

Identifying the Digital Training Needs of Retail Workers in Small Businesses

This report was commissioned by the National Retail Association (NRA) as a part of the *Industry Association Digital Advisory Services for the Small Business Digital Champions Program 2019-2021*, and the *QUT Strategic Links Pilot Program – 2019*.

RM REF NO: 2019001346

QV REF NO: QV93584

This report was prepared for the National Retail Association.



National Retail Association

This report was prepared by:

Professor Gary Mortimer – Queensland University of Technology

August 2019



Cite this Report

Mortimer, G. (2019). Identifying the Digital Training Needs of Retail Workers in Small Businesses. Brisbane: Queensland University of Technology.

Note

This report is not for external publication without approval from the National Retail Association. Rather, this report is a deliverable under the terms of the QUT Strategic Links Pilot Program – 2019, to provide insight from research undertaken with Australian small retail businesses.

Funding Acknowledgment

This project was funded equally by the National Retail Association and the Queensland University of Technology *Strategic Links Pilot Program*. The views expressed in this document do not necessarily reflect the views of National Retail Association or the Queensland University of Technology.

Research Acknowledgments

I would like to acknowledge the support of Yvonne Williams, Director of Training, and Industry Projects of the National Retail Association.

EXECUTIVE SUMMARY

The opportunities of the emerging digital economy mean that retailers must increasingly embrace new technologies to offer value to their customers, as well as improving business efficiencies. However, it is vital to clearly understand the current digital competence of retail workers and owners, in order to support businesses during this period of change and digital disruption. This is particularly relevant for micro, small and medium sized retail businesses.

The adoption of new technology in the retail sector is varied, with micro, small and medium sized retail businesses postponing introduction of new technologies due to lack of understanding of the benefits such technologies can bring to businesses, and a lack of in-house skills.

Hence, this research project provides evidence of digital training needs gaps which now inform the development of relevant, digital skills training programs for the retail sector. It also assists in identifying preferred delivery methodologies for future training initiatives, and communication channels for sharing information. These training initiatives will be established as a core function of the National Retail Association (NRA) and added to the suite of services we already provide our 22,000 plus members.

In summary, this research;

1. Develops a research tool to measure self-reported digital skills and competencies of micro, small and medium sized retail business owners, managers and workers.
2. Identifies current 'digital training needs gaps' which serve to better inform the development of NRA training programs.
3. Offers evidenced based insights and recommendations.

Training appeared to be the biggest barrier for micro, small and medium sized retailers in the adoption or updating of new digital technologies. More broadly, findings indicate many micro, small and medium sized retail businesses felt they need to adopt new technologies to survive or grow, but are currently constrained by a lack of knowledge, training, confidence and skills. In relation to training, the majority of retailers indicated a central tendency in self-reporting. Mean scores between 5.88 and 6.41, suggest incumbent retailers lack knowledge in these areas.

Interestingly, despite self-assessing their own websites, the findings indicate a lack of clarity in this area, with the majority of retailers indicating once again a central tendency. Mean scores between 5.29 and 5.95, suggest incumbent retailers lack an ability to interact with their customers via digital platforms, like websites. Most alarmingly, the findings indicate a lack of clarity relating to digital strategies and goals. Mean scores between 4.98 and 5.91, suggest retailers lack an ability to develop clear plans and goals relating to the digital elements of their business.

Despite the prevalence of social media and digital third party digital platforms (cloud-based technologies, social media), many retailers did not feel that they were proactively leveraging these digital assets. The results of this research infer micro, small and medium sized retailers are most likely under resourced, lack an awareness of the need to update or lack the ability to update sites.

In relation to knowledge of the internal analysis process, loyalty programs and customer segmentation, retailers reported mean scores of between 5.23 and 6.32, (scaled 1-10), indicating a reasonably low level of confidence in these important business areas. Overall, knowledge of digital promotions, reported a mean of 7.23, indicating reasonable confidence. While knowledge of inventory management processes, produced a mean score of 7.52, which indicated a reasonable level of confidence.

Recommendations in this report call for the development of a comprehensive set of training and mentoring programs, that will deliver positive outcomes for micro, small and medium sized retailers and prepare them for the future.

Contents

EXECUTIVE SUMMARY	3
List of Tables	6
Table of Figures	7
Significance	8
Background	8
RESEARCH METHODS AND ANALYSIS	9
Research Methods	9
Research Sample	9
Stages of the Research	9
Prior to Project Commencement: Project Management Plan and Ethics Approval.....	9
Prior to Project Commencement: Initial Desktop Review	9
Conduct Quantitative Online Survey.....	9
Data Analysis Procedures	9
Quantitative Online Survey	9
QUANTITATIVE RESULTS	10
Overview of Respondent Characteristics	10
Sample Size of Retail Businesses	10
Role within the Retail Business	10
Gender	10
Age.....	11
Years of Operation.....	11
Business Location.....	12
Table 5: Retail business location – State/Territory.....	12
Table 6: Retail business location – Geography.....	12
Table 7: Retail business location – Type.....	12
Retail Business Sector.....	13
Types of Technologies Employed.....	13
Technology Applications	14
KEY INSIGHTS	15
Insight 1. Barriers to Digital Technology Adoption	15
Recommendation 1	15
Insight 2. Need for New Technologies	15
Recommendation 2	16
Insight 3. Legal Issues and Security.....	16
Recommendation 3	16
Insight 4. Customer Facing Technology.....	16
Recommendation 4:	17
Insight 5. Retailers' Digital Strategies.....	17

Recommendation 5	17
Insight 6. Retailers' Confidence in Training.....	17
Recommendation 6	18
Insight 7. Third Party Platform Usage	18
Recommendation 7	18
Insight 8. Website Maintenance	18
Recommendation 8	19
Insight 9. Internal Analysis.....	19
Recommendation 9:	20
Insight 10. Digital Promotions.....	20
Recommendation 10	20
Insight 11. Customer Loyalty	20
Recommendation 11	21
Insight 12. Inventory Management	21
Recommendation 12	21
Insight 13. Segmenting Customers	22
Recommendation 13	22
REFERENCE LIST	23
APPENDIX 1 Ethics Clearance.....	26
APPENDIX 2 Survey instrument.....	28

List of Tables

Table 1: Size of retail business	10
Table 2: Age distribution of owners/managers of retail businesses	11
Table 3: Years of retail business operation.....	11
Table 4: Years of retail business operation – Retail business size.....	12
Table 5: Retail business location – State/Territory	12
Table 6: Retail business location – Geography	12
Table 7: Retail business location – Type	12
Table 8: Retail business sector	13
Table 9: Need for new technologies	16
Table 10: Legal Issues and security	16
Table 11: Customer facing technology	17
Table 12: Retailers’ digital strategies and goals	17
Table 13: Retailers’ confidence in team member training.....	18
Table 14: Third party platform usage of retail businesses	18
Table 15: Retailers’ ability to conduct an internal analysis	19
Table 16: Retailers ability to leverage promotions.....	20
Table 17: Retailers’ ability to leverage customer loyalty	21
Table 18: Retailers’ understanding of inventory management practices	21
Table 19: Understanding retailers’ ability to segment customers	22

Table of Figures

Figure 1: Role of business decision makers	10
Figure 2: Gender distribution.....	11
Figure 3: Connectivity	13
Figure 4: Hardware	14
Figure 5: Applications of technology	14
Figure 6: Barriers to digital technology adoption.....	15
Figure 7: Retailer website maintenance timeframes.....	19

Significance

Small businesses make a significant contribution to the Australian economy delivering up to 20 per cent of GDP, however data has revealed 54,992 small businesses collapsed in Australia in 2018 (Ellion, 2018). It is the retail sector that has seen the largest number of small businesses fail, and these failures appear much higher in regional and rural areas (Gilfillan, 2018). In conjunction with these business closures, employment in small business has also fallen. Employing around 4.7 million people (Department of Jobs and Small Business, 2018) or about half the Australian workforce, employment has fallen since 2009 in the small business sector.

State, territory and federal governments are keen to provide support to small businesses in multiple ways. For example, the *Advancing Small Business Queensland Strategy 2016-20* (Advancing Small Business Queensland, 2016), which is a Queensland Government plan to enable small business to meet the challenges of a changing economy, and similar programs across NSW, VIC and other states. Lacking within these programs are mechanisms to educate small retail business owners in areas of best practice, in order to train and develop employees.

In order to remain competitive, grow, employ workers and contribute to local economies, skills and competency based training is vital for small retail businesses. As mentioned above, a high proportion of small retail business failures have been realised, as have declining employment conditions since 2009 (Gilfillan, 2018). These metrics demonstrate the challenges of a changing economy and increasing customer expectations in relation to retail digitisation – ultimately customers want to access retail offers online and engage with retail brands via social media. Yet, this requires upskilling existing small business owners, managers and workers. A further challenge facing regional and rural retail businesses relates to time and distance. Access to training and mentoring programs, which are readily available in cities, are currently unavailable for many of these small, isolated family owned business. Further, attending such courses in many cases requires business owners to close stores for several hours, or days.

Technology has had an enormous impact on the way customers and retail businesses interact and operate. Retail is now very much about delivering against the expectations of customers, who want to use technology in their retail experiences. More and more have grown up with a smartphone, tablet or other digital device. For these new consumers, digital is an expectation. New technology is also giving retailers the potential to harness deeper insights into their consumers than ever before.

Background

The retail landscape is ever-changing, as systems, processes, information and communication technologies become more connected (Daunt and Harris, 2017; Dennis et al., 2014; Ferracuti et al., 2019). As a result, retail businesses are rapidly integrating technologies to remain profitable, relevant and customer-focused (Renko and Druzijanic, 2014). In response to an increasingly competitive environment, physical stores are complementing their existing business models with “smart retailing” to enhance the customer shopping experience (Roy et al., 2017; Roy et al., 2018). The concept of smart retailing emerged from the broader smart city phenomenon (Pantano and Viassone, 2014).

Over the past few years, traditional retail stores have incorporated several smart technology innovations into day-to-day practice. For example, self-service technologies (SSTs), radio frequency identification systems (RFIDs), interactive displays, touch screens, self-check-out functionality (Amazon Go), and informative touchpoints have been adopted to enhance customer engagement and experiences with retail stores (Pantano and Viassone, 2014; Roy et al., 2017; Roy et al., 2018). Smart retail technology (SRT) resonates with the smart use of technologies for retailing purposes and further creates a smart partnership between the retailer and consumer following its adoption and enhanced real-time interactivity (Gregory, 2015; Kim et al., 2016). It is forecasted investments in SRT to grow by 20% annually to \$36 billion by 2020 (Research and Markets 2015). Retailers, therefore, need to not only understand and identify suitable technology, but also upskill incumbent owners, managers and employees in the use of such digital technologies.

RESEARCH METHODS AND ANALYSIS

Research Methods

A quantitative method, via an online self-report survey was utilised for the purposes of this research. Quantitative research involves measuring variables and using statistics to determine the relationships between those variables. A total of 336 participants responded to the 56 item survey.

Research Sample

The target population for this study was Australian micro, small and medium sized retail businesses (Australian Bureau of Statistics, 2017) from urban and regional areas. In line with Chetty and Hamilton (1993), data was collected with retail business key decision makers only. This stipulation saw the data being collected from the owner/founder and/or manager, who characteristically is responsible for key decision making within the business such as engaging in formal training. A small proportion (3.6%) of employees completed the survey, but they were removed from the data set prior to analysis.

Stages of the Research

Prior to Project Commencement: Project Management Plan and Ethics Approval

The successful delivery of any project is contingent on a well-developed and well executed research strategy. As such, this phase was critical in establishing a foundation to deliver and report the outcomes of the project. Key activities undertaken during the project management plan included: finalising contractual agreements, engagement with the National Retail Association, defining the purpose, key objectives and vision for the project; identifying key data collection requirements; and obtaining ethics approval (QUT HREC approval number – 1900000317).

Prior to Project Commencement: Initial Desktop Review

Stage One of the research included an initial desktop review, involving the review of existing documentation in print and/or published media on the Internet (i.e. media releases, academic journal articles, industry reports and documentation, and other publicly available data) to inform the development of the research instrument, an online survey.

Conduct Quantitative Online Survey

An online quantitative survey was used to capture the responses of 336 micro, small and medium sized retail business decision-makers (owner/managers) in urban and regional Australian states and territories. The survey aimed to quantify the current 'digital training needs gaps' which serve to better inform the development of NRA training programs.

Data Analysis Procedures

Quantitative Online Survey

Development

The online survey was developed using *a priori* literature aligned to the project requirements. Prior to administering the online survey, a pre-test was conducted to identify issues regarding potential misinterpretation or confusion around questions. To pre-test the survey a panel of four people, including two PhD students, one academic and the Training Director at the NRA. This pre-test revealed minor issues such as double coded response options which were addressed prior to survey launch.

Analysis

For the analysis of survey data, the statistical software package IBM SPSS Statistics Version 25 was used. Descriptive statistics, including frequency counts were used to describe data and provide a basis for further inferential statistics. In particular, one-way between-groups analysis of variance (One-Way ANOVA) and independent-samples t-tests were used to test for statistically significant differences between the mean scores of different groups. These analytical techniques were selected as a result of multiple factors, including but not limited to, the research objectives as well as the sample size of the research.

QUANTITATIVE RESULTS

Overview of Respondent Characteristics

Sample Size of Retail Businesses

Micro, small or medium sized retail businesses were determined as follows; Micro – Less than 5 employees, Small – Between 6 and 19 employees, Medium – Over 20 employees.

Business Size	Frequency	Percent	Cumulative Percent
Micro	90	26.8	26.8
Small	174	51.8	78.6
Medium	72	21.4	100
Total	336	100	

Table 1: Size of retail business

Role within the Retail Business

All respondents in the survey were key decision-makers within a micro, small or medium sized retail business. This means that all respondents surveyed could reasonably be expected to have at least some control over applying for the Mentoring for Growth program or the grants programs offered by the Office of Small Business. Predominantly, the decision makers surveyed were business owners with 210 (62.5%) respondents indicating that they owned a small business. A further 54 (16.1%) reported belonging to senior management, and the remaining 60 (17.9%) worked in middle or junior level management positions. Individuals who identified as employees of a small business were screened from the survey.

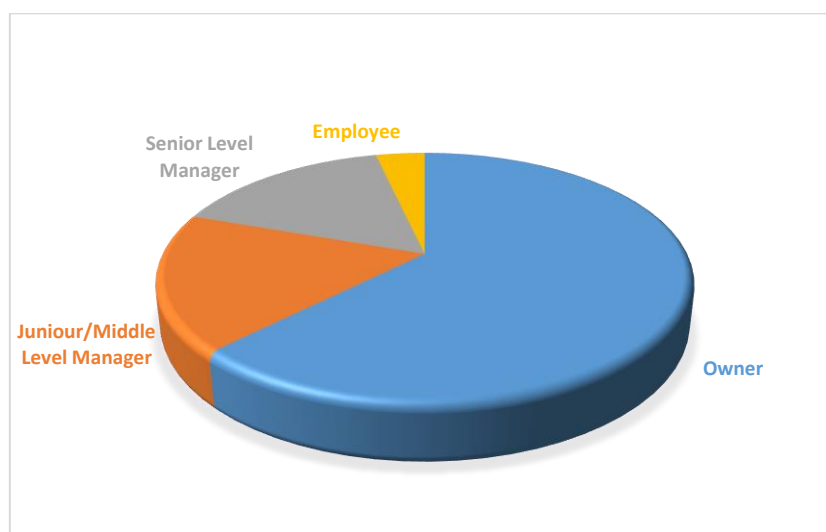


Figure 1: Role of business decision makers

Gender

There were slightly more respondents who identified as male (n=198, 58.9%) than female (n=114, 33.9%) in the sample. A small proportion identified as 'other' or 'preferred not to say' were identified.

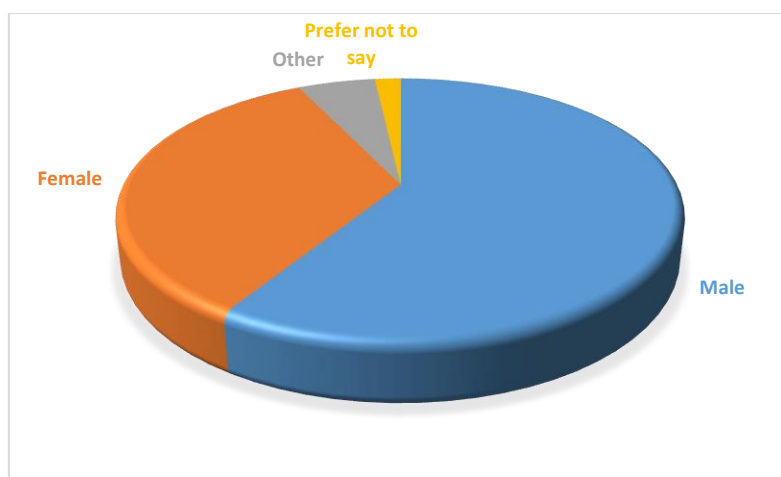


Figure 2: Gender distribution

Age

The respondents surveyed were generally older (Table 18), with 50.4% of the sample aged between 45 and 64 years old.

Age Bracket	Survey Frequency	Survey Percentage	National percentage of business operators (ABS, 2013)
18-25	0	0.0	2.8
26-35	30	8.9	14.9
36-45	132	39.3	24.7
46-55	96	28.6	27.7
56-65	66	19.6	21.5
66-over	12	3.6	7.8

Table 2: Age distribution of owners/managers of retail businesses

Although no reliable data on the average age of small business owners or managers *exclusively* could be identified as the Australian Bureau of Statistics (ABS) *Characteristics of Small Business (cat. no. 8127.0)* has been discontinued, the ABS (2013) reports that the largest percentage of business operators in Australia were aged between 45–54 years old (27.7%). Comparatively, the survey sample comprised approximately 28.6% respondents aged between 46–55 years old. The ABS (2013) reports that 24.7% of business operators in Australia were aged 35–44, compared to 39.3% in the survey. The ABS (2013) reports 14.9% of business operators in Australia were aged 25–34, compared to 8.9% in the survey. The ABS (2013) reports that only 2.8% of business operators in Australia were aged 20–24, compared to 0% in the survey.

Years of Operation

Respondents were asked to indicate how many years their retail business had been operating. Table 3 below quantifies this data, finding that 66% of retail businesses have been operational for less than 15 years.

Years of Experience	Frequency	Percentage
Less than 2	54	16.1
2-5	42	12.5
6-15	126	37.5
16-25	42	12.5
26-50	36	10.7
51+ years	36	10.7

Table 3: Years of retail business operation

	Micro	%	Small	%	Medium	%	Total
< than 2 years	24	44%	30	56%	0	0%	54
2-5 years	18	43%	18	43%	6	14%	42
6-15 years	24	19%	66	52%	36	29%	126
16-25 years	12	29%	30	71%	0	0%	42
26-50 years	6	17%	12	33%	18	50%	36
51 years +	6	17%	18	50%	12	33%	36
	90	27%	174	52%	72	21%	336

Table 4: Years of retail business operation – Retail business size

Business Location

All micro, small and medium sized retail businesses included in this survey were sourced nationally, although there was a skew toward Queensland-based retail businesses.

State/Territory	Frequency	Percent
Victoria	48	14.3
New South Wales	66	19.6
Queensland	180	53.6
Western Australia	18	5.4
South Australia	6	1.8
Tasmania	18	5.4
Northern Territory	0	0.0
ACT	0	0.0

Table 5: Retail business location – State/Territory

Further, the survey sought to identify specific locations of businesses based on urban, suburban or rural/regional locations. Such information was deemed important to assist in developing programs that could be accessed by retail business owners located in non-CBD locations. The data indicated 64.3% of micro, small and medium sized retail businesses were located outside inner city and urban areas.

Location	Frequency	Percent
Inner city	78	23.2
Urban (within 5klms of CBD)	42	12.5
Suburban and outer-suburban	126	37.5
Regional town or city	48	14.3
Rural town or city	42	12.5

Table 6: Retail business location – Geography

The specific location of all micro, small and medium sized retail businesses were captured. Results indicate most 46.4% of retail businesses were located in small shopping centres or in high street locations.

Location	Frequency	Percent
Shopping Centre Large	60	17.9
Shopping Centre Small	78	23.2
High Street Location	78	23.2
Free Standing Store	54	16.1
Online (Pure-play)	30	8.9
Other – Warehouse, markets, mobile	36	10.7

Table 7: Retail business location – Type

Retail Business Sector

The micro, small and medium sized retail businesses included in the survey operated across a wide array of sectors. Sectors, such as specialty food retailing (12.5%), clothing, footwear and accessories (12.5%) and pharmacy (8.9%) were predominant. The 'other' category included services businesses, i.e. nail salons, massage clinics.

Sector	Frequency	Percentage
Supermarket or grocery store	18	5.4
Specialised food retailing	42	12.5
Furniture, floor covering, homewares and textiles	18	5.4
Electrical, consumer electronics and gas appliances	18	5.4
Hardware, building and garden supplies	12	3.6
Recreational/sporting goods	12	3.6
Clothing, footwear and personal accessories	42	12.5
Department store or discount department store	18	5.4
Pharmacy	30	8.9
Other store-based retailing	126	37.5

Table 8: Retail business sector

Types of Technologies Employed

The survey sought to identify specific technologies employed by micro, small and medium sized retail businesses. Businesses reported employing multiple types of digital technologies, including both connectivity and hardware technologies.

Connectivity – In relation to the type of technology employed to attain connectivity for business, the majority (64.2%) of micro, small and medium sized retail businesses indicated they had access to NBN Broadband. Cloud-based (46.2%) and mobile-type (28.5%) technology was also highly used. It was noted that retailers often used multiple forms of connectivity, i.e. NBN while on premises, and mobile, while off premises.

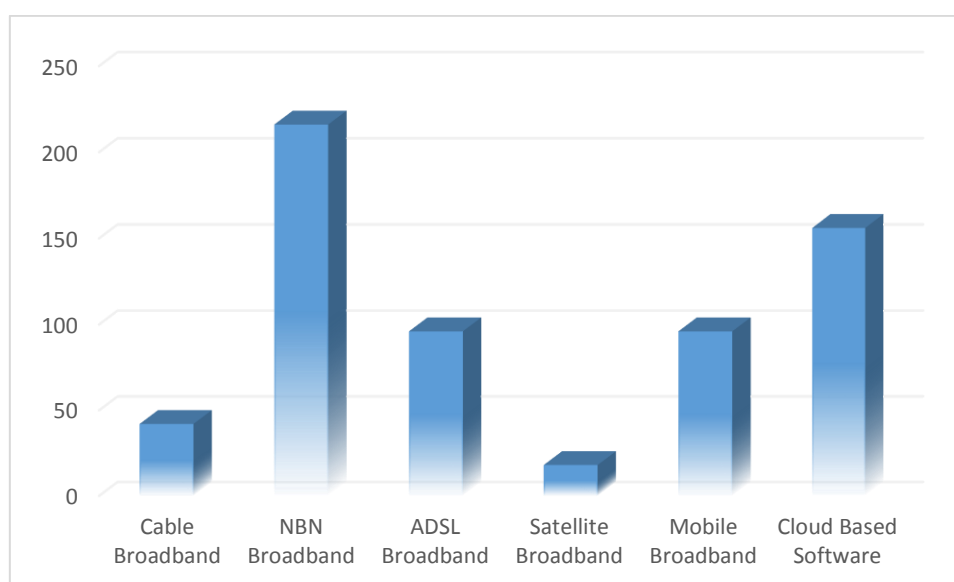


Figure 3: Connectivity

Hardware – In relation to the type of hardware employed within the retail business, the majority (80.0%) of retail businesses indicated they had Desktop computers. Laptop computers (69.6%) and to a lesser extent, Smart Phones (66.5%) were also used. It was again noted that retailers often used a combination of these tools.

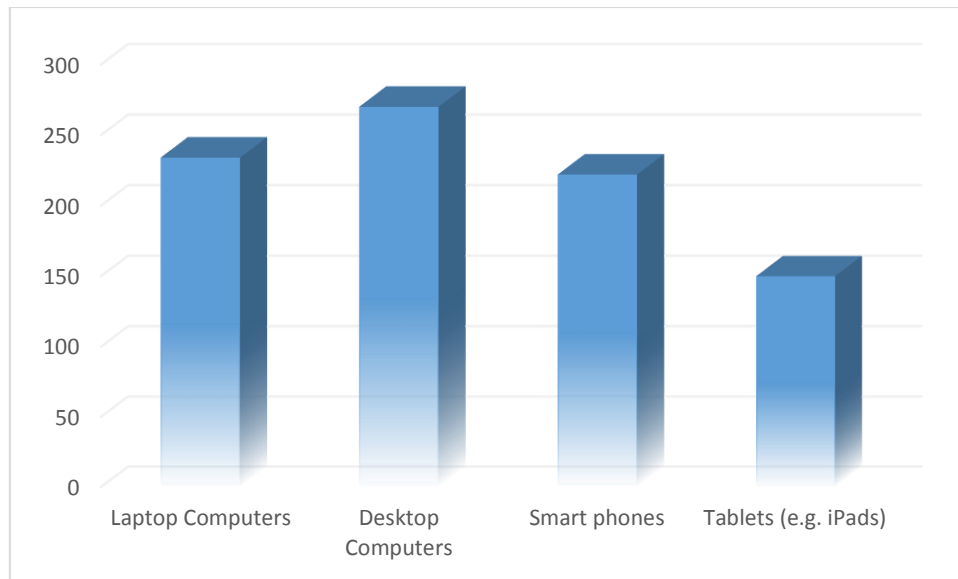


Figure 4: Hardware

Technology Applications

The survey sought to identify specific technologies and how they were employed within micro, small and medium sized retail businesses. As per the below figure, the majority of retail businesses used technology for financial management and book keeping purposes (i.e. MYOB programs) (82.1%) and inventory management (75.0%). This was followed by E-commerce and online retailing (55.4%) and Customer Relationship Marketing/Management programs (51.8%). These programs may include database marketing or the publishing and distribution of electronic newsletters or advertising material. Human resource management, including on-boarding and training was predominantly used by 44.6% of retail businesses.

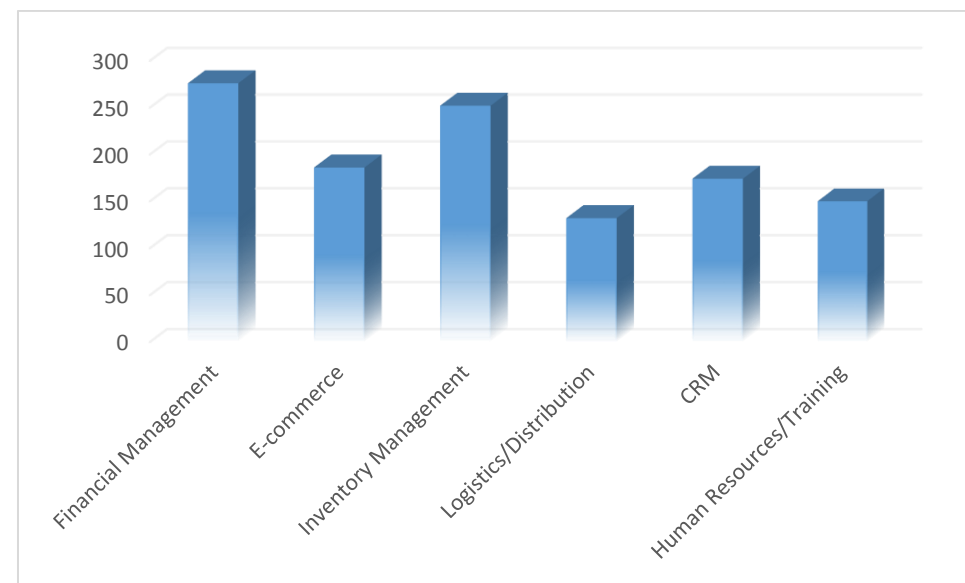


Figure 5: Applications of technology

KEY INSIGHTS

The following insights summarise the key findings from quantitative research undertaken to address the research objectives.

Insight 1. Barriers to Digital Technology Adoption.

Training appeared to be the biggest barrier for micro, small and medium sized retailers in the adoption or updating of new digital technologies (Lange *et al.*, 2000). Training and mentoring is vital for the successful implementation of new digital technology in small retail businesses (Aryee *et al.*, 1996; Barrett, 2006). Previous research has identified the importance of training for the growth and survival of small businesses (Cosh *et al.*, 1998; Davidsson *et al.*, 2010; Dawe and Nguyen, 2007). The majority of respondents (43%) indicated that they had a distinct lack of skills required to implement new digital technologies or update superseded technology. This was closely followed by a lack of confidence in using new types of digital technology (38%) and a lack of understanding of and knowledge in how to use new technology (36%). A further 36% of retail owners and managers indicated cost was a barrier to adopting new technology. In attempting to deliver or undertake training, small retail businesses are also constrained by time (Walker *et al.*, 2007).

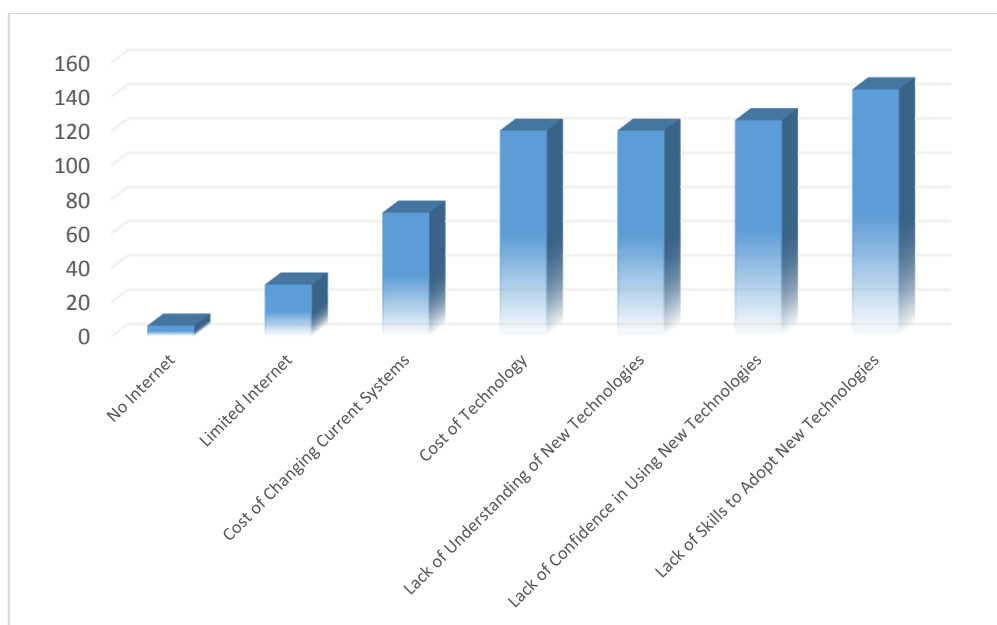


Figure 6: Barriers to digital technology adoption

Recommendation 1: Training programs need to be developed for both manager/owners and retail workers to improve relevant skill sets, confidence and understanding of emergent digital technologies.

Insight 2. Need for New Technologies.

To ensure reliability and integrity of the survey, a reverse coded item (Weems and Onwuegbuzie, 2001), measured using a 10 point sliding scale, was utilised; “*We don’t need to adopt new technologies in our business to survive or grow.*” The data was reverse coded back and analysed with an ANOVA. Significant statistical differences were detected between the groups (sig.0.00). Overwhelmingly, retailers disagreed with this proposition. **Taken in context with Insight 1, it appears many micro, small and medium sized retail businesses feel that they need to adopt new technologies to survive or grow, but are currently constrained by a lack of knowledge, training, confidence, skills and also finances.**

Size	Disagree	Percent	Agree	Percent	Total
Micro	78	87%	12	13%	90
Small	150	86%	24	14%	174
Medium	60	83%	12	17%	72
	288	86%	48	14%	336

Table 9: Need for new technologies

Recommendation 2: Respondents indicated a '*need to adopt new technologies in order to survive or grow*', yet express insufficient skills, confidence and understanding of emergent digital technologies. Accordingly, training programs need to be developed for both manager/owners and retail workers to improve relevant skill sets, confidence and understanding of emergent digital technologies.

Insight 3. Legal Issues and Security.

Cloud computing is a way to increase the capacity or add capabilities dynamically without investing in new infrastructure, training new personnel, or licensing new software (Subashini and Kavitha, 2011; Morse and Raval, 2008). Despite the growth of cloud and other digital technologies, small and medium sized retail businesses are still reluctant to utilise these opportunities, due to perceived security risks that pose a threat (Sarasvathy *et al.*, 1998; Brender and Markov, 2013). This research sought to quantify concerns relating to the implementation and adoption of new technology which exposes retailers to compliance obligations imposed by privacy legislation. Respondents were presented with a series of items designed to measure their understanding of their legal obligations relating to the storing and protection of customers' data, managing cyber security and risk, and their access to relevant professionals. All items were measured using a 10 point scale. **Findings indicate a lack of confidence in this area, with the majority of retailers indicating a central tendency. Mean scores between 5.88 and 6.41, suggest incumbent retailers lack knowledge in these areas. To indicate confidence, mean scores greater than 8.5 would be expected.**

Item	Mean	SD
I understand my legal obligations when it comes to storing my customers' data and I have systems in place to protect that data.	6.27	2.65
I have systems in place to protect my customer's privacy.	6.20	2.40
I am aware of ways to manage cyber-security risk.	6.41	2.22
My business has plans in place to reduce cyber-security risks.	5.88	2.20
I have access to professionals to overcome technology challenges that may occur in my business.	6.27	2.38

Table 10: Legal Issues and security

Recommendation 3: Mean scores between 5.88 and 6.41 indicate incumbent retailers lack knowledge in the areas of legal obligations, relating to the storing and protection of customers' data, managing cyber security and risk. Hence, a training program needs to be developed specifically for manager/owners. Further, micro, small and medium sized retailers need access to relevant professionals. Therefore, a need for recruitment of such a resource may be required.

Insight 4. Customer Facing Technology.

Customers demand service efficiency and frictionless transactions (Brynjolfsson and Smith, 2000; Morganosky and Cude, 2002). One way retailers deliver on this metric is through the implementation of new digital technology, like interactive and transactional websites (Breugelmans, 2012). Accordingly, this research sought to quantify retailers' opinions of technology enabled customer service elements. Respondents were presented with a series of items designed to measure their perceptions of ease of use and navigation of the retailers' website. All items were measured using a 10 point scale.

Interestingly, despite assessing their own websites, the findings indicate a lack of clarity in this area, with the majority of retailers indicating a central tendency. Mean scores between 5.29 and 5.95, suggest incumbent retailers lack an ability to interact with their customers via digital platforms, like websites. To indicate confidence, mean scores greater than 8.5 would be expected.

Item	Mean	SD
Our customers can easily find information about our products/services on our website.	5.95	2.59
Our customers can easily complete a purchase online on our website.	5.29	2.83
Our customers can easily complete a purchase on our website.	5.48	3.01

Table 11: Customer facing technology

Recommendation 4: Mean scores in a central tendency tend to indicate incumbent retailers lack an ability to interact with their customers via digital platforms, like websites. Accordingly, workshops (or digital workshops) should be considered to assist retailers to better leverage their digital assets.

Insight 5. Retailers' Digital Strategies.

It is vital for retail managers to have a clearly defined digital strategy and accompanying goals for their business (Gray, 2002; Khedhaouria *et al.*, 2015). Such mechanisms assist in the procurement and implementation of digital technologies, as well as the scheduling of any necessary staff training (Gibb, 1997). Without plans and a direction, retail businesses may waste capital by purchasing incorrect technology and fail to train team members adequately. Respondents were presented with two items designed to measure their opinions of their digital strategies and goals. All items were measured using a 10 point scale. **Alarming, the findings indicate a lack of clarity relating to digital strategies and goals. Mean scores between 4.98 and 5.91, suggest retailers lack an ability to develop clear plans and goals relating to the digital elements of their business. To indicate confidence, mean scores greater than 8.5 would be expected.**

Item	Mean	SD
I have defined digital goals for my business.	5.91	2.92
I have a clear digital plan/strategy in place to support my business.	4.98	2.49

Table 12: Retailers' digital strategies and goals

Recommendation 5: Mean scores in a central tendency generally indicate incumbent retailers have failed to develop clear digital strategies and goals. Accordingly, interactive workshops (or digital workshops) should be considered to assist retailers to such strategies and goals.

Insight 6. Retailers' Confidence in Training

As identified in 'Insight 1', the majority of micro, small and medium sized retailers indicated that training at some level was a key barrier to adopting new digital technology (Vinten, 2000; Webster *et al.*, 2005). These perceived barriers are not new, with significant evidence consistently highlighting the importance of training and mentoring (Aryee *et al.*, 1996; Barrett, 2006; Bager, 2015; MacKenzie *et al.*, 1991). To further explore this issue, three further items were presented to respondents. The items sought to quantify the level of confidence the retail owner/manager had in their team, their willingness to use new technology and existing levels of training. All items were measured using a 10 point scale. **Similar to the findings above, while the owner/manager's confidence was higher, between 6.13 and 6.52, such mean scores still infer a lack of assurance. Perception of team training was lower at 5.82. To indicate confidence, mean scores greater than 8.5 would be expected.**

Item	Mean	SD
I am confident that my staff are willing to use digital technology in their job.	6.52	2.08
I am confident that my staff have the skills to take advantage of digital technology in their jobs.	6.13	2.17
I believe my team is trained to use of digital technology.	5.82	2.41

Table 13: Retailers' confidence in team member training

Recommendation 6: Mean scores in a central tendency generally indicate incumbent retailers lack confidence in this area. It is suggested that training programs should be developed to upskill managers/owners – enabling them to on-train and mentor their staff. It is further recommended specific training for retail workers on digital technology in the workplace.

Insight 7. Third Party Platform Usage

Third party digital platforms, such as Facebook, Google, LinkedIn, Yelp and other industry specific platforms, like TripAdvisor, are becoming the cornerstone of successful retail businesses (Harris and Rae, 2009; Brennan and Schafer, 2010). This research sought to quantify retailers' proactive usages of such platforms. Respondents were presented with a single item, measured using a 10 point scale. **Despite the penetration and prevalence of social media and digital third party platforms, many retailers did not feel that they were proactively leveraging this digital asset. To indicate strong utilisation, mean scores greater than 8.5 would be expected.**

Item	Mean	SD
I am proactive on third party platforms (e.g. Facebook, Google My Business, LinkedIn, and Yelp) and other industry specific platforms (e.g. TripAdvisor).	6.57	1.98

Table 14: Third party platform usage of retail businesses

Recommendation 7: The development of a training program, designed to assist and educate retail businesses of the commercial benefits of third party digital platforms is required.

Insight 8. Website Maintenance

Retailers need to ensure that their active websites are regularly maintained, updated and refreshed (Knapp and Ferrante, 2012). Such maintenance may include improving security protocols, adding new products or transaction types (i.e. EzyPay), updating product or service information, or simplifying processes (Lee and Kozar, 2006). Respondents were asked to quantify how frequently they updated their business website. Findings indicate over half (57.1%) rarely update or maintain their active business website. It is concerning that 23.2% never review or update their website, while, 33.9% maintained their site once every three months. **This indicates that micro, small and medium sized retailers are most likely under resourced, lack an awareness of the need to update or lack the ability to update sites.**

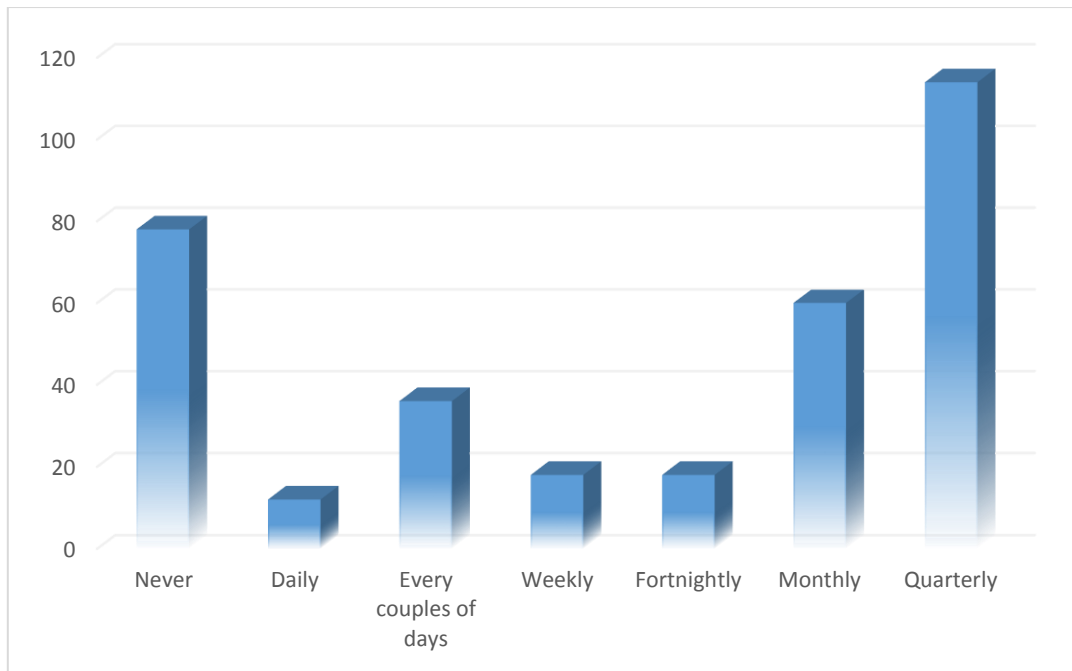


Figure 7: Retailer website maintenance timeframes

Recommendation 8: Findings indicate over half (57.1%) rarely update or maintain their active business website, accordingly a communication program (possibly a regular reminder program) should be developed to ensure retail business owners/manager are maintaining active websites.

Insight 9. Internal Analysis

While historically, retailers have focussed on their financial data, current best practice encourages a more holistic approach to assessing business performance (Van Der Zee and De Jong, 1999; Fraser and Zarkada-Fraser, 2000). It is recommended that retailers consider other data sources, such as customer insights, employee satisfaction and internal processes to conduct an internal analysis (Thomas *et al.*, 1999). Such data is often stored and analysed digitally. Respondents were presented with five items designed to measure their ability, confidence and understanding of the internal analysis process. All items were measured using a 10 point scale. **Findings indicate micro, small and medium sized retailers were mostly able to identify several types of financial data relative to their business to assist with an internal analysis ($M=6.98$, $SD\ 1.77$), but were slightly less able to describe or identify other important metrics, such as customer data ($M=6.34$, $SD\ 1.94$), employee data ($M=6.32$, $SD\ 1.99$) and importantly WHS data ($M=5.93$, $SD\ 1.95$). Overall, on a scale of 1 to 10, measuring knowledge of the internal analysis process, retailers reported a mean of only 6.32.**

Item	Mean	SD
I know several types of financial data I can capture in my business to help with an internal analysis.	6.98	1.77
I can describe several types of customer data I can capture to help with an internal analysis.	6.43	1.94
I am able to define several types of employee data I can capture to help with an internal analysis.	6.32	1.99
I know which health, safety and audit data to capture in my business in order to conduct an internal analysis.	5.93	1.95
On a scale of 1 – 10, I would rate my overall knowledge of the internal analysis process as...	6.32	2.03

Table 15: Retailers' ability to conduct an internal analysis

Recommendation 9: Findings indicate a lack of confidence, understanding and knowledge amongst micro, small and medium sized retailers in relation to the internal analysis process. Accordingly, the development of a training program, designed to assist and educate retail businesses in undertaking an internal analysis is now required.

Insight 10. Digital Promotions

It is vital that retailers understand the different types of retail promotions available to them (Grewal, 2011). It is equally important that retailers employ digital technology to collect and analyse promotional data designed to help them run successful and profitable promotions (Ghose and Yang, 2009; Tan, 1999). As consumers are heterogeneous, in other words, all shoppers are different, a common mistake retailers make is offering the same promotion to everyone. Respondents were presented with four items designed to measure their understanding of the variety of promotional strategies available to them, as well as the metrics they should track. All items were measured using a 10 point scale. **Findings indicate micro, small and medium sized retailers were able to identify several types of promotional strategies available, or currently utilised, in their business ($M=7.64$, $SD\ 1.91$) and ($M=7.98$, $SD\ 1.60$), but were slightly less able to describe or identify the metrics ($M=6.80$, $SD\ 1.96$). Overall, on a scale of 1 to 10, measuring self-reported knowledge of the digital promotions, retailers reported a mean of 7.23, which indicates reasonable confidence.**

Item	Mean	SD
I have a good understanding of the different types of promotions I can run within my business.	7.64	1.91
I understand the objectives of the different types of promotions I can run within my business.	7.82	1.60
I know which metrics I should track and measure when running a promotion.	6.80	1.96
On a scale of 1 – 10, I would rate my overall knowledge of promotions management analysis as...	7.23	1.77

Table 16: Retailers ability to leverage promotions

Recommendation 10: Findings indicate a reasonable level of confidence, understanding and knowledge amongst micro, small and medium sized retailers in relation to promotional activities and strategies. However, a training program, designed to specifically assist retail businesses in metrics and data analysis is now required.

Insight 11. Customer Loyalty

An emerging trend in 'loyalty' is the move from physical 'cards' to digital platforms (Balan and Ramasubbu, 2009). Retailers tend to use terms like 'loyalty', 'reward' and 'incentive' schemes interchangeably, without understanding the key differences (Uncles *et al.*, 2003). Further, retailers also fail to consider the structural differences of loyalty programs, either linear or hierarchical, relevant to business (Stourm *et al.*, 2015; Chaabane and Pez, 2017). There are also psychological differences in consumer loyalty, behavioural – commonly referred to as transactional (behavioural) versus attitudinal (Bandyopadhyay and Martell, 2007). To examine retailers' understanding, knowledge and confidence in relation to loyalty schemes, respondents were presented with five items designed to measure their understanding of emerging trends and data collection techniques. All items were measured using a 10 point scale. **Findings indicate micro, small and medium sized retailers were less able to articulate different terminology, structures and outcomes of loyalty programs ($M=6.43$, $SD\ 1.90$) and were less likely to be able to identify key aims of programs ($M=5.96$, $SD\ 2.01$) or emerging trends ($M=4.96$, $SD\ 1.74$). Similarly, retailers were less likely to be able to identify suitable metrics to capture within their digital programs ($M=5.18$, $SD\ 2.23$). Overall, on a scale of 1 to 10, measuring**

self-reported knowledge of the loyalty programs, retailers reported a mean of just 5.23, which indicates reasonably low levels of confidence.

Item	Mean	SD
I understand the different terminology, structures and outcomes of loyalty programs.	6.43	1.90
I know the four main key aims of loyalty programs.	5.96	2.01
I can identify emerging trends in loyalty programs.	4.96	1.74
I know the types of data I can capture and analyse within my loyalty program.	5.18	2.23
On a scale of 1 – 10, I would rate my overall knowledge of loyalty programs as ...	5.43	1.78

Table 17: Retailers' ability to leverage customer loyalty

Recommendation 11: Findings indicate a lack of confidence, understanding and knowledge amongst micro, small and medium sized retailers in relation to the customer loyalty programs and strategies. Accordingly, the development of a training program, designed to assist and educate retail businesses is now required.

Insight 12. Inventory Management

Inventory is the single biggest cost to a retail business (Bernstein and Federgruen, 2004; DeHoratius, 2008). Retailers need to consider direct and indirect inventory costs, perishability issues, seasonality, obsolescence and 'opportunity' costs (Tibben-Lembke and Rogers, 2002). Inventory management is challenging, but digital technology is making it easier for retail managers today (Kärkkäinen, 2003). This research sought to quantify the level of understanding retail owners and managers had in relation to inventory management practices. Respondents were presented with five items designed to measure their understanding of inventory management practices and data collection techniques. All items were measured using a 10 point scale. **Findings indicate micro, small and medium sized retailers were reasonably confident in their understanding of stock weights – too much ($M=7.66$, $SD\ 1.48$) and too little ($M=9.48$, $SD\ 1.59$). However, they were less confident in relation to analysing metrics ($M=7.46$, $SD\ 1.56$) and post-analysis actions ($M=7.52$, $SD\ 1.56$). Overall, on a scale of 1 to 10, measuring self-reported knowledge of the inventory management processes, retailers reported a mean of just 7.52, which indicates a reasonable level of confidence.**

Item	Mean	SD
I understand the risks of holding too much inventory.	7.66	1.48
I understand the risks of holding too little inventory.	9.48	1.59
I know the steps to analysing inventory.	7.46	1.50
I am aware of the actions to be implemented after analysing my inventory.	7.52	1.56
On a scale of 1 – 10, I would rate my overall knowledge of inventory management as ...	7.34	1.65

Table 18: Retailers' understanding of inventory management practices

Recommendation 12: Findings indicate a medium to high degree in confidence, understanding and knowledge amongst micro, small and medium sized retailers in relation to inventory management practices. Hence, while the development of a training program, designed to assist and educate retail businesses might be warranted, it is not considered urgent.

Insight 13. Segmenting Customers

Market segmentation can help retailers develop a deeper understanding of their customers and also identify unmet needs (Marcus, 1998). As customers have different needs, spending power, product and service preferences and consumption habits, retailers are turning to digital technology and database management programs to segment customers into groups, then target 'viable' groups (Shankar, 2010). Respondents were presented with five items designed to quantify the level of understanding retail owners and managers had in relation to customer segmentation procedures. All items were measured using a 10 point scale. **While retailers appeared to understand 'why' they should segment their customers ($M=6.71$, $SD\ 2.16$), they were less confident in 'how' they might undertake this task ($M=6.20$, $SD\ 2.13$) or 'what' they might do with that data ($M=6.50$, $SD\ 2.13$). Retailers reported to be far less confident in relation to the different sources of data available to segment their market ($M=5.63$, $SD\ 1.98$). Overall, on a scale of 1 to 10, measuring self-report knowledge of customer segmentation, retailers reported a mean of just 5.80, which indicates a reasonably low level of confidence.**

Item	Mean	SD
I understand the reasons why I would segment my customers.	6.71	2.16
I am aware of the various approaches to customer segmentation.	6.20	2.13
I know what outcomes and opportunities result from segmenting my customer base.	6.50	2.13
I know the different sources of data I can use to segment my customers.	5.63	1.98
On a scale of 1 – 10, I would rate my overall knowledge of customer segmentation as ...	5.80	2.14

Table 19: Understanding retailers' ability to segment customers

Recommendation 13: Findings indicate a lack of confidence, understanding and knowledge amongst micro, small and medium sized retailers in relation to customer segmentation. Accordingly, the development of a training program, designed to assist and educate retail businesses is now required.


REFERENCE LIST

- Advancing Small Business Queensland (2016) Department of Small Business and Training. Queensland Government. Retrieved from: <https://desbt.qld.gov.au/small-business/strategic-documents/advancing-small-business-queensland>
- Australian Bureau of Statistics (ABS). (2013). 8175.0 – Counts of Australian Business Operators, 2011 to 2012. Retrieved from: <http://www.abs.gov.au/ausstats/abs@.nsf/products/19211BAE119BB284CA2574D400209C35?OpenDocument>
- Australian Bureau of Statistics (ABS). (2017). Counts of Australian Businesses, including Entries and Exits. Retrieved from: <http://www.abs.gov.au/ausstats/abs@.nsf/mf/8165.0>
- Australian Small Business and Family Ombudsman. (2016). Small Business Counts: Small Business in the Australian Economy. Retrieved from: http://www.asbfeo.gov.au/sites/default/files/Small_Business_Statistical_Report-Final.pdf
- Aryee, S., Chay, Y. W., & Chew, J. (1996). The motivation to mentor among managerial employees. *Group & Organization Management*, 21, 261–277.
- Bandyopadhyay, S., & Martell, M. (2007). Does attitudinal loyalty influence behavioral loyalty? A theoretical and empirical study. *Journal of retailing and consumer services*, 14(1), 35-44.
- Bager, T. E., Jensen, K. W., Nielsen, P. S., & Larsen, T. A. (2015). Enrolment of SME managers to growth-oriented training programs. *International Journal of Entrepreneurial Behavior & Research*, 21(4), 578-599.
- Balan, R. K., & Ramasubbu, N. (2009). The Digital Wallet: Opportunities and Prototypes. *IEEE Computer*, 42(4), 100-102.
- Barrett, R. (2006). Small business learning through mentoring: evaluating a project. *Education+ Training*, 48(8/9), 614-626.
- Bernstein, F., & Federgruen, A. (2004). Dynamic inventory and pricing models for competing retailers. *Naval Research Logistics (NRL)*, 51(2), 258-274.
- Brender, N., & Markov, I. (2013). Risk perception and risk management in cloud computing: Results from a case study of Swiss companies. *International journal of information management*, 33(5), 726-733.
- Brennan, B., & Schafer, L. (2010). *Branded: How retailers engage consumers with social media and mobility* (Vol. 39). John Wiley & Sons.
- Breugelmans, E., Köhler, C. F., Dellaert, B. G., & de Ruyter, K. (2012). Promoting interactive decision aids on retail websites: A message framing perspective with new versus traditional focal actions. *Journal of Retailing*, 88(2), 226-235.
- Brynjolfsson, E., & Smith, M. D. (2000). Frictionless commerce? A comparison of Internet and conventional retailers. *Management science*, 46(4), 563-585.
- Chaabane, A. M., & Pez, V. (2017). "Make me feel special": Are hierarchical loyalty programs a panacea for all brands? The role of brand concept. *Journal of Retailing and Consumer Services*, 38, 108-117.
- Chetty, S.K. and Hamilton, R.T. (1993). Firm-level determinants of export performance: A meta-analysis. *International Marketing Review*, 10(2), 26-34.
- Cosh, A., Duncan, J. and Hughes, A. (1998), *Investing in Training and Small Firm Growth and Survival: An Empirical Analysis for the UK*, DfEE Research Report RR36, London.
- Daunt, K. L. and Harris, L. C. (2017) "Consumer showrooming: value co-destruction, *Journal of Retailing and Consumer Services*, Vol. 38, No. 1, pp. 166-176.
- Davidsson, P., Achtenhagen, L., & Naldi, L. (2010). Small firm growth. *Foundations and Trends in Entrepreneurship*, 6(2), 69-166.
- Dawe, S., & Nguyen, N. (2007). *Education and Training that Meets the Needs of Small Business: A Systematic Review of Research*. Adelaide: National Centre for Vocational Education Research Ltd.
- DeHoratius, N., Mersereau, A. J., & Schrage, L. (2008). Retail inventory management when records are inaccurate. *Manufacturing & Service Operations Management*, 10(2), 257-277.
- Dennis, C., Brakus, J. J., Gupta, S. and Alamanos, E. (2014), "The effect of digital signage on shop per behaviour: the role of the evoked experience", *Journal of Business Research*, Vol. 67 No. 11, pp. 2250-2257.
- Department of Jobs and Small Business (2018) "A big plus for small business". Retrieved from: https://smallbusiness.jobs.gov.au/?gclid=EAlaIqObChMIwdvu6d234QIVlaqWCh3VXQ1IEAAYASAAEgLoIvD_Bw

- Ellion (2018) Summary Analysis: illion Business Failures, September Quarter 2018. Retrieved from: <https://www.illion.com.au/2018/11/27/australian-business-expectations-selling-prices-up-concern-over-consumer-confidence-2/>
- Ferracuti, N., Norscini, C., Frontoni, E., Gabellini, P., Paolanti, M. and Placidi, V. (2019), "A business application of RTLS technology in Intelligent Retail Environment: defining the shopper's preferred path and its segmentation", *Journal of Retailing and Consumer Services*, Vol. 47, No. 1, pp. 184-194.
- Fraser, C., & Zarkada-Fraser, A. (2000). Measuring the performance of retail managers in Australia and Singapore. *International Journal of Retail & Distribution Management*, 28(6), 228-243.
- Gibb, A. (1997). Small firms' training and competitiveness: Building upon the small business as a learning organisation. *International Small Business Journal*, 15(3), 13-20.
- Gilfillan, G (2018) "Small business sector contribution to the Australian economy" Research Paper Series, 2018-19. Department of Parliamentary Services. 15th October 2018.
- Ghose, A., & Yang, S. (2009). An empirical analysis of search engine advertising: Sponsored search in electronic markets. *Management science*, 55(10), 1605-1622.
- Gray, C. (2002). Entrepreneurship, resistance to change and growth in small firms. *Journal of Small Business and Enterprise Development*, 9(1), 61-72.
- Gregory, J. (2015), "The Internet of Things: revolutionizing the retail industry", available at: https://www.accenture.com/_acnmedia/Accenture/Conversion-Assets/DitCom/Documents/Global
- Grewal, D., Ailawadi, K. L., Gauri, D., Hall, K., Kopalle, P., & Robertson, J. R. (2011). Innovations in retail pricing and promotions. *Journal of Retailing*, 87, S43-S52.
- Harris, L., & Rae, A. (2009). Social networks: the future of marketing for small business. *Journal of business strategy*, 30(5), 24-31.
- Kärkkäinen, M. (2003). Increasing efficiency in the supply chain for short shelf life goods using RFID tagging. *International Journal of Retail & Distribution Management*, 31(10), 529-536.
- Khedhaouria, A., Gurău, C., & Torrès, O. (2015). Creativity, self-efficacy, and small-firm performance: the mediating role of entrepreneurial orientation. *Small Business Economics*, 44(3), 485-504.
- Kim, H. Y., Lee, J. Y., Mun, J. M. and Johnson, K. K. (2016), "Consumer adoption of smart in-store technology: assessing the predictive value of attitude versus beliefs in the technology acceptance model", *International Journal of Fashion Design, Technology and Education*, Vol. 10 No. 1, pp. 26-36.
- Knapp, K. J., & Ferrante, C. J. (2012). Policy awareness, enforcement and maintenance: Critical to information security effectiveness in organizations. *Journal of Management Policy and Practice*, 13(5), 66-80.
- Lange, T., Ottens, M. and Taylor, A. (2000). SMEs and barriers to skills development: A Scottish perspective. *Journal of European Industrial Training*, 24(1), 5-19.
- Lee, Y., & Kozar, K. A. (2006). Investigating the effect of website quality on e-business success: An analytic hierarchy process (AHP) approach. *Decision support systems*, 42(3), 1383-1401.
- MacKenzie, S. B., Podsakoff, P. M., & Fetter, R. (1991). Organizational citizenship behavior and objective productivity as determinants of managerial evaluations of salespersons' performance. *Organizational Behavior and Human Decision Processes*, 50(1), 123-150.
- Marcus, C. (1998). A practical yet meaningful approach to customer segmentation. *Journal of Consumer Marketing*, 15(5), 494-504.
- Morse, E. A., & Raval, V. (2008). PCI DSS: Payment card industry data security standards in context. *Computer Law & Security Review*, 24(6), 540-554.
- Morganosky, M. A., & Cude, B. J. (2002). Consumer demand for online food retailing: is it really a supply side issue?. *International Journal of Retail & Distribution Management*, 30(10), 451-458.
- Pantano, E. and Viassone, M. (2014), "Demand pull and technology push perspective in technology-based innovations for the points of sale: the retailers evaluation", *Journal of Retailing and Consumer Services*, Vol. 21 No. 1, pp. 43-47.
- Renko, S. and Druzijanic, M. (2014), "Perceived usefulness of innovative technology in retailing: consumers' and retailers' point of view", *Journal of Retailing and Consumer Services*, Vol. 21 No. 5, pp. 836-843.
- Research and Markets (2015), "Retail IT market growth & forecast 2015 to 2020", available at: <http://www.marketsandmarketsblog.com/retail-iot-market.html>
- Roy, S. K., Balaji, M. S., Quazi, A. and Quaddus, M. (2018), "Predictors of customer acceptance of and resistance to smart technologies in the retail sector", *Journal of Retailing and Consumer Services*, Vol. 42, pp. 147-160.

- Roy, S. K., Balaji, M. S., Sadeque, S., Nguyen, B. and Melewar, T. C. (2017), "Constituents and consequences of smart customer experience in retailing", *Technological Forecasting and Social Change*, Vol. 124, pp. 257-270.
- Sarasvathy, D. K., Simon, H. A., & Lave, L. (1998). Perceiving and managing business risks: Differences between entrepreneurs and bankers. *Journal of economic behavior & organization*, 33(2), 207-225.
- Shankar, V., Venkatesh, A., Hofacker, C., & Naik, P. (2010). Mobile marketing in the retailing environment: current insights and future research avenues. *Journal of interactive marketing*, 24(2), 111-120.
- Stourm, V., Bradlow, E. T., & Fader, P. S. (2015). Stockpiling points in linear loyalty programs. *Journal of Marketing Research*, 52(2), 253-267.
- Subashini, S., & Kavitha, V. (2011). A survey on security issues in service delivery models of cloud computing. *Journal of network and computer applications*, 34(1), 1-11.
- Tan, J.S. (1999). Strategies for reducing consumers' risk aversion in Internet shopping. *Journal of consumer marketing*, 16(2), 163-180.
- Tibben-Lembke, R. S., & Rogers, D. S. (2002). Differences between forward and reverse logistics in a retail environment. *Supply Chain Management: An International Journal*, 7(5), 271-282.
- Thomas, R., Gable, M., & Dickinson, R. (1999). An application of the balanced scorecard in retailing. *The International Review of Retail, Distribution and Consumer Research*, 9(1), 41-67.
- Uncles, M. D., Dowling, G. R., & Hammond, K. (2003). Customer loyalty and customer loyalty programs. *Journal of consumer marketing*, 20(4), 294-316.
- Van Der Zee, J. T. M., & De Jong, B. (1999). Alignment is not enough: integrating business and information technology management with the balanced business scorecard. *Journal of management information systems*, 16(2), 137-158.
- Vinten, G. (2000). Training in small and medium-sized enterprises. *Industrial and Commercial Training*, 32(1), 9-16.
- Walker, E., Redmond, J., Webster, B., & Le Clus, M. (2007). Small business owners: too busy to train? *Journal of Small Business and Enterprise Development*, 14(2), 294-306.
- Webster, B., Walker, E., & Brown, A. (2005). Australian small business participation in training activities. *Education+ Training*, 47(8/9), 552-561.
- Weems, G. H., & Onwuegbuzie, A. J. (2001). The impact of midpoint responses and reverse coding on survey data. *Measurement and Evaluation in Counselling and Development*, 34(3), 166.

APPENDIX 1 Ethics Clearance

	PARTICIPANT INFORMATION FOR QUT RESEARCH PROJECT – Survey –
Identifying the digital capabilities and training needs of retail workers in small businesses QUT Ethics Approval Number - 1900000317	

RESEARCH TEAM.

Principal Researcher: Associate Professor Gary Mortimer – School of Advertising, Marketing and Public Relations, Queensland University of Technology

DESCRIPTION

Over the past few years, retail businesses have incorporated several smart technology innovations into day-to-day practice. For example, self-service technologies (SSTs), online sales channels, interactive displays and touch screens, to enhance customer engagement and experiences. You will be provided with a number of statements in relation to smart technologies, digital strategies and retail operations, which you will need to indicate whether you agree or disagree with. The researcher requests your assistance because you work within the retail or hospitality sector.

PARTICIPATION

Participation will involve completing a 54 item anonymous online survey that will take approximately 20 minutes of your time. You will read statements like, *“We don’t need to adopt new technologies in our business to survive or grow”* and *“I can identify emerging trends in loyalty programs.”*

Your participation in this research project is entirely voluntary. If you agree to participate you do not have to complete any question(s) you are uncomfortable answering. Partially completed surveys will **NOT** be included in the analysis. Your decision to participate or not participate will in no way impact upon your current or future relationship with QUT or the NRA.

If you choose to participate, you can enter a prize draw for a ‘One-on-One Business Mentoring Session’ valued at \$500. Conducted by a NRA Digital Expert, the session will show you how to harness insights into your customers and grow your business.

To enter, you will need to provide your name and email at the end of the survey. These contact details will **NOT** be associated with the survey, and will only be used to facilitate the prize draw. There will be five prizes valued at \$500 each. The draw will open on 10/6/2019 and the randomised draw will take place within two weeks after the survey closing on 10/7/2019. Winners will be contacted by the NRA Director of Training and Industry Projects. As the survey is anonymous, once the survey has been submitted you will not be able to withdraw.

EXPECTED BENEFITS

It is expected that this research project may directly benefit you. For example, the identification of barriers and/or risks will document gaps in existing training and skill sets, which may allow you to develop programs to upskill your employees in order to better meet the challenges of a changing economy, protect and grow your businesses.

RISKS

There are no risks beyond normal day-to-day living associated with your participation in this project.

PRIVACY AND CONFIDENTIALITY

All responses are anonymous and will be treated confidentially unless required by law, or regulatory or

monitoring bodies, such as the ethics committee. The names of individual persons will only be required in order to facilitate the prize draw. Any data collected as part of this research project will be stored securely as per QUT's Management of research data policy. Please note that non-identifiable data from this research project may be used as comparative data in future projects or stored on an open access database for secondary analysis.

CONSENT TO PARTICIPATE

By clicking 'NEXT' on the online survey is accepted as an indication of your consent to participate in this research project.

QUESTIONS / FURTHER INFORMATION ABOUT THE RESEARCH PROJECT

If you have any questions, require further information or would like a summary of results, please contact Associate Professor Gary Mortimer; gary.mortimer@qut.edu.au or 07 3138 5084. A summary of results will be available by December 2019.

CONCERNS / COMPLAINTS REGARDING THE CONDUCT OF THE RESEARCH PROJECT

QUT is committed to research integrity and the ethical conduct of research projects. However, if you do have any concerns or complaints about the ethical conduct of the research project you may contact the QUT Research Ethics Advisory Team on 07 3138 5123 or email humanethics@qut.edu.au. The QUT Research Ethics Advisory Team is not connected with the research project and can facilitate a resolution to your concern in an impartial manner.

**THANK YOU FOR HELPING WITH THIS RESEARCH PROJECT.
PLEASE KEEP THIS SHEET FOR YOUR INFORMATION.**

APPENDIX 2 Survey instrument

Enter PIS on first page:

CONSENT TO PARTICIPATE

By clicking on the 'Next' button and completing the following survey, you are indicating that you:

- have read and understood the information document regarding this project
- understand that if you have any questions you can contact the researcher
- understand that you can contact the Research Ethics Unit if you have concerns about the ethical conduct of the project agree to participate in the project

Next

Q1. Please select your role within your business.

1. Owner
2. Manager – Junior (Department Manager, Category Manager)
3. Manager – Senior (Store Manager, Area/Regional Manager)
4. Employee – Sales Assistant, Consultant, Barista

Next

Q2. Which the type of retail business do you work in?

1. Supermarket or grocery store
2. Specialised food retailing
3. Furniture, floor covering, homewares and textiles
4. Electrical, consumer electronics and gas appliances
5. Hardware, building and garden supplies
6. Recreational/sporting goods
7. Clothing, footwear and personal accessories
8. Department store or discount department store
9. Pharmacy
10. Other store-based retailing

Next

Q3. How long has your business been operating?

1. Less than 2 years
2. 2-5 years
3. 6-15 years
4. 16-25 years
5. 26-50 years
6. 51 years and over

Next

Q4. What is the size of business?

1. Micro (less than 5 employees)
2. Small (5 to 19 employees)
3. Large (Over 20 employees)

Next

Q5. Where is your business located?

1. Shopping Centre - Large
2. Shopping Mall - Small
3. Shopping Strip or High Street location
4. Freestanding Shop
5. Online – Pure Play
6. Other

Next

Q6. Which state or territory does your business operate?

1. Victoria
2. New South Wales
3. Queensland
4. Northern Territory
5. Western Australia
6. South Australia
7. Tasmania
8. Australian Capital Territory

Next

Q7. Where does your business operate?

1. Inner City
2. Urban (within 5klms of CBD)
3. Suburban and outer-suburban
4. Regional town or city
5. Rural town or city

Next

Q8. What technologies do you use in your business – select as many options as relevant

1. Cable broadband
2. NBN broadband or other high-speed internet
3. ADSL broadband
4. Satellite broadband
5. Mobile broadband
6. Cloud (web-based software and/or data services)
7. Laptop computers
8. Desktop computers
9. Smart phones
10. Tablets (e.g. iPads)

Next

Q9. What do you use technology based systems for – select as many options as relevant

1. Financial management
2. E-commerce or online sales
3. Inventory management
4. Logistics and distribution
5. Customer relationship management

6. Human resources
7. Other

Next

Q10. My business is being held back from adopting digital technologies because of – select as many options as relevant

1. No internet service available
2. Limited internet service available
3. Cost of changing our business' current systems
4. Cost of technology (hardware and software)
5. Lack of understanding of how to use new technologies
6. Lack of confidence in using these new technologies
7. Lack of access to skills needed to adopt technologies
8. Other reason_____
9. Not applicable - no limitations are being experienced by our business

Next

***All items Strongly Disagree to Strongly Agree – 10 point Sliding Scales**

Q11. We don't need to adopt new technologies in our business to survive or grow

Q12. I understand my legal obligations when it comes to storing my customers' data and I have systems in place to protect that data

Q13. I have systems in place to protect my customer's privacy

Q14. I am aware of ways to manage cyber-security risk

Q15. My business has plans in place to reduce cyber-security risks

Q16. I have access to professionals to overcome technology challenges that may occur in my business

Next

***All items Strongly Disagree to Strongly Agree – 10 point Sliding Scales**

Q17. Our customers can easily find information about our products/services on our website

Q18. Our customers can easily complete a purchase online on our website

Q19. Our customers can easily complete a purchase on our website

Q20. I have defined digital goals for my business

Q21. I have a clear digital plan/strategy in place to support my business

Q22. I am confident that my staff are willing to use digital technology in their job

Q23. I am confident that my staff have the skills to take advantage of digital technology in their jobs

Q24. I believe my team are trained to use of digital technology

Next

***All items Strongly Disagree to Strongly Agree – 10 point Sliding Scales**

Q25. I am proactive on third party platforms (e.g. Facebook, Google My Business, LinkedIn, Yelp) and other industry specific platforms e.g. TripAdvisor

Next

Q26. How frequently do you promote your brand, product, service or business on the following third party site?

1 – Never; 2 – Daily; 3 – Every couple of days; 4 – Weekly; 5 – Fortnightly; 6 – Monthly; 7 – Quarterly

Facebook

YouTube

Instagram

LinkedIn

Twitter

Yelp

Trip Advisor

Google Words

Other _____ (Allow Content)

Q27. How frequently do you update your business website?

1 – Never; 2 – Daily; 3 – Every couple of days; 4 – Weekly; 5 – Fortnightly; 6 – Monthly; 7 – Quarterly

Next

Are you able to conduct an internal analysis of your business?

***All items Strongly Disagree to Strongly Agree – 10 point Sliding Scales**

Q28. I know several types of financial data I can capture in my business to help with an internal analysis

Q29. I can describe several types of customer data I can capture to help with an internal analysis

Q30. I am able to define several types of employee data I can capture to help with an internal analysis

Q31. I know which health, safety and audit data to capture in my business in order to conduct an internal analysis

Q32. On a scale of 1 – 10, I would rate my overall knowledge of the internal analysis process as...

Next

What is your understanding of promotions?

***All items Strongly Disagree to Strongly Agree – 10 point Sliding Scales**

Q33. I have a good understanding of the different types of promotions I can run within my business

Q34. I understand the objectives of the different types of promotions I can run within my business

Q35. I know which metrics I should track and measure when running a promotion

Q36. On a scale of 1 – 10, I would rate my overall knowledge of promotions management analysis as...

Next

What is your understanding of loyalty?

***All items Strongly Disagree to Strongly Agree – 10 point Sliding Scales**

Q37. I understand the different terminology, structures and outcomes of loyalty programs

Q38. I know the four main key aims of loyalty programs

Q39. I can identify emerging trends in loyalty programs

Q40. I know the types of data I can capture and analyze within my loyalty program

Q41. On a scale of 1 – 10, I would rate my overall knowledge of loyalty programs as ...

Next

What is your understanding of inventory management?

***All items Strongly Disagree to Strongly Agree – 10 point Sliding Scales**

Q42. I understand the risks of holding too much inventory.

Q43. I understand the risks of holding too little inventory

Q44. I know the steps to analyzing inventory.

Q45. I am aware of the actions to be implemented after analyzing my inventory.

Q46. On a scale of 1 – 10, I would rate my overall knowledge of inventory management as ...

Next

Are you able to segment your customers?

***All items Strongly Disagree to Strongly Agree – 10 point Sliding Scales**

Q47. I understand the reasons why I would segment my customers.

Q48. I am aware of the various approaches to customer segmentation.

Q49 I know what outcomes and opportunities result from segmenting my customer base.

Q50. I know the different sources of data I can use to segment my customers.

Q51. On a scale of 1 – 10, I would rate my overall knowledge of customer segmentation as ...

Next

Q52. Would you like to provide any additional comments about the digital capabilities of your business or about what you would like to learn more about? (Allow content)

Next

A little about you

Q53 – Gender – Male (1); Female (2); Other (3); Prefer not to say (4)

Q54 – Age – 18-25 (1); 26-35 (2); 36-45 (3); 46-55 (4); 56-65 (5); 66 or older (6)

Next

Prize draw – Do you want to go into the draw to win a \$500 Mentoring Session?

1 – Yes (progress to next page below)

2 – No (Exit with “Thank you for participating”)

Your Name: _____

Your Email: _____

See Terms and Conditions –

Next

Thank you