identified as an important moderator included in the UTAUT based models (Venkatesh et al., 2012; Venkatesh et al., 2003) in section 2.6.4.2. The expectation from the literature review is a significant positive association between younger Age and RSB Use.

The Median age bracket of the Sample was 45 years to 54 years of age refer Table 4.1. Due to low cell counts, this variable was collapsed from the 5 categories in the survey responses into three (3) Age categories being (1) = 18 to 34 years, (2) = 35 to 54 years and (3) = 55+ years. A Chi-square test of association ran between Age and RSB Use. All cell counts were greater than five (5). There was a statistically significant association between Age and RSB Use, $\chi^2 (2, N = 236) = 14.56, p < .001$. The association was moderately strong (Cohen, 1988) $\phi = .0248, p < .001$.

Table 4.1 reports a difference in observation for Age responses between the Sample (Mdn 45-54 years), FBU (Mdn 35-44 years) and NFBU (55-64 years). A Chi-Square test of independence ran between the collapsed Age variable and RSB Use with 47 FBU (88.7%) in the 18 – 34 category, 104 (81.9%) 35 – 54 years and 34 (60.7%) 55 to 64 years found a

statistically significant difference in proportions, $\chi^2 (2, N = 236) = 14.56, p = .001$. A post hoc pairwise comparisons using z-test of two proportions with a Bonferroni correction reported the proportion of FBU classified in the 55 to 65 year old category was statistically significantly lower than other age categories of RSB Use, $p < .05$. The analysis findings of an association between younger Age and RSB Use i.e. younger RSB respondents having a higher uptake of Facebook supports the literature review expectations.

4.3.2.2 Gender

The literature in section 2.4.2 indicated greater individual use of Facebook technology by females (McAndrew & Jeong, 2012; Stefanone et al., 2011), as an NFBU owner is more likely to be male. The UTAUT model also uses Gender as an important moderator (Venkatesh et al., 2012; Venkatesh et al., 2003) discussed in section 2.6.4.1. The expectation for RSB is that female gender will be positively associated with RSB Use.

Male RSB respondents comprised 48.9% of the Sample, 45.1% FBU and 62.3% of NFBU refer Table 4.1. A Chi-square test of association ran between Gender and RSB Use. All cell counts were greater than five (5). There was a statistically significant association between Gender and RSB Use, $\chi^2 (1, N = 236) = 4.81, p = .028$. However, the association was of small effect (Cohen, 1988), $\phi = .143, p = .028$. This result supports the literature expectations female RSB respondents are more likely to accept and use Facebook for their business than male RSB respondents.

4.3.2.3 Personal Use of Facebook

The literature review identified the majority of the RSB respondents surveyed likely to be personal Facebook users, refer section 2.4.2. The survey responses report most RSB Respondents (84.75%) having accepted Facebook for personal use refer Table 4.1, supporting this expectation. At a subsample level, Personal use of Facebook reported a higher percentage for the FBU subsample (92.4%) than the NFBU subsample (56.7%) in the survey responses.

A Chi-square test of association ran between Personal Use of Facebook and RSB Use. All cell counts were greater than five (5). A statistically significant association was found between RSB owners personal decision to use Facebook and RSB Use, $\chi^2 (N = 236) = 39.13, p < .001$. The association was of strong effect (Cohen, 1988), $\phi = .407, p < .001$ and makes

sense as increased familiarity with a technology can affect use determinants in the UTAUT literature, refer section 2.6.2.

Some RSB respondents combined business interactions with personal interactions on their personal Facebook pages (Sample 45.5%, FBU subsample 51.9% and NFBU subsample 17.6%). A Chi-square test for association was run between mixed personal and business use on RSB owners personal Facebook with RSB Use. All cell counts were greater than five (5). A statistically significant association between mixing personal use with business use on personal Facebook pages and RSB Use, χ^2 (N = 200) = 6.27, $p = .012$. However, the association was of small effect (Cohen, 1988), $\phi = .177$, $p = .012$. This result demonstrates the proximate connection between the RSB respondents' personal identity and that of the RSB.

4.3.2.4 Size (Number of employees)

Business size in this research was discussed in 1.6.1 and the ABS definition selected was based a small business being one where the number of employees is under 20, and included a subcategory of microbusiness being those with under 5 employees (Australian Taxation Office, 2014). The expectation from the literature review is a difference in association between microbusiness and small business RSB respondents and RSB Use. From the literature review, larger business has a greater adoption of social media technology, hence the purpose of this research.

The survey respondents are largely of micro businesses (Sample 70.8%, FBU subsample 67%, NFBU 84.3% subsample) Table 4.1. A Chi-square test of association ran between Business Size and RSB Use. All cell counts were greater than five (5). A statistically significant association resulted between RSB business size by number of employees and RSB Use, χ^2 (N = 236) = 5.78, $p = .016$ supporting the literature expectation. The association small effect (Cohen, 1988), $\phi = .156$, $p = .016$ supporting the expectation in the literature review.

4.3.2.5 Industry

The literature review identified ANZSIC codes to enable recording of industry sector categories to evidence the cross sectional nature of the research design refer section 3.3. The selection of ANZSIC codes allows results to be aligned with existing data from the ABS

(Australian Bureau of Statistics, 2006). ANZSIC categorise industries using a hierarchical structure from highest to lowest of Divisions, Subdivisions, Groups and Classes as listed in Appendix 8. The survey provided participants with a list of Divisional Industry Sector Codes to nominate for their businesses, along with a free text section later recoded into correct industry categories according to the free text responses, refer Appendix 7.

The responses from the survey population industry codes demonstrate that there is a wide range of participants from various industry codes present in the focal locale economy that have participated in the survey refer Table 4.1, achieving the design aim of participation across industry sectors as appropriate for cross sectional research (Niazi, Wilson, & Zowghi, 2006). However, due to small individual cell counts, industry categories collapsed into a two-sector model containing categories of (1) primary and secondary industries, and (2) tertiary industries. Small cell counts limit statistical testing depth on an individual industry code basis for this research.

A Chi-square test of association ran between Industry Sector and RSB Use. All cell counts were greater than five (5). A statistically significant association resulted between Industry Sector and RSB Use, $\chi^2 (N = 236) = 9.40, p = .002$. The association small effect (Cohen, 1988), $\phi = .156, p = .002$.

4.3.2.6 Planning

A disconnect was located in the literature where planning documentation is being recommended for use to improve outcomes for small business and is not being evidence in reported practice by small business 2.4.2. Having planning in place is vital to successful implementation of marketing communications use of Facebook for RSB (Stone, 2019; Treadaway et al., 2012). The expectation from the literature was RSB report minority percentages undertaking any form of planning.

In Table 4.1, under 50% of RSB have any planning type or digital strategy. RSB with a business plan, marketing plan or digital strategy, have an increased likelihood of social media use in planning (Sample 72.8%, FBU subsample 88%, and NFBU subsample 17.6%).

A Chi-square test of association ran between each of the planning type variables and RSB acceptance and use of Facebook. All cell counts were greater than five (5). There was a statistically significant association between RSB having a Marketing Plan ($\chi^2 (N = 236) =$

5.31, $p = .021$) being of small effect small effect (Cohen, 1988), $\phi = .150$, $p = .021$. A statistically significant association was also found between the inclusion of Social Media considerations in planning (χ^2 (N = 236) = 100.43, $p < .001$) of strong effect (Cohen, 1988), $\phi = .652$, $p < .001$, with the RSB Use. While this result supports the expectations in the literature it needs percentage improvement for RSB to implement Facebook technology effectively and noted for qualitative inquiry into why RSB are not undertaking planning in Chapter 5.

4.3.2.7 Access to the NBN

The literature identified the NBN as a possible negative influence on RSB Use, as discussed in section 1.6.3. The survey responses in Table 4.1 indicate the NBN is not a consideration for RSB deciding whether to accept and use Facebook technology (Sample 11%, FBU Subsample 11.3%, and NFBU Subsample 9.8%).

A Chi-square test of association ran between NBN access and RSB Use. All cell counts were greater than five (5). A Chi-square test confirmed no statistically significant association between RSB NBN Impact and RSB Use (χ^2 (2, N = 236) = 5.35, $p = .069$).

4.3.2.8 Business Mode of Operation

The literature review identified industry reporting on the mode of operation for the small business as being important to technology acceptance and use, refer section 2.4.2. The expectation from the literature review is RSB with an online presence, in whole or part, would have an association with RSB Use.

In Table 4.1 at the Sample level, the majority (64.8%) of RSB conduct business online, either operating solely online (14.4%), or using a combination of physical store and online presence (50.4%). However, the subsample percentages on methods of conducting business for RSB were different at the subsample level. FBU formed a lower percentage (30.3%) than NFBU (52.9%) for RSB operating with a physical store only.

A Chi-square test of association ran between each of the Modes of Business Operation variables (online only/mixed online and physical/physical only) and RSB acceptance and use of Facebook. All cell counts were greater than five (5). A Chi-square test confirmed a statistically significant association between an RSB conducting business mixing online and

physical modes with RSB Use ($\chi^2 (2, N = 236) = 9.01, p = .003$). The association was of small effect (Cohen, 1988), $\phi = .138, p = .003$.

A Chi-Square test of independence ran between Business Size and RSB Use with FBU categories 56 (67.5%) physical premises only, 29 (85.3%) online premises only and 100 (84%) both physical and online presence finding a statistically significant difference in proportions, ($\chi^2 (2, N = 236) = 9.04, p = .011$). Post hoc pairwise comparisons using z-test of two proportions with a Bonferroni correction reported statistically significant differences in proportion between RSB with a physical premises having lower RSB Use than those RSB with both physical and online presence, $p < .05$.

4.3.2.9 Negative Online Feedback Policy

The literature review identified industry reporting on the lack of negative feedback policy for the small business as being important to technology acceptance and use, refer section 2.4.2. The expectation is few RSB will have a negative feedback policy and this sits with the planning uptake results for RSB.

The majority of RSB reported no policy dealing with negative feedback online (Sample 65%, FBU 60.2%, NFBU 80.4%) refer Table 4.1. This result is intuitive for NFBU as arguably without an online presence there may be little or no need for RSB to have an online negative feedback policy.

A Chi-square test of association ran between Negative Feedback Policy and RSB Use. All cell counts were greater than five (5). A Chi-square test confirmed a statistically significant association found between having a negative online policy and the decision to accept Facebook technology for their business ($\chi^2 (N = 228) = 6.22, p = .013$). The association was of small effect (Cohen, 1988), $\phi = .165, p = .013$.

4.3.2.10 Marketing Budget

The literature review identified an annual marketing budget of 11% to 20% of gross revenue as suitable for small business growth (Flannagan, 2019; Sensis, 2018) discussed in section 2.4.2. The expectation of RSB in light of the planning uptake is that this budget ideal is unlikely.

From Table 4.1, the total marketing budget for the RSB FBU Subsample median is slightly higher (\$1000-\$1999) than the NFBU Subsample (under \$1000). Interestingly, while this spend is low, the value for money perception of the Respondent's marketing budget spend is also unclear, with the majority unsure and/or thinking their spend is not value for money (Sample 50.2%, FBU Subsample 52.6%, NFBU Subsample 41.6%).

Due to small cell counts observed in Table 4.1, the marketing budget responses collapsed into three (3) categories being (1) <\$1000, (2) = \$1000-\$10,000 and (3) \$10,000+. A Chi-square test of association ran between Marketing Budget and RSB Use. All cell counts were greater than five (5). The Chi-square test confirmed a statistically significant association between RSB marketing budget and RSB Use ($\chi^2 (6, N = 225) = 31.36, p < .001$). The association was of medium effect (Cohen, 1988), $\phi = .165, p < .001$.

A Chi-Square test of independence ran between Marketing Budget and RSB Use with FBU categories reporting their budgets as 129 (87.8%) < \$1000, 27 (52.9%) \$1000 - \$10,000 and 19 (70.4%) \$10,000+ finding a statistically significant difference in proportions, ($\chi^2 (2, N = 225) = 27.53, p < .001$). Post hoc pairwise comparisons using z-test of two proportions with a Bonferroni correction reported statistically significant differences in proportion between RSB with a budget <\$1000 having a higher uptake of Facebook use for their business than those RSB with a budget of \$1000 - \$10,000, $p < .05$.

4.3.3 Summary of RSB Demographics

A preliminary analysis of personal and business demographic data collected from the online survey Q1 to Q18, refer Appendix 7, considered the data from a Sample (N = 236) and Subsample FBU (n = 185) and NFBU (n = 51) levels using descriptive statistics in 4.3.1 and inferential statistics in section 4.3.2. The results of this analysis assists in providing a preliminary answer to the first research question:

RQ1: What are the characteristics of RSB that do, and do not, accept and use Facebook technology?

Firstly, the analysis in this section discovered significant associations between demographic variables and RSB Use at a sample level in section 4.3.2, being age, gender, personal use, business size, industry sector, planning, NBN, business mode, negative feedback policy and marketing budget. Personal use of Facebook was the only statistically significant variable of

strong effect on RSB Use. Two variables were statistically significant with a moderate effect on RSB Use being (1) age and (2) social media consideration for RSB undertaking some form of planning documentation. All other variables were found statistically significant but of small effect.

Secondly, the analysis found RSB Use characteristics differed based on proportionally testing of responses between the FBU and NFBU subsamples refer section 4.3.2. RSB in the FBU subsample are more likely to have an RSB owner/manager who is 18 years to 34 years old, female, and personally uses Facebook. If the RSB undertakes business planning, marketing planning or has a digital strategy, they are more likely to have considered social media usage. RSB FBU are more likely to conduct their business operations using a combination of physical and online presence. The FBU RSB is more likely than an NFBU RSB to have a negative online feedback policy and an annual marketing budget under \$1000.

The results identified for inquiry in the qualitative investigation are discovering the conceptualisation of Age by RSB, reasons behind RSB planning practices, finding why a negative online feedback policy may be important to RSB, and detailing thoughts of RSB in allocating annual marketing budgets.

The preliminary sample results for the sample demographics provide some comfort in the analysis with supporting literature expectations. The analysis also identified areas for further explanation in the RSB context. However, further statistical testing will provide an additional layer of knowledge to the preliminary answering RQ1 before acceptance/rejection of the related hypothesis in section 2.7. The quantitative analysis next considers the RSB survey responses relating to RSB perceived importance of consumer engagement activities.

4.4 Exploration of Engagement responses

Section two of the survey focused on the perceived importance of different aspects of engagement with consumers for RSB. The engagement data questions are contained in Block 2 (FBU) and Block 3 (NFBU) of the survey see Table 3.4 Business Owner Survey Structure, and Appendix 7 Online Survey. The chance randomisation function applied to all engagement questions in Qualtrics to alter the presentation order to respondents and

engagement items were reverse coded to manage bias, refer 3.5.1. Engagement data is important in answering the second research question:

RQ2: How do RSB perceive the importance of consumer engagement; and does the perceived importance vary between RSB that are FBU and NFBU?

The feedback on the pilot testing advised to consider the length of the survey design and this prevented the full Baldus et al (2015) scale questions being included in the survey. The feedback was actioned by reducing the number of engagement scale questions in the survey to 11 items.

4.4.1 Descriptive Statistics for Engagement

Descriptive statistics were run in SPSS on the engagement data to discover basic properties of the Sample (Hair et al., 2015). Frequencies and percentages allowed observations of similarities and differences between responses for the FBU and NFBU subsamples refer Table 4.2.

Table 4.2 Engagement Dimension Descriptive Statistics Summary of Results

Engagement Dimension	Descriptive Statistic	Sample			
		FBU (n = 185)		NFBU (n = 51)	
		Count	%	Count	%
Encourages Comments	Frequency				
1. Extremely important		65	35.1	15	29.4
2. Very important		43	23.2	14	27.5
3. Moderately important		35	18.9	7	13.7
4. Slightly important		16	9.7	3	5.8
5. Not at all important		15	8.1	9	17.6
	Median	2		2	
	N Stat	(n=176)		(n = 48)	
Motivates Others	Frequency				
1. Extremely important		80	43.2	11	21.6
2. Very important		50	27	15	29.4
3. Moderately important		25	13.5	10	19.6
4. Slightly important		11	5.9	2	3.9
5. Not at all important		10	5.4	10	19.6
	Median	2		2	
	N Stat	(n=176)		(n = 48)	

Engagement Dimension	Descriptive Statistic	Sample			
		FBU (n = 185)		NFBU (n = 51)	
		Count	%	Count	%
Online Community	Frequency				
1. Extremely important		80	43.2	7	13.7
2. Very important		53	28.6	10	19.6
3. Moderately important		15	14.1	7	13.7
4. Slightly important		10	5.4	10	19.6
5. Not at all important		7	3.8	13	25.5
	Median	2		3	
	N Stat	(n=176)		(n = 47)	
Allows Interaction	Frequency				
1. Extremely important		58	31.4	7	13.7
2. Very important		52	28.1	12	23.5
3. Moderately important		31	16.8	12	23.5
4. Slightly important		16	8.6	6	11.8
5. Not at all important		15	8.1	9	17.6
	Median	2		3	
	N Stat	(n=172)		(n = 47)	
Product Opinions	Frequency				
1. Extremely important		47	25.4	10	19.6
2. Very important		51	27.6	16	31.4
3. Moderately important		37	20	4	7.8
4. Slightly important		20	10.8	7	13.7
5. Not at all important		18	9.7	10	19.6
	Median	2		2	
	N Stat	(n=173)		(n = 47)	
Entertaining Customers	Frequency				
1. Extremely important		51	27.6	6	11.8
2. Very important		54	28.2	9	17.6
3. Moderately important		41	22.2	9	17.6
4. Slightly important		21	11.4	6	11.8
5. Not at all important		8	4.3	17	33.3
	Median	2		3	
	N Stat	(n=175)		(n = 47)	
Competitions/Discounts	Frequency				
1. Extremely important		20	10.8	4	7.8
2. Very important		16	8.6	2	3.9
3. Moderately important		32	17.3	2	3.9
4. Slightly important		52	28.1	7	13.7
5. Not at all important		52	28.1	32	62.7
	Median	4		5	
	N Stat	(n=172)		(n = 47)	
Shares Experiences	Frequency				
1. Extremely important		43	23.3	8	15.7
2. Very important		46	24.9	5	9.8
3. Moderately important		48	25.9	10	19.6
4. Slightly important		17	9.2	11	21.6

Engagement Dimension	Descriptive Statistic	Sample			
		FBU (n = 185)		NFBU (n = 51)	
		Count	%	Count	%
5. Not at all important		19	10.3	13	25.5
	Median	2		4	
	N Stat	(n=173)		(n = 47)	
Express Interests	Frequency				
1. Extremely important		40	21.6	7	13.7
2. Very important		49	26.5	10	19.6
3. Moderately important		45	24.3	11	21.6
4. Slightly important		24	13	8	15.7
5. Not at all important		17	9.2	11	21.6
	Median	2		4	
	N Stat	(n=175)		(n = 47)	
Timely Information	Frequency				
1. Extremely important		86	46.5	12	23.5
2. Very important		56	30.3	12	23.5
3. Moderately important		19	10.3	10	19.6
4. Slightly important		9	4.9	3	5.9
5. Not at all important		5	2.7	9	17.6
	Median	2		2	
	N Stat	(n=175)		(n = 46)	
Customer Recognition	Frequency				
1. Extremely important		46	26.4	15	29.4
2. Very important		48	27.5	10	19.6
3. Moderately important		38	21.8	10	19.6
4. Slightly important		26	14.9	2	3.9
5. Not at all important		16	9.2	10	19.6
	Median	2		2	
	N Stat	(n=174)		(n = 47)	

Similarities were observed in the medians between the FBU and NFBU subsamples for the engagement dimensions of Encourages Comments (Mdn = 2), Motivates Others (Mdn = 2), Product Opinions (Mdn = 2), Timely Information (Mdn = 2) and Customer Recognition (Mdn = 2).

Differences in the medians were observed for the engagement dimensions of Online Community (Mdn FBU = 2, NFBU = 3), Allow Interaction (Mdn FBU = 2, NFBU = 3), Entertains Customers (Mdn FBU = 2, NFBU = 3), Competitions & Discounts (Mdn FBU = 4, NFBU = 5), Shares Experiences (Mdn FBU = 2, NFBU = 4) and Express Interest (Mdn FBU = 2, NFBU = 4). The largest difference in the medians was found for the perceived

importance of Shares Experiences (Mdn FBU = 2, NFBU = 4) and Express Interest (Mdn FBU = 2, NFBU = 4).

The NFBU Likert categories indicate data at both extremes of the Likert categories for the engagement dimensions. For example: Motivates Others (category 1 = Extremely Important 21.6%; and category 5 = Not Important at All 19.6%); Online Community (category 1 = 13.7% and category 4 = 19.6%, category 5 = 25.5%); Allows Interaction (category 1 = 13.7% and category 5 = 11.6%); Product Opinions (category 3 = 7.8% and category 5 = 19.6%); Entertaining Customers (category 1 = 11.8% and category 5 = 33.3%); and, Timely Information (category 1 = 23.5% and category 5 = 17.6%).

Observations of the descriptive data noted an ascending/descending pattern amongst responses across categories in the FBU and NFBU subsamples in Table 4.2. To test if these differences in descriptive observations are statistically significant the analysis next considers inferential statistics for the engagement data.

4.4.2 Inferential Statistics for Engagement Data

Engagement survey responses capture the perceived importance to the RSB of undertaking certain consumer engagement activities as part of their marketing communications. The expectation from the literature review in section 2.5 is that significant differences found between the subsamples, with higher perceived importance of engagement linked to RSB FBU. Inferential analysis of the engagement data seeks to discover statistically significant differences in response category distributions between the subsamples for the engagement item responses increase understanding of the characteristics of those RSB subgroups.

The independent engagement data variables are ordinal in nature (5-point Likert-type scale) and the dependent variable RSB Use is dichotomous (yes/no). Chi-square tests of homogeneity are appropriate for the variables types and for the testing purpose. The five (5) engagement categories collapsed and recoded into three (3) categories of increasing level of importance; Category (0) Not important at all, (1) Moderately important/Slightly important, and (2) Extremely Important/Very Important. Chi-square tests of homogeneity ran on each of the 11 engagement items. Fisher's Exact test ($r \times 2$) was used as an alternative where the minimum of five (5) cell counts was not met (Cochran, 1954). The significance level was set at $p > .05$.

Where the result of the Chi-squared test of homogeneity or Fisher’s Exact test reported a statistically significant difference between the groups, a post hoc test using multiple z-tests of two proportions or Fisher’s exact tests (2 x 2) respectively ran to identify the category of difference. The z-tests used a Bonferroni correction for three (3) pairwise comparison of $p < .016667$.

There were no statistically significant differences in distributions of responses between the subsamples found for the engagement items of Encourages Comments and Product Opinions ($p > .05$). The following subsections detail each of the remaining nine (9) engagement items reporting significant difference between the subsamples.

4.4.2.1 Allows interaction

A Chi-square test of homogeneity reported a statistically significant result for the engagement item Allows Interaction, $\chi^2 (2, N = 218) = 8.719, p = .013$. Observed frequencies and percentages of the levels of importance of RSB respondents is in Table 4.3.

Table 4.3 Cross tabulation of Allows Interaction and RSB Use

Allows Interaction	Subsample	
	NFBU	FBU
Not Important	9 (18.8%)	15 (8.5%)
Of Importance	10 (20.8%)	53 (30.1%)
High Importance	29 (60.4%)	108 (61.4%)

A post hoc analysis using multiple z-tests of two proportions with a Bonferroni correction found a statistically significant difference in the proportion of FBU who found engagement activities allowing consumer interaction with their business of high importance ($n = 108, 61.4%$ versus $n = 29, 60.4%$), $p > .16667$.

4.4.2.2 Entertains Customers

A statistically significant result was reported in the Chi-square test of homogeneity for RSB responses to the perceived importance of entertaining customers, $\chi^2 (2, N = 222) = 38.388, p > .001$, with descriptive statistics provided in Table 4.4.

Table 4.4 Cross tabulation of Entertains Customers and RSB Use

Entertains Customers	Subsample	
	NFBU	FBU
Not Important	17 (36.2%)	8 (4.6%)
Of Importance	15 (31.9%)	62 (35.4%)
High Importance	15 (31.9%)	105 (60%)

Post hoc z-tests of two proportions with Bonferroni correction found statistically significant differences between the subsample ‘Not important’ responses ($n = 17, 36.2\%$ versus $n = 8, 4.6\%$); and between the ‘High Importance’ responses ($n = 15, 31.9\%$ versus $n = 105, 60\%$), $p > .16667$.

4.4.2.3 Competitions and Discounts

The engagement item Competitions and Discounts also reported a statistically significant Chi-square test of homogeneity, $\chi^2 (2, N = 219) = 22.734, p > .001$, with counts and percentages presented in Table 4.5.

Table 4.5 Cross tabulation of Competitions / Discounts and RSB Use

Competitions and Discounts	Subsample	
	NFBU	FBU
Not Important	32 (68.1%)	52 (30.2%)
Of Importance	9 (19.1%)	84 (48.8%)
High Importance	6 (12.8%)	36 (20.9%)

Post hoc z-tests of two proportions with Bonferroni correction found statistically significant differences between the subsample responses for ‘Not important’ ($n = 32$, 68.1% versus $n = 52$, 30.2%); and between the ‘Of Importance’ responses ($n = 9$, 19.1% versus $n = 84$, 48.8%), $p > .16667$.

4.4.2.4 Shares Experiences

RSB responses for ‘Shares Experiences’ reported a statistically significant difference between the subsamples using a Chi-square test of homogeneity, $\chi^2 (2, N = 220) = 12.055, p = .002$. Response category counts and percentages are in Table 4.6.

Table 4.6 Cross tabulation of Shares Experiences and RSB Use

Shares Experiences	Subsample	
	NFBU	FBU
Not Important	13 (27.7%)	19 (11.9%)
Of Importance	21 (44.7%)	65 (37.6%)
High Importance	13 (27.7%)	89 (51.4%)

Post hoc z-tests of two proportions with Bonferroni correction found statistically significant differences between the subsample response categories for ‘Not important’ ($n = 13, 27.7\%$ versus $n = 19, 11.9\%$); and between the ‘High Importance’ responses ($n = 13, 27.7\%$ versus $n = 89, 51.4\%$), $p > .16667$.

4.4.2.5 Expresses Interests

RSB responses for Expresses Interests reported a statistically significant difference between categories using a Chi-square test of homogeneity $\chi^2 (2, N = 222) = 7.88, p = .027$. The frequencies of Expresses Interest responses are in Table 4.7.

Table 4.7 Cross tabulation of Expresses Interests and RSB Use

Expresses Interests	Subsample	
	NFBU	FBU
Not Important	11 (23.4%)	17 9.7%
Of Importance	19 (40.4%)	69 (39.4%)
High Importance	17 (36.2%)	89 (50.9%)

Post hoc z-tests of two proportions with Bonferroni correction found a statistically significant difference between the subsample responses for the category of ‘Not important’ ($n = 11$, 23.4% versus $n = 17$, 9.7%), $p > .16667$.

4.4.2.6 Timely Information

RSB responses for ‘Timely Information’ reported a statistically significant difference using a Chi-square test of homogeneity, $\chi^2 (2, N = 221) = 23.073$, $p > .001$. The counts and percentages for Timely Information response categories are in Table 4.8.

Table 4.8 Cross tabulation of Timely Information and RSB Use

Timely Information	Subsample	
	NFBU	FBU
Not Important	9 (19.6%)	5 (2.9%)
Of Importance	13 (28.3%)	28 (16%)
High Importance	24 (52.2%)	142 (81.1%)

Post hoc z-tests of two proportions with Bonferroni correction found statistically significant differences between the subsample responses for ‘Not important’ ($n = 9$, 19.6% versus $n = 5$, 2.9%); and between the ‘High Importance’ responses ($n = 24$, 52.2% versus $n = 142$, 81.1%), $p > .16667$.

4.4.2.7 Motivates Others

The responses for Motivates Others contained cell counts under five (5) responses. Therefore a Fisher’s Exact test ran and reported the multinomial probability distributions not equal between the response categories, $p = .002$. The counts and frequencies for Motivate Others response categories are in Table 4.9.

Table 4.9 Cross tabulation of Motivates Others and RSB Use

Motivates Others	Subsample	
	NFBU	FBU
Not Important	10 (20.8%)	10 (5.7%)
Of Importance	12 (25%)	26 (20.5%)
High Importance	26 (54.2%)	130 (73.9%)

A post hoc analysis using pairwise comparisons of multiple Fisher's exact tests (2 x 2) with Bonferroni correction found a statistically significant differences in proportions between subsamples responding Motivating Others was 'Not Important', ($n = 10, 20.8\%$ versus $n = 10, 5.7\%$); and also where of 'High Importance' to RSB ($n = 26, 54.2\%$ versus $n = 130, 73.9\%$), $p > .16667$.

4.4.2.8 Online Community

The responses for Online community contained cell counts under five (5) responses. A Fisher's Exact test ran and reported the multinomial probability distributions not equal between the response categories, $p = .000$. The descriptive statistics for Online Community response categories are in Table 4.10.

Table 4.10 Cross tabulation of Online Community and RSB Use

Online Community	Subsample	
	NFBU	FBU
Not Important	13 (27.7%)	7 (4%)
Of Importance	17 (36.2%)	36 (20.5%)
High Importance	17 (36.2%)	133 (75.6%)

A post hoc analysis using pairwise comparisons of multiple Fisher's exact tests (2 x 2) with Bonferroni correction found statistically significant differences in proportions between subsamples responding motivating others was 'Not Important' to RSB, ($n = 13, 27.7\%$ versus $n = 7, 4\%$); and also where of 'High Importance' to RSB ($n = 17, 36.2\%$ versus $n = 133, 75.6\%$), $p > .16667$.

4.4.2.9 Summary

The inferential analysis of the engagement data identified differences between the subsamples responses for each engagement item. From the literature review, an expectation formed that Facebook technology provides a platform suited to providing engagement opportunities for marketing communications between consumers and businesses as an SNS in section 1.6.4. The resulting null hypothesis listed as H10 in section 2.7, was that each engagement item would be of higher importance to FBU RSB than NFBU RSB.

The inferential results for Allows Interaction, Entertains Customers, Competitions and Discounts, Shares Experiences, Express Interests, Timely Information, Motivates Others and Online Community all contain proportionately higher responses of the perceived importance of engagement for RSB FBU than NFBU; meeting literature expectations and providing support for H10.

RSB data contained an interesting result for conducting competitions and discounts. Both subsamples recorded low levels of the perceived importance of engagement and noted for qualitative inquiry.

The literature review outlined possibility of a measure for RSB engagement in section 2.5.3. The analysis next considers if the engagement data is factorable and whether engagement remains important to RSB when considering other variables identified in the literature review in predicting RSB Use.

4.4.3 Reduction of Engagement Items

Dimensionality of engagement for the RSB context is to be determined to ascertain if the data is reducible to a smaller number of components. Principal Components Analysis (PCA) was chosen as an appropriate data reduction method (Field, 2018). Reduction of data literature contains divided statistical opinion on whether Likert-type data should be treated as continuous (and run PCA) or if it should remain as ordinal (using CATPCA or polychoric correlations). Aligned with common practice in marketing literature relevant to this research, this section reports PCA results for the engagement data.

The purpose of PCA is to examine which items group together to reduce the amount of variables while maximising the explanatory power of the original values for ease of further statistical testing (Vehkalahti, 2010). Ideally, if all items tested in the PCA are performing to measure the same 'thing', in this case RSB perception of the importance of engagement, they will group together and load onto the one omnibus factor (Venkatesh et al., 2003).

Sample size is important in considering dataset suitability for PCA, as small sample sizes can effect reliability of correlation coefficients. There is no agreed Sample size in the literature with Tabachnick and Fidell (1989) suggesting 300+ responses are ideal, but allow for Sample sizes down to 150 responses as acceptable. Alternatively, the ratio of cases to items to be factored can be examined with the literature suggesting between 10 responses for each one (1) item to be factored (Nunnally & Bernstein, 1994), down to five (5) responses for each one (1) item to be factored (Tabachnick & Fidell, 1989) as acceptable. The Engagement Sample size $N = 236$ with 11 Engagement item variables is within the Sample size acceptable for conducting PCA (Tabachnick & Fidell, 1989). The Sample ratio of engagement responses to engagement items to be factored at approximately 23:1 is well within the recommended ratios to conduct PCA (Nunnally & Bernstein, 1994; Tabachnick & Fidell, 1989).

A PCA was run in SPSS on the engagement items, $\chi^2 (55, N = 236) = 1816.35, p < .001$. The results of the PCA were assessed through examination of the correlation matrix, Kaiser-Meyer-Olkin (KMO) measure for sampling adequacy, Bartlett's test of Sphericity and visual inspection of PCA Eigenvalues as a scree plot (Pallant, 2013). The correlation matrix generated in the PCA presented engagement items with correlation coefficients ranging .3 > r > .8, meaning there was neither too little or too much correlation between the variables and indicating suitability (Field, 2018; Tabachnick & Fidell, 1989), refer Appendix 11.

The overall KMO measure of sampling adequacy was .932. Classifications above .9 are categorised as 'marvelous' (Kaiser, 1974). A KMO measure close to 1 indicates the data is suitable to form reliable components (Field, 2018). The individual component KMO measures exceeded the minimum requirement of 0.5 for inclusion in PCA refer Table 4.11. The KMO results indicate the Engagement components have sampling adequacy for PCA.

Table 4.11 KMO Measure for Engagement Item

Engagement Item	KMO Measure
Encourages Comments	.941
Motivates Others	.944
Online Community	.910
Allows Interaction	.960
Product Opinions	.946
Entertaining Customers	.942
Competitions & Discounts	.935
Shares Experiences	.894
Expresses Interests	.897
Timely Information	.929
Customer Recognition	.960

Bartlett's test of Sphericity is a comparison of differences between the correlation matrix and identity matrix, with the null hypothesis that there is no statistically significant interrelationship between variables. Bartlett's test of Sphericity identifies new summarised components when rejecting the null hypothesis. The results of Bartlett's test of Sphericity in the Engagement PCA was statistically significant ($p < .001$), rejecting the null hypothesis reporting the engagement data likely to be suitable for factoring.

Scree plots visually support tabled test results in exploratory analysis techniques including PCA (Cattell, 1966). The plot line represents Eigenvalues of the principal components in the analysis. Eigenvalues are a measure of the variance that a component accounts for in a solution. Points of inflexion in the plot line assist in determining the number of components to retain in the analysis. The PCA engagement scree plot indicated a single point of inflexion, i.e. a single component to retain for the solution, refer Figure 4.1.

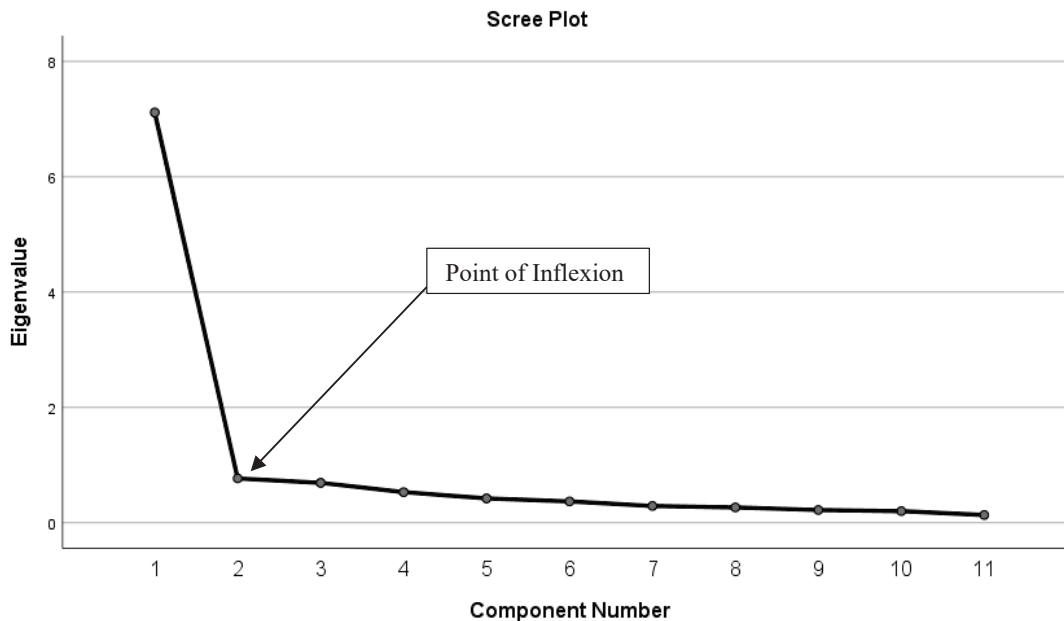


Figure 4.1 Engagement PCA Scree Plot (SPSS)

In summary, all methods used to assess the engagement data resulted in the data being ‘factorable’ and forming a single variable for engagement. There was only one (1) Eigen value greater than 1 in the component matrix explaining 64.685% of the total variance; and this above the acceptable result of 60% for variance (Hair, 2006). However, the PCA result requires assessment for reliability and validity before further use in statistical testing.

4.4.4 Reliability of Engagement Items

Reliability refers to the measure of consistency for a given result. Reliability can be assessed across time (test-retest reliability), items (internal consistency) and researchers (interrater reliability) (Price et al., 2015). In this section, reliability refers to internal consistency. The

data needs to measure in the same way to test internal consistency. All engagement items collected data using the same five (5) point Likert-type rating scale refer Appendix 7.

The most common test for Likert-type data for internal consistency is Cronbach Alpha, particularly following PCA reduction to test the reliability of the resulting component/s (Laerd Statistics, n.d.; Price et al., 2015). A Cronbach Alpha test ran in SPSS to determine the internal reliability of the engagement items i.e. the extent each of the 11 engagement item questions from the survey contributed to forming a single engagement measurement (Cronbach, 1951). The Cronbach Alpha test results are in Table 4.12.

Table 4.12 Engagement Item Analysis (SPSS)

Engagement Scale Statistics					
Item Total Statistics	Scale Mean If Item Deleted	Scale Variance If Item Deleted	Corrected Item Total Correlation	Squared Multiple Correlation	Alpha If Item Deleted
Item 1	26.03	108.46	.774	.662	.939
Item 2	26.26	109.57	.777	.674	.938
Item 3	26.16	109.01	.769	.699	.939
Item 4	25.95	107.30	.832	.714	.936
Item 5	25.81	107.12	.827	.735	.936
Item 6	25.81	111.29	.685	.528	.942
Item 7	24.63	114.18	.571	.390	.946
Item 8	25.65	107.31	.815	.774	.937
Item 9	25.65	108.57	.792	.759	.938
Item 10	26.40	111.85	.735	.643	.940
Item 11	25.83	109.61	.737	.589	.940
Statistics for Scale Sample		N = 11 N = 210	Mean 28.42	Variance 131.737	SD 11.478
Reliability Coefficient for 11 Items		Alpha 0.944			

From Table 4.12, Cronbach’s Alpha reliability ranges between 0 and 1 with values closer to 1 indicating greater internal consistency of scale items (Cronbach, 1951). The Cronbach Alpha results for engagement items had an internal consistency of alpha .944 and considered

excellent reliability (George & Mallery, 2005). As all items were above the minimum recommended value of .7 (see Alpha If Item Deleted column)(DeVellis, 2003) and there was little variation if any items were deleted, the engagement scale retained all 11 engagement items.

4.4.5 Validity of Engagement Items

Validity refers to the extent a measure represents the variable intended (Price et al., 2015) and includes several types of validity; content validity (widely capturing different aspects of the dimension), criterion validity (expected correlations with other variables) and construct validity. The assurance of content validity is a matter for the researcher's judgment and there are no strict rules to apply in making decision on validity. In this research the engagement data items are from an established scale (Baldus et al., 2015), were compared to existing definitions identified in the engagement literature (refer Table 2.3) and overviewed by experienced marketing academics. On this basis, the engagement items are valid in terms of the breadth and depth of the engagement concept captured.

Criterion validity refers to how well a measure can predict an outcome (Field, 2018). Two data sets assist with criterion-related validity in this research. In the quantitative study, the proposed engagement scale demonstrates a bivariate correlation of positive and statistically significant relationship between PIE and FBU ($r = .181, p = .001$) of small effect (Cohen, 1988) providing criterion-related validity. The qualitative data review for similarity of explanatory results gives indication of whether the engagement scale is predicting the phenomenon found.

Construct validity is assessed through convergent validity (similarity with like items) and discriminant validity (distinction from dissimilar items). PCA provided convergent validity of the engagement scale. Factor analysis assesses both convergent and discriminate validity in this research.

Reliability and validity are an ongoing process throughout the research rather than taken from a single point in time (Price et al., 2015). The analysis next explores if the engagement variable remains statistically significant when also considering demographic variables in their linking to RSB Use.

The engagement analysis results are consistent with unidimensional engagement measurement intended in the survey design. The new PCA engagement variable has demonstrated reliability and validity. The PCA of the engagement variable named Perceived Importance of Engagement (PIE) proceeds in the analysis for use as a summated scale in further statistical testing.

4.4.6 Links between PIE component and RSB Demographic variables with RSB Use

The analysis next considers whether PIE remains important when controlling for the multiple demographic variables relating to personal characteristics, business characteristics, business strategy and digital challenges contained in Block 1 of the online survey, refer Appendix 7 and demographic results summary in section 4.3.3. The purpose of furthering the bivariate analysis by exploring links using multivariate techniques, is to test if the independent variables when considered at the same time remain useful in predicting the outcome of the dependent variable (Field, 2018).

Regression is one of the most common data-analysis techniques testing for estimating relationships between a dependent variable and multiple independent variables (Aguinis, Pierce, Bosco, & Muslin, 2009). The many types of regression can be categorised into either linear or non-linear models, each with their own assumptions. Linear regression requires a linear relationship between the independent variables (predictors) and dependent variables (outcomes). A linear relationship means that the function for a linear regression can be plotted as a linear combination of the independent and dependent coefficient (β) values. Therefore linear regression has the assumptions that the data has linearity, normality, homoscedasticity and interval or ratio level measurement of the dependent variable (Field, 2018).

However, non-linear regression does not require a linear relationship between the dependent and independent variables, the data does not need to be normally distributed, homoscedasticity is not required and the dependent variable does not need an interval or ratio scale measurement (Field, 2018). As such, the function of a non-linear regression is different to linear regression, using a logistic transformation to express the non-linear relationship in a linear way, allowing for the use of a categorical dependent (outcome) variable. The assumptions for non-linear regression are independence of observation, little or no

multicollinearity of the independent (predictor) variables, linear relationship of the log odds of the continuous independent variables with the dependent variable, (Laerd Statistics, n.d.) and a recommended Sample of size of 10 outcomes for each independent variable.

The data was analysed to assess the assumptions of non-linear regression. All variables were independent in observation being unique measurements from unmatched data in the Sample. The minimum sample size for regression uses a rule of thumb recommending 10 observations per variable. Here there were 18 variables in the model with minimum 10 observations per variable requires a minimum sample size of 180. As the sample size in this analysis is over 180, this meets the minimum recommendation for regression.

The type of non-linear regression selected as for this analysis is binary probit regression (BPR), a commonly used statistical technique when using explanatory variables to test for the presence or absence of an attribute of interest. BPR is appropriate as the dependent variable of RSB Use is dichotomous i.e. requires a yes (1) / no (0) response. In this case, the BPR is multivariate as there are multiple independent nominal variables for personal and business demographic data and one continuous variable of PIE.

BPR is also appropriate to apply in this research as it meets the same data assumption requirements. The difference between the two regression types is in the link function. BPR uses a logit link function based on the odds ratio i.e. based on the probability of a successful outcome. BPR uses an inverse normal link function based on the linear predictor (Osborne, 2015). The literature states these types of logistic regression produce very similar results and the choice between which to use largely depends upon researcher preference and software package. The selection of the probit model arose from the functionality available in the Stata statistical package used for the research.

Rather than predicting the values of Y from X as would occur in a linear regression, binary probit regression uses an inverse normal link function to transform the dichotomous Y into a continuous probability variable generalised to become linear. The expression for the probit link function is:

$$f(Y) = \Phi^{-1}(Y)$$

Where:

Y is the probability of the outcome variable

Φ is the cumulative distribution

The probit estimated curve is an ‘S’ shaped cumulative normal distribution. The probit regression predicts the probability of the outcome Y occurring (i.e. whether or not an RSB will be in the FBU subsample category) from the log transformed values of X (predictor variables). The BPR model is:

$$y_i = \Phi(\beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \dots \beta_k X_{ki} + \varepsilon_i)$$

Where:

y_i is the probability of the outcome variable

Φ is the cumulative distribution

β_0 is the intercept (constant)

β_1 is the slope parameter (coefficient)

X is the explanatory variable (predictor)

k is the final independent variable in the model

ε_i is the random error in observation i (residuals)

Applied to the current context, the specific BPR equation is:

$$\begin{aligned} Y(FBU = 1) = & b_0 + b_1 \text{PIE}_{1i} + b_2 \text{Age}_{2i} + b_3 \text{Gender}_{3i} + b_4 \text{Private Facebook Use}_{4i} \\ & + b_5 \text{Business Size}_{5i} + b_6 \text{Business Operation}_{6i} + b_7 \text{Business Sector}_{7i} \\ & + b_8 \text{Digital Strategy}_{8i} + b_9 \text{Planning}_{9i} + b_{10} \text{Marketing Budget}_{10i} \\ & + b_{11} \text{Lack of Internet Access}_{11i} + b_{12} \text{Positive about NBN}_{12i} + \varepsilon_i \end{aligned}$$

The independent variables in the regression analysis have the same categorical structure as outlined in Table 4.1, with exceptions where further testing needed increased frequencies per category. The Private Facebook Use variable collapsed from six (6) to four (4) categories. The Industry Sectors variable uses the collapsed combined primary/secondary sector and a tertiary sector in section 4.3.2.5. The Planning variable combines business planning and marketing planning variables. The marketing budget variable uses the collapsed three (3) categories in section 4.3.2.10. The categorical structure of the regression analysis independent variables is in Table 4.13.

In linear and non-linear regression models, there is also an assumption the independent variables for X are not dependent upon the dependent variable Y. In the regression equation the X variables (PIE, personal and business characteristics) are assumed to influence the Y variable (RSB Use), but not each other (i.e. engagement is not interacting with other variables in the equation creating endogeneity) or the error term. Violation of this assumption implies the presence of endogeneity.

Endogeneity is a relatively new consideration in the marketing literature for research using survey data in regression-based analysis as it prevents casual inferences being drawn (Jean, Deng, Kim, & Yuan, 2016). Endogeneity first arose from advancements in ‘hard sciences’ e.g. mathematics, statistics, econometrics and epidemiology. Quantitative research specialists in any field are yet to produce agreed rules on determining whether endogeneity exists, what the impact of the endogeneity bias is, nor how to best ‘treat’ the endogeneity to produce a reliable model (Hult et al., 2018; Rutz & Watson, 2019).

To perform regression analysis requires no correlation of variables so investigation of endogeneity (confounding variables) is important as this can influence internal validity (e.g. through spuriousness - omitted variables bias) and produce inconsistent parameter estimation. The assumption of independent variables also means that the covariance between the error term and the engagement variable should be zero, i.e. there is no endogeneity. Common to the nature of marketing research, and in this context, it is possible that the covariance between the error term and the engagement variable is not zero; meaning the assumption of independent variables would be false. The reason the assumption may be false is that not all variables were included in the regression equation that affect engagement and RSB Use.

The first test exploring possible joint endogeneity is a two-stage test. First, the above regression model ran and the residuals of that regression saved. Then, the same regression model ran with the inclusion of the saved residuals. If the residuals are statistically significant in the second stage, joint endogeneity is present, refer Table 4.13.

Table 4.13 Endogeneity Test 1 - Logit for Joint Endogeneity of all Model variables

Variable	Coef.	Std.Err.	z	P > z 	95% Conf. Interval	
PIE	.101	.085	1.180	.238	-.067	.268
Age						
-young	.039	.386	.100	.919	-.718	.796
-old	-.531	.485	-1.100	.273	-1.482	.419
Male	.430	.439	.980	.328	-.431	1.290
Private Facebook Use						
-weekly	.598	.648	.92	.356	-.672	1.867
-once a day	.175	.436	.400	.689	-.680	1.030
-more often	1.081	.800	1.350	.177	-.487	2.649
Microbusiness	-1.099	.753	-1.460	.145	-2.575	.378
Business Operation						
-online only	.480	.548	.880	.381	-.594	1.555
-both	.686	.535	1.280	.200	-.363	1.735
Tertiary sector	.593	.502	1.180	.237	-.389	1.576
Digital strategy	-0.002	.341	-0.0100	.995	-.670	.665
Planning	.059	.304	.190	.847	-.538	.656
Marketing budget						
-\$1000-\$10,000	-1.432	.974	-1.470	.141	-3.341	.477
->\$10,000_	-.751	.608	-1.240	.217	-1.942	.440
Lack of internet access						
-unsure	.036	.430	.0800	.934	-.808	.879
-yes	-.273	.490	-.560	.577	-1.234	.687
Positive about NBN						
-unsure	.904	.701	1.290	.198	-.471	2.279
-yes	.148	.403	.370	.713	-.641	.937
residual (res1)	.606	2.041	.300	.766	-3.394	4.611
Constant	.210	1.415	.150	.882	-2.564	2.984

*Test statistics for probit regression: (χ^2 (20, N = 210) = 297.34, $p < .001$), Log likelihood -59.714279
** Table excludes variable categories used as references

The BPR results indicated no significant p values for the residual. Therefore, the assumption of the coefficient of the residuals being zero is not be rejected, and there is no joint endogeneity found between variables in the model.

The second test exploring possible endogeneity, tests the correlation between the PIE variable and the model error term (residuals). The correlation result of .3715 between the PIE variable and the residuals, rejects the null hypothesis of no endogeneity meaning there is

endogeneity between the PIE variable and the residuals in the model. Regression requires no correlation between variables and residuals, so a method to identify the presence of endogeneity in the model.

Finding an Instrumental Variable (IV) can assist with controlling endogeneity in regression models i.e. a method of ensuring changes in X (PIE) are only associated with changes in Y (RSB Use) and not the error term (residuals) (Stock & Trebbi, 2003). The purpose of an IV is to separate the X variable into two parts, one correlated with the error term (ε) and the other probably not, then allowing for an estimation of b in the regression equation (Clarke & Windmeijer, 2012). Angrist and Krueger (2001) outline the criteria for selecting IV's is finding a variable that:

- (1) causes variation in the treatment variable (the variable with endogeneity in this case PIE), and
- (2) has no direct effect on the outcome variable (RSB Use).

The online survey design did not purposely develop IV's for endogeneity. However, a variable was located in the online survey potentially meeting the IV suitability requirements, a categorical variable of 'Communication Preference'. The Communication Preference variable is likely to increase the level of engagement causing variation thus meeting criteria (1). However, the category of communication preference is not likely to have a direct effect on RSB Use.

The potential IV variable originated from the online survey question, 'How often do you think your customers would prefer to receive a communication from your business?' The initial available response categories reflected timeframes e.g. daily, weekly etc., refer Appendix 7. Reducing the response categories to daily or less than daily created a dummy variable. Creating a dummy variable allows for use of that variable as an IV as the explanatory variable separates into two parts, the one correlated with the error and the other that probably is not (Angrist & Krueger, 2001; Baum, Schaffer, & Stillman, 2007; Clarke & Windmeijer, 2012). When located, the potential IV used in the regression analysis to account for endogeneity in the model occurring due to the PIE variable.

The model build used Stata adding and assessing results from a block of variables grouped based on their similarity added one block at a time to the statistical model. The advantage of this design is that it allows the researcher to see the effect of each group of variables to

identify error ("Multiple Regression: Block Analysis," 2017). After each regression, the ivreg2 suite ran to obtain the IV statistics for the Anderson LM-test and the Cragg Donald F-test results. A summary of the results of the binary probit regression analysis indicating reference categories, significant levels and direction of relationship with RSB Use are contained in Table 4.14.

Table 4.14 Stepped Regression Model using PIE, personal and business demographics with RSB Use

	Model 1	Model 2	Model 3	Model 4
<i>Engagement (PCA)</i>	.36*** (.06)	.36*** (.07)	.43*** (.05)	.44*** (.05)
<i>Personal characteristics</i>				
Age				
- young	-.220 (.24)	-.353 (.25)	-.034 (.26)	+.0048 (.26)
- middle	Reference	Reference	Reference	Reference
- old	-.624*** (.24)	-.732*** (.27)	-.600** (.27)	-.607** (.28)
Gender				
- male	+.157 (.20)	+.262 (.21)	+.504** (.23)	+.493 (.24)**
- female	Reference	Reference	Reference	Reference
Private Facebook use				
- Monthly or less	Reference	Reference	Reference	Reference
- Weekly	-.230 (.38)	-.148 (.42)	-.424 (.43)	-.369 (.45)
- Once a day	-.114 (.34)	-.129 (.35)	-.381 (.33)	-.3529 (.34)
- More often	-.302 (.42)	+.131 (.50)	-.278 (.47)	-.2478 (.51)
<i>Business characteristics</i>				
Business size				
- Micro business		-.522* (.31)	-.582* (.34)	-.601 (.38)
- Small business		Reference	Reference	Reference
Business operation				
- Physical only		Reference	Reference	Reference
- Online only		+.312 (.34)	+.127 (.32)	+.176 (.33)
- Both		+.345 (.25)	+.367 (.27)	+.367 (.28)
Sector				

	Model 1	Model 2	Model 3	Model 4
<i>Engagement (PCA)</i>	.36*** (.06)	.36*** (.07)	.43*** (.05)	.44*** (.05)
- Primary/secondary		Reference	Reference	Reference
- Tertiary		+.232 (.27)	+.239 (.28)	+.271 (.30)
<i>Business strategy</i>				
<i>Digital strategy</i>				
- Yes			-.188 (.23)	-.109 (.23)
- No			Reference	Reference
<i>Business and/or marketing plan</i>				
- Yes			-.343 (.24)	-.417* (.24)
- No			Reference	Reference
<i>Marketing budget</i>				
- <\$1000			Reference	Reference
- \$1000 – \$10,000			-1.056** (.43)	-1.091** (.44)
- >\$10,000			-.408 (.37)	-.415 (.36)
<i>Digital challenges</i>				
<i>Lack of internet access</i>				
- No				Reference
- Unsure				+.108 (.32)
- Yes				-.602* (.31)
<i>Positive about NBN</i>				
- No				Reference
- Unsure				+.517 (.43)
- Yes				-.004 (.26)
<i>Constant</i>	+.849*** (.27)	+.807** (.37)	+1.479*** (.38)	+1.463*** (.39)
Log likelihood	-545.71	-536.06	-512.57	-507.02
Sample size	203	203	203	203
Exogeneity χ^2 -test	5.66**	4.89**	5.70**	5.51**
Anderson LM χ^2 -test	15.71***	14.97***	10.59***	10.61***
Cragg Donald F-test	16.36	15.21	10.30	10.10
Centered R^2				.2672

Note. Standard errors in parentheses. The Anderson LM-test and the Cragg Donald F-test use Stata's ivreg2 command.

*p<.1. **p<.05. ***p<.01.

The Wald exogeneity χ^2 -test, shows whether endogeneity is present in the original specifications (without the IV) (the H_0 under the Wald χ^2 -test is exogeneity). The null hypothesis of the Wald test is rejected in each of the model iterations ($p < .01$ for models 1, 3 and 4; $p < .05$ for Model 2 – a range of p values assist in showing movement across the models). Consequently, there is support for the prior finding of endogeneity in all models.

The Anderson LM χ^2 -test, is an under identification test that shows whether the IV Communications Preference is irrelevant (i.e. has no relationship with the PIE variable). The H_0 under the Anderson LM χ^2 -test is that the instrument applied to treat the endogeneity is irrelevant. The Anderson LM χ^2 -test null hypothesis is rejected in each of the model iterations as the results are not irrelevant as indicated in Model 1, 2, 3, and 4 where $p < .01$. Consequently, the IV ‘Communications Preference’ is relevant in all models.

Cragg Donald F -test shows whether an IV is weak (whether it has a weak causal effect on the PIE variable). Knowing whether an IV is weak is important as a weak IV produces bias in the model. The rule of thumb is to reject H_0 (i.e. the instrument is weak) if $F > 10$ (Staiger & Stock, 1997). The Cragg Donald F -test rejects the null hypothesis for all model iterations, as the test statistic is larger than 10, indicating the IV is not weak.

The centered R^2 is the recommended ‘ r ’ statistic in 2SLS estimation for model goodness-of-fit (Wooldridge, 2016). In Model 4, the centered R^2 is .2672, meaning that Model 4 accounts for 26.72% of the Y outcome variable.

The regression specifications apply Maximum Likelihood Estimation (MLE). MLE is robust in non-parametric circumstances and for range of variable types (Vinayak, Kong, Valiant, & Kakade, 2019). Using the natural log (log likelihood) simplifies MLE calculations by assuming independence of the observations. The results demonstrate an increasing value of the log likelihood across the iterations from Model 1 to Model 4 evidencing continuous maximising of the log likelihood, i.e. improvement of the model fit with the addition of variables to the regression.

From the results contained in Model 4, it is possible to make some general statements about the predictor variables and the statistically significant relationships identified with the outcome variable. Firstly, the PIE variable has a positive and statistically significant relationship with RSB Use, ($p < .01$).

Older age of RSB owner/manager negatively and significantly related to RSB Use, ($p < .05$). This means that if the RSB owner is in an older age group, they are less likely to accept and use Facebook for their business.

Being a male RSB owner positively and significantly related to RSB Use, ($p < .05$). Here the regression results indicate when controlling for all other factors, male RSB owners are more likely to accept and use Facebook technology for their business.

Having a business or marketing plan negatively and significantly related to RSB Use ($p < .1$).

Having a marketing budget between \$1000 and \$10,000 negatively and significantly related to RSB Use, ($p < .05$).

From the digital challenges block of variables, there is a negative and significant relationship between concerns over a lack of Internet access negatively affecting the decision to accept and use Facebook technology and RSB Use, ($p < .1$). The regression results indicate there is no impact of internet access for RSB Use.

4.4.7 Summary of Engagement Exploration

The analysis of RSB engagement responses assists in answering the second research question:

RQ2: How do RSB perceive the importance of consumer engagement; and does the perceived importance vary between RSB that are FBU and NFBU?

Descriptive statistics obtained an initial feel for the data, inferential statistics discovered correlations between variables, and finally, multivariate statistics to revealed predictive relationships for RSB Use. To enable multivariate analysis PCA testing confirmed appropriateness to reduce the 11 engagement items to a single component for engagement named PIE, refer section 4.4.3. A Cronbach's Alpha test produced a high internal consistency at 0.944; indicating the engagement data formed a reliable scale, refer section 0. Peer review, pilot testing and reference to the originating engagement scale confirmed validity refer 4.4.5.

Multivariate analysis using probit regression modelling tested the link between PIE and the personal and business demographics with the dependent variable of RSB Use refer section 4.4.6. Endogeneity tests showed the PIE was endogenous with the error term. The variable

‘Communication Preference’ was located and tested relevant and strong as an IV in the model to treat the endogeneity. The result of the multivariate analysis indicates when controlling for other independent RSB demographic variables included in the research, the PIE remains significant to RSB Use. The multivariate statistical results also allows for greater refinement of the preliminary answer contained in section 4.3.3 for the first research question:

RQ1: What are the demographic characteristics of RSB that do, and do not, accept and use Facebook technology?

The results of interest from the regression modelling are:

- PIE was a stronger predictor than personal and business demographic variables across all model iterations ($p < .01$).
- being older in Age was significant across all model iterations ($p < .05$),
- Gender (being male) became significant ($p < .05$) in predicting RSB Use only when business strategy variables (planning and budgeting) were included in the model and remained relevant for the inclusion of digital challenges,
- the distinction in business size between micro and small business became insignificant when the full range of personal and demographic variables were included in the model, and
- RSB annual marketing spends of \$1000-\$10,000 are negatively significant in predicting RSB Use ($p < .05$).

The ability to create a new variable for engagement and find its importance when regressed against other RSB personal and business demographic variables in answering this research question provides new contributions to knowledge from this research. The PIE modelling result aligns with common intuition that increasing perceived importance of consumer engagement is a predictor of RSB Use being as this is where the literature records that consumers congregate, refer section 1.6.4.

The final PIE regression model allows for comparison of significant variables in earlier statistical descriptive and inferential results refer section 4.3.3. The modelling result for Age as significant is consistent with literature expectation that females are more likely users, most frequent users and with the largest networks on the technology refer section 2.4.2. The importance of Age is consistent across the descriptive personal demographic results in Table

4.1 and inferential statistics in section 4.3.2.1, that being older matters when considering RSB Use.

The preliminary statistical testing suggested RSB Gender as significantly associated with RSB Use refer section 4.3.2.2. However, Gender was not significant in the modelling when considering combined personal and demographic variables, only becoming significant when business strategy and budgeting variables were included in the model build. The model provides a more nuanced result for the importance of Gender in predicting RSB use. The result demonstrates lesser importance of Gender in a business task related social media context than an individual context and is consistent with the findings of Workman (2014).

The literature identified the importance of Business size refer section 1.6.1. The inferential results support the literature position with ($p = .016$), refer section 4.3.2.4. However, the significance of business size between micro and small business is minor ($p < .1$) considering personal and business characteristics in Model 2 and Model 3 (Table 4.1) and nullified when considering the full model. This result may be part of the reason micro and small businesses group together by stakeholders such as the ABS, refer section 1.6.1. Further research including data for medium and large businesses would be required to confirm the relevance of business size within the small business category.

The marketing budget allocation for RSB remains is significantly lower than the literature recommendations in section 2.4.2. The inferential testing indicates a statistically significant association between a higher annual marketing budget and RSB Use refer 4.3.2.10. However, when regressed against other variables in the model spends of \$1000-\$10,000 are negatively significantly related to RSB Use ($p < .05$). The reason for the result may be due to RSB with greater resources remaining with advertising on traditional media in the focal locale.

The clarifying inquiries from the engagement data for greater explanation in the Chapter 5 qualitative analysis are to develop an understanding of how RSB are conducting marketing communications and why negative perceptions held by both FBU and NFBU on the use of prizes and discounts for their businesses. The analysis now turns to section three of the online survey, examining the data collected from the UTAUT model based questions.

4.5 Exploration of UTAUT responses

The data for exploration of UTAUT responses is from Block 3 (FBU) and Block 4 (NFBU) of the online survey refer Table 3.4 Business Owner Survey Structure. The UTAUT data used a 7-point Likert-type scale for collection, refer Appendix 7. The survey instrument used chance randomisation functions in Qualtrics to alter the question presentation order to respondents and reverse coded to manage bias, refer 3.5.1. The UTAUT responses were reverse coded where necessary to show an increasing agreement level of agreement, 1 = Strongly Disagree, 2 = Disagree, 3 = Somewhat Disagree, 4 = Neither Agree Nor Disagree, 5 = Somewhat Agree, 6 = Agree and 7 = Strongly Agree. The UTAUT data analysis assists in answering the third research question:

RQ3: What is the role of the UTAUT model in predicting RSB acceptance and use of Facebook technology?

The UTAUT data analysis examines the descriptive statistics for the UTAUT items. The analysis then explores associations and properties of the UTAUT data using inferential statistics. Finally, the analysis explores possibilities for reduction and regression of the UTAUT data, along with discussing reliability and validity of the outcomes of the statistical techniques used. The UTAUT analysis provides a summary of the results obtained and identifies issues for deeper qualitative inquiry.

4.5.1 Descriptive statistics for UTAUT item Likert-type responses

Preliminary examination of the UTAUT item data commenced with descriptive statistics for the Sample to provide a general overview as summarised in Table 4.15, highlighting the mode for each item.

UTAUT Item	Likert-type Response Category [†]							Median	Nstat (N=236)
	1	2	3	4	5	6	7		
PE1	30	28	14	59	36	39	14	4	220
PE2	6	14	10	37	36	61	57	6	221
PE3	12	22	20	60	42	39	26	4	221
PE4	17	29	21	66	31	38	19	4	221
EE1	2	1	1	24	27	98	68	6	221
EE2	3	10	15	30	46	78	39	6	221
EE3	3	8	14	33	44	77	42	6	221

UTAUT Item	Likert-type Response Category†							Median	Nstat (N=236)
	1	2	3	4	5	6	7		
EE4	5	10	18	28	46	77	38	6	222
SI1	7	14	5	63	38	62	32	6	221
SI2	5	22	9	64	31	66	24	4	221
SI4	15	38	18	85	19	34	13	6	222
FC1	5	11	14	23	40	88	40	6	221
FC2	10	13	19	19	51	71	39	4	222
FC3	4	15	22	88	19	53	21	4	222
FC4	6	26	13	62	40	55	19	4	221
PV1	22	16	11	55	45	53	19	4	221
PV2	6	11	6	54	40	70	34	6	221
PV3	8	22	20	56	44	42	29	4	222
PV4	5	8	6	31	49	71	52	6	222
PV5	11	21	19	65	40	34	32	4	222
BI	36	13	7	24	19	67	53	6	219

†Note: Table Sample data uses a 7 point Likert-type scale where 1 = Strongly disagree, 2 = Disagree, 3 = Somewhat disagree, 4 = Neither agree nor disagree, 5 = Somewhat agree, 6 = Agree, 7 = Strongly agree.

Table 4.15 Sample Overview of UTAUT responses

From the Sample frequencies (percentages, counts and medians) the median of four (4) (Likert type scale response 4 = “Neither agree nor disagree”) was obtained for UTAUT items PE1, PE3, PE4, SI2, FC2, FC3, FC4, PV1, PV3 and PV5. A median of six (6) (Likert type scale response 6 = “Agree”) was obtained for UTAUT items PE2, EE1, EE2, EE3, EE4, SI1, SI4, FC1, PV2, PV4 and BI (one (1) item only for BI as outlined in section 3.4.1.2).

The UTAUT items contained 21 individual items. For manageability of further statistical testing, the analysis next explores methods for reduction of the UTAUT items to discover underlying latent factors to describe the RSB Sample data of this research (Field, 2018).

4.5.2 Factor Analysis of UTAUT items

Factor Analysis is a multivariate statistical procedure used to reduce large sets of variables into smaller sets of factors, unveil underlying dimensions, provide construct validity of self-reporting scales (Thompson & Daniel, 1996) and identify variables for subsequent correlation and regression (Hair, 2006). There are two types of factor analysis: (1) Confirmatory Factor Analysis (CFA) assuming existing theory structure and data fitted to that structure and (2) Exploratory Factor Analysis (EFA) where the data generates the structure by testing

predictions (Child, 2006). CFA and EFA factoring methods have been used in empirical studies in the UTAUT literature (Williams et al., 2015).

This research poses a new combination of context and focal technology with additional UTAUT constructs differing from the original scale and model. Therefore, EFA selected for this research in accordance with the post positivist paradigm's nature of knowledge, refer section 3.2. In order to verify EFA based models Partial Confirmatory Factor Analysis (PCFA) can be conducted when suggesting an EFA derived model be verified through CFA in future research (Gignac, 2009).

EFA has a number of factor extraction methods designed to uncover latent factors arising from the data, the most common being Maximum Likelihood and Principal Axis Factoring (PAF). PAF has been selected for this research to conservatively approach the normality violations argued for ordinal data (Nunnally & Bernstein, 1994) while observing the counter argument by Norman (2010) that parametric tests are robust enough to handle ordinal data and nonparametric data. Osborne (2014) recommends PAF as the preferred EFA option for nonparametric data.

Prescreening the UTAUT data determined suitability to conduct PAF. Missing data was removed to form a Sample size for the UTAUT items ($N = 210$) to prevent over estimation (Tabachnick & Fidell, 2013). The Sample ratio of responses to UTAUT items to be factored (10:1) and within the recommended ratios to conduct PAF (Nunnally & Bernstein, 1994; Tabachnick & Fidell, 1989). The UTAUT data does not contain univariate outliers confirmed by reviewing Z-scores with no values ± 3.29 Standard Deviations from the Mean on each UTAUT item.

The PAF testing process is iterative and reruns at each point the researcher decides an item requires removal considering relevant thresholds in the steps of (1) examining the correlation matrix, (2) checking the overall KMO and individual item KMO obtained from the anti-image correlation matrix, and (3) Bartlett's test of Sphericity being significant ($p < .05$)(Field, 2018).

PAF testing in SPSS contained the initial 20 UTAUT items refer Appendix 4. Examination of the correlation matrix (Fung & Kwan, 1995) identified items with all correlation coefficients not meeting the threshold range of $r \leq .3$ and $r \geq .9$ (Tabachnick & Fidell, 1989), meaning the relationship between the variables was neither too low or too high to give

meaning to the results. UTAUT Items removed with the low correlation coefficients under $r \geq .3$ included PE1, FC3 and PV1. PV3 and PE3 indicated multicollinearity with a correlation coefficient over $r \geq .9$. Review of the PAF results for each item along with the item wording resulted in a decision to remove PV3 from the analysis. The PAF correlations matrix is in Appendix 5. The removal of items causing multicollinearity is recommended practice and has been applied to empirical studies on the use of social media technology including Facebook (Workman, 2014).

The Measure of Sampling Adequacy used the anti-image correlation matrix and reported no KMO results under the .5 threshold (Kaiser, 1974). The overall KMO measure of sampling adequacy was .906. KMO measures above .9 are classified as 'marvelous' (Kaiser, 1974), as KMO values near 1 indicate the data is suitable to form reliable factors (Field, 2018).

Bartlett's Test of Sphericity tested for the statistical significance of correlations found between variables. Results of Bartlett's Test of Sphericity ($p < .001$) indicated the UTAUT data sufficiently correlates for reduction using PAF.

The PAF analysis next considered the number of factors to retain in the solution. A number of criteria applied in deciding to retain components in the solution to balance EFA criticism of researcher subjectivity (Cattell, 1966; Tabachnick & Fidell, 1989; Thompson & Daniel, 1996) including the Kaiser Criterion (Kaiser, 1974) retaining factors with eigenvalues > 1 , the scree plot (visualising the point of inflection and retaining factors prior to that point) and parallel analysis (comparing Eigen values from repeat random samples in the results for Eigenvalues > 1). Expanding upon the Kaiser criterion, factor selection criteria suggests assessing each factor for a minimum contribution of 5% to the total variance, and a total variance explained over 60% (Hair, 2006).

The Total Variance results in Table 4.16 contains two (2) factors with an Eigenvalue > 1 , one (1) factor with a result nearing the borderline Eigenvalue result of .850 with a total variance of 5.728. Examination then turned to the scree and parallel analysis results to provide guidance on factor extraction.

Table 4.16 PAF UTAUT items - Total Variance Explained (SPSS)

Total Variance Explained									
Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotated Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.541	53.862	53.862	7.237	51.690	51.690	3.933	28.095	28.095
2	2.106	15.040	68.902	1.809	12.918	64.608	3.824	27.311	55.406
3	.850	6.071	74.973	.559	3.992	68.599	1.847	13.193	68.599
4	.679	4.848	79.820						
5	.516	3.684	83.504						
6	.419	2.994	86.498						
7	.358	2.558	89.005						
8	.348	2.486	91.541						
9	.275	1.963	93.504						
10	.237	1.694	95.199						
11	.208	1.483	96.682						
12	.180	1.289	97.971						
13	.157	1.124	99.094						
14	.127	.906	100.000						

Extraction Method: Principal Axis Factoring

Examination of the scree plot revealed no single clear ‘elbow’ (point of inflection), with the scree plot line representing as a curve visually supporting between (2) and (4) factors possible to retain (Cattell, 1966), refer Figure 4.2.

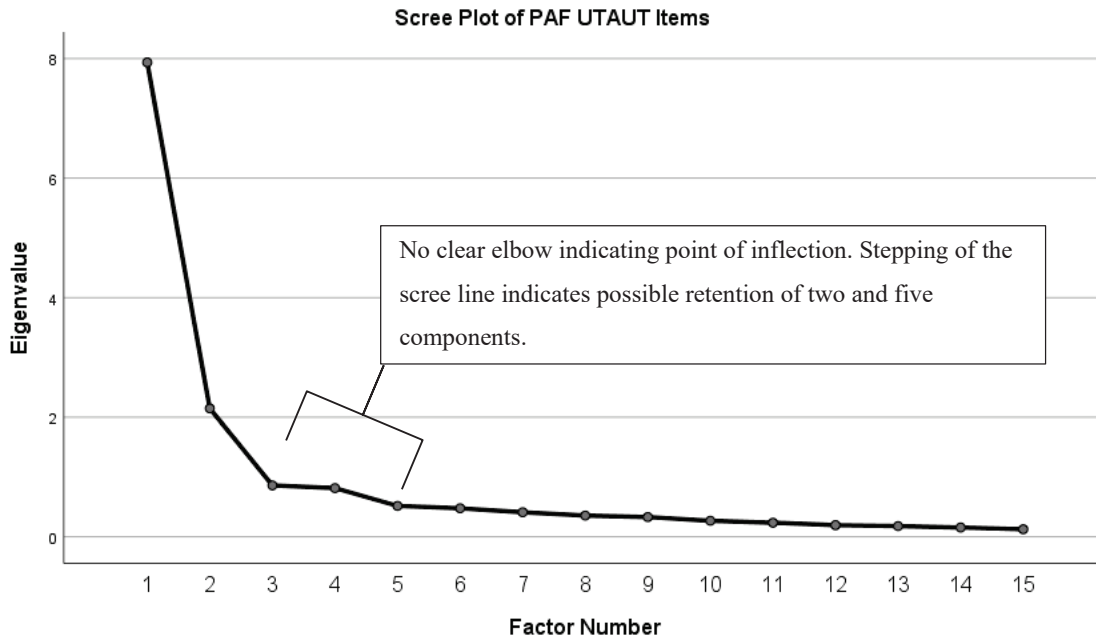


Figure 4.2 Scree plot of PAF UTAUT items (SPSS)

A parallel analysis further explored the number of factors for retention. Parallel analysis compares Eigenvalues generated from repeated random sampling (Horn, 1965). The parallel analysis indicated a three (3) component solution when comparing the observed, adjusted and random Eigenvalues as indicated in Figure 4.3.

Parallel Analysis of PAF UTAUT Items

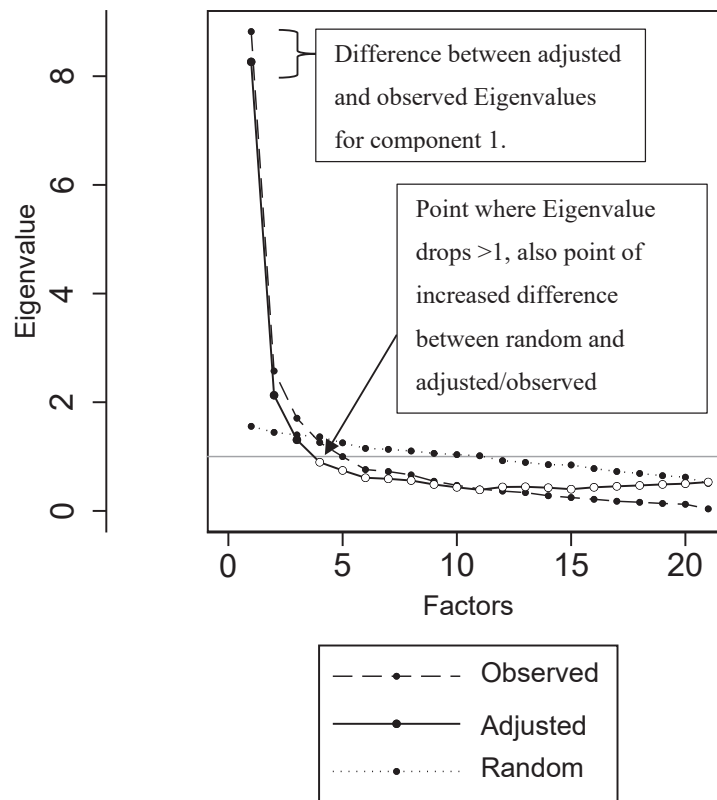


Figure 4.3 Parallel Analysis of UTAUT Items (Stata)

The use of rotations also provided guidance in making a decision on the number of components to retain. The purpose of rotations is to find the simplest structure of the component matrix i.e. describes the largest amount of data using the smallest number of components. Ideally to achieve a simple structure, each item should contain a clear large loading onto one component and smaller loadings onto the remaining components enabling easy interpretation (Mulaik, 2009; Thurstone, 1961). A single item SI4 cross loaded approximately equally onto factor 1 and factor 3 with low loadings between .3 and .4 and was removed from the analysis (Workman, 2014).

There are several types of rotations falling into two (2) main categories being orthogonal (where components are constrained as uncorrelated) and oblique (where components are constrained as correlated). The Orthogonal Varimax rotation provided the most interpretable solution. A visual inspection of the factor plot in rotated factor space in Figure 4.4 assists

with understanding how the factors are hanging together in groups on the suggested factors for the final PAF solution.

Factor Plot in Rotated Factor Space

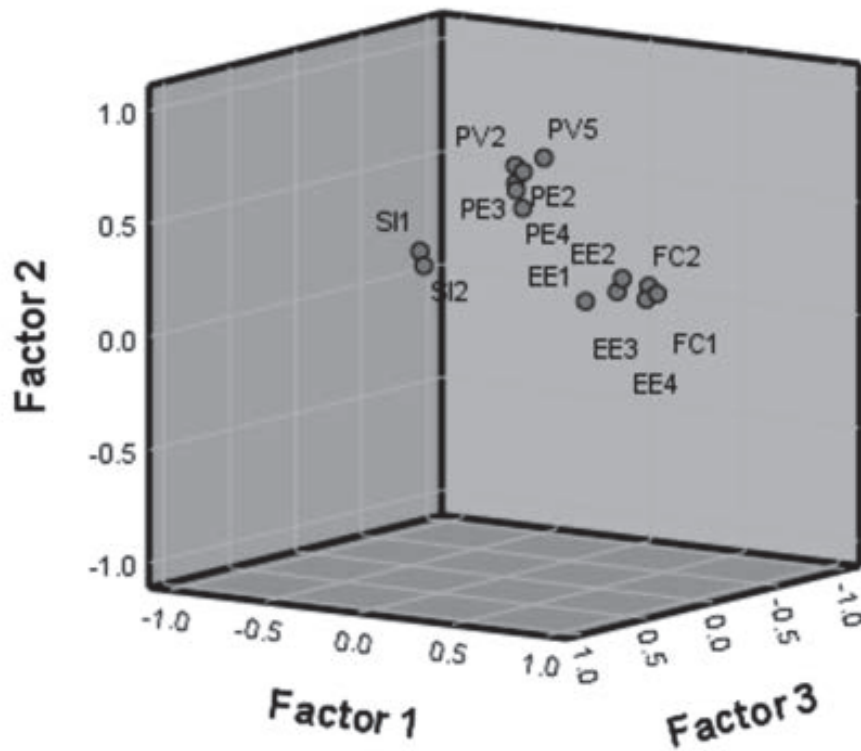


Figure 4.4 PAF UTAUT Factor Plot in Rotated Factor Space (Varimax rotation with Kaiser normalisation)(SPSS)

From Figure 4.4 UTAUT items EE1, EE2, EE3, EE4, FC1 and FC2 are hanging on Factor 1; PE2, PE3, PE4, PV2, PV4 are hanging on Factor 2 and SI1 and SI2 are hanging on Factor 3. The rotated factor matrix can further assist with identifying if the rotation achieved a simple of structure through examination of the level of cross loading of the factors.

Table 4.17 presents the rotated component co-efficient, the maximum loadings and the communalities (variance accounted for) in each UTAUT Item included in the final PAF solution, with loadings under substantive threshold of .4 suppressed (Stevens & NetLibrary, 2002).

Table 4.17 PAF UTAUT Items Rotated Component Coefficient Results (SPSS)

UTAUT Based Items	Rotated Factor Matrix ^a			
	Factor			Communalities
	1	2	3	
Learning to operate Facebook for business is easy for me	0.875			0.832
I believe it would be easy for me to become skillful at using Facebook for my business	0.771			0.738
I believe I would find Facebook easy to use for my business	0.755			0.687
I have the resources necessary to use Facebook for business	0.741			0.586
I have the knowledge necessary to use Facebook for business	0.739			0.607
I believe I can easily get access to Facebook	0.618			0.497
Using Facebook for business has / (would) increased my profits		0.789		0.721
Having access to Facebook for my business enables / (would enable) me to attract new customers		0.775		0.743
I find / (would find) Facebook useful for my business		0.763		0.800
Using Facebook for my business increases / (would increase) my productivity		0.700		0.646
Advertising space on Facebook is good value for money		0.681		0.683
Using Facebook for my business enables me / (would enable me) to accomplish tasks more quickly		0.587		0.496
People who are important to me think that I should use Facebook for business			0.781	0.776
People who influence my behaviour think that I should use Facebook for business		0.449	0.763	0.791

Extraction Method: Principal Axis Factoring
 Rotation Method: Varimax with Kaiser Normalization

a. Rotation converged in 6 iterations.

Notes: Items suppressed under .4.

The result of the PAF demonstrates the structure retained some complexity with SI1 loading on over .4 threshold on Factor 2 (0.449) and Factor 3 (.763) however, the primary loading is clearly higher on Factor 3. The PAF did not form into separate factors for each theoretical construct of the UTAUT model. The PAF results provide partial support in the construct items grouping together and hanging within new factors, with EE and FC items loading on Factor 1, and the PE and PV items loading on Factor 2. Support was found for the existing UTAUT construct of SI with SI2 and SI1 hanging on Factor 3.

The wording of each factor item was reviewed for themes and naming. Factor one (1) explains 53.862% of the total variance of 68.559% refer Table 4.16. The UTAUT Items forming Factor one (1) identified themes centered on the RSB respondent having the resources, knowledge, skills and assistance available for using Facebook for their business. The wider business literature defines a web of support to assist business with technology as an 'ecosystem'. As a result, this component was renamed 'Facebook Learning Ecosystem' (FLE).

Factor two (2) explains 15.040% of the total variance of 68.559%. Upon review of the UTAUT item question wording forming this factor, a common theme interpreted from wording centered on core values of Facebook being able to provide the RSB with containing intrinsic and extrinsic forms of value through the increasing of profit, building new customer base, increasing productivity and providing value for money in advertising. Upon review of the PAF Items, the factor was named 'Facebook Business Growth' (FBG).

Factor three (3) explains 6.071% of the total variance of 68.559% of the PAF solution. The final factor is solely comprised of SI question items from the UTAUT construct of SI. The factor has retained the name of scale origin as Social Influence (SI). Having two (2) items forming the SI factor is consistent with the construct use in previous social media study results (Workman, 2014)

SPSS generated factor scores for FLE, FBG and SI to explore RSB Use. A refined method using Bartlett's approach enabled calculation of the factor scores. Bartlett's approach was selected to maximise validity, univocality and unbiased estimates of parameters (DiStefano, Zhu, & Mindrila, 2009).

4.5.3 Reliability of factors

Cronbach's alpha measures the newly formed factors ability to form a scale. The overall Cronbach's alpha results for FLE (.908), FBG (.907) and SI (.892), reported high levels of internal consistency above the minimum .7 threshold.

4.5.4 Validity of factors

To assess validity of the factors requires consideration of their content validity, criterion-related validity and construct validity (Field, 2018). Content validity is a judgement on how well the scale captures the concepts sought to be measured (Burns & Bush, 2010). The underlying UTAUT items are sourced to generate the survey questions were adapted from an established scale (Venkatesh et al., 2012; Venkatesh et al., 2003), providing a level of surety the questions measure the characteristic sought to be captured. The process of peer review of the online survey by marketing experts and pilot testing of the survey both provide support for content validity.

Criterion-related validity is the ability of a measure to predict an outcome. For this analysis, criterion-related validity refers to whether or not the factor/s generated can predict RSB Use.

Construct validity refers to what the scale is actually measuring. Convergent and discriminant validity assessment occurring through factor analysis in this research. A detailed theoretical discussion on the individual factors confirmed in terms of the existing literature and subsequent qualitative study results is contained in section 6.2.

4.5.5 Links between factors, BI and RSB Use

The analysis next considers inferential links between the factors FLE, FBG, SI and BI through correlation testing. The purpose of testing the links between factors was with a view to developing a regression model testing the integration of the factors, along with the earlier developed factor PIE to predict RSB Use.

Kendall's tau-b is an alternative nonparametric test to Spearman's correlation to find the strength and direction of between two each continuous variable (FLE, FBG, SI) and ordinal variable (BI). Kendall's tau-b is without the strict assumption of a monotonic relationship and uses order probabilities rather than proportion of variability accounted for, generally producing generally slightly lower results than Spearman's correlation (Field, 2018).

Kendall's tau-b tests ran in SPSS. A weak positive correlation was found between SI and BI that was statistically significant, $\tau_b = .143$, $p = .005$. A weak positive correlation was found between FBG and BI that was not statistically significant, $\tau_b = .092$, $p = .069$. There was a weak negative correlation between FLE and BI that was not statistically significant, $\tau_b = -.001$, $p = .991$. There was a medium positive correlation between BI and FBU that was statistically significant, $\tau_b = .302$, $p < .001$.

A binary logistic regression of the factors with BI and RSB Use encountered endogeneity. The regression process terminated, as there were no suitable IVs identified to treat the endogeneity encountered. Rutz and Watson (2019, pp. 480-481) acknowledge the difficulty of endogeneity in marketing research stating,

'It is important to note that the endogeneity issue potentially is significantly different and more problematic to address than many other issues that empirical marketing research has grappled with and addressed over time...it is not clear that a set of "perfect" methods will ever exist to consistently compare and their rank performance [for marketing strategy research]'.

The techniques discussed as possible alternative treatments to endogeneity by Rutz et. al. (2019) and Thomas et. al (2019) were explored but not within the scope of this research to implement. Termination of the quantitative analysis means the study is unable to confirm validity for the UTAUT related factors. The enigma of endogeneity remains an opportunity for future research, with recommendations of larger data set and number of available IV's.

The formation of the factors from the UTAUT construct items and the correlations found between SI-BI, FBG-BI and FLE-BI also indicate the UTAUT model is likely to be of relevance in predicting RSB Use and consistent with previous studies. However, there is not enough data to properly control for known endogeneity to confirm this in a statistical model. Further quantitative analysis is unable to statistically progress answering of RQ3. However, the qualitative analysis can assist in providing depth on the findings located to explain RSB Use of Facebook.

4.5.6 Summary of UTAUT Exploration

The 20 UTAUT items reduced through PAF using Varimax rotation and Kaiser Normalisation in SPSS refer Table 4.16. The PAF results produced three (3) new

components. The UTAUT construct items hung cleanly within factors in the final solution. The first factor contained EE and FC items, the second factor contained PE and PV items, and the first factor contained SI items. Thematic review of the item wordings for the factors named the factors FLE and FBG, with SI retaining the original UTAUT labelling.

The data did not support the level of statistical analysis due to endogeneity. However, the UTAUT based factors assist in finding a preliminary answer to the third research question:

RQ3: What is the role of the UTAUT model in predicting RSB acceptance and use of Facebook technology?

The UTAUT scale items provided a framework for the research relatable to the existing technology literature. EFA via PAF identified factors that provide partial support for EE, FC, PE, and PV in the RSB Use context. Preliminary support was found for SI, as a weak positive correlation was found with BI, $\tau_b = 143$, $p = .005$.

4.6 Chapter Conclusion

Chapter 4 has presented the quantitative analysis of the data collected from RSB via the online survey. SPSS and Stata data analysis tools enabled examination the online survey data in section 4.2. The descriptive and inferential statistics provided a preliminary answer to RQ1. The RSB demographic variables with all variables selected from the literature review associated to some extent with RSB Use refer section 4.3.3.

Section 4.3.3 also identified areas requiring qualitative investigation to deepen understanding of RSB conceptualisation of age, planning practices, importance of negative online feedback policy and reasoning for annual marketing budget allocations.

The engagement data analysis was contained in section 4.4. The descriptive statistics overviewed the Sample and subsample responses. Inferential statistics identified differences between the subgroups in section 4.4.2.

PCA reduced the engagement data to a single variable PIE in section 4.4.3, assessed as reliable in section 4.4.4 and valid in section 4.4.5. PIE was included with RSB demographic variables in development of a staged probit regression model predicting RSB Use. The regression results demonstrated when controlling for all included demographic variables, PIE

was the most significant variable in predicting RSB Use in section 4.4.6. Table 4.19 presents a summary of the hypothesis testing outcomes for the quantitative analysis.

Table 4.18 Summary of Hypothesis Testing Results

	Null Hypothesis	Outcome
H1:	Younger Age of RSB respondents is positively related to RSB Use	Accepted
H2:	Female RSB respondents are positively related to RSB Use	Rejected
H3:	Personal experience of RSB respondents with Facebook technology is positively related to RSB Use	Accepted
H4:	Smaller business size is negatively related with RSB Use	Rejected
H5:	RSB with an online presence are positively related to RSB Use	Accepted
H6:	RSB tertiary industry sectors are positively related to RSB Use	Accepted
H7:	RSB undertaking formal planning processes are positively related to RSB Use	Accepted
H8:	RSB with a higher marketing budget are positively related to RSB Use	Rejected
H9:	The NBN and internet access have no impact on RSB Use	Accepted
H10:	The perceived importance of engagement is greater for RSB who are FBU than those who are NFBU	Accepted

The clarifying inquiries from the engagement data for greater explanation in the Chapter 5 qualitative analysis are to develop an understanding of how RSB are conducting marketing communications and why negative perceptions held by both FBU and NFBU on the use of prizes and discounts for their businesses.

The analysis then considered the UTAUT related responses in section 4.5. Differences were observed between the FBU and NFBU subgroups responses. Exploratory analysis using PAF

identified three new factors being FLE (EE1, EE2, EE3, EE\$, FC1 and FC2), FBG (PE2, PE3, PE4, PV2, PV4) and SI (SI1 and SI2) in section 4.5.2. Reliability of the new factors met threshold tests in section 4.4.4. Validity was unable to be fully confirmed in section 4.5.4 as the regression model encountered endogeneity and there was insufficient data to statistically test the data.

The next chapter, (Chapter 5), will use qualitative techniques to gain a deeper understanding of the quantitative analysis results for the Engagement data and the UTAUT data.

5 QUALITATIVE RESULTS

5.1 Introduction

The previous chapter, (Chapter 4), presented the quantitative results identifying issues for further explanation as summarised in section 4.6.

This chapter, (Chapter 5), presents the qualitative results obtained through conducting inquiries to explain the issues summarised in section 4.6 of the quantitative analysis. The content analysis purpose is in section 5.2; the qualitative analysis tool selected in section 5.3, the dataset generated and processing explained in section 5.4. The qualitative data analysis comprises a two-part content analysis containing a conceptual analysis in section 5.5, followed by a relational analysis in section 5.6. The conceptual analysis and relational analysis discusses the similarities and differences between the FBU and NFBU Interviewees.

The Chapter 5 structure presented is similar in format to that of Chapter 4, commencing with discussions relating to themes based in personal and business characteristics, engagement item responses and UTAUT items, followed by Interviewee raised themes. There is a discussion of matters relevant to the validation and verification of the content analysis.

The next chapter, (Chapter 6), discusses the quantitative results in Chapter 4 and qualitative results in Chapter 5, to provide breadth and depth in using the findings to answer the research questions and conclude the research.

5.2 Overview of Qualitative Dataset

Content analysis provides an overview of the qualitative dataset. Content analysis is a fast, effective and widely used qualitative analysis method for systematically reducing and interpreting text into codes or themes from visual data generated through focus groups, interview, open ended surveys, social media text, print materials, video tapes or conversations (Frey, 2018). In this research, the dataset for content analysis are transcripts of the one-on-one interviews conducted with RSB.

Content analysis can take an inductive approach where codes and themes are generated from the dataset, or a deductive approach where existing theory is used to build the coding

structure (Weber, 1990). This content analysis uses an inductive approach, drawing codes and themes directly from the dataset. While both content analysis approaches may contain descriptive statistics (in the form of counts, percentages and categories of concepts), the figures stated are not an attempt to transform qualitative data into quantitative data, rather, to consider the strengths and weaknesses of links between semantic relationships of concepts identified in the analysis (Price et al., 2015).

There are two types of content analysis, conceptual analysis and relational analysis (Frey, 2018). Conceptual analysis is concerned with the existence of themes and concepts within the text. Relational analysis considers the proximity of words and themes between concepts. This content analysis contains a conceptual analysis, followed by a relational analysis with both forms explained in detail in their respective sections.

The quantitative analysis confirmed the existence of two separate subgroups within the Sample in 4.3.1. As the purpose of the depth of understanding of the quantitative results, to find meaning the content analysis retains the separation of the subgroups. The Sample (N = 20) for the content analysis consists of interviews with RSB FBU (n = 12) and RSB NFBU (n = 8) subsamples.

Content analysis can be conducted using manual coding or with the assistance of computer software (Frey, 2018). In this research, the content analysis is computer-assisted and consists of a conceptual analysis followed by a relational analysis. A justification for the selection of the computer assisted data analysis tool follows.

5.3 Selection of Qualitative Data Analysis Tool

In this research, Leximancer 4.5 software (Leximancer) is the data-mining tool selected to assist analysis of the interview data. The selection of Leximancer over more widely used software packages such as NVIVO, was due to the calls in the qualitative research methodology literature for studies to implement Leximancer and the analysis functionality, accessibility for academics and compatibility with the Microsoft Word file format and computer systems used in this research.

The existing Leximancer literature supports application of this data analysis tool, as examples were located covering all major literature content and context aspects of this research. For

example, Leximancer has been used in exploratory studies (Campbell, Pitt, Parent, & Berthon, 2011), applied to small business decision making (Balslev, 2015; Caspersz & Thomas, 2015; Craig & Margee, 2016), business/consumer engagement and communication in online environments (Gonçalves, Rey-Martí, Roig-Tierno, & Miles; Vincent, Eva, & Versailles, 2016) and SDL research (Wilden, Akaka, Karpen, & Hohberger, 2017). Leximancer has been applied when research problems involved the intersection of large and diverse bodies of literature, for example, with innovation research in business (Randhawa, Wilden, & Hohberger). Leximancer has been applied to studies using semi structured interview text data in a regional context, and in the focal locale of this study (Glass, Thompson, Grasso, & Usher, 2017), and for content analysis within the marketing discipline in social media studies (Kilgour, Sasser, & Larke, 2015) and Facebook studies (He, Tian, Chen, & Chong, 2016; Wei, Gyr, & Debra, 2015). Given the support located in the existing literature, Leximancer is an appropriate tool to support the qualitative analysis for this research.

Automated coding features are a benefit of using Leximancer. The automated coding process occurs in Leximancer using algorithms to recognise words frequently occurring in the text as seed words. Leximancer uses seed words to generate concepts. The seed words and the supporting text sentence blocks are stored in an evidentiary thesaurus. Leximancer then uses concept clusters to identify themes (Leximancer Manual, 2018). Leximancer then uses the frequencies and co-occurrence of concepts to generate an interactive visual map. Leximancer is reported to reduce bias by providing greater objectivity through the automated coding process (Sotiriadou, Brouwers, & Le, 2014). The automated coding features can provide research efficiency through minimising manual coding time thus increasing focus on meaning in the analysis (Leximancer Manual, 2018). While not requiring manual coding time, significant time was required for the investigation of the sensitivities in Leximancer default settings for concepts and themes in the initial analysis preparation phase, and this finding is consistent with existing literature (Biroscak, Scott, Lindenberger, & Bryant, 2017).

5.4 Dataset Processing

Leximancer is a tool for data mining only. The knowledge of the researcher applies to Leximancer results for analysis to occur. The Leximancer data process steps are (1) selection

of documents, (2) generate concepts, (3) generate thesaurus, and (4) generate concept map (Leximancer, 2014). The dataset processing commenced by uploading the interview transcription copies to Leximancer. The dataset processing produced an initial list of concepts using the default setting two-sentence text sections of the interview transcripts to form concepts. Leximancer also generates a corresponding thesaurus, themes recognised through the clustering of concepts and an exploratory visual map showing linking relationships.

The Interviewee data was treated as separate datasets for the FBU Interviewees (n = 12) and NFBU Interviewees (n = 8), following the quantitative finding of distinct properties of each subsample for deeper explanation. A data cleanse was conducted by examination of the concepts and themes initially generated by Leximancer. The data cleanse consisted of an examination of the data processing results to remove duplication in word forms, common function words and adding exclusion words. Concepts were cleansed by merging of singular and plural word forms related to the same concept upon examination of the content in the coded text samples, for example, 'Client' and 'Clients'. Where similar word forms found to relate to a different concept in the interview transcript, it remained separate in the concept listing, for example, 'Work' and 'Working'. Words such as 'And', 'Their' and 'At' are automatically excluded from the concept listing in Leximancer as common functions do not add value to the analysis. Additional exclusion words were added to the automated Leximancer list for this analysis, for example 'Things' and 'Stuff' analysed as referring to local regional speech patterns of Interviewees and not adding value to the text transcript. Assurance of contextual correctness was through checking the concept two-line coding. The cleansing process did not produce additional concepts.

Leximancer then forms each of the concepts clustered into themes. Leximancer allocates a name to the theme by selecting the most frequently occurring concept name in the theme cluster. Upon review of the initial Leximancer theme map, themes formed from proper nouns with no value to the analysis were removed, for example, individuals' names such as 'John'. Retained themes included proper nouns providing insight on the focal locale and technology, for example, 'Townsville' and 'Facebook'. There was no manual alteration of the remaining Leximancer automated themes required.

Leximancer forms identified concepts and themes into bubble and tree diagram visualisations available in topical mapping or social mapping functions. This analysis uses the topical

mapping functions in Leximancer. Topical mapping is preferred for differences between groups and showing direct relationships. Alternatively, social mapping is for indirect relationships and are less stable than topical maps (Leximancer Manual, 2018). The stability of mapping for both FBU and NFBU Interviewees uses tree diagrams regenerated and compared using the 'Generate Concept Map' and 'Results Concept Map' functions 10 times per subsample; refer to Appendix 14 for FBU and Appendix 15 for NFBU. Maps regenerated from fresh algorithms for test-retest reliability rather than running the recluster function within the mapping functions after the first map generated as the latter uses the same information reordered rather than fresh algorithms, and therefore does not fulfil the requirements of test-retest method.

The identification of critical differences in the visual outcome occurs when generating new concept maps for each test-retest. Stability of test-retest does not mean the production of identical maps with each test-retest. Stability refers to the identification of data hubs being central concepts that have consistently reproduced connections with other concepts. Data hub concepts also form a central point that other concepts appear to rotate and reflect around. Minor alterations in the line connections visible between concepts will occur where linguistic terms occur in slightly different contexts in the dataset and due to the nature of the Leximancer algorithms. Examples from each subsample demonstrate stability of concepts and concept links. For example, in Figure 5.1 and Figure 5.2, there are clear data hubs identifiable for 'People', 'Clients', 'Marketing' and 'Business' with a reflection and anticlockwise rotation occurring between the test-rest results. The ordering of concepts and the links indicated by the grey lines connecting the concepts, are consistent in the way that the data are linked. For example, the concept link between 'Business', 'Time' and 'Probably'.

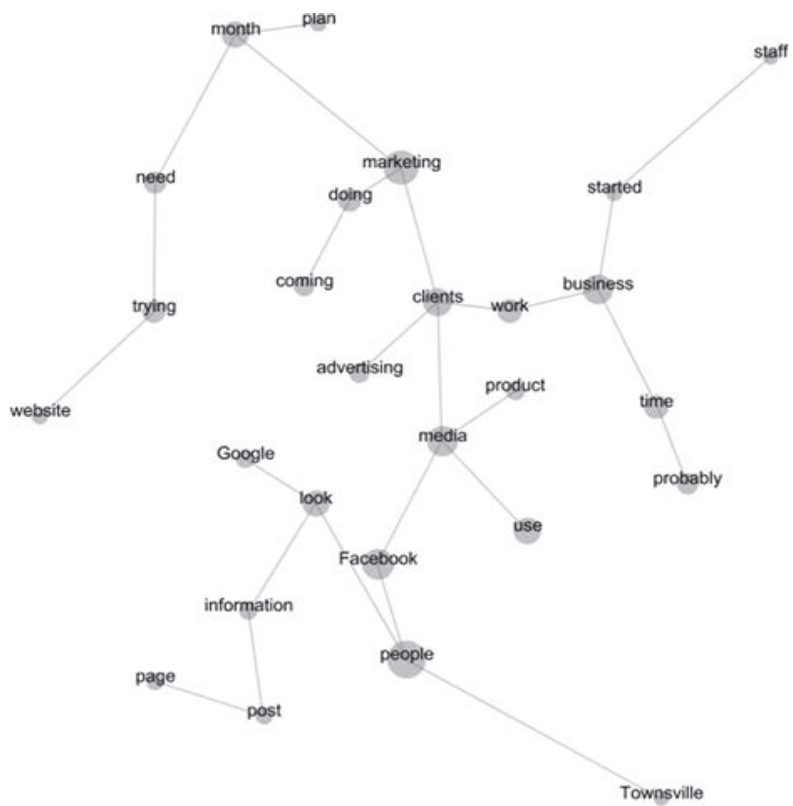


Figure 5.1 FBU Test-Retest 3 Tree Diagram

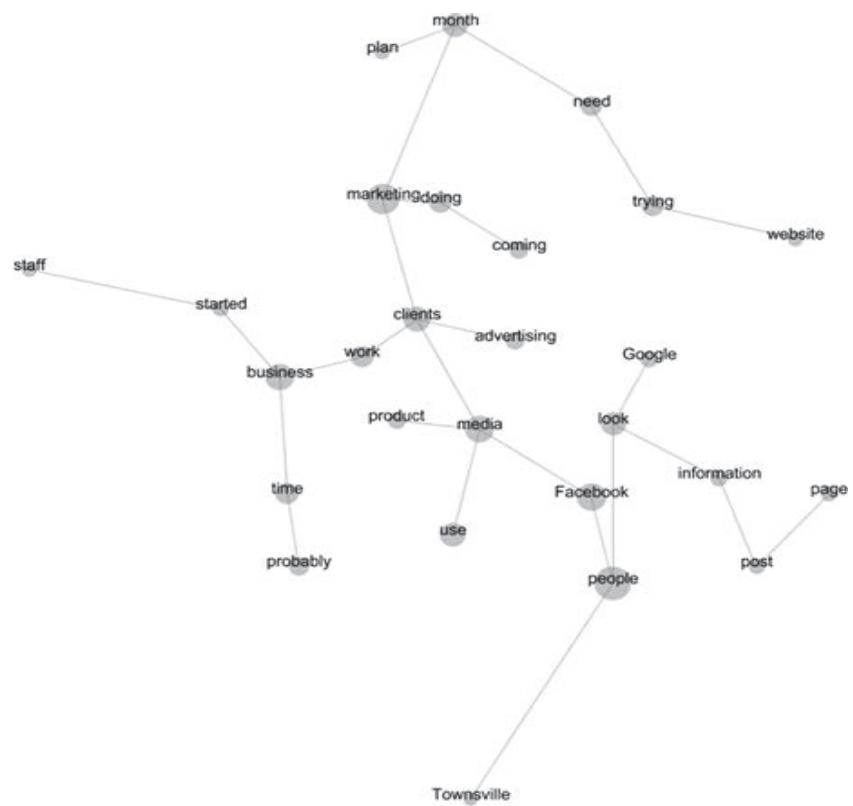


Figure 5.2 FBU Test-Retest 4 Tree Diagram

Similarly, in the NFBU Interviewee Test-Retest tree diagrams in Figure 5.4 and Figure 5.3, demonstrate stable results taken from the Test-Retest NFBU data Appendix 15 NFBU Test Retest Leximancer Results. The clearly identified data hubs are visible for people, business and work. There is a reflection and an anticlockwise rotation of the concept links. The ordering of concepts and the links indicated by the grey lines connecting the concepts, are consistent in the way that the data are linked. For example, the concept link between 'People', 'Clients', 'Guess' and 'Able'.

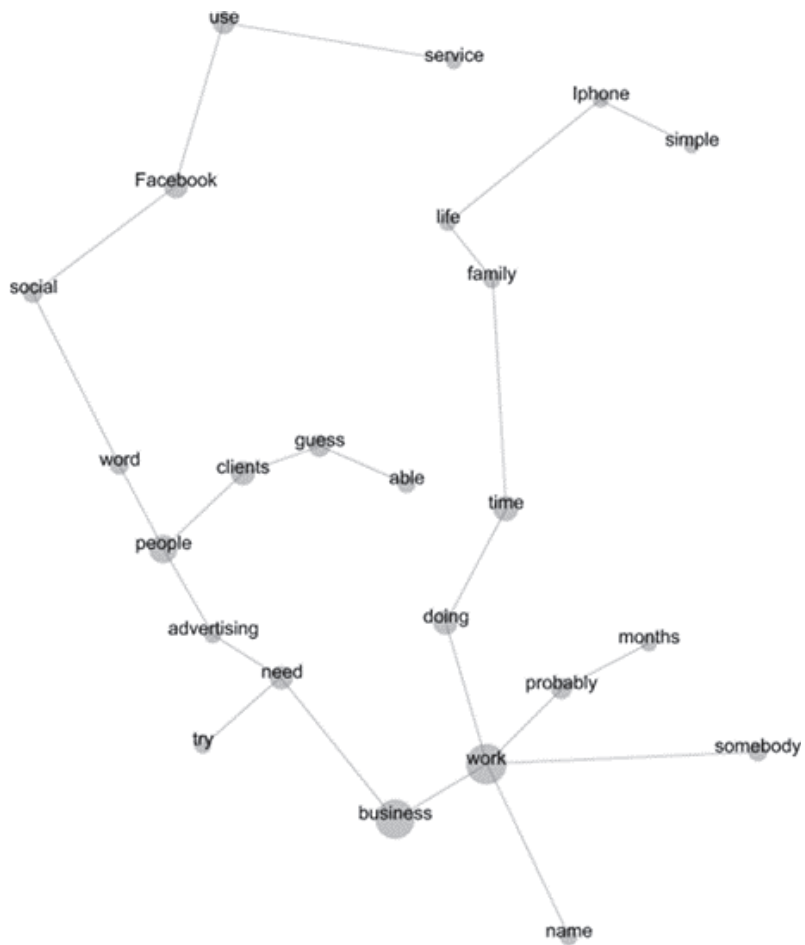


Figure 5.3 NFBU Test-Retest 8 Tree Diagram

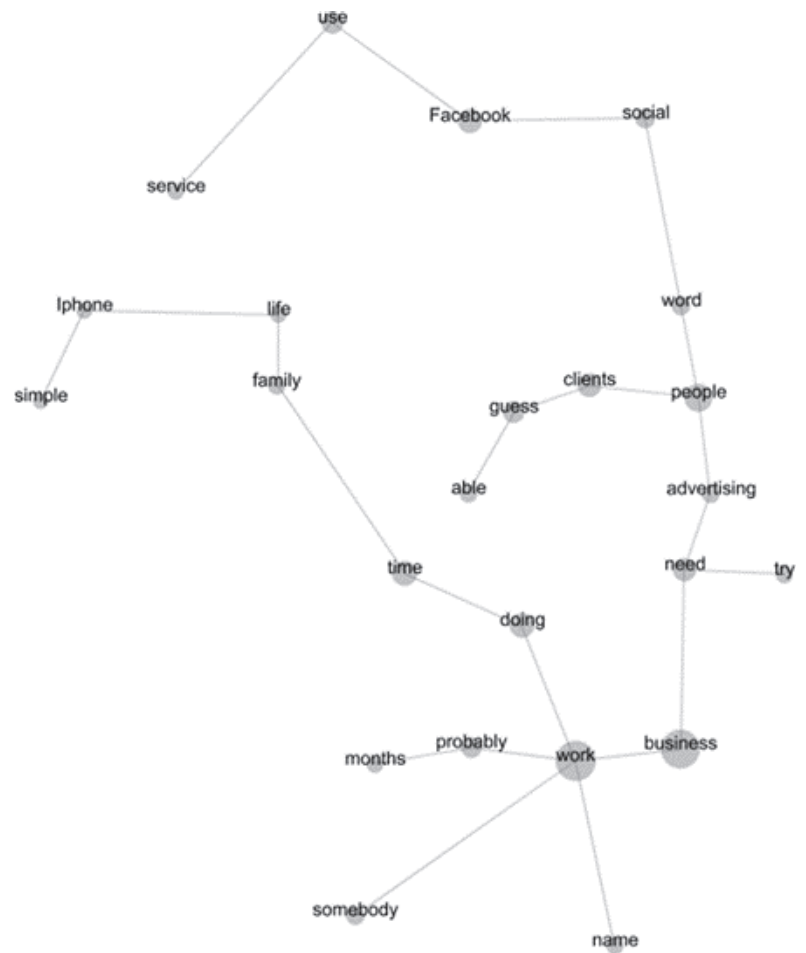


Figure 5.4 NFBU Test-Retest 7 Tree Diagram

Leximancer literature indicates a result of 8/10 graphs in the test-retest with the same data hubs indicates a strong stable result with the number of conceptual variables under consideration in this study (Leximancer support, 2018). In this research, the mapping subsequently tested stable and with reliable core data hubs identified in FBU Interviewees testing 8/10 test-retests retaining the same data hubs and NFBU Interviewees testing 7/10 test-retests retaining the same data hubs, refer Appendix 14 FBU Test Retest Leximancer Results and Appendix 15 NFBU Test Retest Leximancer Results. The results of the data cleansing process provides evidence towards the validation of the data detailed in section 5.7, and confirmed the dataset as stable to proceed meaningfully to the conceptual analysis.

5.5 Conceptual Analysis of Concepts

Conceptual analysis is a category of content analysis used to establish the existence and frequency of words or phrases or themes in text (Weber, 1990). A concept exists if it is present within the text. The frequency (count) of a concept refers to the number of times an individual concept is located within the text. The conceptual analysis outlines the themes and concepts identified, together with supportive text examples of the concept.

Leximancer also allows data mining of the centrality of each concept and similarity in context for each concept. The conceptual analysis considers the FBU Interviewees (n = 12) and NFBU Interviewees (n = 8) subsamples separately and then discusses similarities and differences observed. A test-retest process provided assurance of concept stability before conducting the conceptual analysis.

5.5.1 FBU Concept Data Stability Testing

Leximancers' test-retest process allowed the recognitions of data hubs using tree diagrams; refer full FBU and NFBU testing results diagrams in Appendix 14 and Appendix 15 respectively. Data hubs are a central point of reflection or rotation for other concepts. The linkages between the data hubs and other data points are consistent formations in the test-retest. For example, in Figure 5.5, for FBU marketing, business, media and people were the identified data hubs.

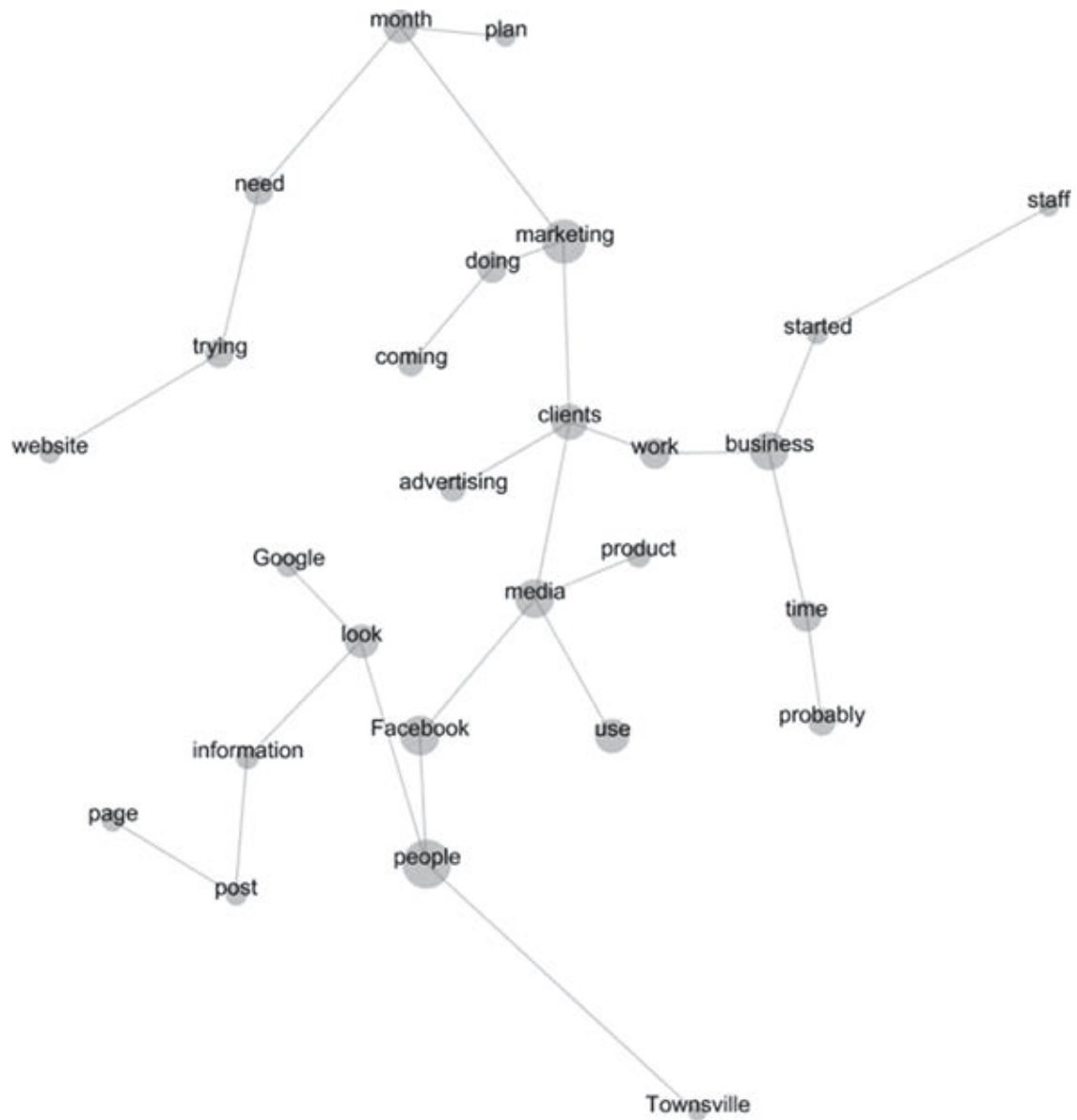


Figure 5.5 FBU Test-Retest 10 Tree Diagram

Leximancer mapping also enables bubble map viewing via visual slider function used to increase or decrease the sensitivity of both the concepts and themes. The Leximancer diagrams presented have a sensitivity setting of visible concept 100%, meaning all identified concepts are visible as grey dots labelled with the concept name. The theme sensitivity has been set to a theme size of 50% as the recommended setting for 4 – 6 data hubs to be identified (Leximancer, 2018).

There have been no modifications to the Leximancer generated theme names. The themes presented by Leximancer are heat mapped following a standard colour wheel from red as the

hottest through to blue as the coldest. The theme is red if it contains the most number of clustered concepts. The concept with the highest frequency within that theme automatically presents as the label of that theme. For example, Figure 5.5 is a representative diagram of the FBU subsample results. The themes identified by Leximancer in order of size and indicated by heat mapping are 'Marketing' (red), 'People' (orange), 'Trying' (lime green), 'Page' (mint green), 'Month' (dark green), 'Probably' (aqua), 'Staff' (blue), 'Townsville' (purple). Behind the theme bubbles, the individual concept trees with concept linking lines are present as the concept visibility is set at 100%.

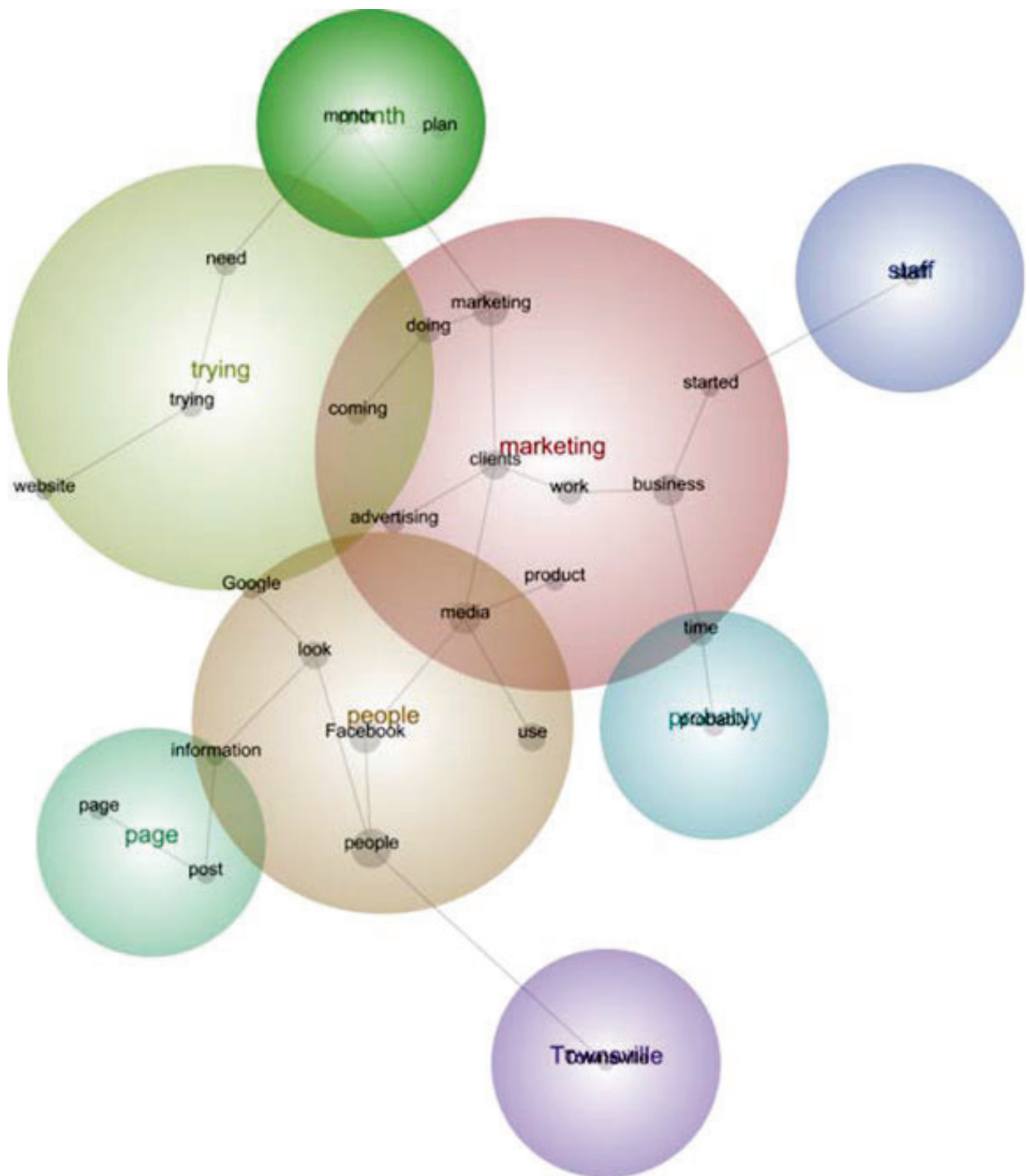


Figure 5.6 FBU Test-Retest 20 Bubble Diagram

5.5.2 NFBU Concept Data Stability Testing

The same data processing steps applied to FBU Interviewee data applied to the NFBU Interviewee data. During the test-retest process, the tree diagrams evidenced data hubs for the NFBU Interviewee data. The data hubs of 'Business', 'Work' and 'People', are demonstrated in Figure 5.7.

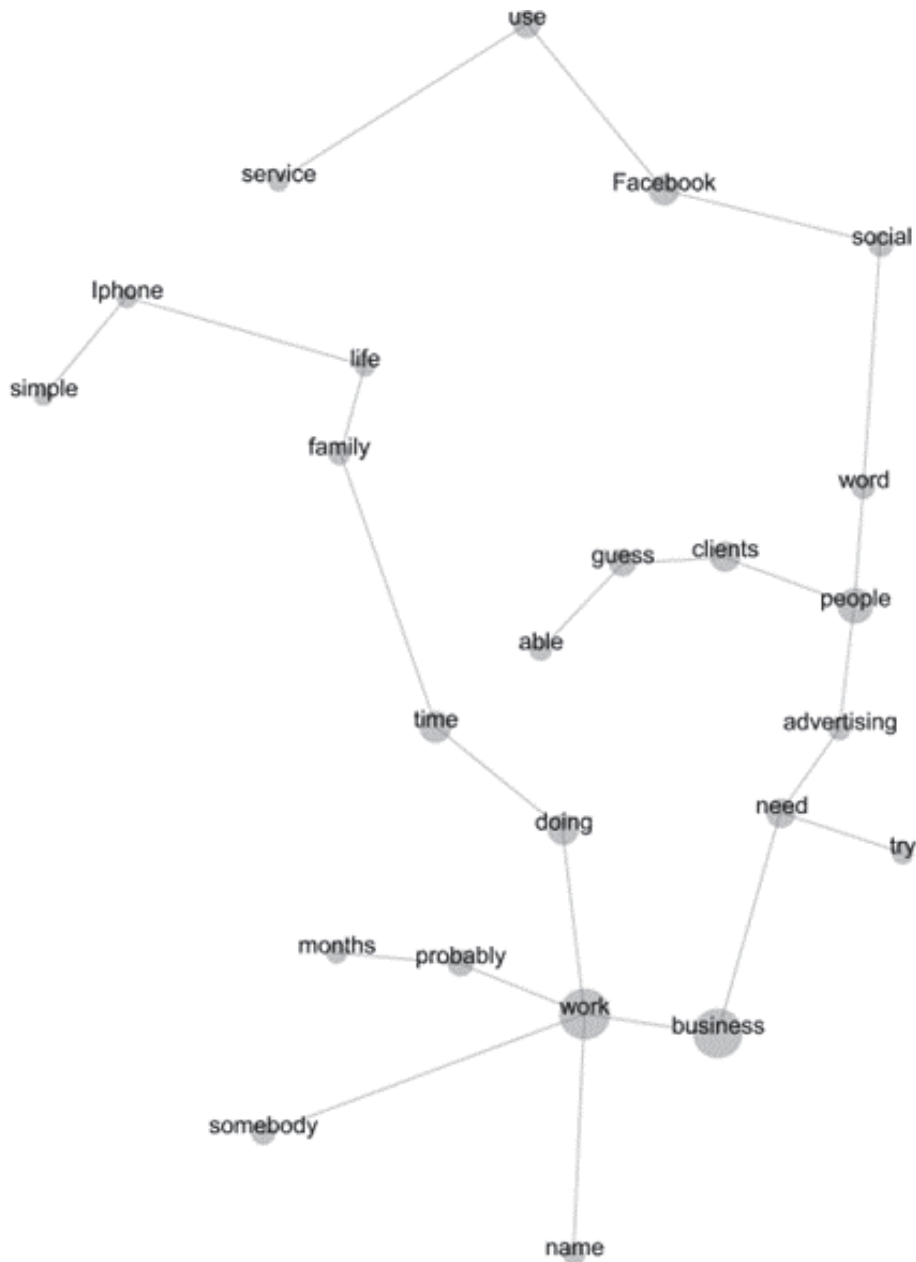


Figure 5.7 NFBU Test-Retest 9 Tree Diagram

The NFBU Interviewee data also used visual slider functions to increase the sensitivity of both the concept setting at 100% and a theme size of 50%, with unmodified Leximancer produced theme names. Again, the themes presented by Leximancer are heat mapped and the most number of clustered concepts given the hottest colour. The concept with the highest frequency within the theme used to label that theme. Figure 5.8 is a representative diagram of the NFBU Interviewee data results. The themes identified by Leximancer in order of heat mapping are people (red), work (orange), time (lime green), Facebook (mint green), family (blue) and somebody (purple).

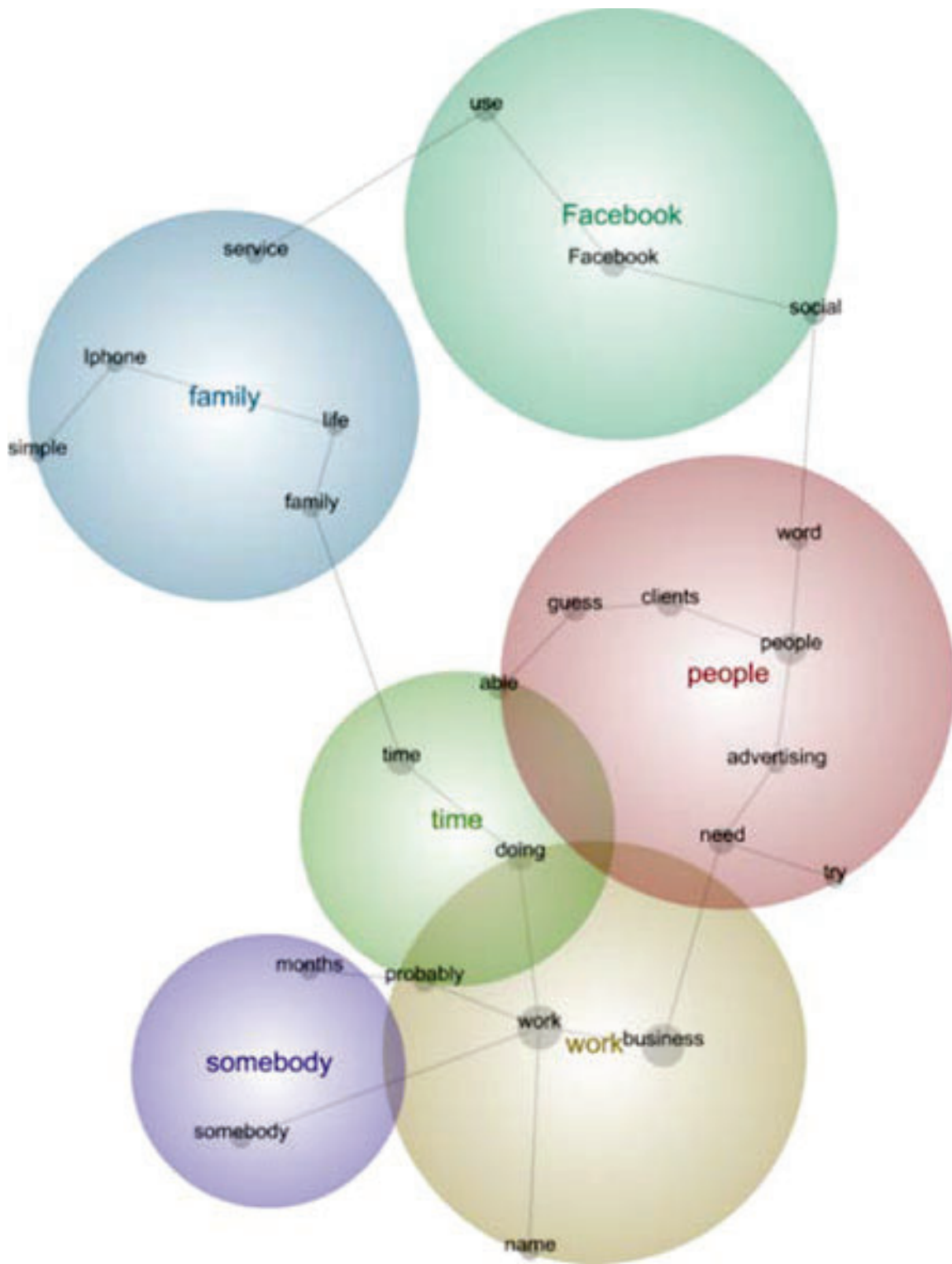


Figure 5.8 NFBU Test-Retest 9 Bubble Diagram

As the Leximancer sensitivity slider changes the size of all of the themes will also change to the point where each concept becomes a theme near the 0% or one large theme at the 100% ratio. The researcher then determines whether the auto-generated themes are suitable for the research data being analysed. Leximancer support recommend a theme size of 50% for textual content analysis (Leximancer Support, 2018). Theme name changes are at the discretion of the researcher.

The concept stability testing indicates both FBU and NFBU subsample datasets have stable links between concepts, consistency of generated concepts, meaningful codebooks and themes within the default parameters. To determine the appropriateness of Leximancer theme names generated for this research, an examination of the data sets concepts includes concept existence, composition, frequency and occurrence.

5.5.3 Overview of Dataset Concept Listing

The Leximancer concepts identified in the sample dataset form the basis of the conceptual analysis presented in Table 5.1. The Leximancer output provides evidence of the existence of the identified concept, a direct count of the number of times each concept mentioned in the text as a direct count and a percentage of relevance of the concept to the leading concept for the subsample. For example, reading from the 'FBU Interviewee Concept' column of the concept of 'People' is the most frequently occurring concept with 86 direct mentions in the interview text and given a relative percentage of 100%. The concept of 'Advertising' has a direct count of 19, being a relevance of 22% of the concept of 'People'. For the NFBU Interviewee data, the most frequently occurring concept is 'Business' with 92 direction mentions and allocated a relative percentage of 100%. The concept of 'Advertising' has a direct count of 11 and a relevance to the concept of business of 12%.

FBU Interviewee Data			NFBU Interviewee Data		
Concept	Direct Count	Relative Percentage	Concept	Direct Count	Relative Percentage
people	86	100%	business	92	100%
marketing	64	74%	work	91	99%
business	53	62%	people	43	47%
<u>Facebook</u>	53	62%	<u>Facebook</u>	36	39%
month	49	57%	use	35	38%
use	45	52%	time	34	37%
media	40	47%	clients	34	37%
clients	37	43%	need	29	32%
look	37	43%	doing	27	29%
time	37	43%	guess	24	26%
trying	34	40%	social	24	26%
need	33	38%	probably	21	23%
probably	31	36%	somebody	20	22%
work	29	34%	name	16	17%
doing	25	29%	word	15	16%
staff	22	26%	able	13	14%
advertising	19	22%	service	12	13%
<u>Google</u>	19	22%	advertising	11	12%
<u>Townsville</u>	18	18%	try	11	12%
coming	16	19%	family	11	12%
product	16	19%	months	11	12%
page	16	19%	<u>iPhone</u>	9	10%
information	15	17%	life	8	9%
started	15	17%	simple	8	9%
website	15	17%			
post	14	16%			

FBU Interviewee Data			NFBU Interviewee Data		
Concept	Direct Count	Relative Percentage	Concept	Direct Count	Relative Percentage
<u>plan</u>	12	14%			

Note: Leximancer separates concepts into categories of Name-Like concepts (nouns) and Word-like concepts (non-nouns) in all outputs. Name-like concepts have been included in the full concept listing indicated by underlining of the concept for ease of reference.

Table 5.1 Full Concept Listing

5.5.3.1 Concept Co-occurrence – FBU

The analysis then considers the counts of connection between the concepts based on their co-occurrence. For example, ‘People’ is the concept with the highest frequency making it the most commonly occurring concept in the dataset. The concept of ‘People’ can be further data mined to examine what concepts with which it co-occurs.

The parameters for concept co-occurrence were set at the Leximancer default proximity of two sentence text blocks. The Table 5.2 presents each concept showing co-occurrence for the FBU group, the ranked word-like and name-like concepts, along with a direct count of the mention within the two-sentence text block and a relevance percentage of that concept to occur within proximity of the primary concept.

The primary concept presented in Table 5.2 is ‘People’. The concept of ‘People’ identified as the highest frequency concept in the FBU Interviewee data with 86 occurrences, Table 5.1 Full Concept Listing. From the FBU Interviewee data concept of ‘People’, the highest word-like co-occurrence is with the concept of ‘Information’. There is a direct count of eight (8) times in the text where ‘People’ and ‘Information’ are found together. Alternatively, there is a likelihood of 53% when the concept of ‘People’ occurs, the text will also contain mention of the concept ‘Information’.

FBU Interviewee Data Concepts	Count	Likelihood
Word-like Concepts		
information	8	53%
page	7	44%
look	14	38%
coming	5	31%
time	11	30%
post	4	29%
started	4	27%
media	10	25%
work	7	24%
probably	7	23%
need	7	21%
trying	7	21%
use	9	20%
website	3	20%
clients	7	19%
business	10	19%
product	3	19%
marketing	11	17%
doing	4	16%
advertising	2	11%
plan	1	8%
month	4	8%
Name-like Concepts		
Facebook	19	36%
Townsville	3	17%
Google	3	16%

Table 5.2 FBU Interviewee Data Concept Co-occurrence

A textual example from the FBU Interviewee data demonstrating connection between the concepts of ‘People’ and ‘Information’ is in the Interviewee quotation,

*‘We want **people** to know that we’re not out there to, you know, take all their money so we push the free **information** and the free webinars and the odd occasion where we have promoted things wasn’t bad but it’s just I guess our mindset that you don’t want to promote a free divorce. We don’t want **people** to get divorced because it’s cheaper than normal.’ Interviewee 5 (FBU).*

Leximancer was used to create a ‘Related Word-Like’ co-occurrence list for each concept in the FBU Interviewee data compiled into a comparison table useful in establishing the word-

like rank order of co-occurrence within the FBU Interviewee data. For example, Table 5.3 summarises the concepts identified in the FBU Interviewee data in order of frequency from '1. People' to '24. Plan' and the concept of 'Advertising' highlighted where it occurs and is word-like ranked within each of the concepts. In '1. People' as the highest frequency concept, 'Advertising' listed as the 21st co-occurring concept. 'Advertising' is most frequently co-occurring when considering concepts '15. Staff' where it is the second listed concept.

Observing the absence of a connection between concepts is also important to the analysis. In the concept listings, 'advertising' has the least co-occurrence with 1. 'People', 9. 'Time' and 13. 'Work' appearing at the bottom of the word-like ranked lists for those concepts. It can also be observed that 'Advertising' is not identified as co-occurring with 'Coming', 'Started' or 'Website'. The expectation from the literature review would be the concepts of 'Advertising' and 'Website' are connected. Best practice in the field of marketing is to use social media to field traffic to a website to detail information on products/services and facilitate purchasing transactions.

People	Marketing	Business	Month	Use	Media	Clients	Look	Time	Trying	Need	Probably
information	plan	product	plan	product	product	work	information	started	website	website	time
page	clients	clients	doing	media	doing	business	time	look	coming	coming	post
look	month	work	coming	clients	work	marketing	post	post	plan	plan	work
coming	doing	started	marketing	information	use	media	advertising	probably	look	advertising	staff
time	coming	advertising	need	trying	clients	doing	website	coming	doing	month	product
post	product	media	started	probably	page	product	trying	doing	media	staff	advertising
started	media	time	website	marketing	trying	use	people	work	work	look	media
media	business	marketing	trying	coming	look	plan	need	staff	use	information	business
work	work	plan	advertising	business	advertising	advertising	media	business	month	product	marketing
probably	probably	look	clients	advertising	business	look	work	people	advertising	doing	use
need	need	probably	business	people	marketing	website	clients	media	need	clients	people
trying	use	month	work	work	information	coming	coming	trying	people	marketing	information
use	look	use	probably	look	probably	page	page	plan	time	trying	started
website	advertising	doing	look	time	coming	need	business	marketing	marketing	people	website
clients	trying	people	use	doing	people	month	marketing	use	post	post	month
business	post	need	information	post	time	staff	use	product	information	work	clients
product	time	trying	product	started	staff	people	started	clients	started	started	look
marketing	information	post	page	website	post	information	probably	advertising	product	business	doing
doing	website	information	time	page	started	started	product	month	page	media	trying
advertising	people	website	media	month	website	probably	month	need	business	time	
plan	page	coming	people	staff	need	time	doing		probably	use	
month	staff	page		need	month						
	started	staff									

Work	Doing	Staff	Advertising	Coming	Product	Page	Information	Started	Website	Post	Plan
clients	coming	started	product	doing	use	post	post	coming	page	page	month
media	plan	advertising	look	started	media	website	look	time	post	information	doing
coming	month	work	business	information	coming	information	website	doing	information	website	marketing
business	started	probably	need	product	advertising	people	coming	staff	need	look	started
staff	media	need	staff	month	business	media	page	plan	trying	time	coming
probably	clients	plan	plan	work	plan	coming	people	business	look	probably	product
product	product	time	clients	need	clients	clients	use	month	coming	advertising	need
doing	trying	clients	doing	trying	doing	look	need	people	product	people	trying
trying	marketing	media	media	plan	work	advertising	advertising	work	month	marketing	clients
look	time	marketing	post	time	website	work	media	probably	clients	need	advertising
time	advertising	use	information	website	probably	marketing	doing	need	people	trying	staff
marketing	work	business	probably	marketing	marketing	trying	work	trying	work	media	business
people	need		page	page	need	use	probably	clients	probably	use	time
use	information		month	people	people	month	marketing	look	marketing	business	people
information	business		trying	clients	trying	business	trying	media	media		
started	people		marketing	look	look		clients	use	use		
website	use		use	media	time		month	marketing	business		
page	probably		work	use	month		business				
month	look		time	business							
need			people								
advertising											

Table 5.3 FBU Interviewee Data Full Concept Listing

5.5.3.2 Concept Co-occurrence – NFBU

The concept co-occurrence for the NFBU Interviewee data used the default Leximancer setting of two sentence blocks. The co-occurrence setting in Leximancer identifies related word-like and name-like concepts, a direct count of the mention within the two sentence text blocks and a relevance percentage for that concept with the primary concept. The highest frequency concept for NFBU Interviewee data is 'Business' and the co-occurrence results are in Table 5.4.

From Table 5.4, the NFBU Interviewee data concept of 'Business' the highest word-like co-occurrence is with the concept of 'Probably' with a count of 12 times in the text where they are found together. The co-occurrence is stated as a 57% likelihood that when the concept of 'Business' is mentioned, 'Probably' will also be mentioned. A textual example from the data are presented in the Interviewee quotation,

I hear on the phone "Main Roads has recommended you to me". So it's probably a consequence of doing work that meets the clients' needs as well, and I guess I've had a lot of work from people working with Council. Interviewee 4 (NFBU).

Following the FBU Interviewee data analysis process, Leximancer generated a related word-like concepts co-occurrence list for each concept in the NFBU Interviewee data. A comparison table compared the existence and frequency of related word-like concepts occurring in the NFBU Interviewee data. For example, Table 5.4 lists all 22 concepts identified in the FBU Interviewee data in order of frequency from '1. Business' to '22. Simple'. The concept of 'Advertising' highlighted where it occurs with each of the concepts. In 'Business' as the highest frequency concept, 'Advertising' is listed as the fifth most co-occurring concept. 'Advertising' is most frequent when considering concepts of 8. 'Doing' and 14. 'Word-of-Mouth' where it is the highest ranked listing. Comparing the concept listing, when 'Advertising' is co-occurring it is in the top ten listings of the concept. Also observed is that 'advertising' is not identified as co-occurring with 9. 'Guess', 16. 'Service', 19. 'Family', 20. 'Months', 21. 'Life' and 22. 'Simple'.

Business	Work	People	Use	Time	Clients	Need	Doing	Guess	Social	Probably
probably	doing	word	simple	life	try	try	advertising	need	word	months
work	try	advertising	service	months	time	guess	word	try	family	somebody
doing	months	need	people	family	word	life	somebody	months	able	need
able	business	try	advertising	doing	name	probably	able	service	life	business
advertising	somebody	use	family	guess	doing	doing	need	able	clients	life
try	probably	guess	social	clients	advertising	word	time	time	people	simple
name	time	social	able	probably	months	people	name	people	use	time
people	clients	time	clients	advertising	need	advertising	service	word	business	doing
need	name	clients	word	work	guess	able	work	life	advertising	work
time	people	work	guess	people	social	clients	clients	clients	try	advertising
somebody	able	business	life	able	service	business	probably	doing	time	try
guess	guess	doing	time	business	work	work	business	work	doing	family
social	life	able	somebody	social	people	family	guess	business	need	guess
family	simple	probably	try	name	able	months	life	probably	work	service
months	advertising	name	months	use	use	time	simple	family	probably	people
word	family	life	doing	need	simple	social	people	use	guess	clients
service	need	somebody	need	service	probably	use	months	name		social
simple	word	family	work	word	family	somebody	social	social		use
clients	service	months	business	somebody	business		use			
use	social	service	probably		somebody					
life	use									

Somebody	Name	Word	Able	Service	Advertising	Try	Family	Months	Life	Simple
probably	doing	advertising	simple	life	word	need	life	probably	family	life
doing	somebody	doing	doing	use	doing	clients	simple	time	simple	family
name	advertising	people	advertising	guess	people	advertising	months	try	time	use
simple	try	social	try	able	try	months	time	family	service	able
work	months	life	months	doing	able	guess	social	guess	need	somebody
advertising	clients	need	guess	word	need	able	use	able	word	probably
family	work	clients	social	clients	name	people	somebody	work	probably	doing
months	able	guess	service	somebody	time	work	probably	name	guess	work
business	business	service	need	probably	clients	name	work	clients	social	clients
service	word	able	word	work	use	business	business	somebody	doing	business
able	time	name	business	business	business	probably	guess	doing	work	
word	people	use	name	time	somebody	social	need	need	use	
use	guess	work	time	people	probably	use	clients	business	people	
people		somebody	clients		work		people	use		
need		business	use		social			people	business	
time		time	work							
clients			somebody							
			people							

Table 5.4 NFBU Full Concept Listing

5.5.3.3 Key similarities in Conceptual Analysis

As with the quantitative analysis, meaning was sought to give depth to the analysis by considering the sample and comparing the subsample data. The key similarities in the conceptual analysis grouped into topic areas of existence, frequency and ordering of concepts for the FBU and NFBU Interviewee data. From examining Table 5.1 Full Concept Listing, there are a similar total number of concepts identified in each subsample, with the FBU identifying 24 concepts and the NFBU subsample with 22 concepts. There were no concepts with the same frequency of direct count or relative percentage between the FBU and NFBU Interviewee data concept listings.

However, there are a number of concepts common to the concept listings in both FBU and NFBU Interview data including 'People', 'Business', 'Month', 'Use', 'Social Media', 'Clients', 'Time', 'Need', 'Probably', 'Work', 'Doing', 'Try/Trying' and 'Advertising'. An examination of the text block context of each of these concepts confirmed that interviewees intended the concept for the same usage. For example, the concept of 'Month' refers to the common language meaning of time for both the FBU and NFBU Interviewee data and is the reflected in comments:

'But initially we only had Facebook and then gradually – one of their KPIs is that they have to be a power connector on LinkedIn so we all had a made race on LinkedIn to see who could get to, you know, 500 first. One of the girls is a true competitor and flogged us all and they also have to do a blog once a month that we will promote'. Interviewee 5 (FBU).

'He prefers to do that. Whereas now with – so that in the last 12 months when we went from the two to seven, it has – there have been changes within that which could jeopardize what we have'. Interviewee 22 (NFBU).

Leximancer identified the concept 'Trying' in the FBU concept list and the concept of 'Try' in the NFBU list. The researchers' examination of the concept use confirmed Interviewees intended the same context for the concept. For example,

'We're trying some local. I'm trying to do it locally if I can, but, yeah, no luck so far'. Interviewee 3 (FBU).

'I don't need to change anything up to try to bring more, you know, dollars through the door or anything like that'. Interviewee 16 (NFBU).

There was an element of uncertainty present in the concepts of both subsamples. In FBU Interviewee data, this uncertainty expressed with the concepts of 'Trying', 'Probably', 'Look' and 'Need'. In NFBU subsample, uncertainty was present in the concepts of 'Need', 'Guess', 'Probably' and 'Try'.

It follows that there were no concepts that were in the same order in the listing of the FBU and NFBU Interviewee data. There were four (4) concepts within one listing position of each other on their respective FBU and NFBU Interviewee data concepts lists, Table 5.5 Interviewee Data Concept Comparative Positions. However, the relative percentages for those similarly positioned concepts are different, indicating a different proximity to the highest relative percentage concept discussed further in the relational analysis.

Concept	Concept Listing Position		Relative Percentage	
	FBU	NFBU	FBU	NFBU
Use	5th	4th	52%	38%
Clients	7th	6th	43%	37%
Probably	12th	11th	36%	23%
Advertising	16th	17th	22%	12%

Table 5.5 Interviewee Data Concept Comparative Positions

The conceptual analysis did not locate any other key similarities between the FBU and NFBU Interviewee data relating to the existence, frequency or ordering of concepts. The analysis next looked for key difference in concepts between the FBU and NFBU Interview data.

5.5.3.4 Key differences in Conceptual Analysis

There are a number of concepts in the FBU Interviewee data concept list that do not exist in the NFBU Interviewee data concept list including 'Marketing', 'Month', 'Look', 'Work', 'Staff', 'Coming', 'Product', 'Page', 'Information', 'Started', 'Website', 'Post' and 'Plan', refer Table 5.1. There are a number of concepts in the NFBU Interviewee data that are not identified in the FBU Interview data concept list including 'Guess', 'Somebody', 'Name', 'Word', 'Able', 'Service', 'Family', 'Life' and 'Simple'. The differences in numbering and

positioning of concepts between the subsamples supports the separation of the Interviewee data into FBU and NFBU for consideration in the conceptual and relational analysis.

The key difference observed in the frequency of concepts between the FBU and NFBU Interviewee data concept listings is in the first three concepts of each list. The first three FBU concepts are 'People' at relative percentage of 100%, 'Marketing' at 74% and 'Business' at 62%. There is a clear percentage drop between the first three concepts providing clear positioning of each concepts.

In contrast, the first three NFBU Interviewee data concepts are 'Business' at 100%, 'Work' at 99% and 'People' at 47% with the first two concepts being in close proximity with work a strong 99% relative percentage and a much lower third concept percentage for 'People' with approximately half the relative percentage.

The ordering of the same concepts between the FBU and NFBU Interview data is markedly different. For example, the concept of 'Month' is 4th with 57% for FBU Interviewee data concept list and 20th with 12% for NFBU Interviewee data concept list. The concept of 'People' is 1st with 100% for FBU Interviewee data and 3rd for NFBU Interviewee data at only 47%.

5.5.4 Summary of Conceptual Analysis

The conceptual analysis commenced with stability testing of the concepts and linkages between concepts for FBU Interviewee data in section 5.5.1 and NFBU Interviewee data in section 5.5.2. Once demonstrated as stable, the data was suitable for meaningful conceptual analysis. The purpose of the conceptual analysis was to establish the existence of concepts and frequency of those concepts in the FBU and NFBU Interviewee data. The most frequently occurring concept in the FBU Interviewee data was 'people' in section 5.5.3.1 and for NFBU Interviewee data the concept of 'business' in section 5.5.3.2.

A comparative overview tabled the similarities and differences between the FBU and NFBU Interviewee data in section 5.5.3. The similarities between the FBU and NFBU Interviewee data were analysed in terms of the existence, frequency and ordering of concepts in section 5.5.3.3. There are a number of concepts common to the concept listings in both FBU and NFBU Interview data including 'People', 'Business', 'Month', 'Use', 'Social Media', 'Clients', 'Time', 'Need', 'Probably', 'Work', 'Doing', 'Try/Trying' and 'Advertising'.

Differences were located between the FBU and NFBU Interviewee data in the existence, frequency and ordering of concepts (section 5.6.6). The FBU Interviewee data concept listing contained concepts not found in the NFBU Interviewee data including 'Townsville', 'Google', 'Marketing', 'Month', 'Look', 'Work', 'Staff', 'Coming', 'Product', 'Page', 'Information', 'Started', 'Website', 'Post' and 'Plan', refer Table 5.1. A number of concepts in the NFBU Interviewee data that are not identified in the FBU Interview data concept list including 'Guess', 'Somebody', 'Name', 'Word', 'Able', 'Service', 'Family', 'Life' and 'Simple'. There were no concepts located with the same frequency of direct count, relative percentage or positioning between the FBU and NFBU Interviewee data concept listings.

The conceptual analysis indicated a degree of interrelatedness between the frequently occurring concepts. For example, in Table 5.1 the FBU Interviewee data the concept of 'Marketing' occurred in 74% of the occurrences of 'People'; and the NFBU Interviewee data the concept of 'People' occurred 47% of the occurrences of 'Business'. The relational analysis now explores the reasons for the concept linkages, adding depth to the identification of concepts from the conceptual analysis.

5.6 Relational Analysis of Concepts

A relational analysis assists in determining relationships between concepts by identifying the proximity of words and phrases, i.e. how concepts are connected (Weber, 1990). A relational analysis is a semantically based analysis comprising an affect extraction, proximity analysis and cognitive mapping. Leximancer can assist in the proximity component of the analysis through the connection between concepts in set text blocks, and also provide assistance with cognitive mapping aspects of the relational analysis thought tree and bubble diagrams of the concepts (Leximancer, 2018). The affect extraction is the determination of deeper emotional meaning from the text based explicit concepts and is the role of the researcher.

The relational analysis structure is consistent with the quantitative analysis and the interview proforma in Appendix 13. The concept discussion is organised using consistent with earlier Chapters headings covering issues specific to the focal locale, and then (1) concepts related to personal and business demographics of the RSB, (2) concepts related to the perceived importance of engagement and (3) concepts related to UTAUT model constructs. The analysis concludes with additional general issues raised by the FBU and NFBU Interviewees.

5.6.1 Regionality

Section 1.6.2 defined regionality with aspects of geographic, economic, social and technical isolation of a location. The research design ensured regional scoping through the survey instruction requesting RSB operating postcodes refer Appendix 7. The data cleansing process ensured only RSB meeting the scoping criteria proceeded to analysis 3.4.1.3.

The concept of regionality evidenced as a barrier to RSB Use existed in the focal locale. The FBU Interviewee data and 'Townsville' co-occurred with 'People' at 21%, indicating a reasonable relationship between the concepts. There were no proximate concepts for location present in the NFBU Interviewee data concept list. An examination of the two-line text excerpts explored the relationship between the concept of 'People' and the concept of 'Townsville' in the FBU Interviewee data. The excerpts revealed a sense of isolation in terms of access to marketing professionals in Townsville and/or providing the digital marketing services sought by FBU Interviewees, for example:

'So we're looking at – again, it's back to the same conversation we had, we're looking at trying to find someone to do a Facebook marketing campaign for us and struggling to find someone that really knows their stuff in North Queensland. You know, so I'm actually talking to a lady in Melbourne at the moment and this is the beauty of the internet, you don't even need to meet these people'. Interviewee 8 (FBU).

Additionally, in choosing to utilise marketing services outside the focal locale, the examples:

'So, yeah, we've got a young gentleman in Brisbane who's our marketing guru so he's right into the Face blogs. Basically right across the media'. Interviewee 7 (FBU).

A different aspect to the regional isolation given Interviewee 15's is a local marketing services business, (Note: content removal from this quote to protect the anonymity of the Interviewee):

'You know, there's Facebook for Business now and I've taught myself it because I have to do for clients and manage their process [...]. So I'm basically trusting that Facebook - that what I'm getting out of - what I'm teaching myself is correct.

Because I don't think there's really many experts in Townsville'. Interviewee 15 (FBU).

The FBU Interviewee text also revealed geographical isolation limiting market access for RSB to local market, for example:

'Well, initially it was for – to promote my work because I was with a gallery but because – it came about by default because I was showing with them but they closed down so there was no other area in Townsville for me to show my work. But having just my work in here I felt there needed to be other things to bring people into the gallery'. Interviewee 13 (FBU).

The concept of 'Townsville' in the text excerpts from FBU Interviewee data have illustrated a recognition of isolation limiting RSB Use due to factors within the scoping definition of regionality in this research, refer section 1.6.2.

5.6.2 Personal and Business Demographic related concepts

The literature review identified a number of personal and business demographic variables expected to enlighten on RSB Use refer section 2.4. The research design included data collection in the online survey targeted at the identified variables refer section 3.4.1. The analysis identified areas for deeper investigation of meaning namely, the conceptualisation of Age by RSB, understanding RSB planning practices, thoughts on negative online feedback policy and annual marketing budgets allocation considerations refer section 4.3.3. The research design subsequently included specific questions and general discussion to allow for qualitative data collection on the identified areas in the interview proforma refer Appendix 13.

5.6.2.1 Age

The literature contained Age as affecting acceptance and use of technology in section 2.4.2. Age is also a moderator in the UTAUT model and confirmed as relevant to business contexts (Venkatesh et al., 2003) and individual consumers contexts (Venkatesh et al., 2012) in section 2.6.4.2. The quantitative analysis of Age in section 4.3.2.1 supported the literature

expectations finding an association between Age and RSB Use, with younger RSB respondents having a higher RSB Use.

The interview proforma did not ask a specific question on Age. There was no concept of 'Age' identified by Leximancer in the Interviewee text. However, FBU Interviewee data commented upon age within the concept of 'Staff' and 'Facebook' for FBU Interviewees. In the relational analysis 'Staff' is a peripheral concept to the central concept of 'People' with a co-occurrence of 26%; and co-occurring with the concept of 'Facebook' at only 5%.

Interviewees perceived younger people as being a more engaged and skilled demographic for RSB Use. A typical example is in from an Interviewee aged in their early 30's:

'Okay. So we're a [business] that relies mainly on word of mouth for our platform of advertising, been operating for 19 years, five star, great environment, younger that we have our staff are the younger demographic between 20 and 26 so I'm the oldest one which therefore can be a hindrance because the younger ones do have an advantage with social media in particular'. Interviewee 1 (FBU).

In addition, from an Interviewee in 55 years+:

It's an age issue for me. I don't – I think a certain way but other people think totally differently so, you know, I tend to look at social media through one paradigm and my kids look at it through a totally different paradigm but when you try to market it you've got to get their paradigm which is back to needing someone that really understands it. Interviewee 8 (FBU).

From the comments on age, the FBU Interviewees perception is younger staff's ability to use the technology surpasses older people; however a person's age was not central to their decision regarding RSB Use. As to what age constitutes youth by RSB, this appears relative to the age of the RSB respondent.

NFBU Interviewees data did not contain a concept of 'Age', nor did age appear in comments within other concepts. The absence of 'Age' could arise from a number of reasons, for example, the NFBU businesses are not considering Facebook technology in their RSB so practicalities around education/training/implementation of the technology within the RSB are not relevant to that subsample. Similarly, the NFBU may service a client base where

Facebook use may not be initially seen as beneficial to the RSB e.g. business-2-business, or an elderly client base.

5.6.2.2 RSB Use

Discovering and explaining RSB Use was core to this research as outlined in the problem definition in section 1.2. The Business strategy category of variables identifies RSB Use in 2.4.2. The research design used the online survey to collect data on RSB Use, refer Q18 Appendix 7. Subsamples based on RSB Use enabled the identification of different characteristics and proportionalities for comparison throughout the quantitative analysis in Chapter 4.

Both FBU and NFBU Interviewee data identified a concept of 'Facebook'. The FBU concept listing had the 'Facebook' was heat mapped red and has a 62% co-occurrence with the most frequent concept 'People', indicating a strong relationship between the concepts. Business owners from the FBU subsample showed a willingness to accept and use Facebook technology where they had employed a new staff member and/or decided to foster existing staff member's interests in digital marketing technology, as outlined in the following examples:

'12 months ago we had the gentleman on board but we had him in a slightly different role so we identified that that was his passion and that's where we wanted to be so we changed our organization structure slightly to allow him to focus on that, so he solely focusses on marketing and it's basically digital marketing'. Interviewee 6 (FBU).

'We have engaged a graphic designer, so currently there's myself as the sole director, my husband; we have a marketing officer and a graphic designer'. Interviewee 8 (FBU).

Oh, we've got Facebook. [...] I have no desire to be actively pursuing it myself but Jason thinks the way forward. Interviewee 20 (FBU).

The NFBU concept of 'Facebook' was heat mapped lime green and had a 36% co-occurrence with the most frequent concept 'business', indicating the concept was of relatively lesser importance to the central concept and aligning with not being RSB Users. Analysis of the

text excerpts revealed a range of reasons NFBU Interviewees were basing their decision not to accept and use Facebook technology. For example, where they were relying on traditional means of paper advertising for services based businesses:

'I have got a website but only for, you know, my clients to find me. Most people use it instead of the Yellow Pages'. Interviewee 16 (NFBU).

Where NFBU Interviewees saw social media generally as a method of expanding their business (a positive attribute to the technologies capabilities to delivery business outcomes), but chose not to:

'I'd rather have a good business relationship with my clients and so, you know, it was more like a mutual kind of a thing. If I just had randoms calling for the cheapest price, it would just waste my time and, you know, I wasn't in the position to want to grow so I've stayed off social media'. Interviewee 11 (NFBU).

'I'm in a little bit of a niche market and pretty much the customers have come to me. It's the sort of business that I run as I raised my kids and I didn't want it to get something that became very time consuming so I guess basically not wanting to have that expansion happening'. Interviewee 19 (NFBU).

Time and planning initially prevent entry into the digital marketplace more generally and where not necessitated by the business to maintain cash flow:

'Initially so we if we can talk in the last four years of the 10 years that we've been here, we did get photographs and start the planning of doing a website but [...] just hasn't found the time to do it as such. You know, there's a lot in the planning of it and he's busy working in the business rather than on it'. Interviewee 21 (NFBU).

Perceptions of Facebook's use based did appear relevant to RSB industry sector for RSB Use:

'I guess it's – we have seen so many different companies using Facebook and I think there's no reason why we couldn't be on Facebook but because we're a service industry I guess you could still use Facebook. I often think that if you're a shop or a little shop it's lot easier for you to be on Facebook because you can – you know, like a coffee shop or something like that, whereas we're a service industry as in building and not sure if the commercial – not sure if the commercial market uses

the Facebook as much as I think what sort of – like a service industry as I said selling items and, you know, trading’. Interviewee 14 (NFBU).

However, interpretation of the industry sector aspect of the RSB decision is limited due to the lower numbers in the regional context and collapsed categories necessitated in section 4.3.2.5.

5.6.2.3 Planning

The RSB business strategy concept of planning identified in section 4.3.2.6 as requiring depth in the qualitative analysis. To discover the reasons why planning was not highly prioritised, Interviewees were asked about the usefulness of planning documentation for their RSB Appendix 7. In the relational analysis, the concept of ‘Plan’ was the smallest concept identified on the FBU Interviewee data concept listing, co-occurring at 14%, and greatest distance (proximity indicating importance and heat mapped to blue) from the most central concept of ‘People’. The heat mapping and proximate distances indicate ‘Business’ (lime green) and ‘Marketing’ (deep green) were both concepts that were not central to the concept of ‘Facebook’ (red) for FBU Interviewees. Exploration of the text excerpts revealed why this concept relationship was presenting as mapped, simply very little formal planning of any type being conducted by Interviewees. A typical Interviewee response example for an RSB with no planning:

‘We don’t – yeah, we don’t really have a business plan so much, we just do what work we can do, pick up what we can, go forward in the contracts we can’.
Interviewee 9 (FBU).

There was evidence of informal planning through seeking advice in mentoring processes, for example:

‘We don’t have a formal plan in place. We speak to other family members that have got businesses’. Interviewee 11 (FBU).

In addition, others that were purely existential responses to the market, for example:

‘I don’t have a particular plan that I use, it’s sort of more – mine’s mainly emotional based so it’s sort of inspired as such by if I see something that I really like I’ll try and – or see something that’s trending at that moment, I’ll try and

incorporate that into my marketing as well and, yeah, I'm probably not as organized as I should be with the business plan and things like that so, yeah, it's probably something I should work on actually'. Interviewee 12 (FBU).

Within the concept of 'Plan', the quality of planning and detailed implementation of that plan using Facebook was challenging for RSB, as demonstrated by the following text excerpt example:

'Yeah, well we really – I mean we're doing our own planning but we're sort of trying to find someone to give us some feedback about whether this is a good plan or not'. Interviewee 4 (FBU).

Where there was some form of planning reported in both the FBU and NFBU Interviewee data evident within the concept 'Plan', the concept of 'month/s' tended to be unit of time associated with the concept of 'Plan' for RSB. A typical response being that RSB is more likely to plan for specific activities rather than overall business or marketing conduct:

'Planning is for – yes, for events that are coming up and sometimes we sort of just trying to start the marketing now so for next year we're putting in for the last couple of months – what we've done for the last couple of months so next year we'll be able to see what we're doing for next month so we have started planning more. With our Facebook we're trying to plan as to what goes on and when so we do try and plan and yeah, that's me'. Interviewee 3 (FBU).

There is an acknowledgement that planning could be positive for the Interviewee's RSB with a typical response represented:

'No, I think there's with the sort of peak and trough way that our work seems to go, I think the last time we probably looked at it was way up in the peak and you get very busy and you get excited and you forget to sort of plan for the future a little bit because you ride that wave and when it does come back down and you don't have as much work as of now, now is probably the opportunity to be looking at it. It's probably something we should be doing here but now we do while we have a little bit of breathing space we have an opportunity to look at it and we probably just should be doing that'. Interviewee 4 (FBU).

However, where some level of planning occurs it is more likely to be periodic than strategic, for example:

'So with our new marketing manager, I've got a calendar in my office now and we've got several things per week marked on there. So we have – previously we were just ad hoc, now we've got a strategic plan and we still also ad hoc because everybody loves pictures of dogs. We put on free info links, blogs and we'll try to map out the month to match the webinar for that month'. Interviewee 5 (FBU).

In the NFBU Interviewee data, planning was contained in the concept of 'Probably' as it relates to the concept of 'Business'. As with the FBU Interviewee data, there was little planning being prioritized by RSB where self-employment focused:

'I talked with – this all – I'd been with the one accountant for probably 20 years and he had a fairly laid back approach to it. I guess he's seen retirees starting businesses and they probably fizzle out after a short while and I talked with him about the need for a business plan and he suggested that what I was setting up to do you really didn't need a plan shall we say?' Interviewee 4 (NFBU).

Even when looking to grow the RSB and on sell:

'No, we don't have a formal business plan that we could hand someone. [Owner]'s idea is pretty much to work here, build up the business and then sell it probably to the fellow that's working – like the main fellow that's working with us as a gradual takeover'. Interviewee 21 (NFBU).

The relational analysis has shown both FBU (through the concept of plan and its relationship with marketing) and NFBU Interviewees (through the concept of probably and its relationship with business) are not prioritizing business and/or marketing planning for a variety of reasons. The lack of planning prioritization flows onto little formal Facebook planning for those Interviewees who were FBU.

5.6.2.4 Marketing Budget

In section 2.4.2, the literature reported optimal spends on marketing for SME between 12% to 20% of gross revenue (Flannagan, 2019). Australia reports SME slightly lower than the recommended marketing spend with average of 11% of gross revenue (Sensis, 2018). In

section 4.3.2.10, quantitative analysis findings supported the literature expectations with RSB marketing budget allocations lower than recommended spend for both FBU and NFBU.

The Interview proforma contained questions about circumstances where Interviewees would consider increasing their marketing budget refer Appendix 13. For FBU Interviewees ‘Marketing’ and ‘Probably’ and ‘Advertising’ demonstrated the complex interconnectedness of RSB concepts and uncertainty of outcomes of marketing expenditure for Interviewees, for example:

‘Well, I probably consider I spend a bit more on marketing than most [...] do and I don’t know why they don’t but they probably don’t earn enough so – but then it’s a Catch-22 isn’t it? If you don’t spend the money on marketing, you’re not going to get – people don’t know who you are or where you are’. Interviewee 7 (FBU).

The FBU Interviewee data does not directly express a reason for the low spend categories, for example:

‘We don’t have definite budgets but I would suggest that we don’t – particularly marketing it tends to be light on in our expenditure and there’s no real reason for that, it’s just the way it happens. In terms of digital or social media marketing, there is no – we don’t have a budget’. Interviewee 4 (FBU).

In NFBU Interviewee data the marketing budget was contained within the relationship between the concept of ‘Advertising’ (co-occurring at 12%) and the central concept of ‘Business’. The low co-occurrence between ‘Advertising’ and ‘Business’ indicates the concept is of lesser importance than other higher listed concepts for NFBU Interviewees. There were two reasons located as to why ‘Advertising’ spend may be low for NFBU Interviewees (and this was consistent with the FBU Interviewees), being a reliance on word-of-mouth within the focal locale:

‘Yes, it is a really low spend because we have been word of mouth. We don’t want to attract off the street clients which is, you know, where – the word’s gone’. Interviewee 21 (NFBU).

The consistency of cash flow to commit to a standing budget allocation and size of budget allocation were also a barrier to increasing marketing annual spends, with typical responses from each Interviewee data group being:

'I think generally if things are getting better as in financially for our company, then we normally just sort of put that into the side that we have that budget there to work on for future marketing'. Interviewee 14 (NFBU).

'At the end of the day, no matter how you try and paint it, you know, its profile advertising and a \$20,000 budget for profile advertising for a small business is just not viable'. Interviewee 8 (FBU).

The Interviewee data on marketing budget has shown consistency of relational concepts between both FBU and NFBU Interviewees that marketing budgets are not central priorities for RSB supporting and adding depth to the quantitative results in section 4.3.2.10.

5.6.2.5 Negative Online Feedback Policies

The literature identified negative online feedback as a barrier to technology adoption for business refer section 2.4.2. A question as to whether RSB have a negative online feedback policy was included in the online survey refer Appendix 7. In the quantitative analysis in section 4.3.2.9, confirmed a statistically significant association between RSB with a negative online feedback policy and RSB Use ($\chi^2 (N = 228) = 6.22, p = .013$), of small effect (Cohen, 1988), $\phi = .165, p = .013$.

Open discussions were held with Interviewees on the reasons why RSB chose to use or not to use Facebook for their business. The Interviewees text excerpts concerning negative online feedback consisted of actions related to the concept of 'Time' and 'Business'. While the concept of 'Business' was larger (indicated by size of concept dot), both business and time were heat mapped with the same lime green colour indicating they were of relatively equal proximity to the control concept of people (red). For FBU Interviewee data, the concept of 'Time' has a co-occurrence of 19% with 'Business'. In this excerpt, the Interviewee was discussing actions taken by the staff member within her business who manages the RSB Facebook account:

'I can't remember what post it was and so someone said "Oh, typical lawyers, you can't even spell" and she really engaged him and her posts were quite funny and he was just, you know, just being a dead shit in his replies and it went on for a little bit and we just kept it there. Other people were, you know, ha-harring and mmm, so not really afraid but there's been a couple where we've just banned them from the page'. Interviewee 5 (FBU).

Similarly, NFBU Interviewee data connected the concept of 'Time' with 'Business' the time aspect of Facebook manageability for negative online feedback did present as a barrier to acceptance and use for some Interviewees, for example:

'But for me – and there's too much rubbish comes on it. I'm looking for something that, you know, that is easily manageable, people make adverse comments and just – so I can manage that really quickly because my life is full and I have a business life and I coach cricket and so I don't have time to be sit there managing the social media, I just don't have it'. Interviewee 19 (NFBU).

As did the functionality availability of tools enabling the control of reputational risk, for example:

You know, I just – you know, I have admission as a barrister, I can't afford to get caught up in the crossfire of, you know, dialogue that's critical of other people and so I just can't afford to do that, so the reputational protection is critical for me to be able to use a social media. I must be able to manage my reputation. Interviewee 16 (NFBU).

From a relational analysis of the FBU and NFBU Interviewee data, the time taken to deal with negative feedback online and the functionality to manage and control online commenting by others about the business are barriers to RSB Use.

5.6.3 Engagement item concepts

The literature review identified a possible measurement scale for engagement by adapting Baldus et al. (2015) refer section 2.5.3. The online survey collected data on 11 engagement item questions Appendix 7. The quantitative analysis results developed a cohesive scale for

engagement refer section 4.4 and flagged two areas of interest (1) obtaining a better understanding of RSB Use through understanding how RSB were communicating with the market and (2) the very strong negative response received from both FBU and NFBU RSB on the use of prizes and discounts to engage the market with their RSB 4.4.7.

5.6.3.1 Marketing Communications

The concept of ‘Facebook’ and ‘use’ revealed engagement insights on marketing communications from the RSB Interviewee data. The concept of ‘use’ has a co-occurrence of 18% with the concept of ‘Facebook’. Upon interpreting the text excerpts for the interaction between the concepts, the ability to generate appropriate content appeared to be the deeper issue, for example:

‘Yeah, we do have a plan in place but it depends on content as well. We find that it’s sort of a pointless exercise unless you’ve got relevant content to your followers and that’s across the board whether it’s Facebook, Instagram, things like that – get a much better response if the contents are relevant and you find that people interact with it a lot better as well’. Interviewee 10 (FBU).

When Interviewees generated relevant content, they commented on increased consumer engagement with their RSB, for example:

‘Hooley Dooley, it took my breath away and I’ll turn them off for another month, play around with it again try and reduce it all and then turn it back on again. Yeah, and I do find when I turn it off that our engagement is less, you know, drives to the website and things like that’. Interviewee 5 (FBU).

The concept of ‘use’ co-occurred 29% with the concept of ‘Facebook’. Both concepts heat mapped lime green so are peripheral concepts. The relationship between the concepts contained different concerns to the FBU Interviewee data being located privately for business purposes:

I had a post on Facebook page and I had all these people email me to want to be my friend and I didn’t answer them and then I got an email “How come you don’t want to be my friend?” and it’s just – and so I just don’t have time to do it, you know, to

do the work. I do the recruitment, I do the work and so, yeah, I just don't have time without employing other staff, yeah. Interviewee 16 (NFBU).

Analysis of the concepts relating to using Facebook for marketing communications for FBU Interviewees, engagement demonstrated an increase in RSB market engagement (positive and negative) when using Facebook technology.

Marketing communications for NFBU Interviewees were comparatively just as important to conduct business as FBU, but conducted without the use of Facebook. The concept of 'word' (abbreviation of 'word-of-mouth') was a concept listed at 16% of the co-occurrence of the most frequent concept 'business for NFBU Interviewees sitting in the bottom third of the concept listing. NFBU Interviewees were predominately using word-of-mouth in the focal locale regardless of industry sector. For example, word-of-mouth as part of general business practice:

It's really word of mouth. We are – we rely – but I guess we rely and hope that our high standard of output is rewarded and that's how we got – like that was the one thing that we did that got us a name to – the one client that we had – the major bread and butter that we have, we did a job through via someone else and they saw that we did such a great job and sort of “Oh, yeah, you know, we want you doing all – we want you doing . Interviewee 21 (NFBU).

RSB were also using word-of-mouth through social contacts:

'Word of mouth. I have a network of people I email from my sporting contacts'. Interviewee 16 (NFBU).

The relational analysis highlights a very different approach taken to marketing communications between FBU and NFBU RSB Interviewees.

5.6.3.2 Prizes & Discounts

The quantitative analysis identified responses from both FBU and NFBU respondents expressing negativity towards using prizes and discounts to engage consumers, refer 4.4.1.

To deepen the understanding behind this response, Interviewees recounted their experience with customer communications promoting prizes and discounts in their business Appendix 7.

Generally, both FBU and NFBU Interviewees indicated negative experiences in terms of a lack luster sales results and expectation of continued devaluation by the market leading them to avoid competitions, prizes and discounts in their marketing communication engagements. A typical example for nonresponsive Facebook marketing of bonus free services:

'To me, I just thought people that see that come up and they think oh yeah, that'd be good, get a free bike wash, you know, but yeah, four or five people, that's all we've had'. Interviewee 2 (FBU).

In addition, on discounting negatively influencing product/service price positioning:

'Discounting can very easily devalue your product which is a big, big issue. For me, you need to be coming from a point of you get your – you introduce your product and how it can help someone, that's where the discount sits, so you don't really want to provide your actual service. You discount the point to where the patient sees whether-or-not the service is what they want and what they need. You know, and if you look at – I mean in all health care your most expensive appointment is your first, your initial consultation whatever health care person you go to'. Interviewee 8 (FBU).

NFBU Interviewees also did not advertise discounts as a general marketing practice:

We never really as in, you know, most – like told people on any advertising that we give discounts in such. Saying that, we – if we have a client that comes in or, you know, pretty – like a long-term client, if they use us all the time we give them – you know, we give them some discounts in that sense if we know – but we haven't actually advertised that part of it. Interviewee 14 (NFBU).

The relational analysis has provided reasons supporting why prizes and discounts in the Interviewee data are not popular forms of engaging consumer markets due to the lack of positive sales impact that has occurred previously for RSB in the focal locale.

5.6.4 UTAUT Construct based concepts

The literature review identified the UTAUT model as a technology adoption framework for the research 2.6 and discussed constructs possibly of relevance to the current context 2.6.3. As a result, the scale item questions for PE, EE, SI, FC, PV and BI were included in the online survey design refer Appendix 7. The quantitative analysis identified the UTAUT constructs providing partial support for the UTAUT model structure in section 4.5.2. The concepts discussed in the following sections discover explanations as to why the UTAUT constructs of PE, EE, SI, FC and PV formed into factors of FLE, FBG and SI in the RSB context as outlined in section 4.5.6.

5.6.4.1 FLE (EE/FC)

In the quantitative study the EFA grouped the EE scale items of EE1, EE2, EE3 and EE4 hung together with FC items FC1 and FC2, forming the first factor FBG refer Table 4.17. In the original model an anomaly was reported in the literature review between EE and FC (Venkatesh et al., 2003) detailed in section 2.6.3.2. In the qualitative study, the relational analysis sought to explore possible reasons why the EE and FC items hung on the same FLE factor. There was a weak negative correlation between FLE and BI that was not statistically significant, $\tau_b = -.001$, $p = .991$ in section 4.5.5.

To analyse EE, the relationship between the concept of 'Trying' and the concept of 'Use' was analysed. The concept of 'Trying' co- was heat mapped aqua co-occurring 40% with the central concept of 'People' (red), and 18% with the concept of 'Use' (red). Interpreted from the text excerpts was that FBU Interviewees were comfortable with the effort involved in the action of posting on the Facebook platform. However, the uncertainty of 'Trying' related to what content to use for which purpose and when to post to engage consumers, for example:

'So we try and – we try and use Facebook I'd say I try and put stuff on there once a day if I can without being it a selling thing all the time'. Interviewee 2 (FBU).

There was an assumption from Interviewees that younger staff know how to use Facebook technology in a personal sphere, so understand how to be skillful in implementation in a business setting, no evidence was supplied supporting the soundness of that assumption, for example:

'I just guess having a young team is superb because they're up with it, they know all of the stuff. It's easy to use and it's seriously the buck stops with me'. Interviewee 1 (FBU).

In the NFBU Interviewee data EE was explored by the relationship between the concept of 'Guess' (heat mapped orange) has a 26% co-occurrence with the central concept of 'Business' (red) and a 9% co-occurrence with the concept of 'use'(lime green). NFBU did not report EE as a barrier to RSB Use, for example:

'No, I suppose you look at that sort of stuff as another tool. You know, if you're going to use it, you learn how to use it and do it'. Interviewee 17 (NFBU).

For NFBU, the concept of EE was more around the effort involved in creating content for their Facebook page, for example:

'I don't think from a technical point of view I'd have any problems utilizing the different systems. I think more of a – like I say, I'm not much of a wordsmith in the written and so I guess my biggest hurdle to overcome is creating the actual content that's meaningful that's, you know, yes, I think it's more if there was a scaffold around the actual marketing side I don't think the tools are the problem for me just because I'm in IT. Interviewee 16 (NFBU).

On the cost-benefit analysis to produce a bottom line result through RSB Use:

'And again, you know, probably having some sort of promotion on social media, while it wouldn't be adverse, we don't believe that it warrants the amount of time and effort that's going to have to go into it to maintain it and everything else. Being a family business, we're very, very much personal, person to person type contact'. Interviewee 12 (NFBU).

I guess (1) I didn't see how it would be of a significant value to my business and (2) the time that it would take for me to become competent at using it. I've only – it's only been in the last 12 months that I even have a personal Facebook page. Interviewee 19 (NFBU).

The relational analysis provided depth of understanding for EE, as being easy to become skillful in business in both the FBU and NFBU Interviewee data.

In the FC responses, Interviewees clarified concerns they may have with resources, knowledge, and compatibility with IT systems. Where concerns were held, Interviewees were asked what they thought would be the best way to improve these concerns. The FBU Interviewee data analysed the relationship between the concepts of 'Use', and 'Information'. The concept of 'Use' (heat mapped red) co-occurs at 20% with the concept of 'Information' (purple), indicating 'Use' of greater importance to the central concept of 'Business' than 'Information'. FC were not problematic for the majority of FBU Interviewees for desktop pc or mobile functionality for example:

'I generally do it all from my phone because it's easier to use from my phone than I do desktop'. Interviewee 2 (FBU).

For the NFBU Interviewee data, the concept of 'Use' and the concept of 'Facebook' are relevant to understanding FC. The concept of 'Use' (lime green) has a 29% co-occurrence with the concept of 'Facebook' (lime green), and both concepts are peripheral to the central concept of 'Business' (red). 'Facebook' and 'Use' are of little importance to NFBU RSB. However, there were no facilitating conditions expected by RSB in the NFBU Interview data. For example:

'I don't think there are any barriers there. I'm a big Apple user and from what I understand – and from my personal use, the interfacing, the technology, the software is quite seamless'. Interviewee 21 (NFBU).

Again, the RSB Use decision for NFBU centered on value to the business (as expressed previously in performance expectancy data relationships), or in relation to knowing how to use Facebook technology, for example:

'I don't think from a technical point of view I'd have any problems utilizing the different systems. I think more of a – like I say, I'm not much of a wordsmith in the written and so I guess my biggest hurdle to overcome is creating the actual content that's meaningful that's, you know, yes, I think it's more if there was a scaffold around the actual marketing side I don't think the tools are the problem for me just because I'm in IT. Interviewee 16 (NFBU).

Neither the FBU nor NFBU Interviewee data supported RSB Use as impeded by real or perceived concerns of FC with their existing IT systems. Reviewing the reasoning of the qualitative data, the grouping of EE with FC fits with the anomalies identified in the original UTAUT model (Venkatesh, Brown, Maruping, & Bala, 2008). Both studies could also be picking up the RSB familiarity created through personal use and knowledge of infrastructure requirements to use Facebook technology as not being a major consideration in their decision concerning RSB Use.

Multicollinearity observed in the scale item data and the endogeneity of the regression in the RSB context occurs in the qualitative data. Interviewee's frequently included EE and FC considerations with those of value to the RSB in terms of bottom line result, items that fell on the scale in the PE1 and PV1, being removed from the analysis due to high correlation and cross loading outlined in section 4.5.2. The proximity of connection between considerations of the RSB respondent due to the business size and operations were as anticipated by the scoping of the research 1.6.1.

5.6.4.2 FBG (PE/PV)

The EFA grouped PE scale items of PE2, PE3, PE4, together with PV items PV2 and PV4, forming the second factor FBG refer Table 4.17. PE is reported in the UTAUT literature review as the strongest predictor of UB in business (Venkatesh et al., 2003) and consumer settings (Venkatesh et al., 2012) from the original model and in subsequent meta-analysis (Dwivedi et al., 2017; Khechine et al., 2016; Williams et al., 2015). A weak positive correlation was found between FBG and BI that was not statistically significant, $\tau_b = .092$, $p = .069$. From the qualitative study, the relational analysis sought to explore possible reasons why PE and PV items hung on the FBG factor.

The FBU Interviewee data the concept of 'Facebook' and the related concept of 'Use' co-occurring at 18%. Both concepts are heat mapped red due to their importance to the central concept of 'People'. The concepts of 'Facebook' and 'Use' discussed in terms of the Interviewees expectations of the results of RSB Use. The majority of Interviewees text excerpts interpreted as having their expectations not met by using the technology to deliver access to new customers or new markets in retail, for example:

I think as a business owner I expected that Facebook would generate more clients but what it actually does is it just keeps us in touch with our existing client base.

We've managed and monitored some advertising campaigns via Facebook and it was normally our regular clients that had seen it and liked it as opposed to generating new business from it'. Interviewee 1 (FBU).

In addition, in professional services RSB:

It's a lot of belief now that Facebook does not actually tie into Google algorithms at all with the exception that the busier your Facebook is, if it's driving traffic to your webpage, Google will see the activity at the webpage level but it's not actually looking at Facebook so unless your Facebook is actually driving people to your webpage, it's fairly irrelevant. There's certainly an argument of keeping – in terms of keeping in touch with your current patients, but in terms of introducing your business to outside of your current patient load, Facebook is – your – just the normal Facebook posts you do are almost irrelevant. Interviewee 8 (FBU).

There was disappointment in the functional limitations of the platform influencing their business, for example:

'It's a phone thing so you've got to have your photos on your phone and often I – well, the phone I've got is alright but the quality of the images I wouldn't rely on it because if you send it off to a magazine and so forth you just can't use the images on the phone so that one is limited I find'. Interviewee 7 (FBU).

The PE for NFBU was analysed in terms of the relationship between the concepts of 'Clients' at 12% co-occurrence with the concept 'Facebook', in the bottom third of the related concepts list. The concept of 'Clients' heat mapped orange at and closer in proximity to the central concept of 'Business', indicating it is of greater importance to NFBU Interviewees than 'Facebook' heat mapped lime green and at a greater distance away from the central concept. NFBU Interviewee data did not consider Facebook technology a vehicle for conducting serious business, for example:

You know, it's just very – yeah, I don't know, just very casual, very – yeah, where I'm looking for rock solid solutions for my client so I don't think it fits my brand, my image, you know, the Facebook. I know there's more social media than just Facebook but that's got to be the primary one. Interviewee 11 (NFBU).

Alternatively, Facebook did not fit the RSB existing client profile, for example:

When we asked our clients, you know, “Is it going to be any benefit for you to be able to get us on Facebook or anything?” “No. We’ll call you when we want to.” Interviewee 12 (NFBU).

The depth of responses provided by Interviewees assists in understanding the uncertainty surrounding PE, and reasons as to why the PE construct was not evidenced in the quantitative analysis. The concepts of ‘Facebook’ and ‘Marketing’ provide greater depth of understanding on PV. For RSB owners from the FBU subsample on PV:

‘Someone showing me a good model that has a good ROI in the investment, that’s the bottom line. We just had a big meeting with Yellow Pages because Yellow Pages is now trying to reinvent itself back as a marketing firm away from being a phone book. Interviewee 3 (FBU).

The relationship between the concept of ‘Facebook’ and the concept of ‘Advertising’ provide an increased understanding of PV. ‘Facebook’ is heat mapped lime green indicating it is of lesser importance than the concept of ‘Advertising’ (orange to the central concept of business (red). The concept of ‘Facebook’ has an 18% co-occurrence with the concept of ‘Advertising’. Facebook provides a free business service. However, RSB NFBU Interviewee data indicates they are reluctant to migrate from costly marketing practices where they have been previously successful, for example:

‘We are still looking at doing Facetime – Facebook, sorry, Facebook but I think we’re still in the looking at stage so – but we’re doing TV advertising. I mean in saying that, the TV advertising is quite expensive so – but because we’ve had – it has worked for us in the past, we tend to go to that one more so than a digital platform like Facebook and things like that. But saying that, I mean we’re quite happy to try Facebook and we will probably in the future so’. Interviewee 18 (NFBU).

The reliance on word-of-mouth and not seeing Facebook as a provider of e-word of mouth was again prevalent in NFBU Interviewee data, for example:

'I use advertising in the Yellow Pages and the Local Directory – I don't think they're called Local Directories anymore, they're called Local Search I think now and that's really the only advertising I do. In fact I've just decreased my profile on Yellow Pages because of the cost of it and – oh sorry, and I have my website so – and most people that find me are either repeat customers or word of mouth or they found me via my website so – and I'm not likely to change that in the foreseeable future'. Interviewee 21 (NFBU).

From the relational analysis, both FBU and NFBU Interviewee data suggests that RSB find uncertainty in valuing Facebook use. There is a clear connection for RSB between considerations in the PE1 and PV1, PV3 and PV5, deepening understanding of the quantitative necessity to remove those items from the analysis due to high correlation in section 4.5.2. As with the FLE factor, FBG proximity of connection between considerations of technology acceptance and use by the RSB due to the business size and operations were as anticipated by the scoping of the research 1.6.1.

5.6.4.3 SI

The third factor formed in the quantitative analysis consisted of the original items of the UTAUT Model for SI, being SI1 and SI2, retaining the original construct name refer 4.5.2. The literature review identified SI constructs are most significant where use of a system is voluntary and lessening over time (Taylor & Todd, 1995; Venkatesh & Morris, 2000; Venkatesh et al., 2003). UTAUT studies results have been mixed for SI in predicting BI with significance found for individual consumers technology use (Bozorgkhou, 2015; Slade et al., 2015), for some small business social media adoption (Workman, 2014) but not for others (Mandal & McQueen, 2012). A weak positive correlation was found between SI and BI that was statistically significant, $\tau_b = 143$, $p = .005$. From the qualitative study, the relational analysis sought to explore possible reasons how RSB were subject to SI and what the perceived connection was with the use decision.

A deeper understanding of SI gained through the interpretation of responses forming the concept of 'Facebook' and the concept of 'People' and how those concepts interact. 'Facebook' (heat mapped red) is a strongly linked concept positioned equal third with the central concept of 'people (red), with a co-occurrence of 36%. There were two aspects

forming the SI in the relationship between 'Facebook' and 'People', firstly a realisation from FBU Interviewees that Facebook is relevant to market access, for example:

'Well, everybody's on it. Everybody's on Facebook'. Interviewee 1 (FBU).

Secondly, that Facebook is relevant to market access and Interviewees are conscious of the opinions others have of their business and this influences their content posting on Facebook, for example:

'Just one more thing I'd like to add is we find it really difficult to blow our own horn to let people know how good it is here and to let people know what it is that we do individually. So we don't – I don't promote that I'm on the board of the [X] and I sit on three other committees and we don't promote enough that the girls volunteer their time and they're on all these other committees so we find it hard to blow our own horn without looking at – without making it look like we're blowing our own horn so that people can see that, you know, we're a bigger part of the community'. Interviewee 5 (FBU).

The relationship between the concepts of 'Facebook' and 'People' provide understanding of SI for the FBU Interviewee data. There was no SI equivalent concepts located in the NFBU Interviewee data. From the FBU data, SI may be sufficient to encourage many RSB to have a presence on Facebook. However, the RSB experiences barriers concerning actions to take once a Facebook presence is created to effectively use the technology.

5.6.4.4 BI

The construct of BI is the identifying feature of the UTAUT model, providing the interim step in predicting Use Behaviour and distinguishing the model from earlier TAM based models. An error occurred in the quantitative study whereby to reduce the length of the study after the pilot advice, two BI items were removed leaving only one scale item to be included in the online survey. There was a medium positive correlation between BI and FBU that was statistically significant, $\tau_b = .302$, $p < 0.01$ in section 4.5.5. The qualitative study focus for BI was to add depth to BI as a predictor of UB, by identifying variables affecting acceptance or continued use.

The concepts of 'use and 'Facebook', most FBU Interviewees whose businesses had accepted the technology had the intention of continuing to do so. However, there was a mix of opinions of intention evident on continuing use. While some businesses that had experience with the platform were turning away, for example:

'Yes, yeah, we've really gone away from Facebook. We don't use anywhere near as much Facebook, just generic Facebook stuff because there's not a lot of – I mean this is all very arguable with Google's algorithms'. Interviewee 8 (FBU).

Other users were undecided on their intention to continue due to barriers in managing the technology, for example:

'We'd like to be able to remove it and I don't know how to remove it but – and I'm quite happy now we've decided we're going to put a comment back, then that will shut the whole thing down I think. I don't know, I just – I suppose to me I just feel as though we put stuff on there and we just don't get the feedback that – when so many people are using Facebook but then again I don't know how many people actually are using it'. Interviewee 3 (FBU).

Some had accepted the technology initially, and then been dormant for 12 months not updating and actively engaging the RSB due to local downturns and failure to realise potential in the platform outside specific posting conducted:

'If we were using it we tend to be promoting new or recently completed projects. That's something that's I guess has a lots of interest to people or we perceive it as interest to people and it hadn't – given the downturn in activity there hasn't been a real lot of work that we could be providing. That's not to say we couldn't look at some other ways of doing it which we haven't so we haven't had a lot of projects completed in terms of construction to advertise if you like'. Interviewee 9.

There was no change in acceptance and use in the NFBU Interviewee data evidencing an intention to change technology in the next 12 months. The qualitative analysis recognised a number of issues affecting RSB decision to use Facebook for NFBU or continue use for FBU discussed in the following sections.

5.6.5 Additional Issues Raised by Interviewees

Interviewees raised additional issues during the course of the semi-structured interviews relating to advertising noise on Facebook, content protection concerns and the ability to source relating to continuing use of Facebook for RSB.

5.6.5.1 Protection measures

Analysis of the relationship between the concept of 'Website' and 'Facebook', unveiled FBU Interviewee concerns with content protection when using Facebook technology. The concept of website was peripheral to the central concept of 'People' with a co-occurrence of 17%, near the bottom of the concept listings. There was uncertainty as to how when they do produce effective content RSB can protect that content on their websites could be used/shared/copied via Facebook, for example:

'Yeah, on – they're – on the website we've got a copyright stamp across it. But if they're really determined they'll get it'. Interviewee 7 (FBU).

There were no issues raised around content protection in the NFBU Interviewee data concepts as a reason not to accept and use Facebook technology, nor was content protection an issue raised in other online or offline RSB activities.

5.6.5.2 Advertising noise on Facebook

The concept of 'Advertising' heat mapped orange, co-occurring at 22% with the central concept of 'People' and is the leading co-occurrence with the concept of 'Facebook' at 37%. It was widely acknowledged by FBU Interviewees that advertising on Facebook was a cause for concern for their business, for example:

'I think probably the great fascination for me is social – Facebook now tends to be getting overrun with advertising. Advertising is changing social media dramatically and I know myself, I rarely use Facebook at all now because of its sheer amount of advertising it's running which makes you wonder do you want to advertise on it because the very thing that made it great it's gone right away from so I'm sure it's getting its greatest returns for its shareholders ever but is it killing the goose?' Interviewee 3 (FBU).

The NFBU Interviewee data did not raise Facebook advertising noise affecting their decision positively or negatively to accept and use Facebook technology. There were no concepts raised in the NFBU Interview data on noise as a consideration in their choices of traditional marketing communications for the RSB e.g. magazines, newspapers, television, radio etc.

5.6.5.3 Information and Education

Interviewees made suggestions on improvements to assist their current use of Facebook or encourage them to consider the use of Facebook for their RSB. The majority of both FBU and NFBU Interviewees suggested that they required further information and education. However, this information and education needs to be in small segments, for example:

‘You know, this last conference that I went to he was amazing fellow and just gave out so many websites that you could use to, you know, set up all other stuff and I’ve gone oh, wow, you know, information overload and I’ve done nothing with any of it’. Interviewee 1 (FBU).

Preferably through a trusted educational provider:

‘You know, there’s Facebook for Business now and I’ve taught myself it because I have to do for clients and manage their process but it would be great if we could do small short courses on it through a recommended learning platform like JCU, whereby I trust them to know that what I’m getting is the latest information and it’s cutting edge rather than me thinking what I’m doing is right. So I’m basically trusting that Facebook that what I’m getting out of – what I’m teaching myself is correct’. Interviewee 8 (FBU).

Provide simply and effective best practice guidance for posting and integration with other digital marketing techniques such as websites, webinars, blogs and traditional marketing, for example:

‘The previous marketing company that we were using, we tried to get into some sort of a calendar to what’s best practice, what should we do and all they did was go to the date calendar and said “Well, you fill it out” so we went to someone new who helped us map out. Alright, we’ve got this webinar, let’s talk about child support,

let's put up some blogs, let's sponsor some ads and really intertwined into a running theme each month, yeah'. Interviewee 5 (FBU).

Include technically specific information and not just general operating principles, for example:

'I'm not too sure actually but I think something that would help my business plan would be working closely more with someone who's a little bit more SEO based, sort of like get a bit more experience in SEO. I think I'm not really sure how to answer that but, yeah, that would help build my business plan a little bit better if I had a better understanding of SEO more than I could do myself I think'. Interviewee 12 (FBU).

For NFBU Interviewees to consider RSB Use, the relationship between the concept of 'Need' and 'Facebook' was analysed. The concept of 'Need' is heat mapped orange, has a 10% co-occurrence with the concept of 'Facebook' (lime green) and 32% co-occurrence with the central concept of 'Business' (red). There would need to be increased privacy protections for the business and individual to influence RSB Use, for example:

I'm just not technology – you know, I know how to use a computer, just run all the programs that we need to run to do what I've got to do. Facebook for me is just an invasion of privacy that, you know, I don't need the whole world knowing what I'm doing and vice versa. Interviewee 20 (NFBU).

Provide information to NFBU Interviewees on the benefits of capturing future customers earlier in the market, for example:

While they do tend to use social media, Facebook and that sort of stuff, it's not something that we've been able to ascertain that they use for sourcing information. The only real promotion we do is we have two webpages and word of mouth and we find that that generates as much growth as what we need. Interviewee 12 (NFBU).

Provide information to NFBU Interviewees on how to use personal connections to strengthen business networking in the e-space using Facebook, for example:

I mean I do use a personal Facebook. I like to know about your family. Interviewee 14 (NFBU).

In addition, simplify existing platforms to make them more intuitive and thereby easier to us, for example:

I find – I actually find – I have a Twitter and I have Facebook – I actually find them really challenging to use. A simplistic platform, a really simple platform, yeah, I'd definitely consider it. Interviewee 16 (NFBU).

From the relational analysis of the Interviewee data, both FBU and NFBU Interviewees are in need of information and education to assist with the decision to accept and use Facebook technology for their RSB. This finding is in line with the wider technology adoption literature on small business research approaching the problem from an entrepreneurial orientation, where lack of support and training inhibits social networking technology usage (Eggers et al., 2017).

5.6.6 Summary of Relational Analysis

The relational analysis has provided a deeper understanding of the concept and relationship between the concepts for FBU and NFBU Interviewees shedding light onto the areas of RSB personal and business demographics, PIE and UTAUT model constructs. The concept of Isolation discovered as an element influencing FBU Interviewees in the focal locale assists in justifying the scope of the research in section 5.6.1. Planning was a low priority for both FBU and NFBU and this flowed through for FBU Interviewees to a lack of planning around the use of Facebook for their business in section 5.6.2.3. Marketing budget was low for FBU and NFBU Interviewees impeded by cash flow cycles and reliance on word-of-mouth marketing in the local market in section 5.6.2.4. Dealing with negative feedback online influenced FBU Interviewees use of Facebook and was a barrier to NFBU acceptance of the technology in section 5.6.2.5. The decision to use Facebook was prevalent where there was an interested staff member in section 5.6.2.2. Age was relevant to FBU Interviewees in terms of their perception of younger staff's ability to use Facebook technology; however, 'Age' was not central to their decision on RSB Use section 5.6.2.1.

Engagement takes a very different approach to the application of marketing communications between FBU and NFBU Interviewees. In addition, the concept of consumer engagement

exists for FBU Interviewees, but is not clearly understood and therefore unable to be effectively implemented, refer section 5.6.3.1. Prizes and discounts failed to produce sales results and/or adversely impacting price positioning of products/services for both FBU and NFBU Interviewees in section 5.6.3.2.

There is a lack of clarity around performance of Facebook as it has failed to deliver new customers/markets by FBU Interviewees in section 5.6.4.1. Both FBU and NFBU Interviewees expect that Facebook is easy to use and become skillful at for their business. However, FBU place reliance on having younger staff with personal knowledge applied in a business setting in section 5.6.4.2. FBU Interviewees experienced social influence in their acceptance and use of Facebook technology in section 5.6.4.3. There were no relationships indicating incompatibility with existing IT systems were influencing the decision to accept and use Facebook technology in section 5.6.4.4. There was no clear connection of intrinsic or extrinsic value for either FBU or NFBU Interviewees in consideration of the decision to accept and use Facebook technology for their RSB in section 5.6.4.5. There was some link between changes in algorithms and uncertainty of replicability of RSB marketing campaign results causing a loss of future use in section 5.6.4.6.

Interviewee data provided additional issues influencing their continuing use of Facebook technology including increasing advertising noise on Facebook in section 5.6.5.2, and inability to protect privacy and content copyrights in section 5.6.5.1. Both FBU and NFBU Interviewee data suggested increasing small, technical, current, applied information and training as of benefit to their consideration of RSB Use in section 5.6.5.3.

5.7 Validation Strategies

Qualitative data analysis also needs assurances of the adequacy and appropriateness of data quality. The validation strategies used for qualitative data should be suited to the purpose of the data collection as either descriptive (hard) or interpretive (soft)(Morse, 2018). In this research, validation of the descriptive data occurred in the contextual analysis, for example, hard data collected on counts of terms and evidence of the existence of concepts in section 5.5. Descriptive techniques used to refer to stability, reproducibility and accuracy of the results best ensuring scientific rigor. The researchers' contribution to validate descriptive data is through ensuring the interview proforma applied to all interviews i.e. all interviewees

asked the same questions in the same order and the transcriptions checked against the audio recordings refer Appendix 13.

Leximancer assisted the research validation strategy by generating a codebook for the data, checked by the researcher. Evidence of stability occurs through the Leximancer test-retest process and changes in the linking of concepts in the dataset assessed by the researcher. There is an ease of reproducibility as the coding is computer aided and removes a degree of uncertainty with the alternative manual process of inter-rater reliability.

5.8 Verification Strategies

Verification strategies apply to interpretive (soft) data and occurs through member checking (in participatory research), saturation (replication of responses), peer review (checking of interim findings) and audit trails (documentation of thoughts throughout the research)(Morse, 2018). The main purpose of the interviews in this research was to obtain interpretive data concerning Interviewees beliefs, opinions and experiences to assist in explaining the phenomena surrounding RSB Use identified in Chapter 4 quantitative analysis. The number of interviews conducted was determined through consideration of sample size and saturation of responses, a judgement call by the researcher in consultation with experienced peers. The researcher kept audit trail documentation throughout this research.

5.9 Chapter Conclusion

This chapter (Chapter 5) presented the results of the qualitative data analysis, consisting of a conceptual analysis followed by a relational analysis. A summary of the conceptual analysis is in section 5.5.4. The summary of the conceptual analysis is in 5.6.6. Both the conceptual and relational analysis were consistent with the quantitative analysis results showing clear difference in characteristics via the existence of concepts and relationships between the FBU and NFBU RSB subsamples and explanation of the reasoning behind the online survey results.

The qualitative analysis was able to identify issues affecting Facebook acceptance by NFBU RSB as Privacy Protections, Advertising Noise, Negative Online Feedback mechanisms and Educational support.

Validation strategies for the content analysis of descriptive data focus on assurance of accuracy and appropriateness of data and include following interview proforma, checking interview transcriptions and the use of computer assisted coding and test-retest procedures contained in section 5.7. Verification of the content analysis for the interpretation of the data included monitoring the interviews for replication of data indicating saturation and peer review in section 5.8.

The next and final chapter, (Chapter 6), discusses the qualitative and quantitative results, positions those results in the current literature and provides a conclusion to the study.

6 DISCUSSION AND CONCLUSION

6.1 Introduction

The previous chapter, (Chapter 5), presented the results of the qualitative data analysis.

This chapter, (Chapter 6), summarises the research through discussion of the quantitative results (Chapter 4) and qualitative results (Chapter 5), and positions those results in the current literature (Chapter 2). The chapter commences with a discussion of the theoretical relationships observed in the research in section 6.2. Presentation of conceptual models arising from the quantitative analysis summary in section 4.6 and qualitative analysis summary in section 5.9. A table of the contributions made by this research is in section 6.3. Implications made for theory in section 6.4 and practice in section 6.5 with further research opportunities highlighted in section 6.7. Chapter 6 concludes with a summary of conclusions for the research.

6.2 Discussion of Theoretical Relationships

The purpose of this research was to explore and explain RSB Use of Facebook technology. The literature review in Chapter 2 identified the theoretical framework for the research. The literature review identified personal and business demographics, an engagement scale and the UTAUT model as providing theoretical tools for exploring and explaining RSB Use. The quantitative and qualitative data collection tools embedded the UTAUT theoretical framework.

The theoretical relationships identified in the quantitative data were consistent across descriptive, inferential, bivariate and multivariate levels of statistical analysis. The quantitative data also produced consistent results using parametric and nonparametric tests, when treating Likert-type scale data as continuous, categorical or ordinal data specific tests. The quantitative data produced consistent results between the different data analysis tools of SPSS and Stata. The consistency of the results demonstrates robustness of the data obtained providing confidence in the relationships discovered. The following sections discuss each of the theoretical findings to position this research within the existing literature.

6.2.1 Personal and business demographics of RSB

As the literature on RSB Use was scant, variables were located in the general business literature, and included the moderators of the UTAUT model literature (gender, age and experience as listed in Figure 2.14), that were theoretically likely to assist in explaining RSB Use to address RQ1,

RQ1: What are the characteristics of RSB that do, and do not, use Facebook?

The quantitative data collection provided online survey responses on RSB personal and business demographic data based upon the variables located in the literature. Descriptive and inferential statistics in the Chapter 4 quantitative results, supported expectations arising from the existing literature on the relationships between RSB Use and the variables of age, experience and business size, refer 4.3.3. The personal and business demographic relationships with RSB Use served to check the results made common sense, i.e. having some grounding in existing literature and industry experience providing a level of comfort with the research. The literature review identified Facebook users are more likely to be in a middle-aged demographic. The supporting finding from this research is an RSB using Facebook technology is more likely to be of a younger age group than an NFBU RSB.

The qualitative interviews provided a deeper understanding of RSB conceptualisation of Age. Interviewees indicated age interpretations of ‘young’ people might be a matter of generational perspective in the RSB context and/or a general assumption that younger people are somehow ‘naturally’ more intuitive with technology. For example, an RSB owner in their 50’s thought of an employee in their 30’s being more adept with Facebook use due to age; while a business owner in their 30’s perceived their late teen employees to be better with Facebook skills due to their youth, refer section 5.6.2.1.

Another finding from this research was in relation to business categorisation by size based on number of employees. There were a higher number of microbusinesses (70%) than small businesses (30%) who responded to the survey, refer Table 4.1. However, statistical testing allowing for business size proportionality of responses found no significant difference between this size of businesses in their survey responses, and this supports the use of the ATO definition of small business including micro businesses within the same organisational size based category.

Unique findings for this research that enrich understanding of the RSB context include the quantitative finding that RSB Use being equally likely to be male as female refer Table 4.1. The existing literature on Gender for technology adoption and use suggests RSB with female owner/managers would have a higher uptake of Facebook technology. The quantitative equality of gender finding supported in the qualitative analysis, as Gender was not an identified concept for either FBU or NFBU subgroups.

The majority of RSB respondents with personal Facebook accounts accessed at least daily demonstrating personal familiarity (proxy for 'Experience' UTAUT moderator) with the functionality of the technology in both FBU and NFBU subgroups. The literature suggests that experience with a technology results prima facie in an increasing adoption of that technology. However, in the RSB context with a larger proportion of older males in the RSB subgroup who have a majority of personal Facebook accounts with minimum daily access this does not appear to be the case, suggesting personal experience is of limited as a predictor for RSB Use.

RSB who are NFBU have owners with a clearer delineation between 'home' and 'work' spaces and are not likely to mix personal use and business matters on their personal Facebook pages. Due to small numbers within survey respondents, this research was not able to make a definitive finding as to whether specific types of business or industry sectors were responsible for this result, e.g. B-2-B or manufacturing, and remains an opportunity for future research.

Of concern for both FBU and NFBU subgroups was the quantitative results showing a lack of strategic planning for business, marketing, digital or social media use of any form. The qualitative results also had the concept of 'plan' being low on the priority listing of concepts for both FBU in Table 5.1 and NFBU in Table 5.4. The reason for the quantitative result provided in the qualitative interviews suggests a 'hand to mouth' cash flow focus, lack of planning knowledge and an inability to locate professional advice by RSB for the lack of formal planning undertaken. A lack of professional advice for RSB supported by marketing professional interviewees who expressed uncertainty of direction in Facebook content and functionality and an inability to find adequate professional guidance for clients. There is a need for future research to consolidate the relevance of professional advice on Facebook use for RSB. There is also opportunity for an industry body for the regulating the provision of marketing services by to provide level of assurity for small business seeking quality advice.

Contrary to industry and anecdotal reports in the wider community at the time of this research, there was no indication that any issues associated with the NBN in any way impacted RSB Use in the quantitative study or in the concept listing in the qualitative study.

There were several commonalities identified between the FBU and NFBU subgroups namely neither re likely to have a policy to deal with negative online feedback, both have an average marketing budget under \$1000 and uncertain as to whether this budget delivers value for money.

The personal and business demographics formed an important contribution to the understanding of those variables relationships with RSB Use, being able to assist prediction when combined with PIE using a regression model in Table 4.14.

6.2.2 PIE for RSB

The literature review revealed a gap between in the consideration of consumer engagement as a defined concept in online marketing communications and it's requirement to involve the RSB as a significant party in that process. The literature did not address whether RSB perceived engagement with marketing communications as important and perhaps explain unknowns around their decision to accept and use Facebook technology, or not. This lead to the formation of the second research question:

RQ2: How do RSB perceive the importance of consumer engagement; and does the perceived importance vary between RSB that are FBU and NFBU?

In the quantitative analysis of the engagement data statistical testing confirmed appropriateness of survey data on engagement for reduction in section 4.4.3, reliability in section 4.4.4 and validity in section 4.4.5. The formation of a scale for the perceived importance of engagement for RSB is a contribution furthering current literature largely focused on consumer engagement aspects.

RQ1 considered RSB demographic and business characteristic data variables in conjunction with the engagement data variable from RQ2, allowing for the generation of a stepped regression model predicting RSB adoption and use of Facebook technology in Table 4.14. By adding the variable blocks of business owner characteristics, business characteristics, business strategy and digital challenges, any subtle differences in the significance or signage of the variables was observable. There were several findings of interest from this research at

this higher level of statistical analysis using regression analysis that assist in explaining the relationship between PIE and RSB Use.

Having a budget higher between \$1000 and \$10,000 indicates an RSB is less likely to use Facebook. Further interrogation of the data was not possible in this regard; however, the result could mean that as firms spend more money they are more likely in regional areas to be reliant upon traditional media e.g. print, radio, television for marketing communications. Such an explanation is consistent with the qualitative interview comments. Alternatively, it may reflect the unplanned nature of RSB marketing generally and its relation to available cash flow and professional marketing advice. Another plausible explanation may be that this is the commencement of the impact of business size at the upper end of the employee size bracket (nearing 20 employees) in terms of increased available resources for marketing communications i.e. the point at which a change in business structure impacts RSB Use decisions.

The most important finding in this section of the research is that when controlling for all other variables, engagement was the most important variable in predicting RSB Use refer 4.4.7.

6.2.3 Presentation of regression model for personal and business demographics and PIE with RSB Use

In the literature review (Chapter 2), identified the need for the exploration and inclusion of demographic and attitudinal variables for possible inclusion in technology models. The quantitative analysis (Chapter 4) showed how the regression of PIE, RSB owner demographics and RSB business characteristics are useful in predicting RSB acceptance and use of Facebook technology. The regression model developed as a contribution in this research is:

$$Y(RSB = 1) = b_0 + b_1PIE_{1i} + b_2 Age_{2i} + b_3 Gender_{3i} + b_4 Private Facebook Use_{4i} + b_5 Business Size_{5i} + b_6 Business Operation_{6i} + b_7 Business Sector_{7i} + b_8 Digital Strategy_{8i} + b_9 Planning_{9i} + b_{10} Marketing Budget_{10i} + b_{11} Lack of Internet Access_{11i} + b_{12} Positive about NBN_{12i} + \epsilon_i$$

The benefits of the conceptualisation is that the engagement items forming the scale are bedded in consumer engagement literature, however the engagement questions are in common language and therefore easily understood for application by marketing professionals

and other stakeholders. In addition, the demographic variables are readily available and/or easily obtained from RSB making this a very usable tool for policy makers and industry stakeholders. If the particular questions sought to be resolved in future stakeholders' practical problem better align with an approach using the UTAUT Model based literature, then the conceptualisation can also be made of RSB Use from that perspective.

6.2.4 UTAUT Model, Constructs and Items

This research tackled a known complicated model in an under explored field by approaching the explanation of RSB Use using engagement and the UTAUT model, rather than more traditional approach using entrepreneurial-based small business organisational literature. The literature review in Chapter 2 identified the UTAUT model as a theoretical framework to explore RSB Use. A corresponding gap in the literature was located regarding the application of UTAUT based models to the small business environment from a regional perspective; this led to the development of the final research question:

RQ3: What is the role of the UTAUT model in predicting RSB acceptance and use of Facebook technology?

The literature review identified the UTAUT framework for the exploratory analysis of RSB Use with five (5) potential constructs PE, EE, SI, FC (from the original UTAUT Model) and PV (from the UTAUT2 Model) as able to assist with the theoretically relationship to predict RSB Use. The quantitative online survey included the construct associated question items from the respective UTAUT scales modified to suit the RSB context and focal technology.

The quantitative study found partial evidence to support PE, EE, SI, FC, PV and BI in existing as explanatory variables in the RSB context. However, the regression model experienced endogeneity for which there was insufficient data to statistically test the model in full. The qualitative data analysis supported the findings of the quantitative analysis and provided deep insight into the reasoning of the quantitative findings. The following sections discuss each of the factors found in this research with the items used from the UTAUT constructs to orientate the findings in the existing literature. A review of the theoretical relationships of the factors then provides for a conceptual model explaining the RSB Use findings for future studies.

6.2.4.1 FLE (EE/FC)

The first factor produced in the EFA using PAF was FLE refer Table 4.17. Upon thematic review, FLE contained only scale items from the UTAUT constructs of EE (retaining all four items being EE1, EE2, EE3 and EE4) and FC (FC1 and FC2).

The literature identified an anomaly with the FC construct being an overlap with EE (Venkatesh et al., 2003) detailed in section 2.6.3.4. The result of this anomaly is that when PE and EE are included in the model, FC becomes an insignificant predictor of BI. However, empirical testing of the UTAUT model found a relationship beyond BI directly with UB (Venkatesh et al., 2003).

Given the FLE factor is comprised of EE and FC items, the quantitative finding of a weak link with BI and UB is not surprising refer section 4.5.5. EE has also been found insignificant for predicting BI for microbusiness use of social media technology (Mandal & McQueen, 2012) and FC found having little impact on UB in developed countries (El-Masri & Tarhini, 2017). The qualitative study revealed a possible reason for this result as being the experience with the technology through personal use but lacking in knowledge for effective planning and implementation in an RSB context.

6.2.4.2 FBG (PE/PV)

The second factor produced from the EFA was FBG refer Table 4.17. Upon thematic review FBG was observed to contain only scale items from the UTAUT constructs of PE (PE2, PE3, PE4) and PV items (PV2 and PV4). In the quantitative analysis found support for the consumer construct of PV from UTAUT2 (Venkatesh et al., 2012) in the RSB context with inclusion in the FBG factor.

PE is reported in section 5.6.4.2, as the most important predictor of BI across a range of contexts applying the UTAUT model (Khechine et al., 2016; Venkatesh et al., 2003; Williams et al., 2015). However, PE has been found as not significant in the context of organisational social media use (Workman, 2014).

A theoretical relationship combining PE and PV makes sense through first principles by simply referring to the definitions for each construct and the business conduct. The definition of PE in section 2.6.3.1 is, *'the degree to which an RSB owner/manager believes that using Facebook technology will help him or her to attain gains in RSB performance'* (Venkatesh et

al., 2003). The definition of PV was modified in this research from ‘consumers’ to ‘RSB’ and is stated in section 2.6.3.6 as, ‘*RSB owners/managers cognitive tradeoff between the perceived benefit of Facebook acceptance and use and the monetary cost for the RSB in terms of economic benefits in business development*’ (Venkatesh et al., 2012). It makes sense that PE and PV be grouped to hang in the one factor, as the primary purpose of most small business is to make money.

The quantitative analysis found a weak positive correlation was found between FBG and BI that was not statistically significant, $\tau_b = .092$, $p = .069$. The qualitative analysis indicated this result might be due to the misconception in the FBU RSB as to what Facebook technology could provide with certain actions undertaken on the platform to produce new consumers and access new markets in section 5.6.4.2. Also supported by the qualitative analysis was the quantitative identification of cross loading between the PE and PV construct items with RSB considerations intertwined in Interviewee text refer section 5.6.4.2.

6.2.4.3 SI

The final factor formed in the EFA only contained scale items from SI in the original UTAUT model and as such kept that construct name refer Table 4.17.

Studies have shown mixed results as identified in the literature review in section 2.6.3.3. SI constructs are most significant where use of a system is voluntary where it influences perceptions of the technology and in mandatory settings with inexperienced users; again lessening in impact over time and sustained usage (Taylor & Todd, 1995; Venkatesh & Morris, 2000; Venkatesh et al., 2003). SI is significant in predicting BI for individual consumer predictions of technology use in e-commerce (Bozorgkhou, 2015; Slade et al., 2015). In contrast, SI is reported as not significant for the acceptance and use of social media by microbusiness (Mandal & McQueen, 2012) or to business predictions of social media use (Workman, 2014).

The RSB context found a theoretical relationship contrary to the prior studies of business contexts more aligned with the consumer study findings with preliminary statistics found a weak positive statistically significant correlation between SI and BI, $\tau_b = .143$, $p = .005$ in the RSB context. The qualitative study was consistent and provided depth to this finding indicating RSB perceived social influences expectations they have a Facebook presence. However, the effect of SI was limited to the point of technology acceptance in commencing a

platform presence. The limitation of SI reportedly due to the RSB was uncertain of actions for effective use of the platform 5.6.4.3. Further, RSB recognised their need for education and training for continued Facebook use.

6.2.5 Presentation of conceptual (UTAUT based) model

The sequential explanatory research design identified synergies between the quantitative analysis and qualitative analysis. A conceptual model proposed in Figure 6.1 based on the quantitative and qualitative analysis of the UTAUT data.

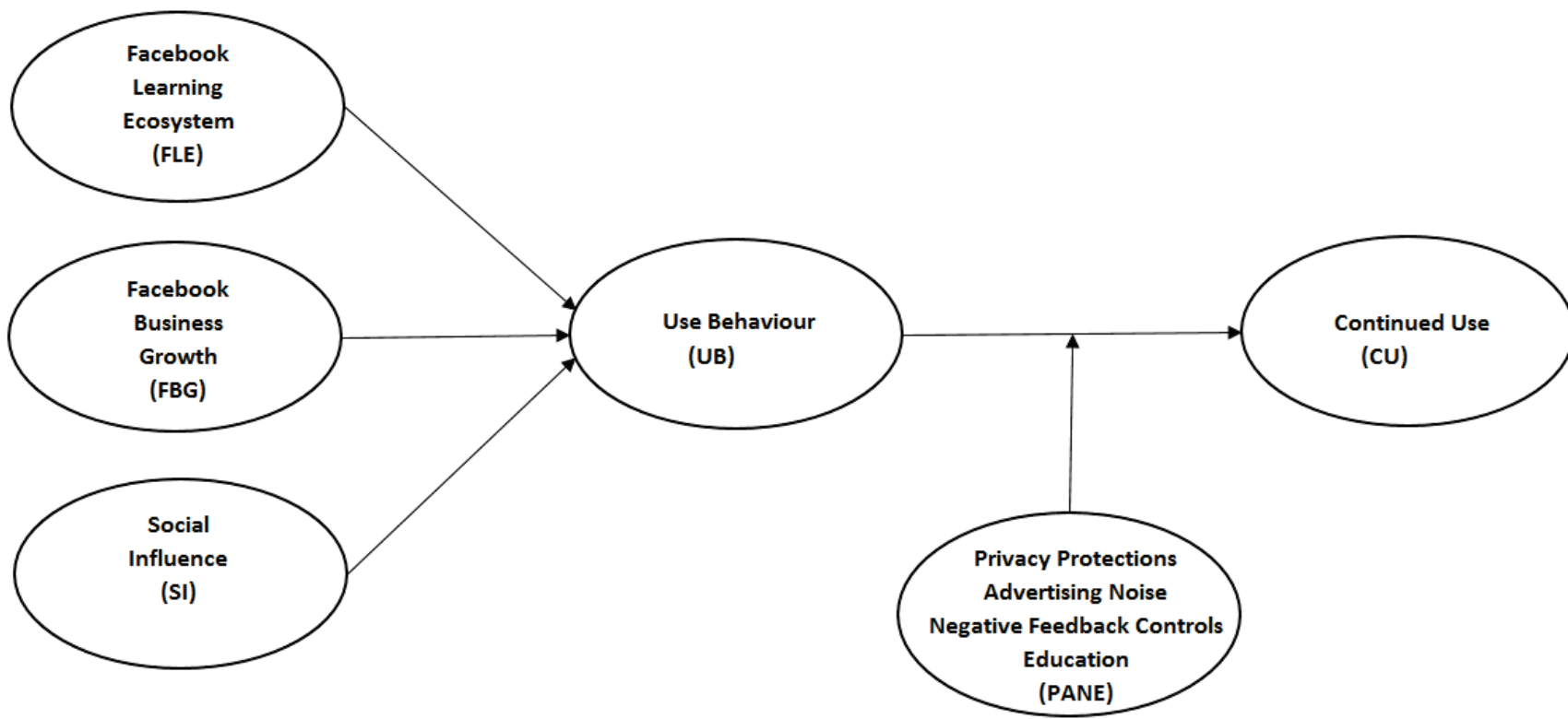


Figure 6.1 UTAUT item based conceptualisation of RSB Acceptance and Continued Use of Facebook technology

6.3 Contributions of the Research

This research has provided findings that confirm findings in the extant literature advance findings from previous studies in the existing literature and contribute new knowledge to areas of literature, refer Table 6.1.

Table 6.1 Contributions of the research

	Research Item	In Extant Literature	Confirmation, Advancement, Contribution
1	Created a new regression model RSB demographics and engagement variable to predict RSB Use	Little Known	Contribution
2	Extended existing marketing engagement scale to online/offline spaces and in new RSB context	Baldus (2015)	Advancement
3	Investigated the UTAUT model core constructs (PE, EE, SI, FC, PV) the new context of RSB with Facebook technology	Little known	Advancement
4	Created and evaluated an extended UTAUT model based on factors of FLE, FBG and SI to explain RSB Use	Little Known	Contribution
5	Extended the understanding of regional isolation experienced by RSB, and the need to take care in application of policy from theoretical generalisations not proven to apply in RSB context	Little known	Advancement

A discussion follows on the contributions of this research in terms of the implications for marketing theory and practice, the limitations for consideration in future studies and opportunities created for researchers arising from this research.

6.4 Implications for Theory

There are implications for theory arising from this research for the use of personal and business demographics, consideration of perceptions of consumer engagement and the UTAUT model. The findings in this research suggest that the RSB context has unique characteristics in need consideration when explaining the acceptance and use of Facebook technology. The findings demonstrate the UTAUT model scale items provide useful building blocks to investigate this new RSB context by providing a grounding in existing literature.

The results support the use of personal and business demographics in models to predict technology acceptance and this is consistent with existing wider small business literature (Bulearca & Bulearca, 2010; Eggers et al., 2017) and UTAUT literature (Venkatesh et al., 2012; Venkatesh et al., 2003).

The use of attitudinal based constructs such as the PIE, can supersede the use of some of those additional personal and business demographics in predicting RSB Use. Engagement as the attitudinal based construct explored in this research. The results showed RSB perceived importance of consumer engagement aspects as supported in both the quantitative analysis identified and further explained in the qualitative analysis as affecting RSB Use. Future research could explore the inclusion of PIE in UTAUT models answering the call of Dwivedi, Rana, Tamilmani, and Raman (2020).

The UTAUT theory implications are that the model is relevant as a theoretical framework to the RSB context with constructs consistently formed based on those envisaged in the literature. Meta-analysis by Taiwo and Downe (2013) conducted on 37 studies from 2003 to 2011, found generally low levels of relationship between constructs in the UTAUT model led to questioning of the model itself, with relationship strengths reported for PE-BI (medium), EE-BI (weak), SI-BI (weak) and FC-UB (weak)(Cohen, 1988). A later meta-analysis by Khechine et al. (2016) with a larger sample size and contextual scope of 74 studies, tested additional relationships and including 30 new studies from 2012 to 2013, reported a PE-BI (large), EE-BI (medium), SI-BI (large), FC-BI (inconclusive), FC-UB (weak) and BI-UB (medium)(Cohen, 1988). While unable to be statistically tested through modelling due to insufficient data to address endogeneity, the preliminary indication of correlations in section 4.5.5 align the quantitative results more closely with the meta-analysis results of Taiwo and Downe (2013).

Limitations acknowledged by both meta-analysis were the large number of studies excluded by meta-analysis criteria and the inability to test UTAUT moderators. For example, of the 197 studies located by Khechine et al. (2016), only 74 (37%) met the criteria to be included in the meta-analysis and this excluded all multivariate and SEM based studies; in essence only the ‘best of the best’ of the published studies being tested for relational value.

The findings of this study suggest the UTAUT literature may benefit from creation of a database of IV’s questions associated with the scale designed to meet future research needs. While not a guarantee of IV success in overcoming endogeneity, an IV database would be beneficial to marketing researchers pending the development of high-level mathematical techniques in statistical modelling curing endogeneity that is currently outside the scope of the current research.

The development of a synthesized technology adoption is a noble pursuit. The literature comprising use amongst different types of social media indicates differences occur in usage for each social platform suggesting a unified model may not be achievable (Workman, 2014). To understand the UTAUT model’s application to RSB Use requires further research. Granted the UTAUT model may not be perfect in the RSB context and/or with the focal technology, nevertheless, the UTAUT model is the most predictive model available in technology acceptance literature to predict both intention to use and actual use behaviour of IT for individuals and businesses.

6.5 Implications for Practice

During the final stage of this research, several crisis occurred in Australia that supported and operationalised the conceptual need identified originally instigating this research into increased understanding of RSB Use refer section 1.2. Firstly, prolonged drought in rural and regional Australia sparked an initiative by NSW small business who commenced the ‘Buy from the Bush’ campaign to attract NSW city and metropolitan based consumers to purchase from NSW RSB facilitated by Facebook technology. The campaign delivered an additional \$5 million in revenue to the 275 participating RSB between October 2019 and June 2020 (Palmer-Derrien, 2020).

Following the drought came further hardship for RSB with bushfires ravaging regional areas across Australia in early 2020. Many Government and stakeholder organisations subsequently used Facebook based marketing campaigns to aid recovery through attracting tourists to regional areas and support RSB, for example, Murray Regional Tourism's @visitthemurray ("Bushfire Recovery Marketing Campaigns," 2020).

Closely following the bushfires was the third crisis in early/mid 2020, where circumstance forced RSB to enter and/or increase their online presence to operate within COVID-19 lock down and trade restrictions. While the succession of events is likely to result in more RSB having a presence online and perhaps using Facebook technology, as seen from the qualitative analysis, this does not mean there is the perceived knowledge, experience or educational support available for effective and continuing use by RSB.

This research has presented relevant findings for RSB, technology designers, professional marketers, Government and stakeholder policy makers and implementers. For RSB, this research increases awareness around a structured approach to successful Facebook Use. RSB structure can be obtained through planning activities using Facebook. For example, being aware of how Facebook technology fits within the business goals, what to do on the platform, by whom and when, what the platform can achieve in terms of customer growth/retention, increasing profits and access to wider markets.

This research calls to marketing professionals that can assist RSB in the provision of consistent informed advice on Facebook acceptance and use from planning and implementation through to evaluation and ROI processes. The research also indicates a role for a professional marketing body to oversee and coordinate training needs through networking with higher educational institutions and ensuring industry standards.

The regression model developed in section 4.4.6 provides guidance to stakeholder bodies and policy makers on the key factors affecting RSB Use. The regression model provides RSB demographics and PIE as readily available and/or easily collectable data to predict RSB Use. The information provided on difficulties faced by RSB to obtain education supports funding of programs aimed at addressing the barriers identified in Facebook technology and provide a theoretically grounded pathway to economic growth in those regional areas.

For platform designers, this research explores the similarities and differences between FBU and NFBU subgroups providing guidance by identifying touch points to influence RSB User

Experience (UX). The generation of a conceptual model combining insights from the quantitative and qualitative analysis and identifying the Privacy, and the ability to deal with Negative feedback as reducing provide a proactive opportunity for these matters be addressed if current RSB users are to be retained and new users recruited.

6.6 Limitations

This research contains a number of limitations by design outlined in section 1.7. The design delimitations narrow the scope of the research to small business (by number of employees), regional locale (Townsville) and focal technology (Facebook). This research examined a singular context and technology type. The generalised application of the findings to other geographic locations and social media technologies is unknown, and provide avenues for further research.

Small sample sizes are often prohibitive for researchers in regional based social science research. Larger datasets provider greater options for statistical modelling techniques. However, regional research has great opportunity as little has been developed or tested for theoretical application for RSB. Regional RSB research also has ability for meaningful impact in Australia through building knowledge applying to those contexts.

Collection of the data for studies conducted in this research occurred at a singular point in time. Longitudinal studies would enable knowledge of RSB Use overtime potentially clarifying and refining RSB Use changes throughout the stages of early and long term use.

6.7 Opportunities for Further Research

The studies in this research provide a starting point for the understanding of RSB personal and business characteristics, PIE and UTAUT Items in RSB Use. The following are opportunities identified for researchers to continue to explore RSB related phenomena:

- extending this research to include small business in other regional areas within Australia,
- extending this research to include small business in other regional areas outside Australia,
- expanding the research to cover multiple social media platforms,

- comparing the RSB use of paid Facebook advertising in online environments,
- conducting longitudinal studies to track changes in factors impacting RSB Use,
- discovering a cure for endogeneity for UTAUT based models and developing best practice modelling procedures that suggest IV question items for their models for subsequent researchers to apply, and
- conducting Quantitative studies exploring the extended UTAUT based conceptual model proposed by this research.

6.8 Summary of Conclusions

This research explained regional small business acceptance and use of Facebook technology for marketing communications. The main findings from Chapter 4, Chapter 5 and Chapter 6 are:-

- RSB have distinct personal and business demographics impacting the acceptance and use of Facebook technology for marketing communications,
- Consideration of the perceived importance of engagement is beneficial when predicting RSB acceptance and use of Facebook technology,
- concepts, terminology and implementation of engagement are distinct between RSB who accept and use Facebook technology for marketing communications and RSB who do not,
- UTAUT models require adaptation to explain the unique characteristics of RSB acceptance and use of Facebook technology,
- marketing models may benefit from a treatment for endogeneity to more realistically reflect the complex nature between components, and
- similarities and differences in RSB acceptance and use of Facebook technology provide practical leverage for stakeholders

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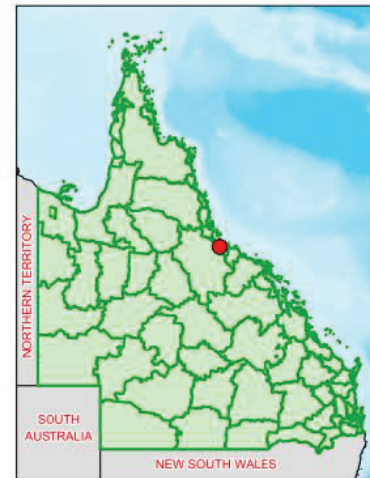
APPENDICES

Appendix 1 Literature Review Search Terms

TOPIC	SEARCH TERMS
Brand Community	Brand Community, Online Brand Community, Online Community of Consumption, Virtual Communities, Tribal Marketing, Alter Brand Community, Counter Brand Community
Engagement	Engagement, Consumer Engagement, Customer Engagement, Online Engagement
Facebook	Social Media, Facebook
Marketing Communications	Marketing Communications, Marketing Communications online, Marketing Communications Social Media
Marketing Strategy	Social media marketing strategy, online marketing strategy, RSB
The Online Environment	Technology Acceptance, Technology Acceptance, UTAUT, Unified Theory of Acceptance and Use of Technology

Appendix 2 Queensland Local Government Areas (LGA), 2011 – Townsville (C)(ASGC Code 37010)

Queensland Local Government Areas (LGA), 2011 - Townsville (C) (ASGC Code 37010)



Map produced by Office of Economic and Statistical Research, Queensland Treasury (www.oestr.qld.gov.au/naps). Data sourced from Australian Bureau of Statistics, Australian Standard Geographical Classification (ASGC), 2011 (cat. no. 1216.0) Queensland Government, State Digital Road Network (SDRN)
 © The State of Queensland (Queensland Treasury) 2011

Appendix 3 Operationalised Engagement Dimensions adapted from Baldus (2015)

How important is it to the RSB that their business addresses each of the operationalised engagement dimensions:

Engagement Dimension	Operationalisation
<i>Brand influence</i>	Encourages comments and suggestions from others
<i>Brand passion</i>	Motivates others to be passionate about your business
<i>Connecting</i>	Connects with the online community.
<i>Helping</i>	Allows for others to interact with the business.
<i>Like-minded discussion</i>	Encourages the discussion of opinion on products or services.
<i>Rewards (hedonic)</i>	Provides posts that are entertaining.
<i>Rewards (utilitarian)</i>	Provides posts that contain prizes and discounts.
<i>Seeking assistance</i>	Allows others to share experiences.
<i>Self-expression</i>	Allows others to express their opinions and interests.
<i>Up to date Information</i>	Provides the most up to date information about the business offerings.
<i>Validation</i>	Provides recognition to participants with the business page.

Appendix 4 Scale items for Facebook acceptance in RSB setting, adapted from (Escobar-Rodriguez & Carvajal-Trujillo, 2014; Liew et al., 2014; Venkatesh et al., 2012; Venkatesh et al., 2003)

<i>Behavioural Intention to use the system</i>	
BI1	I intend to use Facebook for my business in the next 12 months
*BI2	I predict I would use Facebook for my business in the next 12 months
*BI3	I plan to use Facebook for my business in the next 12 months
<i>Performance Expectancy (PE)</i>	
PE1	If I use Facebook for my business, I will increase my chances of achieve better business performance
PE2	I would find Facebook useful for my business
PE3	Using Facebook for my business increases my productivity
PE4	Using Facebook for my business enables me to accomplish tasks more quickly
<i>Effort Expectancy (PE)</i>	
EE1	I believe I can easily get access to Facebook
EE2	I believe it would be easy for me to become skillful at using Facebook for my business
EE3	I believe I would find Facebook easy to use for my business
EE4	Learning to operate Facebook for business is easy for me
<i>Social Influence</i>	
SI1	People who are important to me think that I should use Facebook for business
**SI2	The senior management of this business has been helpful in the use of the system.
SI3	People who influence my behaviour think that I should use Facebook for business
SI4	People whose opinions I value prefer that I use Facebook for business to community with them
<i>Facilitating Conditions</i>	
FC1	I have the resources necessary to use Facebook for my business
FC2	I have the knowledge necessary to use Facebook for my business
FC3	Facebook for my business is not compatible with other systems I use
FC4	I know there is a specific resource available for assistance with Facebook for my business difficulties
<i>Price Value</i>	
PV1	The cost of Internet access is affordable
PV2	Advertising space on Facebook is good value for money
PV3	Using Facebook for my business has increased my customer base
PV4	Having access to Facebook for my business enables me to attract new customers
PV5	Using Facebook for my business has increased my profits
<i>Actual Use</i>	
AU	I use Facebook for my business to engage online consumers
Note: *Denotes items removed from survey due to pilot feedback.	
** Denotes Items removed in research design as not relevant to the study.	

Appendix 5 Correlation Matrix for PAF of UTAUT Items

Correlation Matrix		PE2	PE3	PE4	EE1	EE2	EE3	EE4	SI1	SI2	FC1	FC2	PV2	PV4	PV5
Correlation															
PE2	-														
PE3	0.681	-													
PE4	0.592	0.713	-												
EE1	0.476	0.312	0.327	-											
EE2	0.578	0.515	0.484	0.569	-										
EE3	0.545	0.424	0.424	0.624	0.735	-									
EE4	0.469	0.431	0.444	0.607	0.798	0.759	-								
SI1	0.593	0.552	0.484	0.358	0.341	0.354	0.245	-							
SI2	0.600	0.562	0.483	0.345	0.390	0.332	0.268	0.797	-						
FC1	0.384	0.357	0.262	0.528	0.599	0.572	0.654	0.143	0.166	-					
FC2	0.401	0.359	0.375	0.461	0.628	0.563	0.704	0.158	0.170	0.683	-				
PV2	0.790	0.657	0.551	0.461	0.520	0.503	0.467	0.600	0.546	0.336	0.361	-			
PV4	0.805	0.619	0.533	0.463	0.468	0.432	0.427	0.59	0.546	0.330	0.367	0.741	-		
PV5	0.726	0.662	0.568	0.361	0.486	0.469	0.471	0.495	0.419	0.371	0.396	0.624	0.765	-	
Variables															
<i>M</i>	5.25	4.42	4.11	5.9	5.21	5.28	5.2	4.9	4.72	5.28	5.08	5.05	5.39	4.5	
<i>SD</i>	1.60	1.64	1.68	1.10	1.42	1.4	1.44	1.51	1.53	1.47	1.60	1.48	1.40	1.66	

Appendix 6 Informed Consent

Hi,

You are invited to take part in a research project about your perceptions of small business adoption of social media technology in the Townsville region. The study is being conducted by Ms Tracey Mahony from the College of Business, Law and Governance and will contribute towards her PhD thesis at JCU.

You are asked participate in a survey and respond to a series of questions. The survey will take approx. 10 minutes to complete.

If you complete this survey, you will be eligible to enter the draw to win an iPad Mini (16GB, Wifi).

If you know of other business owners that might be interested in this study, please pass on this survey link so they may also volunteer for the study.

Taking part in this study is voluntary and you can stop taking part in the study at any time without explanation or prejudice. Your responses and contact details will be strictly confidential. The data from the study will be used in aggregate form only in research publications, reports, conference presentations and the thesis of the Principal Investigator. You will not be identified in any way in these publications.

The study will enable us to understand business practices, inform policy and fund outcomes needed for small business support in the region.

If you have any questions about the study, please contact the Principal Investigator at

Principal Investigator:
Mrs Tracey Mahony
College of Business, Law & Governance
James Cook University
Phone:
Email: tracey.mahony@jcu.edu.au

If you have any concerns regarding the ethical conduct of the study, please contact:
Human Ethics, Research Office
James Cook University, Townsville, Qld, 4811
Phone: (07) 4781 5011 (ethics@jcu.edu.au)

Appendix 7 Online Survey

SURVEY SECTION 1 OF 3 – ALL RESPONDENTS

Are you a Business Owner or Operator?

An Operator is a person in charge of daily operations of the business such as the manager of the business.

- Yes
- No

What is the postcode of your primary place of business?

How many employees does your business currently employ?

- 0-4 Employees 5-19 Employees 20-199 Employees 200+ Employees
-

Which industry sector does your business belong to?

- Accommodation and Postal and Food Services
- Education and Training
- Information Media and Telecommunication
- Professional Scientific and Technical Services
- Transport, Warehousing
- Administrative and Support Services
- Electricity, Gas Water and Waste Services
- Manufacturing
- Public Administration and Safety
- Wholesale Trade
- Agriculture, Forestry And Fishing
- Financial and Insurance Services
- Mining
- Rental, Hiring and Real Estate Services
- Other
- Arts and Recreation Services
- Health Care and Social Assistance
- Personal Services
- Retail Trade
- Unsure
- Construction

Please indicate your current age bracket:

- 18 – 24 years 25 – 34 years 35 – 44 years 45- 54 years 55 – 54 year 55 – 64 years 65+years
-

Please indicate your gender:

- Male
- Female

Does your business use a Business Plan?

- Yes

No

Does your business use a Marketing Plan?

Yes

No

Does your business have a Digital Strategy?

A digital strategy is any part of your planning documentation that considers what new technology you will use in your business and how you will use it.

Yes

No

Is the use of social media technology (e.g. Facebook, Twitter, Instagram) included as part of your business plan, marketing plan or digital strategy?

Yes

No

Which of the following ways does your business operate?

Physical premises only (e.g. a shop front or office providing products and services in person)

Online presence only (e.g. all business conducted through a website or other Internet platform with no physical store)

Both a physical premises and an online presence

Has concerns about a lack of Internet access negatively affected the decision to use social media technology (e.g. Facebook, Twitter, Instagram) in your business?

Yes

No

Unsure

Has the NBN (National Broadband Network) roll out positively affected your decision to use social media technology (e.g. Facebook, Twitter, Instagram) for your business?

Yes

No

Unsure

Do you have a personal Facebook page for your own private use?

Yes

No

How frequently do you use your personal Facebook page?

- Once a day Multiple times a day Once a week Multiple times a week Once a month Multiple times a month A few times a year Never
-

Does your personal Facebook page contain a mix of your private posts and posts relating to your business activities?

- Yes
- No

Does your business use its own Facebook page?

- Yes
- No

SURVEY SECTION 2 OF 3 (Engagement NFBU)

In this section of the survey, I am interested in your decision not to use social media technology and how you conduct your marketing activities. You are half way through the survey and being into the draw for the iPad mini!

Who is responsible for your business marketing?

- Owner / Operator
- Employee
- Outsourced agency
- Other, please state relationship

What is the gender of the person responsible for your business marketing?

- Male
- Female

What is the age bracket of the person responsible for your business marketing?

Under 18 years 18 – 24 years 25 – 34 years 35 – 44 years 45 – 54 years 55 – 64 years 65+ years

How much time do you think would be spent on the business Facebook page per week?

Under 1 hour 1 – 2 hours 3 – 4 hours 5 – 6 hours 7 – 8 hours Other

How do you currently measure the success of your business marketing activities?

Exposure Sales increases Return on Investment (ROI) Subscription increases Cost of acquiring new customers We do not currently measure marketing activities
 Number of Customers Customer Lifetime Value (CLV) Traffic through to website Conversion rates Other

Does your business have a policy in place for handling negative feedback online?

Yes
 No

How important is to you that your business conducts the following activities?

	Extremely Important	Very important	Moderately important	Slightly important	Not at all important
Encourages comments and suggestions from Others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Motivates others to be passionate about your business	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Connects with the online community	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Allows for others to interact with your business	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Encourages the discussion of opinions on products or services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provides entertaining information to the customers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provides information on competitions, prizes and discounts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Allows others to share experiences	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Allows others to express their opinions and					

interests	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provides the most up to date information about the business offerings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provides recognition to customers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please indicate all the ways that your business currently communicates with customers or potential customers?

- | | | |
|------------------------------------|-------------------------------------|------------------------------------|
| <input type="checkbox"/> Newspaper | <input type="checkbox"/> Television | <input type="checkbox"/> Website |
| <input type="checkbox"/> Magazine | <input type="checkbox"/> Billboards | <input type="checkbox"/> In person |
| <input type="checkbox"/> Radio | <input type="checkbox"/> Flyers | <input type="checkbox"/> Other |
| <input type="checkbox"/> Telephone | <input type="checkbox"/> Email | <input type="checkbox"/> |

How often does your business communicate with customers and potential customers?

- | | |
|---|---|
| <input type="radio"/> Once a day | <input type="radio"/> Once a month |
| <input type="radio"/> Multiple times a day | <input type="radio"/> A few times a month |
| <input type="radio"/> Once a week | <input type="radio"/> A few times a year |
| <input type="radio"/> Multiple times a week | <input type="radio"/> Never |

Do you think your customers enjoy receiving communications from your business?

- | | | |
|---------------------------|------------------------------|--------------------------|
| <input type="radio"/> Yes | <input type="radio"/> Unsure | <input type="radio"/> No |
|---------------------------|------------------------------|--------------------------|

How often do you think your customers would prefer to receive a communication from your business?

- | | |
|---|---|
| <input type="radio"/> Once a day | <input type="radio"/> Once a month |
| <input type="radio"/> Multiple times a day | <input type="radio"/> A few times a month |
| <input type="radio"/> Once a week | <input type="radio"/> A few times a year |
| <input type="radio"/> Multiple times a week | <input type="radio"/> Never |

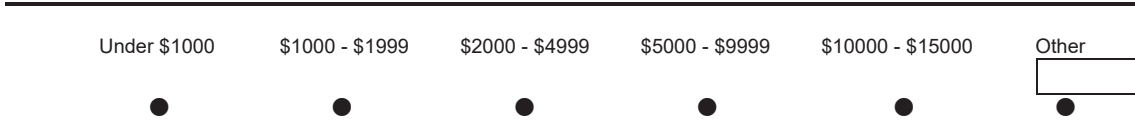
Please indicate if your business uses social media other than Facebook:

- | | |
|--|---|
| <input type="checkbox"/> Twitter | <input type="checkbox"/> Instagram |
| <input type="checkbox"/> Pinterest | <input type="checkbox"/> Geo location |
| <input type="checkbox"/> Snap chat | <input type="checkbox"/> Blog |
| <input type="checkbox"/> Linked In media | <input type="checkbox"/> None, our business does not use social media |

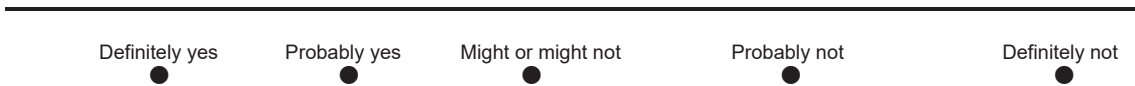
- YouTube
- Google+

■ Other

What is the approximate annual marketing budget?



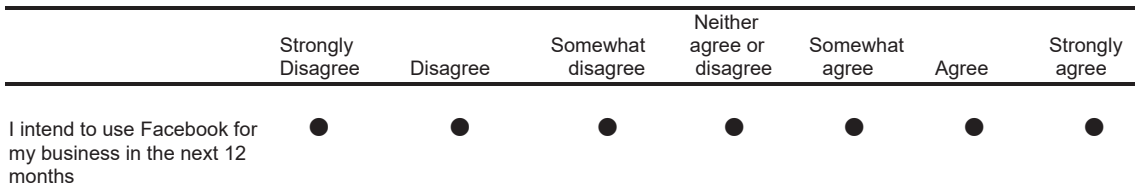
Do you consider your marketing expenditure is currently providing good value for money?



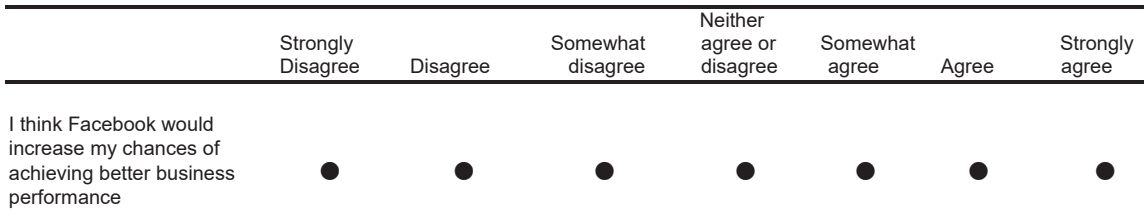
SURVEY SECTION 3 OF 3 (UTAUT NFBU)

Here I am interested in how well existing models fit your needs as a Townsville business owner in predicting technology acceptance of social media, in this case for Facebook for your business. The questions test relationships in the existing literature. You may feel there are several similar questions, but that is needed to have useable results for the survey. Please hang in there, you're almost finished!

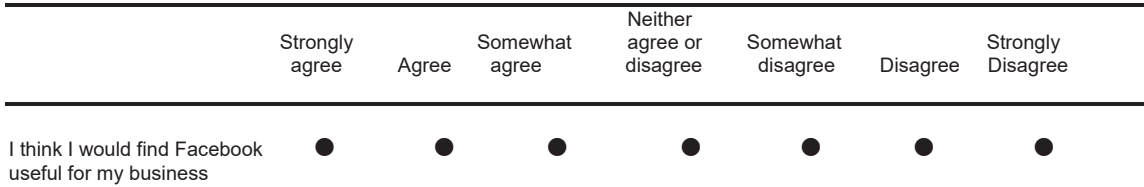
Please indicate how you feel about the following statement:



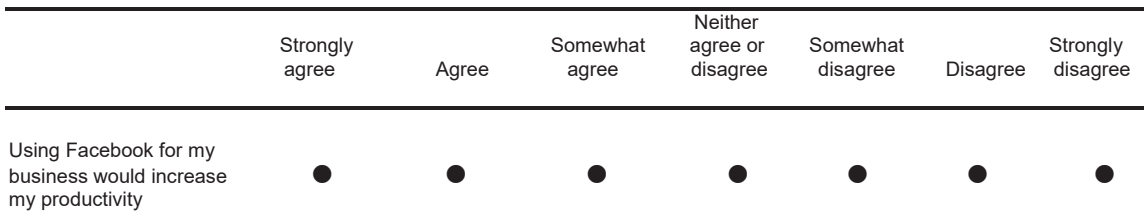
Please indicate how you feel about the following statement:



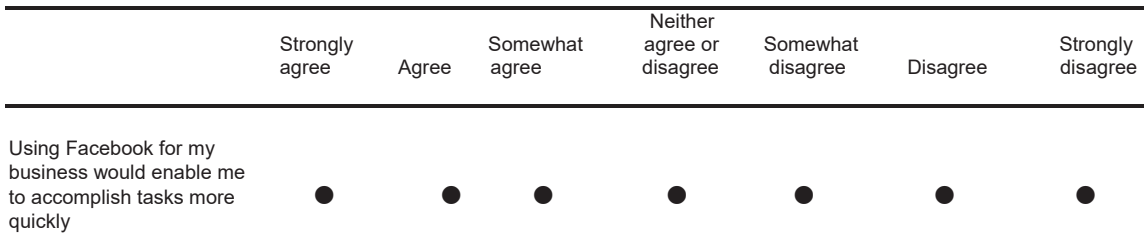
Please indicate how you feel about the following statement:



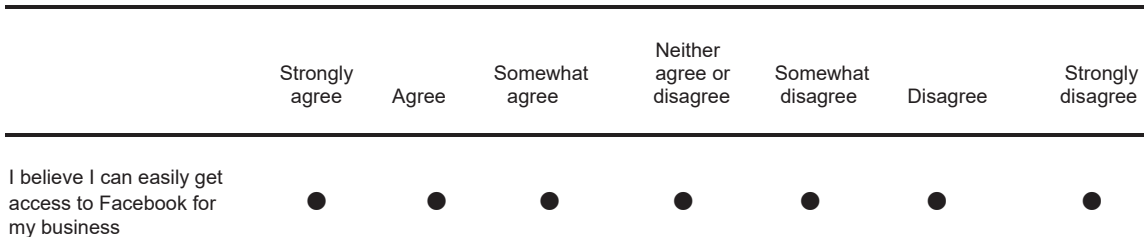
Please indicate how you feel about the following statement:



Please indicate how you feel about the following statement:



Please indicate how you feel about the following statement:



Please indicate how you feel about the following statement:

	Strongly agree	Agree	Somewhat agree	Neither agree or disagree	Somewhat disagree	Disagree	Strongly disagree
I believe it would be easy for me to become skilful at using Facebook for my business	●	●	●	●	●	●	●

Please indicate how you feel about the following statement:

	Strongly agree	Agree	Somewhat agree	Neither agree or disagree	Somewhat disagree	Disagree	Strongly disagree
I believe I would find Facebook easy to use for my business	●	●	●	●	●	●	●

Please indicate how you feel about the following statement:

	Strongly agree	Agree	Somewhat agree	Neither agree or disagree	Somewhat disagree	Disagree	Strongly disagree
I believe learning to operate Facebook for my business would be easy for me	●	●	●	●	●	●	●

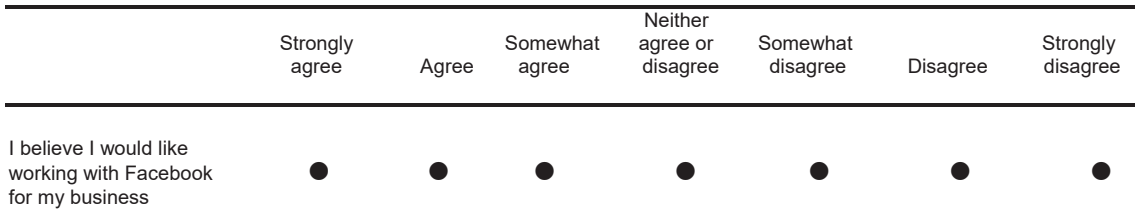
Please indicate how you feel about the following statement:

	Strongly agree	Agree	Somewhat agree	Neither agree or disagree	Somewhat disagree	Disagree	Strongly disagree
I believe using Facebook for my business would be a good idea	●	●	●	●	●	●	●

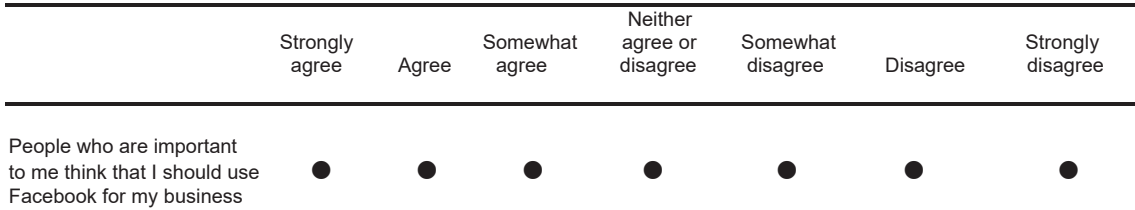
Please indicate how you feel about the following statement:

	Strongly agree	Agree	Somewhat agree	Neither agree or disagree	Somewhat disagree	Disagree	Strongly disagree
I believe working with Facebook for my business would be fun	●	●	●	●	●	●	●

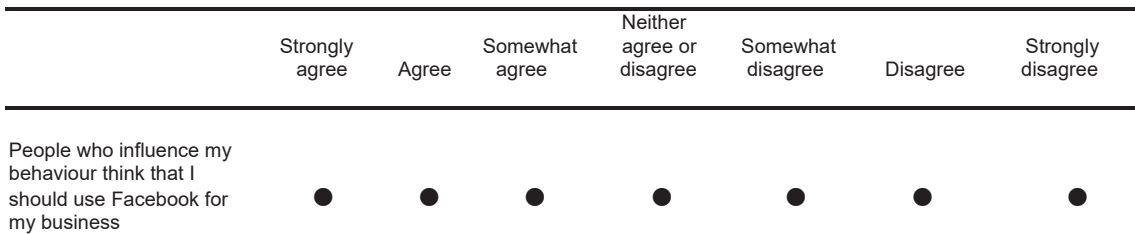
Please indicate how you feel about the following statement:



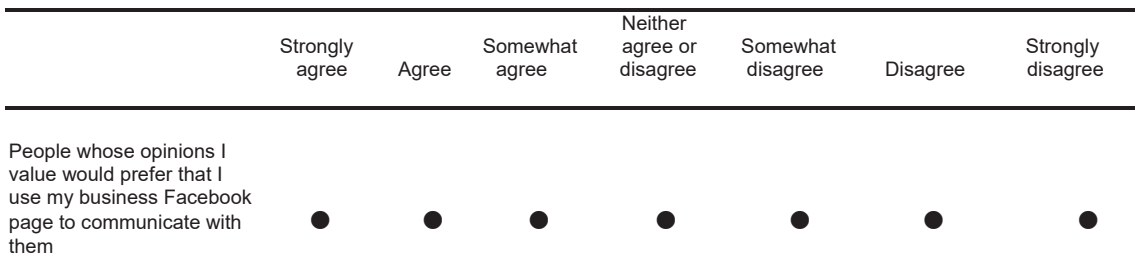
Please indicate how you feel about the following statement:



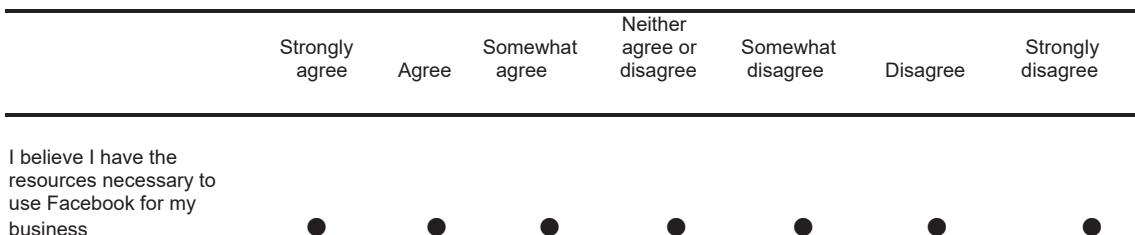
Please indicate how you feel about the following statement:



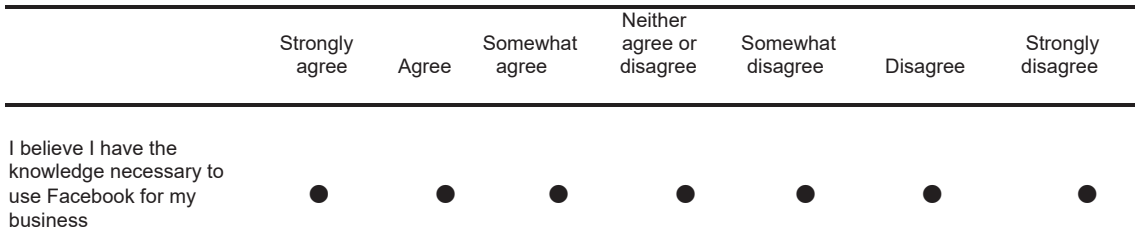
Please indicate how you feel about the following statement:



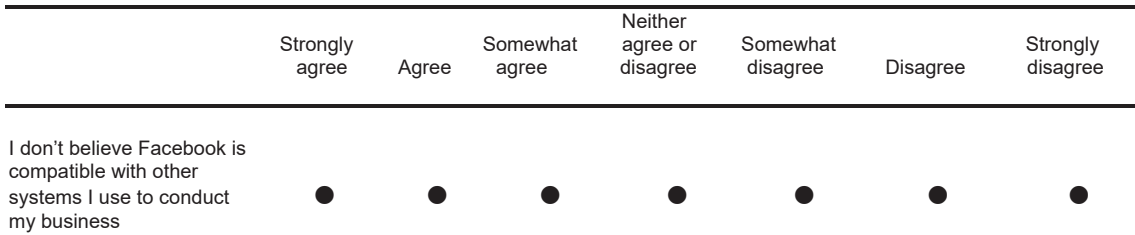
Please indicate how you feel about the following statement:



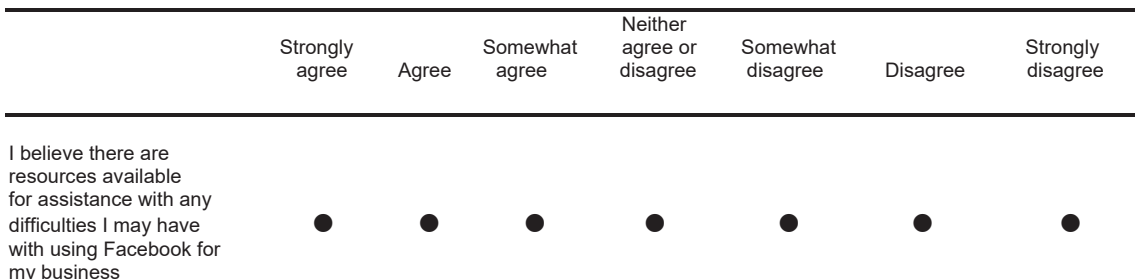
Please indicate how you feel about the following statement:



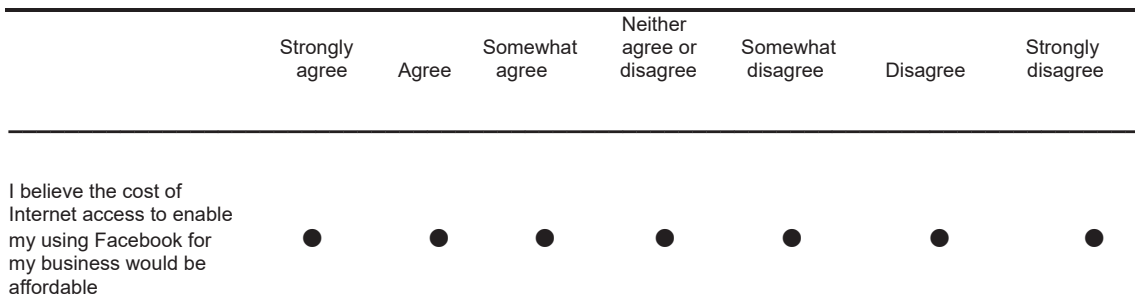
Please indicate how you feel about the following statement:



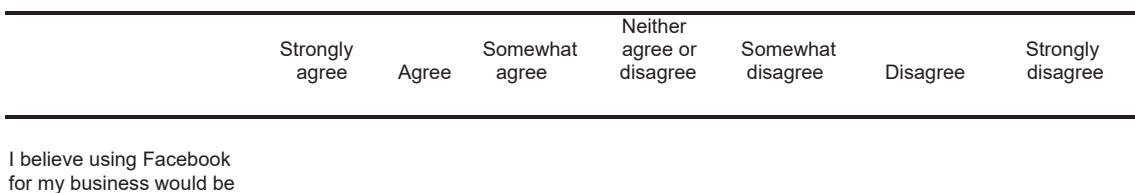
Please indicate how you feel about the following statement:



Please indicate how you feel about the following statement:



Please indicate how you feel about the following statement:



good value for money



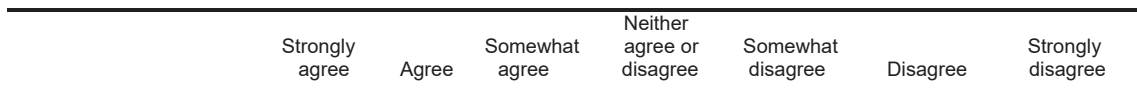
Please indicate how you feel about the following statement:



I believe using Facebook for my business would increase my customer base



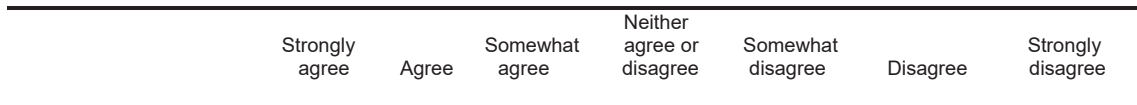
Please indicate how you feel about the following statement:



I believe having access to Facebook for my business would enable me to attract new customers



Please indicate how you feel about the following statement:



I believe using Facebook for my business would increase my profits



SURVEY SECTION 2 OF 3: (FBU)

In this section I am interested in your decision to use social media technology, specifically Facebook for your business. This refers to a general Facebook page activity and is separate to any paid advertising.

Thank you for continuing. I really value your time and can only use completed surveys to conduct the study. You are halfway through the survey and entering the iPad mini prize draw!

Who is responsible for the maintenance and monitoring of your business Facebook page?

-
- Owner / Operator
 - Employee
 - Outsourced agency
 - Other, please state relationship

What is the gender of the person responsible for the maintenance and monitoring of your business Facebook page?

-
- Male
 - Female

What is the age bracket of the person responsible for the maintenance and monitoring of your business Facebook page?

-
- 18 – 24 years
 - 25 – 34 years
 - 35 – 44 years
 - 45 – 54 years
 - 55 – 64 years
 - 65 + years

How much time do you think is spent on your business Facebook page per week by the responsible person?

-
- Under 1 hour
 - 1 – 2 hours
 - 3 – 4 hours
 - 5 – 6 hours
 - 7 – 8 hours
 - Other

How do you measure the success of your business Facebook page?

-
- | | | | |
|---|---|--|--|
| <input type="checkbox"/> Number of 'Likes' | <input type="checkbox"/> Increased traffic through to website | <input type="checkbox"/> Using other metrics available from Facebook for Business | <input type="checkbox"/> Other
<input type="text"/> |
| <input type="checkbox"/> Number of 'Comments' | <input type="checkbox"/> Increased sales | <input type="checkbox"/> Using metrics available from other Apps & Programs | <input type="checkbox"/> Our business doesn't measure this at the moment |
| <input type="checkbox"/> Number of 'Shares' | <input type="checkbox"/> Increased subscriptions | <input type="checkbox"/> Outsourced to marketing company to evaluate and advise our business | |

Does your business have a policy in place for handling negative feedback online?

-
- Yes

No

How important is to you that your business Facebook page conducts the following activities?

	Extremely Important	Very important	Moderately important	Slightly important	Not at all important
Encourages comments and suggestions from others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Motivates others to be passionate about your business	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Connects with the online community	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Allows for others to interact on the business Facebook page	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Encourages the discussion of opinions on products or services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provides posts that are entertaining	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provides posts that contain competitions, prizes and discounts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Allows others to share experiences	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Allows others to express their opinions and interests	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provides the most up to date information about the business offerings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provides recognition to participants on the page	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please rank the top 5 most common types of content posted on your business Facebook page.

<input type="checkbox"/> Images	<input type="checkbox"/> Text	<input type="checkbox"/> Videos	<input type="checkbox"/> Content posted by customers	<input type="checkbox"/> Competitions
<input type="checkbox"/> Notifications of upcoming events	<input type="checkbox"/> Advertising Products	<input type="checkbox"/> Calls to Action	<input type="checkbox"/> Quotes	
<input type="checkbox"/> Providing tips and trivia	<input type="checkbox"/> Asking questions	<input type="checkbox"/> Other	<input type="text"/>	

How regularly does your business post on its Facebook page?

<input type="radio"/> Once a day	<input type="radio"/> Once a month
<input type="radio"/> Multiple times a day	<input type="radio"/> A few times a month
<input type="radio"/> Once a week	<input type="radio"/> A few times a year
<input type="radio"/> Multiples times a week	<input type="radio"/> Never

Do you think your customers enjoy receiving posts from your business on Facebook?

Yes ●

Unsure ●

No ●

How often do you think your customers would prefer to receive a communication from your business on their Facebook page?

● Once a day

● Multiple times a day

● Once a week

● Multiples times a week

● Once a month

● A few times a month

● A few times a year

● Never

What other types of social media does your business use?

Twitter ●

Pinterest ●

Snap chat ●

Linked In ●

YouTube ●

Google+ ●

Instagram ●

Geo-location ●

Blog ●

Other ●

None ●

What is the approximate annual budget for your Facebook business presence?

● Under \$1000

● \$1000 - \$1999

● \$2000 - \$4999

● \$5000 - \$9999

● \$10000 - \$15000

● Other

Do you consider your Facebook expenditure is currently providing good value for money?

Definitely yes ●

Probably yes ●

Might or might not ●

Probably not ●

Definitely not ●

SECTION 3 of 3 (FBU)

Here I am interested in how well existing models fit your needs as a business owner in predicting technology acceptance of social media, in this case for Facebook. The questions test relationships in the existing literature. You may feel there are several similar questions, but that is needed to have useable results for the survey.

Please hang in there, you are almost finished!

Please indicate how you feel about the following statement:

	Strongly disagree	Disagree	Somewhat disagree	Neither agree or disagree	Somewhat agree	Agree	Strongly agree
I plan to continue using Facebook for my business over the next 12 months	●	●	●	●	●	●	●

Please indicate how you feel about the following statement:

	Strongly disagree	Disagree	Somewhat disagree	Neither agree or disagree	Somewhat agree	Agree	Strongly agree
Using Facebook for my business increases my business performance	●	●	●	●	●	●	●

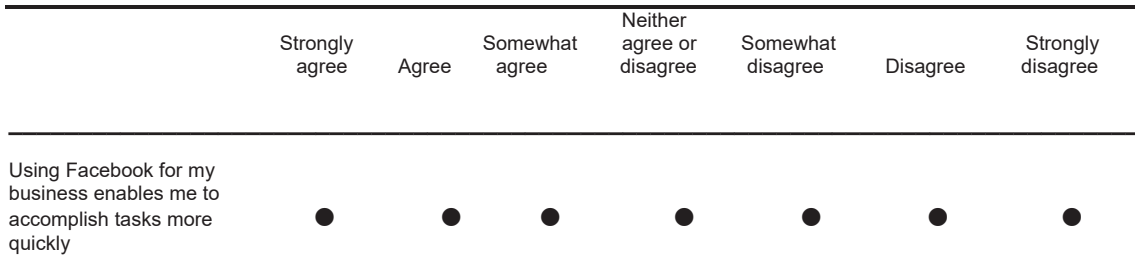
Please indicate how you feel about the following statement:

	Strongly agree	Agree	Somewhat agree	Neither agree or disagree	Somewhat disagree	Disagree	Strongly disagree
I find Facebook useful for my business	●	●	●	●	●	●	●

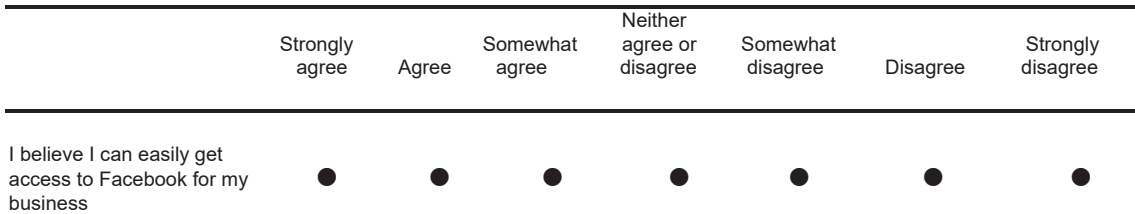
Please indicate how you feel about the following statement:

	Strongly agree	Agree	Somewhat agree	Neither agree or disagree	Somewhat disagree	Disagree	Strongly disagree
Using Facebook for my business increases my productivity	●	●	●	●	●	●	●

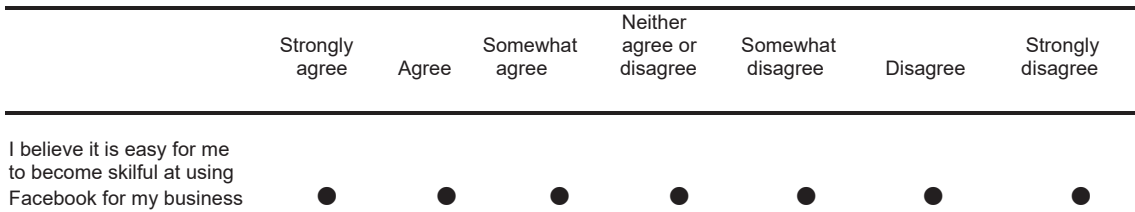
Please indicate how you feel about the following statement:



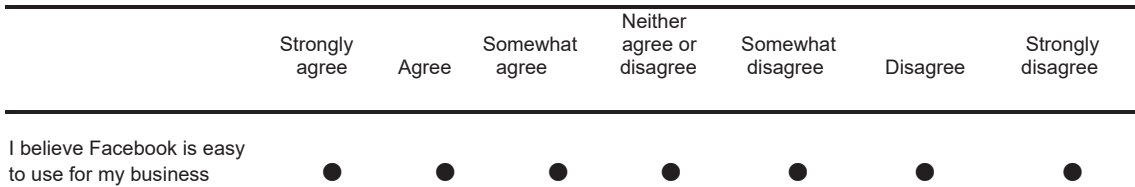
Please indicate how you feel about the following statement:



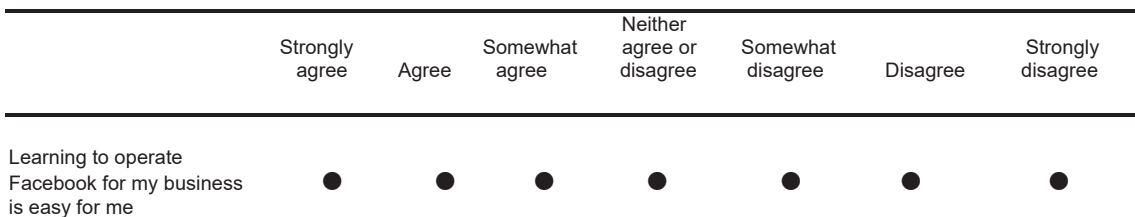
Please indicate how you feel about the following statement:



Please indicate how you feel about the following statement:



Please indicate how you feel about the following statement:



Please indicate how you feel about the following statement:



Strongly agree Agree Somewhat agree agree or disagree Somewhat disagree Disagree Strongly disagree

Using Facebook for my business is a good idea



Please indicate how you feel about the following statement:

Strongly agree Agree Somewhat agree Neither agree or disagree Somewhat disagree Disagree Strongly disagree

Working with Facebook for my business is fun



Please indicate how you feel about the following statement:

Strongly agree Agree Somewhat agree Neither agree or disagree Somewhat disagree Disagree Strongly disagree

I like working with Facebook for my business



Please indicate how you feel about the following statement:

Strongly agree Agree Somewhat agree Neither agree or disagree Somewhat disagree Disagree Strongly disagree

People who are important to me think that I should use Facebook for my business



Please indicate how you feel about the following statement:

Strongly agree Agree Somewhat agree Neither agree or disagree Somewhat disagree Disagree Strongly disagree

People who influence my behaviour think that I should use Facebook for my business



Please indicate how you feel about the following statement:

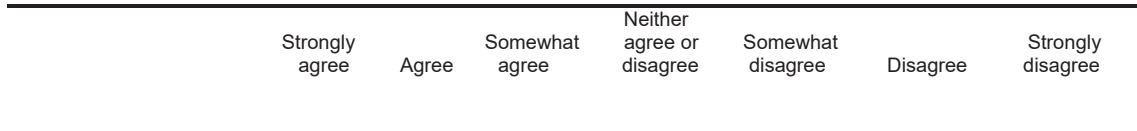
Strongly agree Agree Somewhat agree Neither agree or disagree Somewhat disagree Disagree Strongly disagree

People whose opinions I value prefer that I use

my business Facebook page to communicate with them



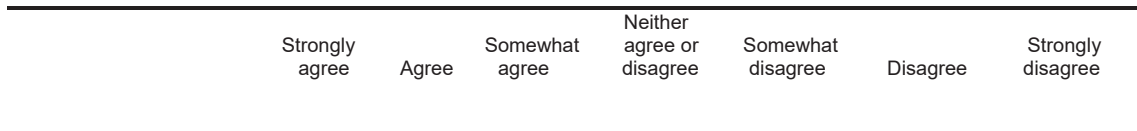
Please indicate how you feel about the following statement:



I have the resources necessary to use Facebook for my business



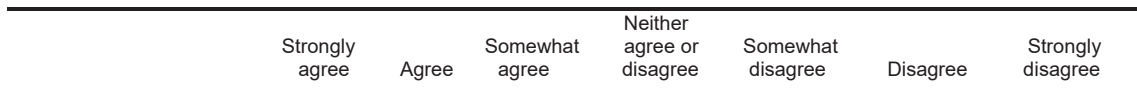
Please indicate how you feel about the following statement:



I have the knowledge necessary to use Facebook for my business



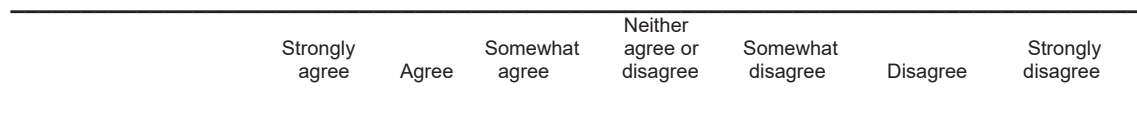
Please indicate how you feel about the following statement:



Facebook is not compatible with other systems I use to conduct my business



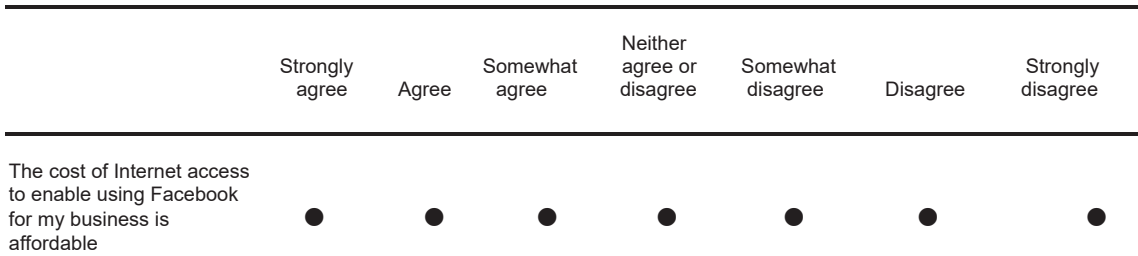
Please indicate how you feel about the following statement:



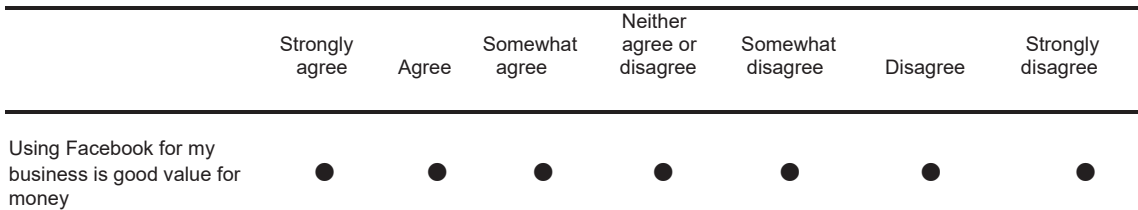
I know there is a specific resource available for assistance with Facebook difficulties for my business



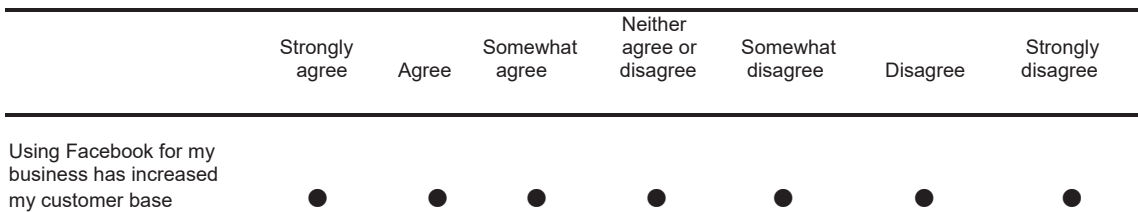
Please indicate how you feel about the following statement:



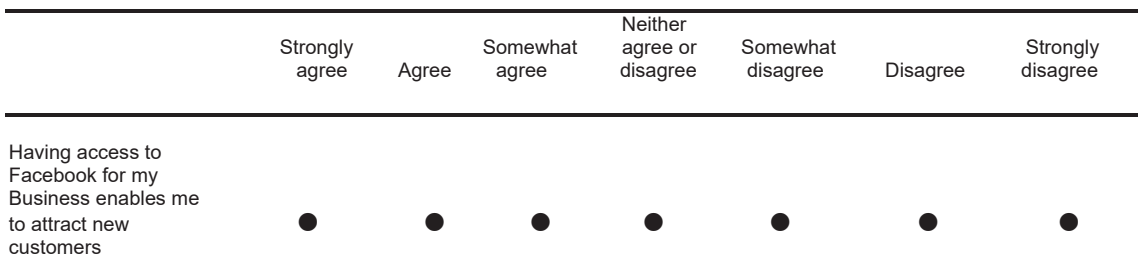
Please indicate how you feel about the following statement:



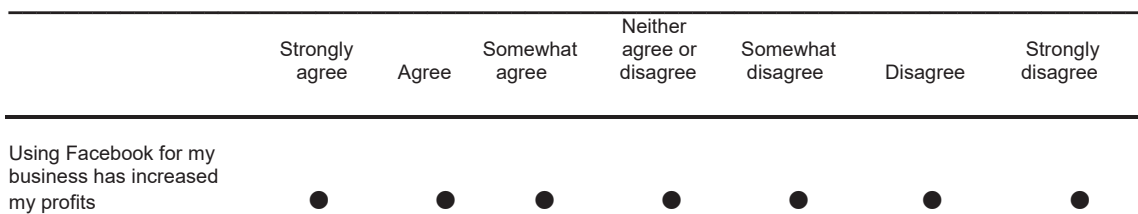
Please indicate how you feel about the following statement:



Please indicate how you feel about the following statement:



Please indicate how you feel about the following statement:



Users and Non Users Contact Details & Prize Draw

Please indicate if you are happy to discuss any of your survey responses

- Yes
- No

Please indicate if you are interested in the next phase of this research.

- Yes
- No
- Not sure, I'd like to know more before deciding.

THANK YOU FOR COMPLETING THIS SURVEY!

To enter the prize draw for an **iPad Mini (16GB, WiFi)**, please enter your name and preferred contact details below:

Appendix 8 ANZSIC 2006 Division Codes and Titles

Code	Industry Division Title
A	Agriculture, Forestry and Fishing
B	Mining
C	Manufacturing
D	Electricity, Gas, Water and Waste Services
E	Construction
F	Wholesale Trade
G	Retail Trade
H	Accommodation and Food Services
I	Transport, Postal and Warehousing
J	Information Media and Telecommunications
K	Financial and Insurance Services
L	Rental, Hiring and Real Estate Services
M	Professional, Scientific and Technical Services
N	Administrative and Support Services
O	Public Administration and Safety
P	Education and Training
Q	Health Care and Social Assistance
R	Arts and Recreation Services
S	Other Services

Appendix 9 Data Cleaning Log– Initial Screening Process

DATE	PROCESS	RUNNING TOTAL	SCREEN ITEM	ACTION	NOTES
27/03/2017	Initial Screen	302	Original pool of 302 Qualtrics responses to survey	Download from Qualtrics	Commence initial screening process.
		-13	R_3JayUHYdNBcVu7y, R_2bORy9MSfRTHGBX, R_2E5Luwii7RGGA19, R_2EvhFaNLKUEyN7L, R_cOyJz29E2xs3IaJ, R_R8CcgTW3ZkHjIKB, R_1OvolLwgXwsHI48, R_b7WFXc0D2dRY31T, R_0AohqppcYQQI6R3, R_2YbJqqbp9CspcuF, R_3iOVI4GfvCxKAs1, R_1cVcSMU1tS4G1GL, R_3Ofg3YqF7vuKflt	Deleted from dataset	No data provided by respondents.
	Data check for uniqueness	0	IP address and Lat/Long columns.	Nil required.	Check to ensure all responses had individual IP address and lat/long coordinates.
		-12	R_OIHxw3AeirWi2gV - 15%, R_vJ3MynWLnJYkRMt - 15%, R_sGSYTayS0HHulaN - 20%, R_1K7QhAVuiDCO4KU - 20%, R_2zOTPmC7IbK8pcX - 20%, R_elhN7SleTqYbgFX - 20%, R_3efyKgrwfrRXf6X - 20%, R_1JE2OkeF2CydNUN - 20%, R_22CUxvVTeHN1cO - 33%, R_PG3aKH1z9hTM0rT - 33%, R_qIA9hbeqyJ9HFDz - 33%, R_vZDEqF9QFiIsUeJ - 33%	Deleted from dataset	Advised to remove all responses with less than 50% of survey completed. Percentage listed is the survey percentage completion recorded for the response ID.
		-2	R_2rA46WdzhWAtYlh, R_2BaJGzcdyqAqxul	Deleted from dataset	No postcode provided by respondent.
		-19	R_URb6zvcoAvS0FOh - 2100, R_1eOZhm64B7JJ6Md - 7011, R_xfprblMmeHJe0Ap - 3042, R_31d71W8nY5nXK3a - 6163, R_2UaXxTbtACsPxRX - 2010, R_1IWxmmtorYzSiSi - 487, R_1rGLKtT6wn1s1tD - 4870, R_3EcKvl68AopbbM1 - 4850, R_1pXNgTyimRIg8wu - 4870, R_DIUmWEG02KcY9zj - 4879, R_1rGLKtT6wn1s1tD - 4870, R_4Z6E2nO3WjJvGtH - 4180, R_31d71W8nY5nXK3a - 6163, R_1IWxmmtorYzSiSi - 4870, R_1E42lkupEazSW9m - 4806, R_1CrXQ0EnYFyF5ej - 4878, R_2U2Z3yTJ9C6QeO1 - 4860,	Deleted from dataset	Respondents who provided a postcodes outside focale locale of Townsville.

DATE	PROCESS	RUNNING TOTAL	SCREEN ITEM	ACTION	NOTES
			R_2TXBaRUchBNcAB2 - 4809, R_31MQ4dgRKhzaZGN - 4879		
		-4	R_24nDP1U9bC81Yjw, R_1I6FDeKTg3TpcJT R_2flj10c2RfjZW3T, R_0NyGryxq6GvE6ih	Deleted from dataset	
	Data Set	252		Data Set Formed	Upload to SPSS and commence question by question data cleanse.

Appendix 10 First 30 and Last 30 Survey Responses

PROGRESS	DURATION IN SECONDS	RECORDED DATE	RESPONDENT ID
First 30 Survey Responses			
100	364	16/11/2016 16:30	R_RUAhhvGHGZe1Jux
100	567	8/11/2016 5:44	R_pxtfPVB0XdRXb2h
100	497	7/11/2016 22:18	R_129Kl7nmuFxtcRw
100	572	3/11/2016 16:44	R_bdBmW4L0YUNZVCh
100	1094	28/10/2016 18:07	R_CkJHjeQhHXl7W1P
100	747	26/10/2016 12:44	R_vizt946vfvQfPdT
100	800	25/10/2016 21:29	R_3lxlGf4yfjNWjNG
100	274	25/10/2016 13:16	R_O7lA8C95w9mgvP
100	926	24/10/2016 12:01	R_3lbcQ2ZxiEy6m4
100	432	24/10/2016 11:40	R_1Quv5wJKIqiuU7f
100	4047	20/10/2016 16:14	R_1CkZR4enKztFpCZ
100	710	20/10/2016 11:52	R_1IjedY9AzzuZbmJ
100	627	20/10/2016 11:00	R_1lly9iUWD19Adu9
100	849	19/10/2016 22:06	R_zYHJg68mMY8tLTH
97	592	6/03/2017 21:19	R_7UPotThIX7JztpT
100	620	19/10/2016 9:31	R_2CBOHOaI1CbYDe
100	1017	19/10/2016 8:49	R_3dNgz5F0oN8YaeG
100	902	19/10/2016 8:06	R_2dhxJaroK1FyGYC
72	273	6/03/2017 21:19	R_1fdxLm4aUaatLFJ
100	842	18/10/2016 21:09	R_3Pu9Ajngr8Z8tL0
100	682	18/10/2016 19:30	R_3PTyholGkJAo8Lv
100	624	18/10/2016 19:10	R_3lxg5VwBbeJw8dR
100	641	18/10/2016 18:53	R_10xgAmqfgUi3LJ4
100	718	18/10/2016 17:28	R_Qh14CRYn4jUifgB
100	687	18/10/2016 16:17	R_2TXDVgJNa0XCqjM
100	759	18/10/2016 15:55	R_OdOygzgfc89WSixX
100	4591	18/10/2016 15:33	R_3m8Njwnr0azLzPv

PROGRESS	DURATION IN SECONDS	RECORDED DATE	RESPONDENT ID
Last 30 Survey Responses			
100	674	31/08/2016 13:22	R_3lM3Qp0fFFMP19W
100	1456	31/08/2016 13:13	R_1In51ywFqIHPb1V
100	909	30/08/2016 14:31	R_2TXBaRUchBNcAB2
100	825	30/08/2016 13:37	R_2e3jcX3NaRvU9So
100	1220	30/08/2016 12:30	R_2c2hiXdxNH0xVUk
100	629	30/08/2016 10:47	R_3oAzpSVlbjhRAna
100	436	30/08/2016 8:37	R_3iJ4Oz0SfhivJzj
100	437	30/08/2016 8:35	R_1d68mQoBj7wtzff
100	559	30/08/2016 8:37	R_2bWcQSCMzPO1Eop
100	651	30/08/2016 6:35	R_3iIQ4TpCQRFQoqd
59	151	1/03/2017 9:11	R_3nfrlJs3vGcjNkZ
100	601	28/08/2016 10:14	R_3ReZzYxHGdUqbYs
100	742	27/08/2016 22:44	R_2yrvPjmtxj8iCpj
100	510	27/08/2016 20:03	R_z064QZAIrZWZRHX
100	685	27/08/2016 9:27	R_VO5icWZZpf0RcEV
100	767	26/08/2016 22:39	R_vZw8HKg2Z9NaXqV
100	486	26/08/2016 16:41	R_1HLZxJcYvwRa5XP
100	470	26/08/2016 13:02	R_3QDHXbIFyqQculf
100	16829	26/08/2016 14:29	R_1r7f2dTRcsBakpv
72	406	26/02/2017 8:31	R_qWJfQXNWP1s8Mmt
100	698	26/08/2016 5:59	R_TbikWv20DabCrIZ
59	128	26/02/2017 5:08	R_2TQL1kIk7JPWTKK
100	705	25/08/2016 21:50	R_1o1ft4eDzeMxXnj
100	1460	25/08/2016 21:50	R_2WVe7Gug80LFuDe
100	863	25/08/2016 19:46	R_3lMQ4dgRKhzaZGN
100	1371	25/08/2016 18:51	R_xbB3zaRd3p7hEaZ
100	519	25/08/2016 17:16	R_D2FRr57kUBf5n3j
100	507	25/08/2016 15:24	R_A0asuZkXs3Tb3oZ
100	1166	25/08/2016 15:25	R_1gOoKylVoOGUzJR
100	708	25/08/2016 13:18	R_3RmDHxEz1o0vzXF

Appendix 11 Engagement Items Correlation Matrix

Engagement Items	Correlations											
	1	2	3	4	5	6	7	8	9	10	11	
Encourages Comments	1											
Motivates Others	.663	1										
Online Community	.583	.735	1									
Allows Interaction	.713	.681	.671	1								
Product Opinions	.745	.639	.592	.758	1							
Entertaining Customers	.496	.561	.629	.629	.587	1						
Competitions & Discounts	.498	.428	.494	.481	.481	.483	1					
Shares Experiences	.637	.598	.645	.701	.742	.578	.546	1				
Express Interests	.679	.593	.547	.709	.739	.580	.485	.832	1			
Timely Information	.555	.696	.721	.617	.628	.550	.358	.624	.547	1		
Customer Recognition	.634	.644	.573	.669	.677	.463	.425	.607	.618	.632	1	

1 = Encourages Others, 2 = Motivates Others, 3 = Online community, 4 = Allows Interactions, 5 = Product Opinions, 6 = Entertaining Customers, 7 = Competitions & Discounts, 8 = Shares Experiences, 9 = Express Interests, 10 = Timely Information, 11 = Customer Recognition.

Appendix 12 UTAUT Items Correlation Matrix

Correlations										
UTAUT Items	PE1	PE2	PE3	PE4	EE1	EE2	EE3	EE4	SI1	SI12
PE1	1									
PE2	.1861	1								
PE3	.0907	.6798	1							
PE4	.1153	.5915	.7119	1						
EE1	-.0695	.4747	.311	.3265	1					
EE2	-.0112	.5791	.5135	.4814	.5672	1				
EE3	-.0104	.5429	.4252	.4268	.6238	.7401	1			
EE4	-.0719	.4713	.4299	.4425	.6096	.7988	.7674	1		
SI1	.2164	.5896	.5493	.4802	.3554	.3375	.352	.2443	1	
SI2	.1839	.5963	.5609	.4808	.3402	.3863	.3282	.2693	.795	1
SI4	.0705	.4879	.5373	.6076	.3017	.4372	.3235	.4324	.4932	.5266
FC1	-.0912	.3826	.3548	.2586	.526	.5956	.5757	.6544	.1383	.1596
FC2	-.0421	.4036	.3577	.3731	.4628	.6279	.5705	.703	.1572	.1698
FC3	.1347	.2212	.2285	.1065	.0238	.1271	.1483	.1127	.073	.03
FC4	-.0344	.2667	.3802	.3095	.2747	.4244	.3471	.4707	.1897	.1921
PV1	.6372	.0852	.041	.0308	-.0525	.1014	-.0142	.0559	.0674	.047
PV2	.1902	.7891	.6565	.5502	.4607	.5218	.5011	.4692	.5986	.5443

Correlations

UTAUT Items	PE1	PE2	PE3	PE4	EE1	EE2	EE3	EE4	SI1	SI12	
PV3	.0597	0.6732	0.9461	0.658	0.2993	0.5367	0.4103	0.454	0.4951	0.5208	
PV4	.1943	0.803	0.6178	0.532	0.4615	0.4682	0.4283	0.4311	0.5862	0.5413	
PV5	.1409	0.7251	0.6602	0.5648	0.3585	0.4829	0.4703	0.4704	0.4899	0.4132	
BI	.58	0.1144	0.0379	0.0605	0.0029	-0.0021	0.0173	-0.0769	0.1832	0.14	
	SI14	FC1	FC2	FC3	FC4	PV1	PV2	PV3	PV4	PV5	BI
SI4	1										
FC1	.2387	1									
FC2	.3167	.6833	1								
FC3	-.0057	-.0063	.0297	1							
FC4	.2836	.3696	.4081	.1485	1						
PV1	-.0033	.02	.025	.1193	.1357	1					
PV2	.4816	.3358	.363	.1793	.32	.0821	1				
PV3	.4993	.3408	.3339	.2641	.4016	.1119	.6477	1			
PV4	.4763	.3286	.3698	.1994	.2884	.0652	.7399	.6207	1		
PV5	.4721	.3668	.3947	.2166	.3916	.1253	.6232	.6938	.7647	1	
BI	.0213	-.0559	-.0528	.0887	-.0216	.1565	.1704	-.0202	.1864	-.0154	1

Appendix 13 Interview Structure & Research Question Mapping

GENERAL INTERVIEW STRUCTURE:

Recording Commenced - Time/Date/Place/Welcome

Purpose of interview explained.

Format of interview explained.

Participant introduced. Name of Owner & Business spelled for recording.

Survey Block Nu	Interview Question	Related Online Survey Question/s	Research Question	Key Literature Reference
B1	Personal & Business Characteristics			
	Can you tell me about your business and what it does?	Q5	(1)	Vargo & Lush SDL Theory & B2B/B2C, product/service distinction
	How long has your business been operating?	Not covered in survey.	(1)	
	Have you changed the use of technology in your business since completing the BOSS survey?	Q18	(1)	Venkatesh UTAUT
	How do you feel about the usefulness of planning documentation (such as business, marketing or digital strategies) in your business?	Q8, Q9, Q10	(1)	Industry Info - Sensis Yellow Reports, CCIQ Review, Advance Qld & RDI
	Is there any action that could be taken to assist in increasing the amount of planning conducted in your business?			
	Are there any circumstances that would encourage you to increase your social marketing budget?	Q32 & Q33 Q72 % Q73	(1)	Marketing Industry Reports cross reference UTAUT Price/Value items PV1-PV5
	In what way would that suggestion improve the value of			

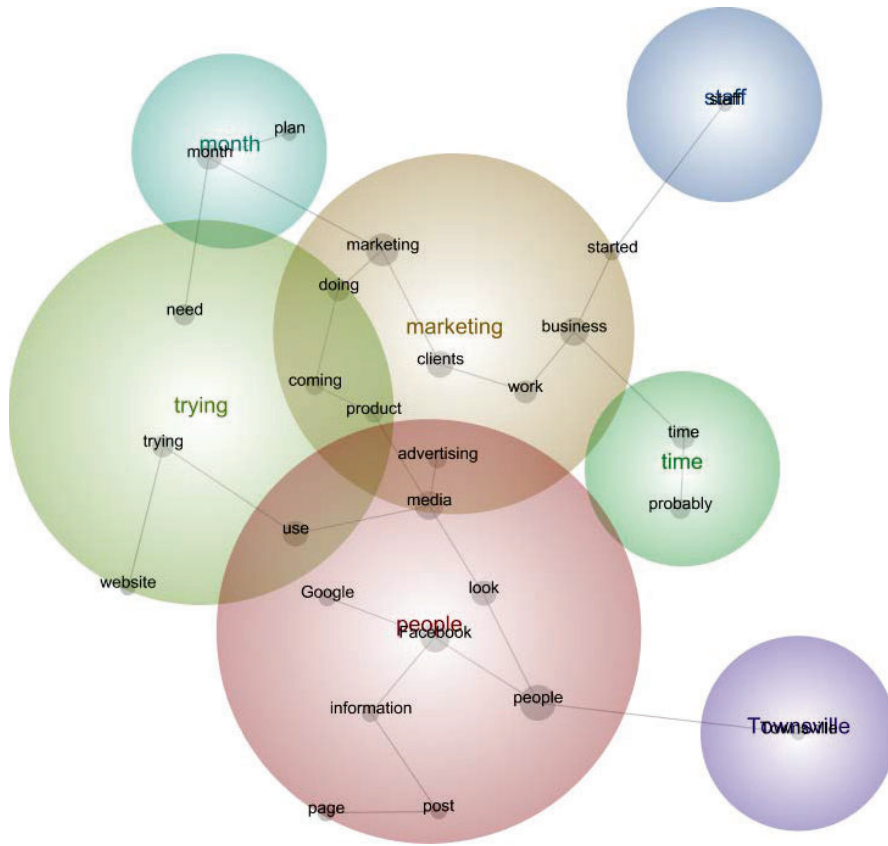
Survey Block Nu	Interview Question	Related Online Survey Question/s	Research Question	Key Literature Reference
	using Facebook for your business?			
B2&4	Engagement Dimensions			
	Why did you choose to use / not use social media in your business?	Q11, Q18	(1)	Baldus Engagement Scale Dimensions (1)-(11)
	Under what circumstances would you consider increasing customer engagement using social media?	Q26 Q66	(2)	Compare FBU/NFBU results where border line for behavior change
	What has been your experience with customer communications that promote prizes and discounts?	Q26 Q66	(2)	Baldus Engagement Scale – 2 nd highest alignment between FBU & NFBU survey responses
B3&5	UTAUT Constructs			
	Effort Expectancy refers to the ease of access, ease of becoming skillful, use of actual use and generally learning to operate Facebook for your business. Are there any effort expectancy areas that you feel concerned about when using/considering using social media for your business?	EE (1)(2)(3)(4) Q40, 41, 42, 43 Q81, 82, 83, 84	(3)	UTAUT Model Effort Expectancy
	What do you think would be the best way to improve these concerns?			
	Facilitating conditions refer to the resources, knowledge, support or compatibility with your business IT. Are there any facilitating conditions that you feel concerned about when using/considering using social media in your business?	FC(1)(2)(2)(4) Q50, 51, 52, 53 Q80, 81, 82, 83	(3)	UTAUT Model Facilitating Conditions

Survey Block Nu	Interview Question	Related Online Survey Question/s	Research Question	Key Literature Reference
	What do you think would be the best way to improve these concerns?			
B6	General Information Are there any other issues concerning social media based technology acceptance and use that you would like to discuss?			

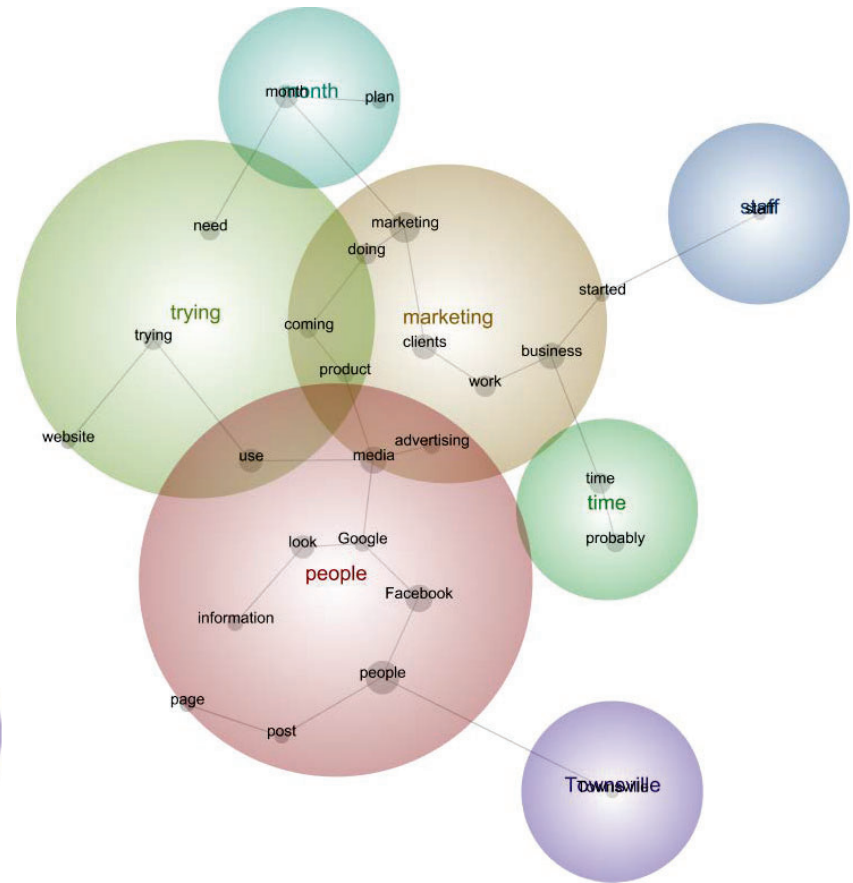
Thank you for your participation.

Time/Date/Place. Recording Concluded.

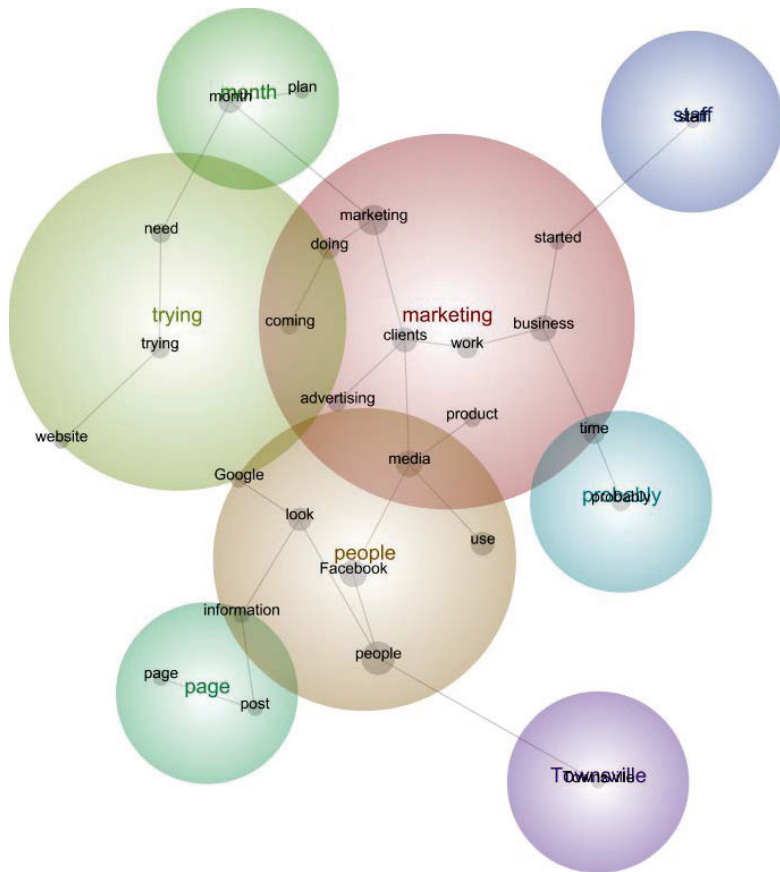
Appendix 14 FBU Test Retest Leximancer Results



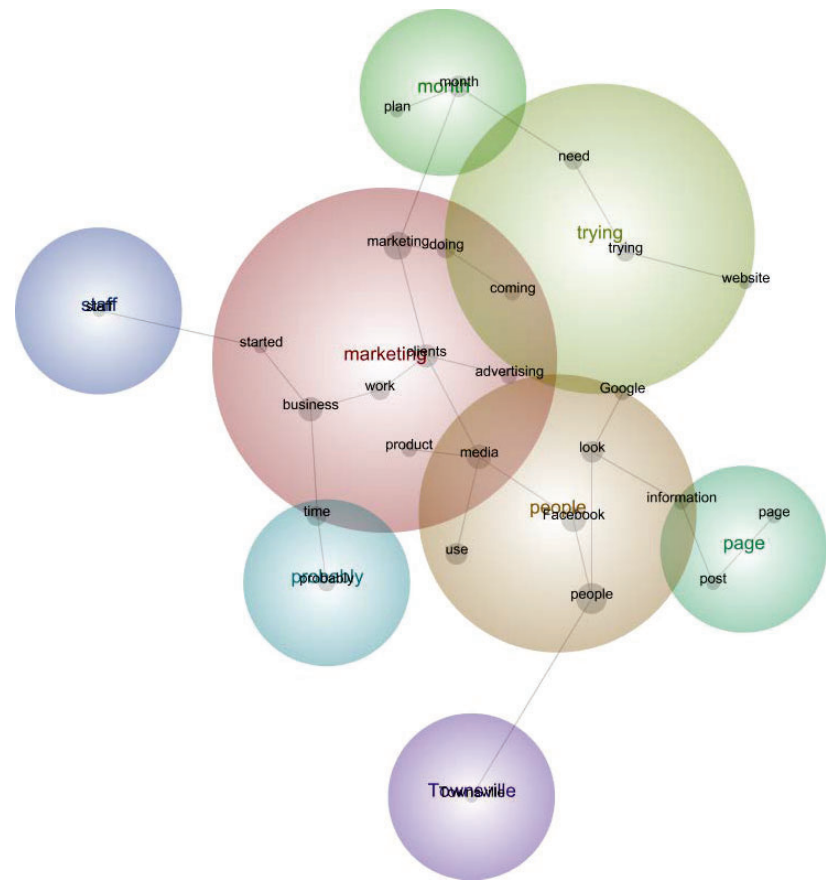
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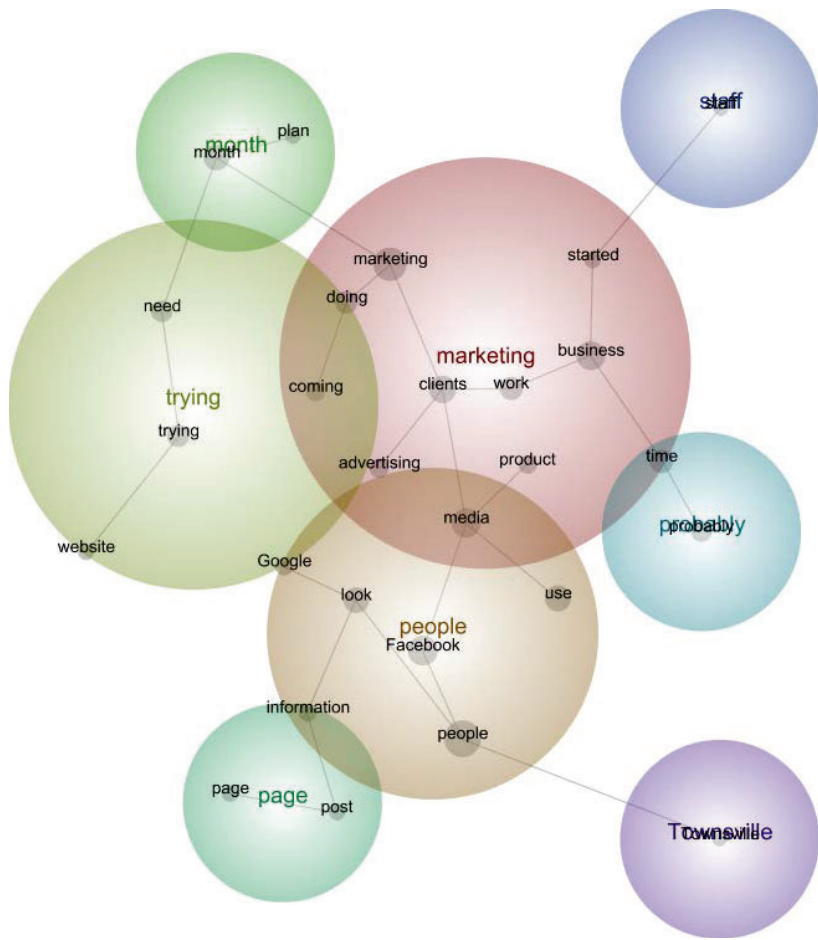
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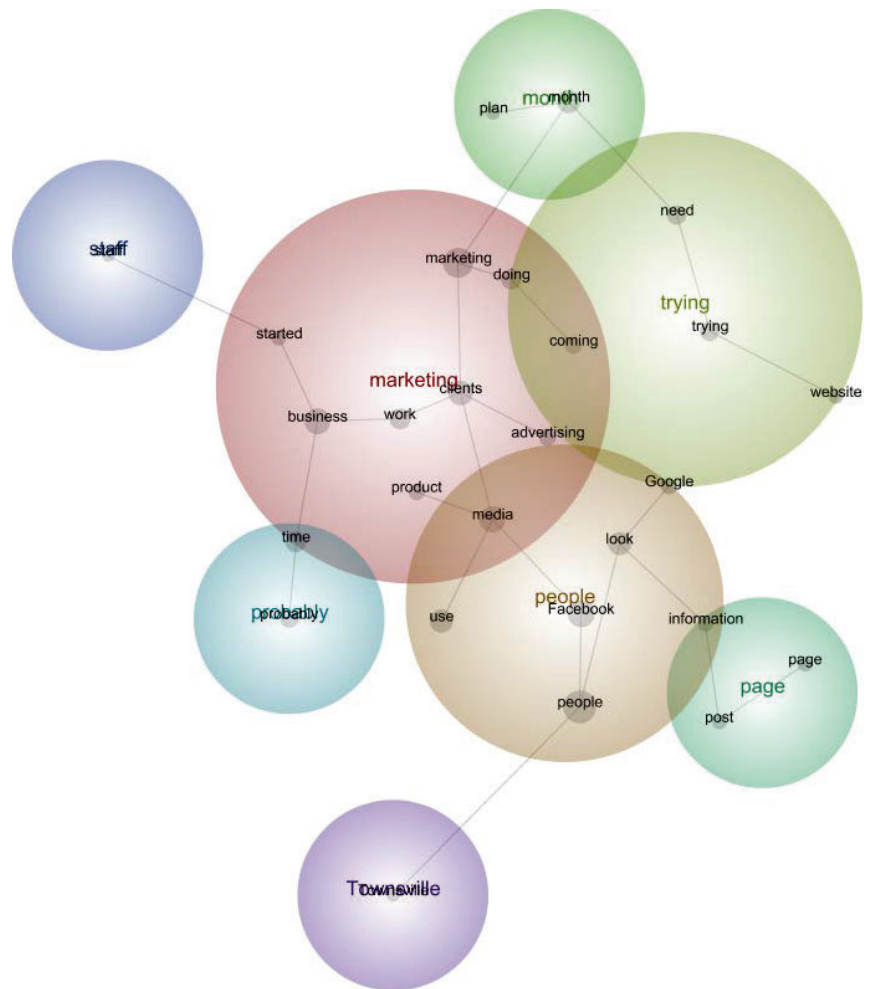
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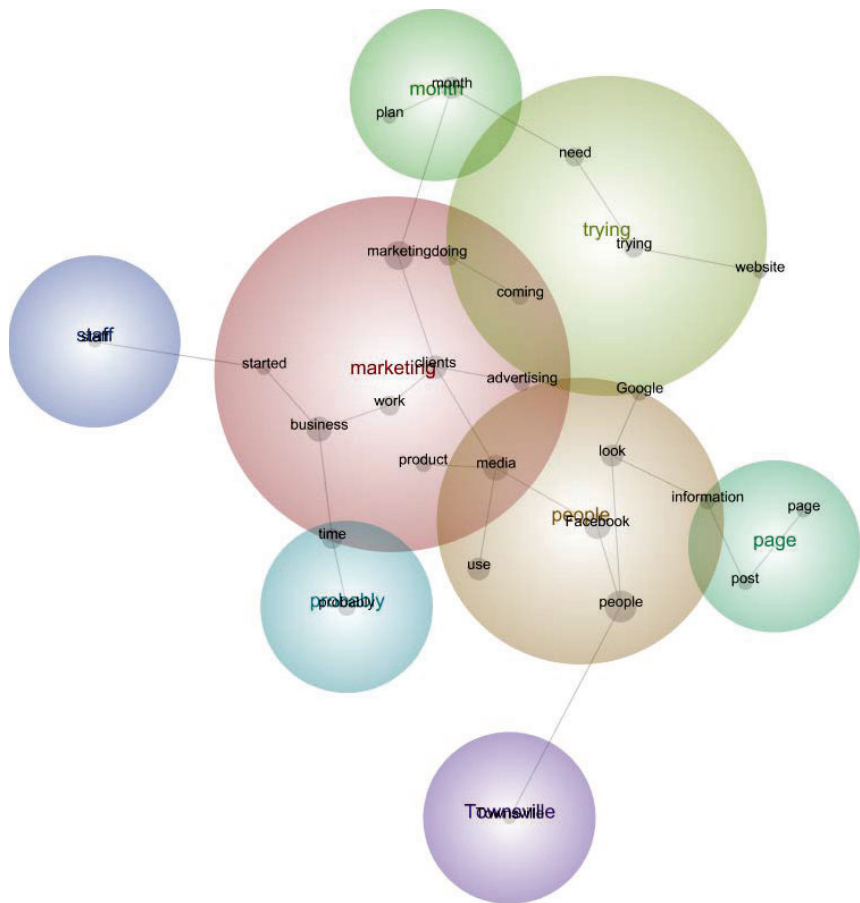
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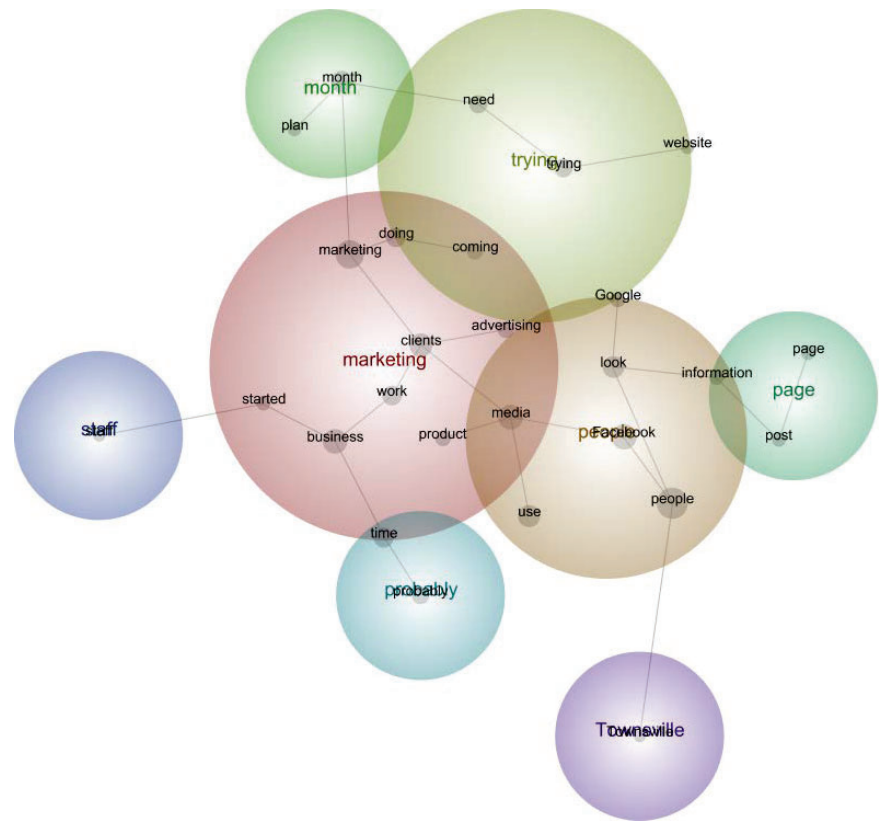
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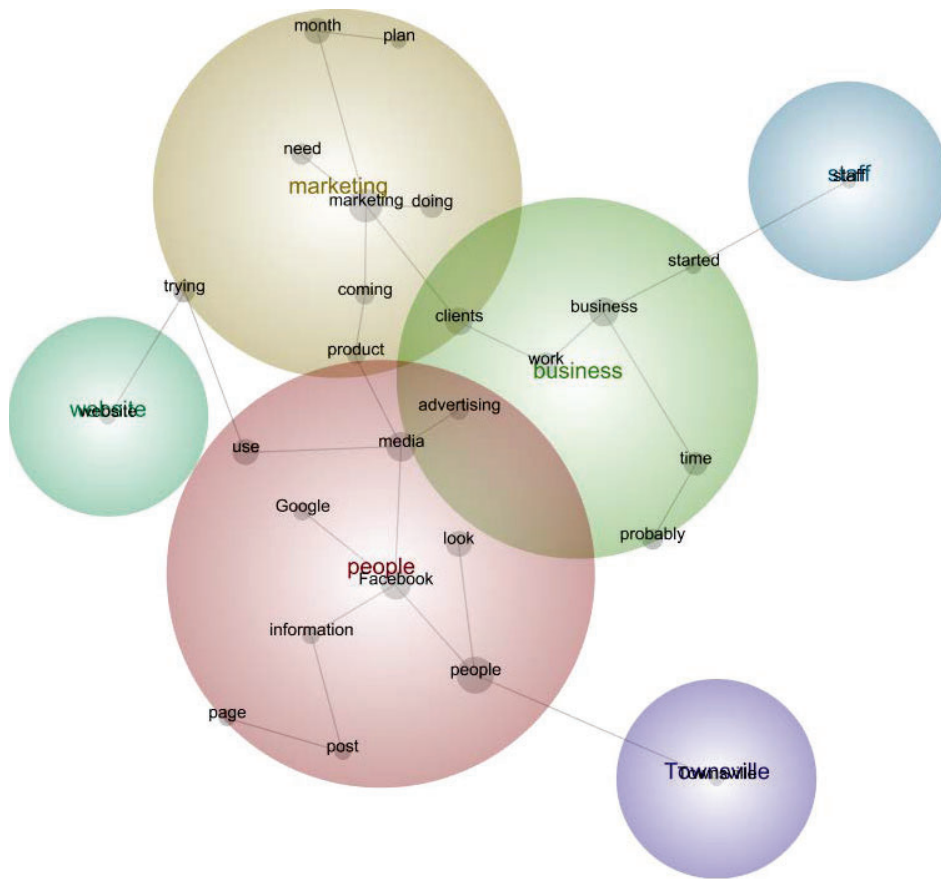
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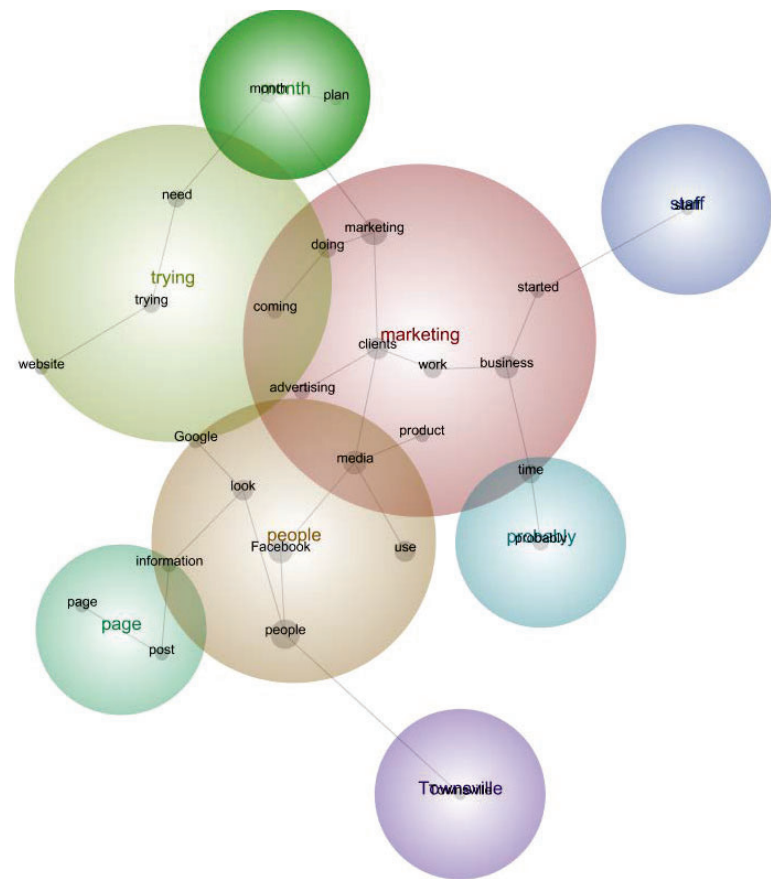
FBU Test-Retest 7



FBU Test-Retest 8

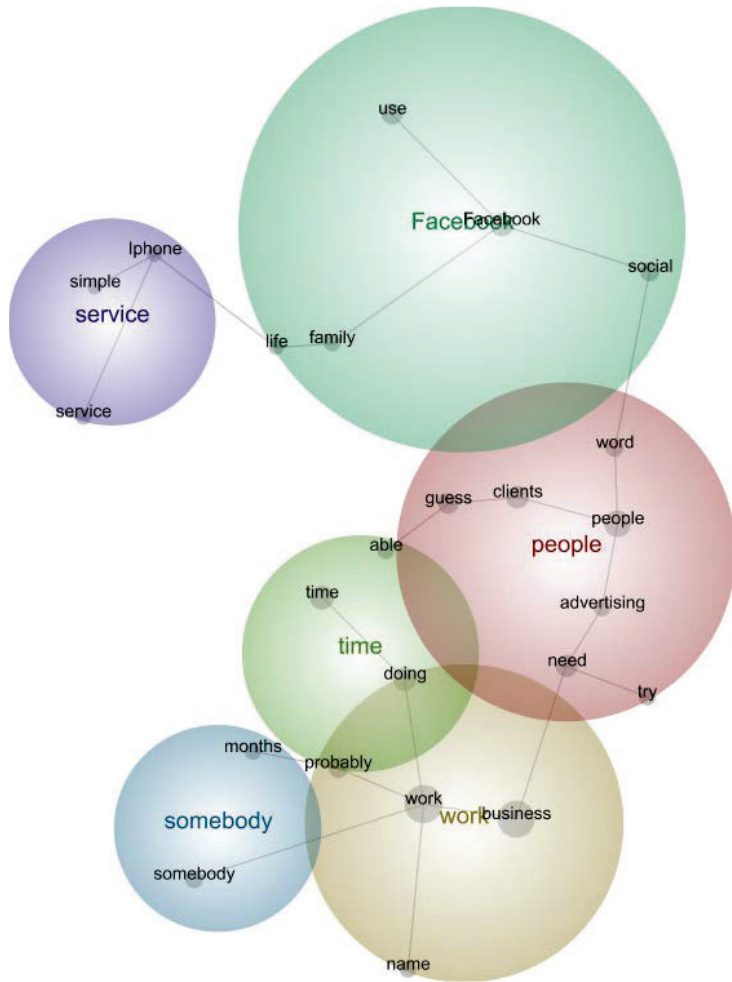


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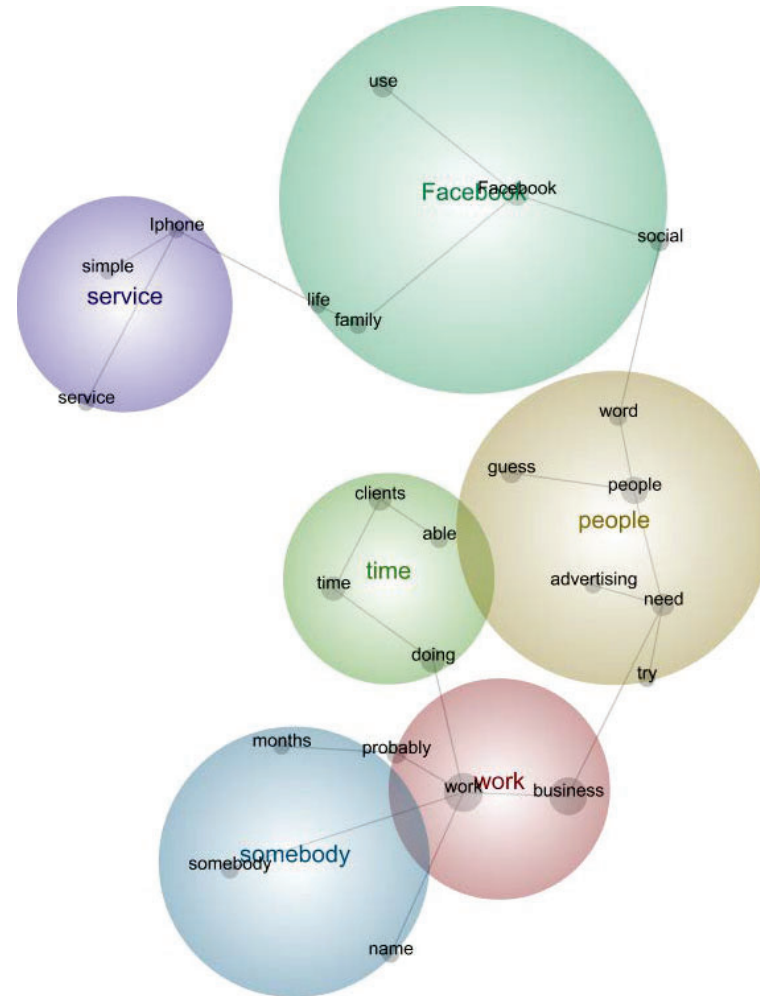


FBU Test-Retest 10

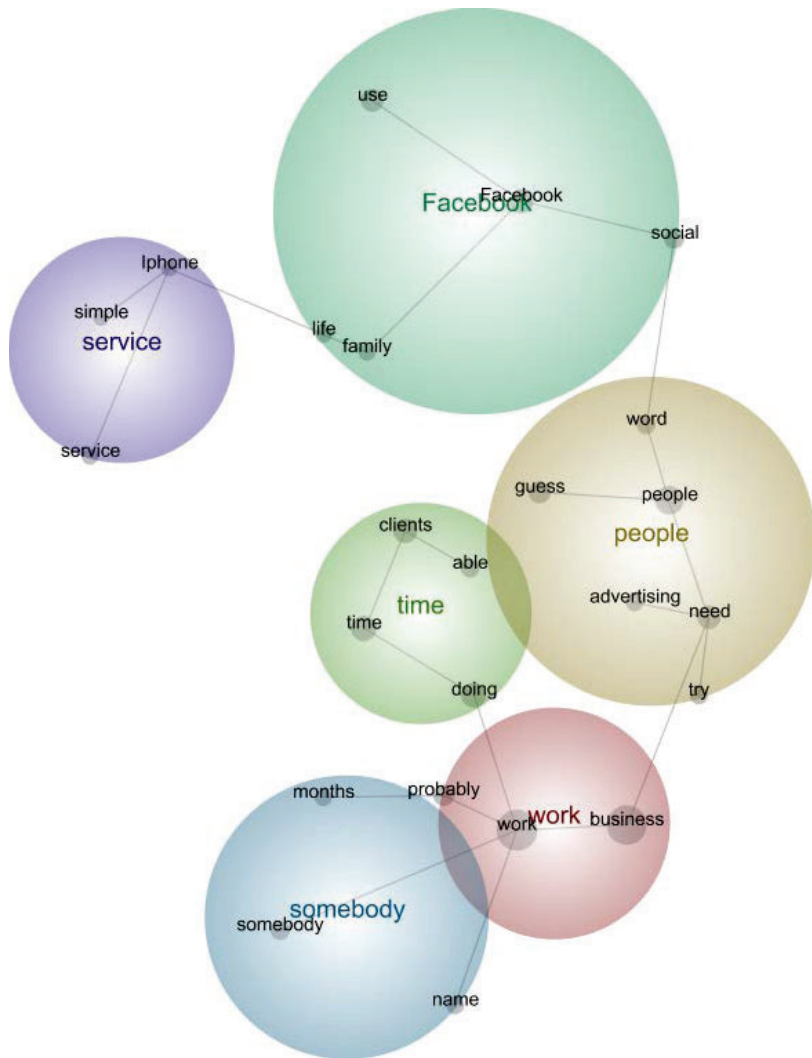
Appendix 15 NFBU Test Retest Leximancer Results



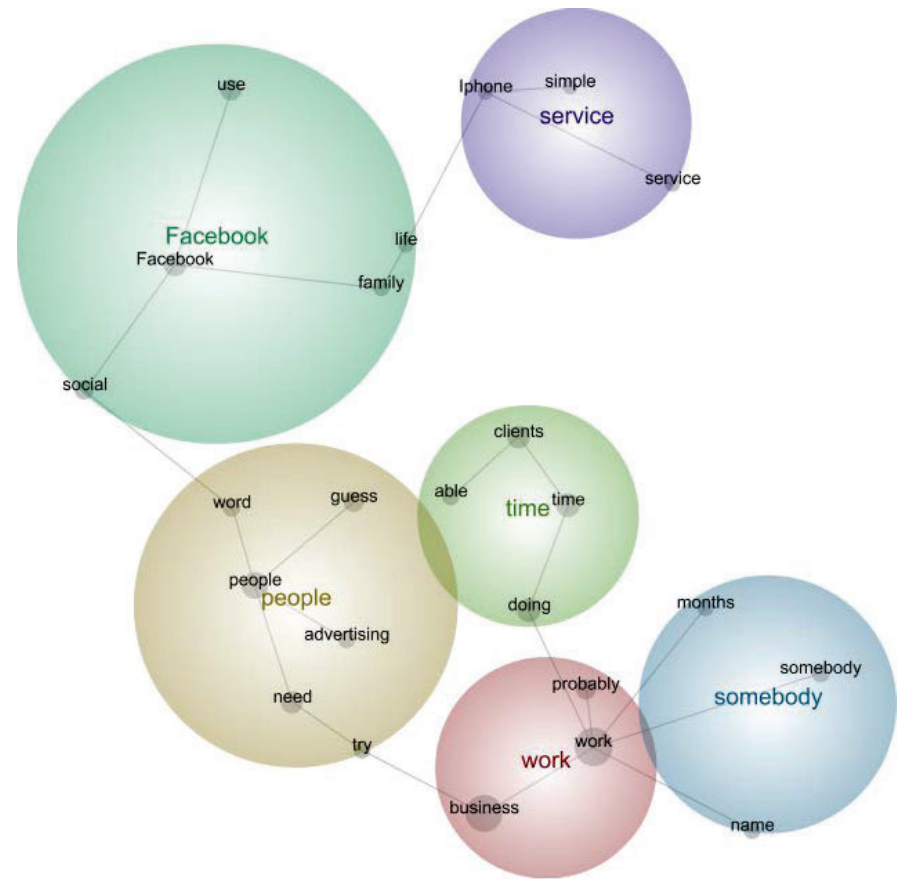
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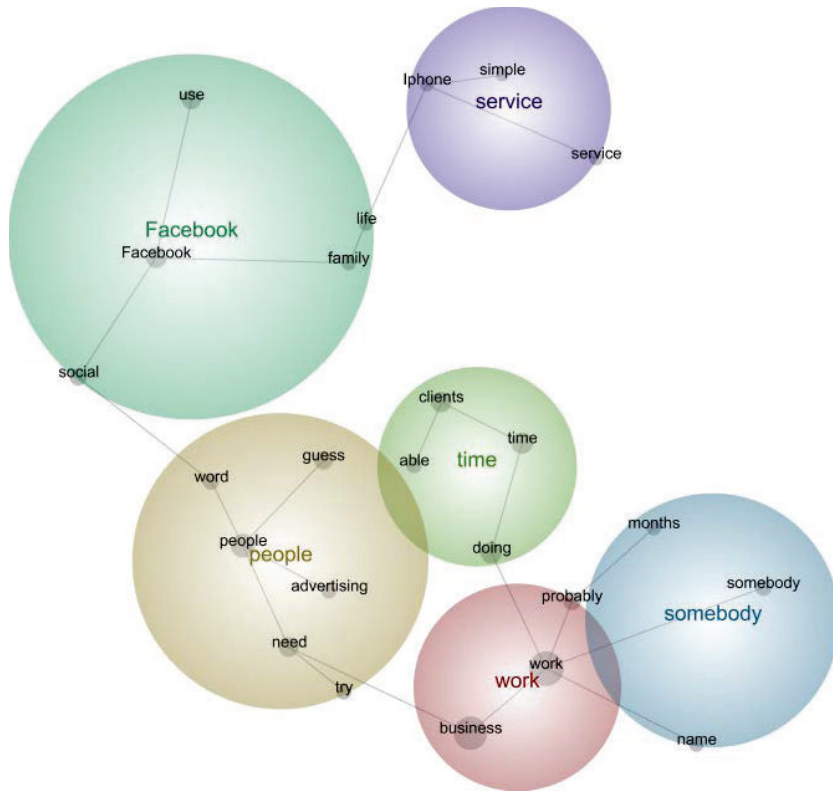
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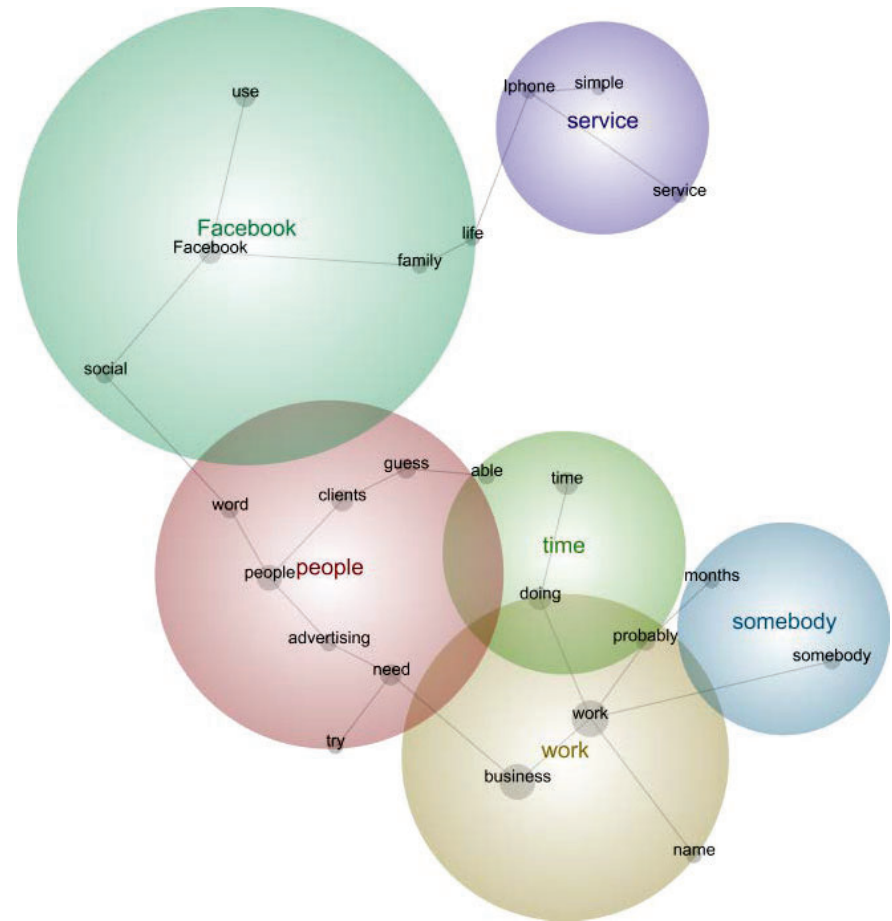
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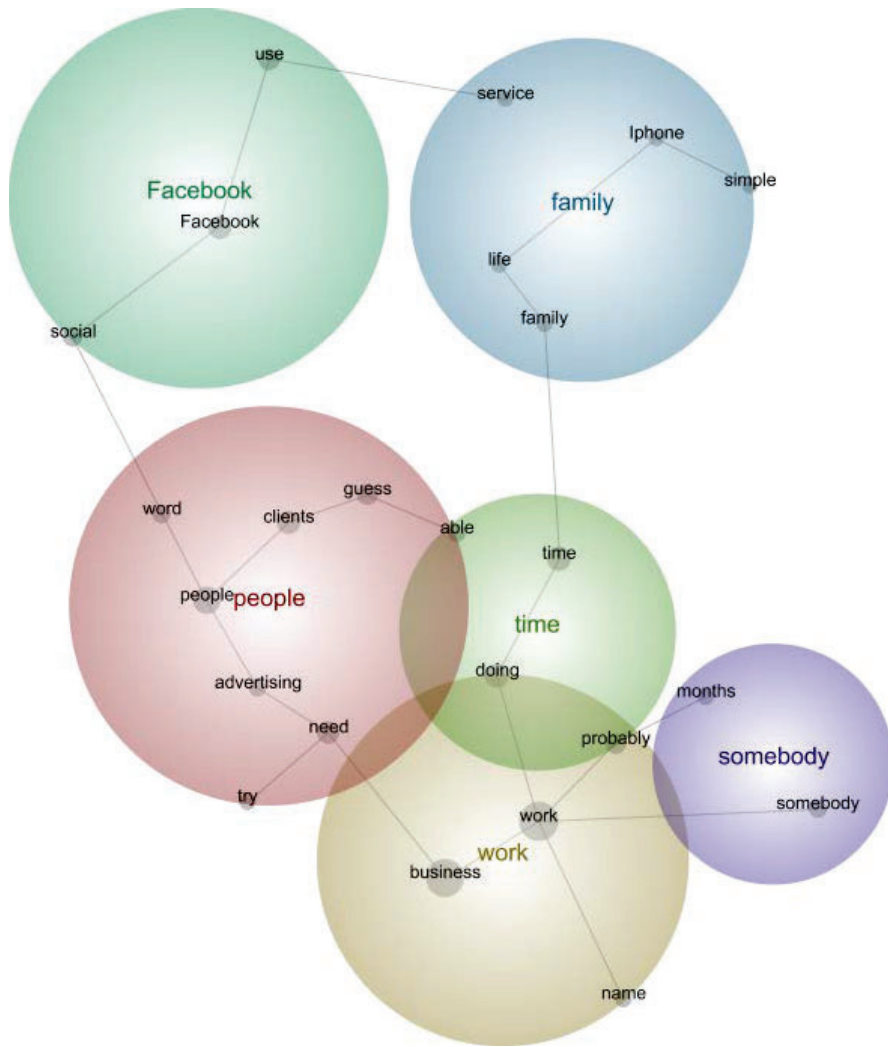
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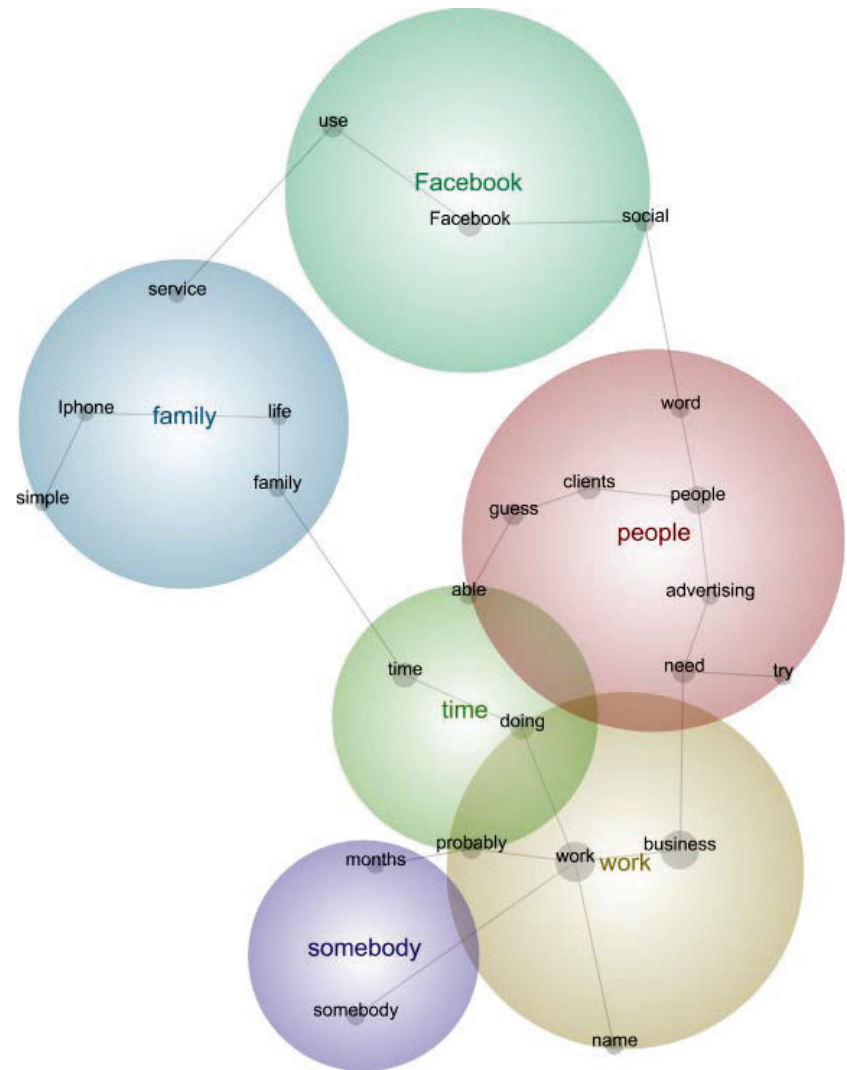
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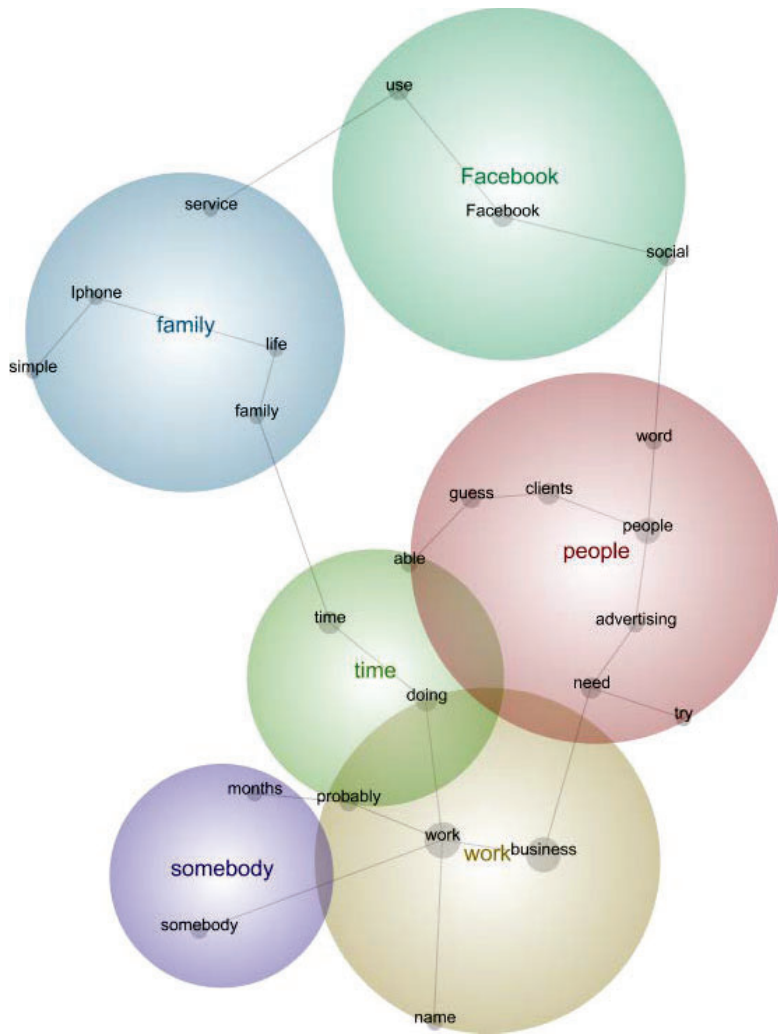
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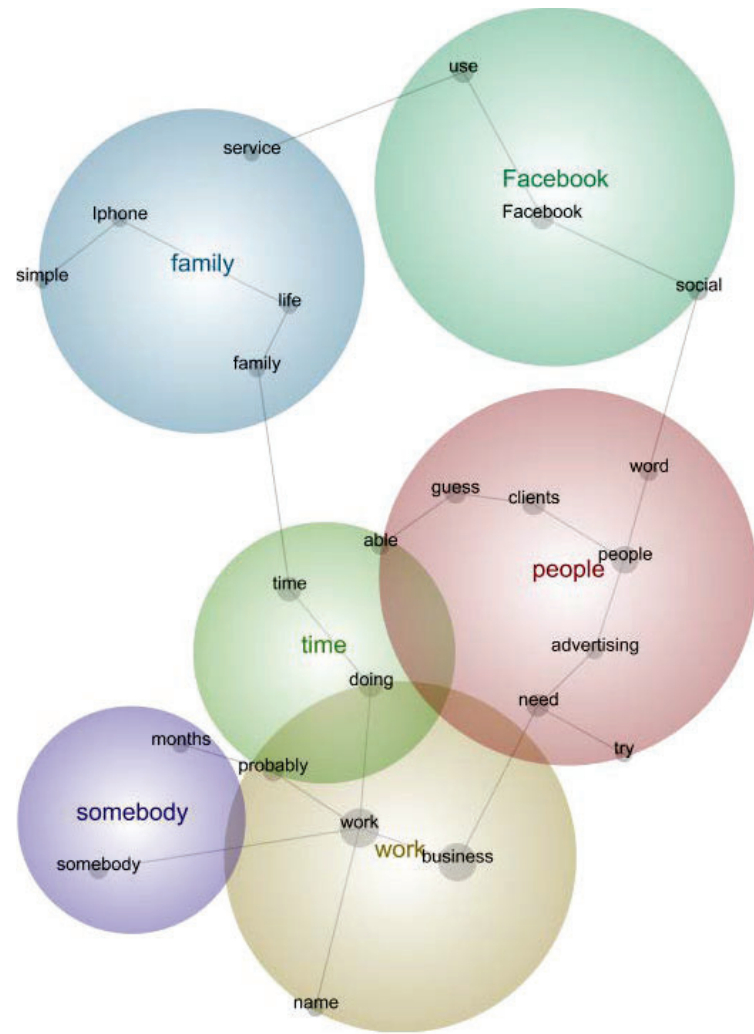
NFBU Test-Retest 7



NFBU Test-Retest 8



NFBU Test-Retest 9



NFBU Test-Retest 10

