

# **BUSINESS DATA ANALYTICS**

## **ASSESSMENT 3: INDIVIDUAL REPORT**

BRINGING  
BUSINESS  
& TECHNOLOGY  
TOGETHER...

Student name: Tran Thanh Thuy Tien

ID: S3575956

Lecturer: Dr. Saima Ahmad

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## Executive Summary

The purpose of this report is to investigate the current situation of Australian businesses' online presence. This report also indicates the strength and areas for improvement of their online presence and internet access. A quantitative analysis is the main methodology for this report to gain the insight of the Business Use of Information Technology with the secondary research to develop the research background, support for findings and recommendations. Overall, results indicate strength is that all Australian businesses have high proportion in internet access. Nonetheless, their statistics of receiving orders online via internet were significantly low stem from low proportion in social media presence, particularly Non-Innovative small and medium businesses. However, the regression model and hypothesis testing showed a strong correlation between social media and online orders received. The higher proportion of firms' social media presence, the higher probability for firms receiving online orders. Nonetheless, businesses need to utilize it in a proper approach to enhance their revenue, especially Retail industry. Agriculture industry had the lowest figures in IT usage while the industry can gain significant benefits from digital technologies. Besides that, Health-care industries also have generally low percentages in IT usage while advances digital technologies are essential to make firms being differentiated itself in the marketplace, particularly SMEs. Finally, SMEs have the higher proportion in broadband connection types than organization businesses, except Fibre and Cable which are linked to each other. Satellite and Mobile Wireless are the lowest connection types used by SMEs. The report concludes that IT and the internet are critical to Australian firms to create more value and compete in the marketplace. It is recommended that businesses need to have a clear plan and appropriate strategies for their social media and avoid potential risks of social media applications. For those industries earned various benefits from IT, firms need to review their performances and enhance their digital technologies which assist in their productivity and differentiating their products and services. The final recommendation aims to increase the capability of broadband connection adoption of SMEs, particularly Mobile broadband.

# 1. Introduction

Digital and Information technologies are linked to promoting firms' innovation (Zhang et al. 2016). One of the primary innovation infrastructures of the country is information assets and data infrastructure. It empowers digital innovation and establishment of new business models (Department of Industry, Innovation and Science 2016). Hence, this report is aimed to describe and analyze the recent situation of Australian organizations about their online presence with a concentration in SME businesses from a trustworthy data set and also label from the data key strengths, relationships and fields that need improvement.

## 2. Background

Digital technology is potential for the whole Australian economy, the trends that are forming digital adoption and the current situation of Australian industry (McKinsey Digital Australia 2017). There are some particular assortments of 'unlocks' for capturing digital potential that Australian businesses need to pursue (Nangia et al. 2019, p.5). 'Digitalisation' is the application of digital technologies to alter a business model with the aim to deliver new value-producing opportunities and revenue. It influences all business types and industries (Gartner 2018). According to the Australian Industry Report 2016, the business with investment in digital technologies has a higher level of productivity. Furthermore, the adoption of them is expected to increase Australia's gross domestic product (GDP) by \$250 billion in 2025 (Industry Insights Future productivity 2018). Hence, Australian businesses are required to enhance capability in diverse fields consisting of digital and data skills as well as accessing its digital infrastructure included IT (Department of Industry, Innovation and Science 2018). Hence, IT has remarkably impacted on them. There is a strong relationship between economic growth and information technology investment (Reeson & Rudd. 2016). Main indicators of businesses' IT usage consisted of the use of broadband, internet access, web presence, internet commerce and social media presence (Australian Bureau of Statistics 2018). The result determined that 29 per cent of Australian organizations implemented at least one management application for the use of Information and communication technologies (ICT) in 2016. Besides that, data is a valuable resource for businesses, especially having the

capability to obtain and analyze them in order to develop strategies for the company and embrace the market (Reeson & Rudd 2016).

Regarding the internet usage of SME enterprises, the author stated that the utilization of their digital technology was lower than the expectation, this was exacerbated in regional areas of Australia in 2016. The most transactions of regional small businesses were face-to-face while online transactions were still restricted within their locale. However, it is reported that Australian SME businesses have greater access to the internet in 2017. Twenty percent of them utilized the technologies to monitor competitions and markets. Electronic commerce is the main reason for the internet usage of SMEs such as placing and receiving orders via internet (Sensis e-Business Report 2017).

### 3. Methods

This report used a quantitative methodology based on the Business Use of Information Technology data set which is published by the Australia Bureau of Statistics in 2017-18. These statistics included Business Use of IT and Main type of Broadband connection by innovation status, employment size and industry. Besides that, this report was conducted by secondary research to support and highlight the result of the data.

### 4. Analysis

#### 1) Business Use of Information Technology

First, the employment size is divided into three groups. These are small business scale with 0-4 and 5-19 employees, medium scale with 20-199 staff and large-scale business comprising of 200 or more persons. The data set in this section indicated the proportion of Innovation and Non-Innovation active organizations with internet access, web and social media presence, placed orders via internet and received orders via the internet. The total number of businesses in thousands is 832 which include 5 large-scale businesses, 62 medium size companies, 515 small business with 0-4 employees and 250 with 5-19 employment size.

Estimated number of businesses	internet access	web presence	social media presence	placed orders via the internet	received orders via the internet
515	96.3	44.1	35.4	55.5	36.5
250	97.3	67.1	59.1	71.9	48.5
62	99.8	85.6	68.4	77.6	49.5
5	97.8	95.8	85.7	86.1	64.5
<b>MEDIAN</b>	<b>97.6</b>	<b>76.4</b>	<b>63.8</b>	<b>74.8</b>	<b>49.0</b>

Figure 1: Median of each category for businesses

Based on the data set of IT usage of both Innovative and Non-Innovative businesses, the median determined the average percentage for each category of Australian businesses in the overall. There were respectively 97.6%, 76.4%, 63.8%, 74.8% and 49% for internet access, web presence, social media presence, placing orders and receiving orders via internet of both businesses type in the average. The average percentage of internet access, web presence, social media presence and placed orders via internet of Australian businesses was remarkably high. However, the statistic of received orders via internet was significantly low compared to other categories.

The next data set is about employment size and innovation status. Based on statistics, two graphs below visualized differences in the proportion of IT usage between Innovation and Non-Innovation firms among three businesses' size.

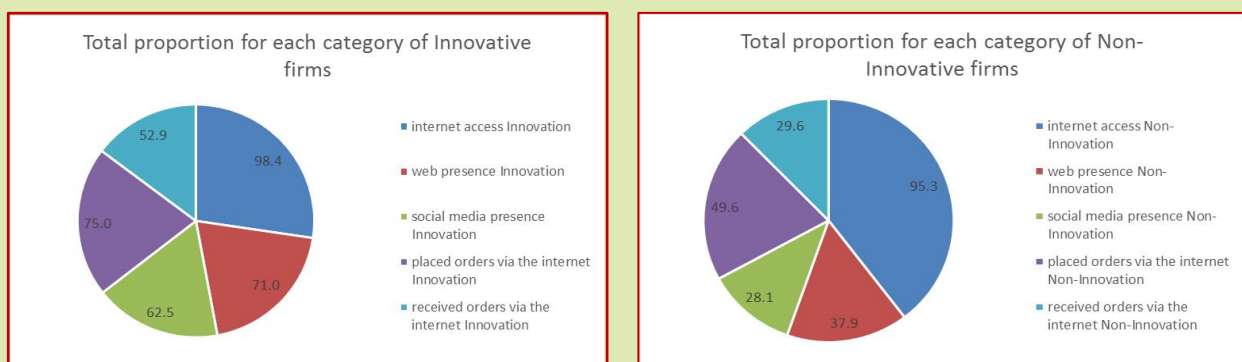


Figure 2: Pie Chart of Total proportion for each category

Based on the statistic, Internet access is the highest proportion for both business forms. It accounted for 98.4% and 95.3% for Innovative and Non-Innovative organizations respectively. The lowest proportion section of Innovative firms was receiving orders via internet while Non-Innovative firms were social media presence. Nonetheless, orders received of Non-Innovative firms was much lower than Innovative firms by 23.3%. This category of both businesses forms was extremely low compared to their internet access statistics.

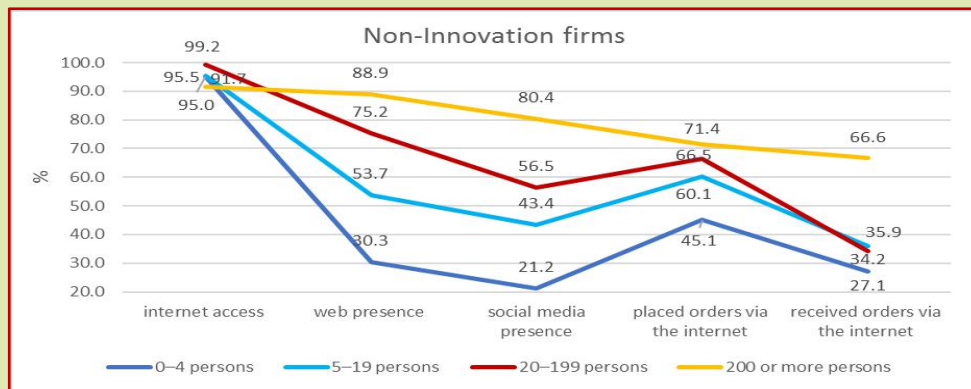
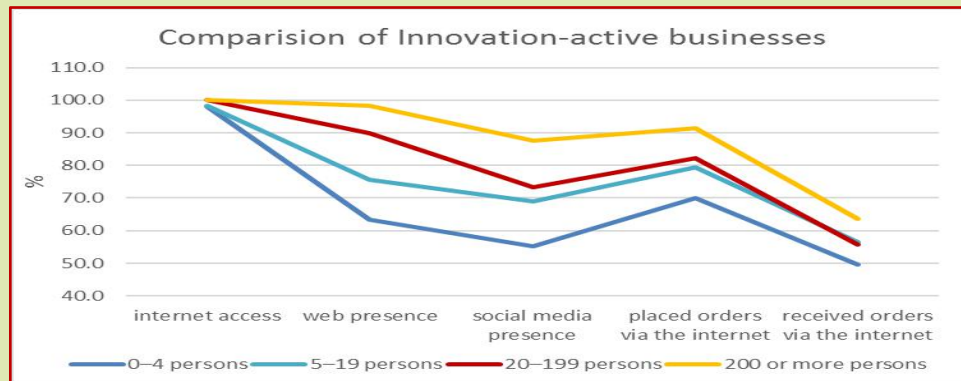


Figure 3: The trend line of businesses' IT usage

This analysis is aimed to look deeper into each business form. Based on the visualization, the shape of small and medium size of both Innovative and Non-Innovative firms is similar. The graphs showed the fall of statistics of both size businesses from internet access to received orders via internet, excluding placing online orders category. Receiving orders of medium Non-Innovative firms was dropped significantly and even lower than 5-19 employment size organizations. It indicated that businesses were not able to maximize digital and information technology efficiently to gain orders via internet despite their active in digital technology usage.



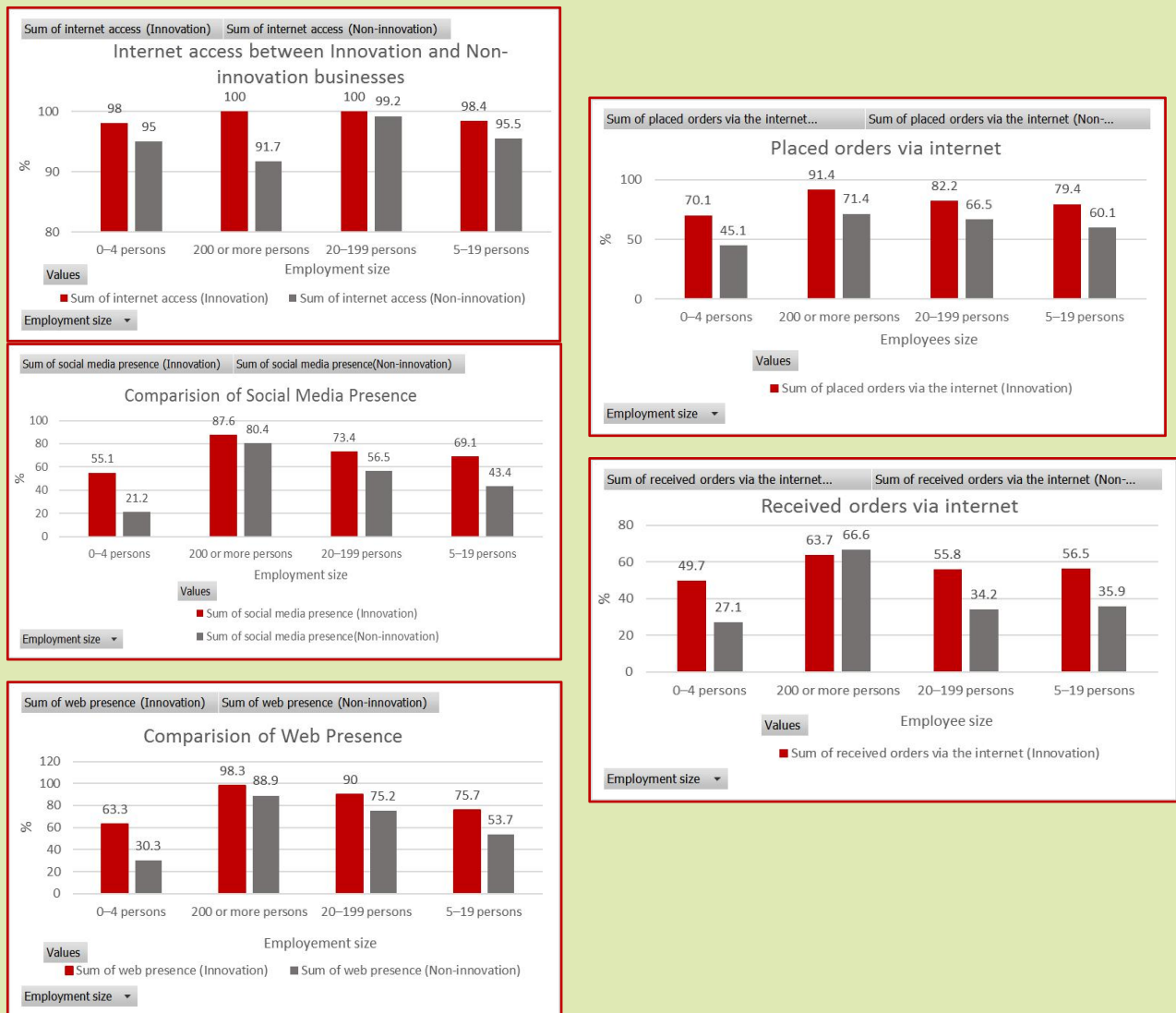


Figure 4: Comparison between Innovative and Non-Innovative businesses for each category

For the comparison between Innovative and Non-Innovative businesses, the IT usage of all three types of Innovative business models was generally higher than Non-Innovation active organizations. The figures showed that Innovative companies are active in utilizing digital technology. They have remarkably percentage in internet access category that was approximately 100 percent for all three businesses' size. Besides that, the Non-Innovation active businesses also have high proportion of internet access which exceeds 90%. There was a small variance in internet access between these two types. They were only 3% in variance between Innovative and Non-Innovative internet access percentage for both 0-4 employees and medium businesses and 8.3% in variance for both large scale and 5-19 employees' organizations [Appendix 1]. The significant point is that social media presence and web presence of Innovation firms was much larger than Non-



Innovation firms. These are demonstrated clearly in the statistic of small and medium organizations. Due to the variance figures [Appendix 1], they created the biggest gap among those categories between Innovative and Non-Innovative small-scale firms for social media and web presence categories. There were averagely 27.5% for variance in web presence category and 29.8% for social media variance between Innovative and Non-Innovative small businesses. For medium firms, there were 14.8% in web presence variance and 16.9% in social media presence variance between Innovative and Non-Innovative firms. While the variance of large organizations was only 9.4% and 7.2% for web presence and social media presence respectively. However, these applications assist the firms in achieving more customers, that leads to a higher degree of online orders that Innovative organizations received via internet. Besides that, the number of orders placed via internet of Innovative organizations was higher than Non-innovative organizations of all business size due to their active utilization in digital technology.

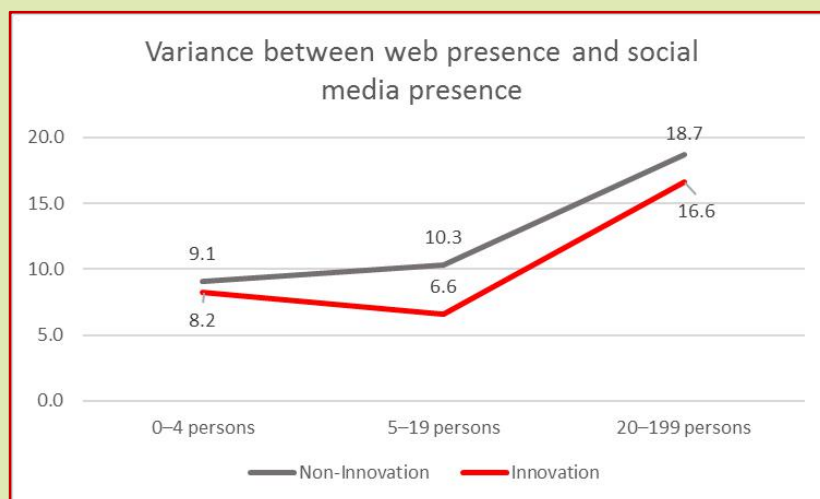


Figure 5: Variance between web presence and social media presence of both business types

The variance between web presence and social media presence of Non-Innovative businesses was higher than Innovative businesses. The data showed that Non-Innovative firms are not active on social media.

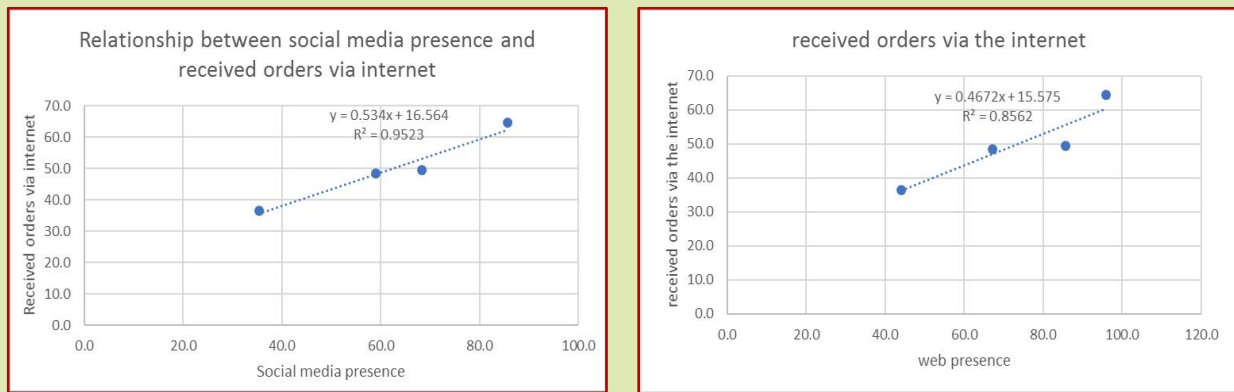


Figure 6: Relationship between social media presence (or web presence) and received orders via internet.

Nonetheless, there was a strong positive relationship between social media presence/web presence and received orders online. The higher percentage in web presence and social media presence, the higher proportion in online orders gain. The slope of the line is 0.534, it means that for every percentage increase of firms' social media presence, the gain of orders via internet is predicted to increase on average by 0.534%. Regards to the intercept of 0.4672, every proportion rise of businesses' web presence, the online orders received is predicted to go up on average by 0.4672%. R square at 0.9523 indicated that 95.23% of the variability in orders received via internet is explained by variations in the social media presence. There is only 4.77% of the variation in receiving online orders is unexplained by the regression model. Furthermore, p-value is at 0.024 which is lower than alpha at 0.05 and R square is nearly 1, hence, there is a strong fit of social media presence with orders received online variable. While the R square of web presence and received online orders is 0.8562 and their P-value is 0.075, which is greater than alpha of 0.05. Therefore, there was not significant that received online order was explained by web presence variable.

	Coefficient	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	16.56402	5.468569	3.02895	0.093898	-6.96533	40.09338	-6.96533	40.09338
social media presence	0.533966	0.08446	6.322133	0.024118	0.170565	0.897367	0.170565	0.897367

	Coefficient	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	15.57542	10.25529	1.518769	0.268151	-28.5495	59.70036	-28.5495	59.70036
web presence	0.467185	0.135383	3.450828	0.074689	-0.11532	1.049693	-0.11532	1.049693

Figure 7: Regression of social media presence (or web presence) and received orders via internet

There were differences in IT usage of each industry, the table below will summarize the proportion of each category of both Innovation and Non-Innovation businesses.

Industry	internet access	web presence	social media presence	placed orders via the internet	received orders via the internet
Professional, Scientific and Technical Services	99.5	61.4	43.8	68.0	38.5
Health Care and Social Assistance	99.3	56.6	41.9	63.4	28.4
Construction	99.2	40.4	34.7	58.0	40.0
Information Media and Telecommunications	99.1	76.5	69.9	75.5	57.4
Financial and Insurance Services	99.1	69.6	47.4	60.4	29.3
Administrative and Support Services	98.2	53.7	42.0	55.6	37.2
Mining	97.9	67.1	36.2	64.6	34.2
Electricity, Gas, Water and Waste Services	97.5	56.2	34.0	46.9	39.2
Wholesale Trade	97.3	72.3	46.5	75.1	64.3
Other Services	97.1	58.0	59.9	64.4	44.1
Manufacturing	97.0	72.2	50.1	74.5	65.4
Transport, Postal and Warehousing	95.0	33.1	23.5	46.4	32.4
Rental, Hiring and Real Estate Services	94.8	61.4	52.4	58.6	28.1
Arts and Recreation Services	93.7	74.8	74.8	69.9	55.7
Retail Trade	93.6	63.2	60.5	71.2	54.5
Agriculture, Forestry and Fishing	93.2	16.8	17.0	50.1	24.8
Accommodation and Food Services	90.1	59.3	67.4	53.7	40.1

Figure 8: Table of IT usage of each industry

This table used the Conditional Formatting to highlight the highest statistic in red colour and the lowest figure in green colour of each category. The outcome indicated that Information Media and Telecommunication (IMT) is the highest IT usage industry which owned the highest percentage in both web presence and placed orders via internet and the industry social media presences' proportion was the second highest industry in this category. The statistic is filled in orange colour. Another industry has the high proportion in web and social media presence is Arts and Recreation Services (ARS) with the first position in social media presence section. Manufacturing industry acquired the highest order via internet at 64.3% despite of moderate proportions in internet access, social media and web presence compared to other industries. The second industry received orders via internet is Wholesale Trade at 64.3%. Agriculture, Forestry and Fishing (AFF) has the lowest percentages in web, social media presence and the gain of online orders at 16.8%, 17.0% and 24.8% respectively. Besides that, Professional, Scientific and Technical Services (PSTS) is the industry with the highest internet access. The Transport, Postal and Warehousing (TPW) industry rarely placed orders via internet while Retail Trade has the second highest percentage in this category.

Next, the purpose of this analysis is to develop the insight of Innovation businesses in each industry.

Industry	internet access	web presence	social media presence	placed orders via the internet	received orders via the internet
Agriculture, Forestry and Fishing	99.2	29.1	28.4	70.9	38.8
Mining	100.0	80.9	47.8	76.7	44.2
Manufacturing	97.7	80.5	61.6	78.9	69.6
Electricity, Gas, Water and Waste Services	100.0	77.1	45.7	53.7	49.7
Construction	98.9	58.9	51.1	73.1	54.5
Wholesale Trade	100.0	79.3	55.1	82.9	69.9
Retail Trade	96.1	71.6	71.9	81.4	65.0
Accommodation and Food Services	95.0	67.8	79.7	62.8	51.2
Transport, Postal and Warehousing	98.5	61.0	46.1	69.3	51.3
Information Media and Telecommunications	100.0	88.1	81.4	85.3	67.9
Financial and Insurance Services	100.0	83.4	65.2	71.6	35.5
Rental, Hiring and Real Estate Services	99.1	82.0	73.7	74.1	38.0
Professional, Scientific and Technical Services	99.5	78.3	62.2	74.5	46.3
Administrative and Support Services	100.0	71.3	58.8	70.4	48.9
Health Care and Social Assistance	100.0	77.1	59.9	82.0	39.7
Arts and Recreation Services	98.2	87.9	88.7	84.3	72.2
Other Services	96.4	67.0	76.0	72.7	55.6

Figure 9: IT usage of Innovative businesses in each industry

The statistic of Innovative businesses is mostly like the overall industries' figures with the highlight of IMT and ARS industry. Innovative businesses in IMT industry reached the highest proportion in various categories such as internet access with 100%, web presence (88.1%), and placed orders via internet (85.3%). Besides that, their social media presence's statistic was in the second position among other industries. Innovative businesses in ARS industry achieved the highest data in social media presence and receiving orders via internet. Their web presence and placed orders via internet were ranked as the second position for both categories. Innovation organizations in this industry were highly active in digital technology and have capability to maximize benefits of digital and IT to achieve high order volume. Although Manufacturing industry accomplished the first rank in the previous section for receiving orders via internet, innovative businesses of industry did not perform well compared to other industries. For this section, there were various businesses achieved 100% in internet access. AFF was still the lowest industry in web and social media presence, nonetheless, the lowest received orders online statistic was Financial and Insurance Services (FIS) industry. The lowest internet access was Accommodation and Food Services (AFS) industry.

Industry	internet access	web presence	social media presence	placed orders via the internet	received orders via the internet
Agriculture, Forestry and Fishing	90.0	10.2	10.9	39.1	17.4
Mining	96.5	57.5	28.1	56.2	27.2
Manufacturing	95.9	58.9	31.5	67.4	58.6
Electricity, Gas, Water and Waste Services	95.0	36.2	22.8	40.4	29.1
Construction	99.4	28.4	24.0	48.1	30.6
Wholesale Trade	92.7	60.0	31.4	61.4	54.3
Retail Trade	90.4	52.4	45.8	57.8	40.8
Accommodation and Food Services	83.5	47.9	50.5	41.3	25.0
Transport, Postal and Warehousing	93.0	17.5	10.8	33.6	21.8
Information Media and Telecommunications	97.6	59.2	52.7	60.9	41.8
Financial and Insurance Services	98.0	53.2	26.3	47.0	21.8
Rental, Hiring and Real Estate Services	90.2	39.1	29.5	41.9	17.4
Professional, Scientific and Technical Services	99.4	42.9	23.4	60.9	29.9
Administrative and Support Services	96.8	40.9	29.6	44.7	28.6
Health Care and Social Assistance	98.6	32.8	21.0	41.8	15.3
Arts and Recreation Services	88.0	58.2	57.1	51.5	34.8
Other Services	98.0	47.6	41.5	54.9	31.0

Figure 10: IT usage of Non-Innovative businesses in each industry

For Non-Innovative businesses, IMT industry was also the most active industry in digital technology. TPW industry's data was the lowest in both social media presence and orders placed on internet categories. ARS industry still achieved the highest proportion of social media presence. In this section, Manufacturing received the highest number of online orders while Health Care and Social Assistance were the lowest industry in this category.

Innovation businesses	internet access	web presence	social media	placed orders via the internet	received orders via the internet
MODE	100	77.1	-	-	-
Median	96.0	60.4	48.3	61.5	39.7

Non-Innovation businesses	internet access	web presence	social media	placed orders via the internet	received orders via the internet
MODE	99.4	-	-	60.9	17.4
Median	95.9	47.6	29.5	48.1	29.1

Figure 11: Mode and Median of each category of Innovative and Non-Innovative businesses in each industry.

The mode assessed the most frequently percentage occurring in each category. The result showed that Innovation businesses of all industries tend to have 100% internet access and 77.1% in web presence and it could not find any common proportion in other categories. While there were frequently 99.4%, 60.9% and 17.4% for internet access, placing orders and receiving orders online of Australian Non-Innovative businesses respective. The median of Non-Innovative businesses of all industries were significantly lower than Innovative organizations although both two business forms have high level of internet access.



## 2) Main type of broadband connection

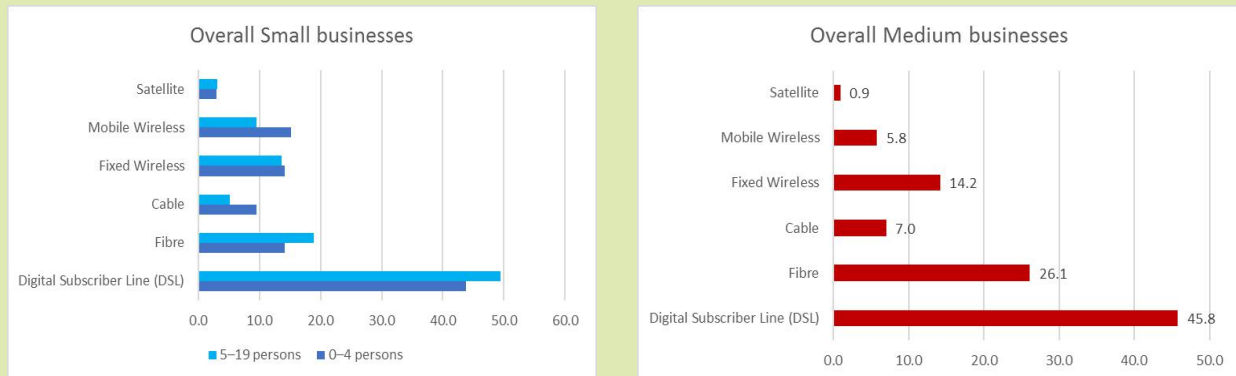
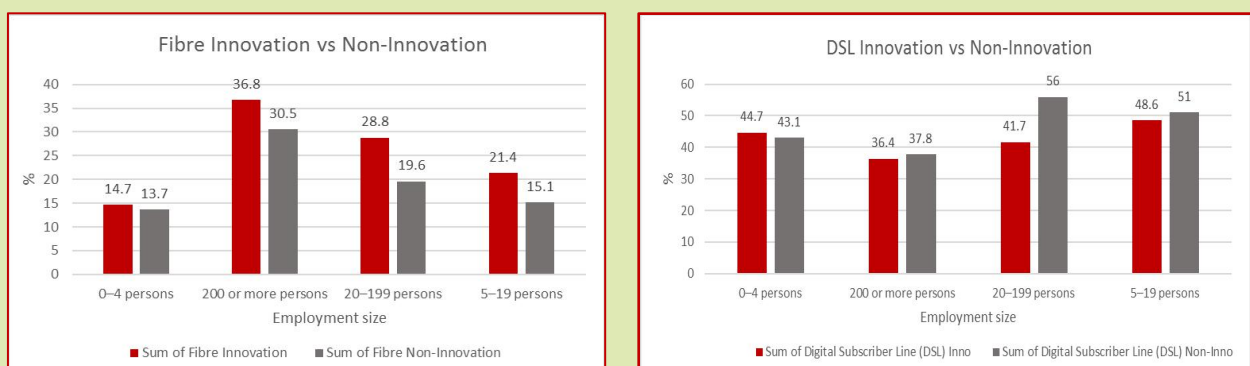


Figure 12: Broadband connection usage in SMEs

Overall, Fibre and DSL are the two primary broadband connection types of small and medium organizations, while Satellite is unlikely used by them. DSL was ranked in the first position of businesses' preference broadband connection type. There were 45.8% for medium size and approximately 50% for small companies. Satellite was the lowest type (below 1%) used by small and medium organizations.

In order to demonstrate specific Innovative and Non-Innovative businesses' performance of each broadband connection type, the data were visualized by these column graphs as below.



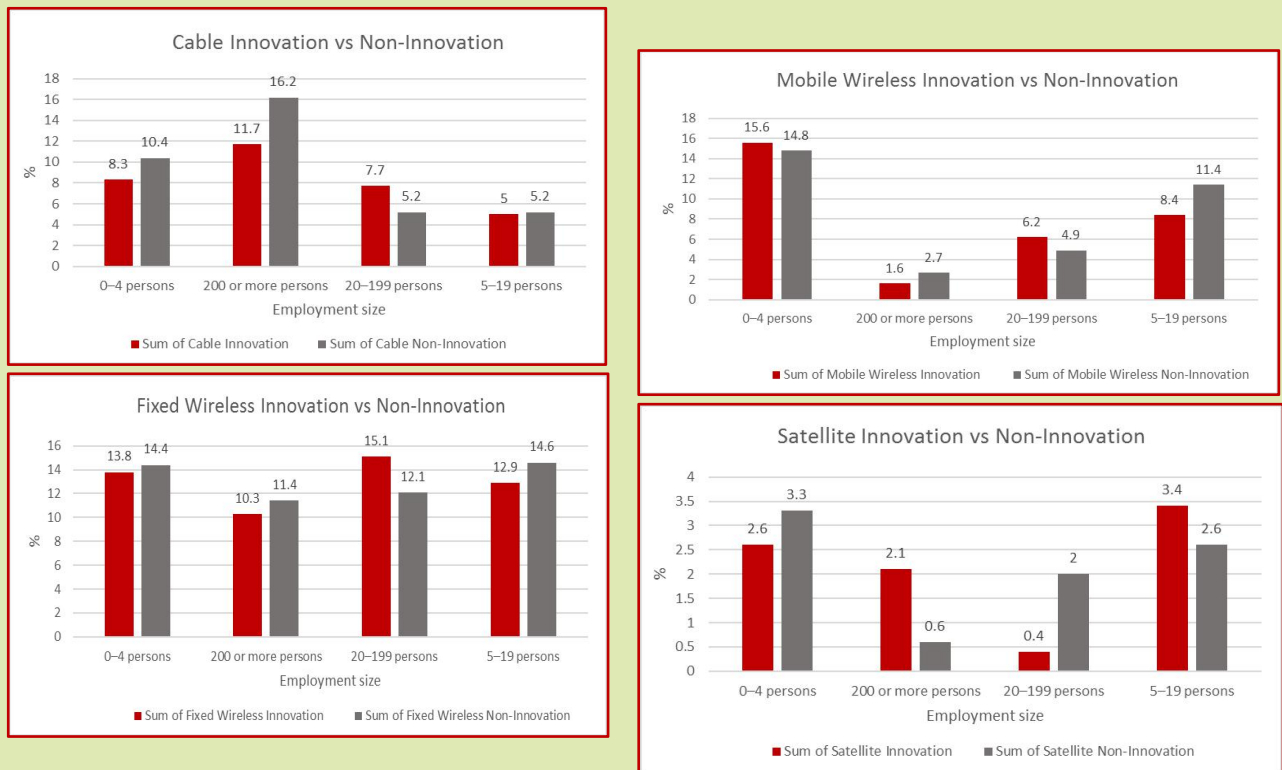


Figure 13: Comparison between Innovative and Non-Innovative businesses of their broadband connection usage.

Small and medium organizations had higher usage in broadband connection than large organizations, except for Fibre and Cable. Small Innovative firms used Fixed Wireless, Cable and DSL less than small Non-Innovative businesses, while the usage of Fibre was higher. The proportions of Fibre, Fixed Wireless, Mobile Wireless and Cable usage of Innovation organizations were higher than Non-Innovative firms in medium businesses. All company size forms were likely not interested in using Satellite connection compared to other broadband connection types, particularly medium Innovative businesses which accounted for only 0.4%.

Next, the table represents the overall broadband connection usage of industries with the highlight of the highest statistics in red colour and the lowest figures in green colour.



Industry	DSL	Fibre	Cable	Fixed Wireless	Mobile Wireless	Satellite
Agriculture, Forestry and Fishing	22.9	7.0	1.9	20.3	24.3	23.1
Mining	41.0	25.6	9.0	13.3	7.7	3.5
Manufacturing	48.5	20.1	4.2	12.4	11.8	2.5
Electricity, Gas, Water and Waste Services	45.4	18.5	7.9	10.0	14.7	3.5
Construction	44.8	11.6	7.0	16.3	17.6	2.4
Wholesale Trade	53.7	17.9	6.8	11.6	7.7	1.9
Retail Trade	55.6	15.0	3.3	9.7	13.9	2.5
Accommodation and Food Services	51.5	12.3	3.6	21.6	9.6	
Transport, Postal and Warehousing	41.6	16.0	9.3	16.3	16.2	
Information Media and Telecommunications	40.5	25.2	11.3	11.5	9.0	1.6
Financial and Insurance Services	39.6	24.3	16.6	12.8	6.8	0.0
Rental, Hiring and Real Estate Services	43.0	20.1	8.0	13.2	14.0	1.5
Professional, Scientific and Technical Services	45.0	22.9	15.2	8.8	7.3	
Administrative and Support Services	43.1	16.6	7.4	16.4	14.9	1.7
Health Care and Social Assistance	50.9	22.5	10.0	12.8	2.5	1.3
Arts and Recreation Services	47.7	16.0	8.0	16.3	11.0	
Other Services	46.2	12.8	6.6	13.3	18.1	2.1

Figure 14: Table of overall broadband connection of both Innovative and Non-Innovative businesses in each industry

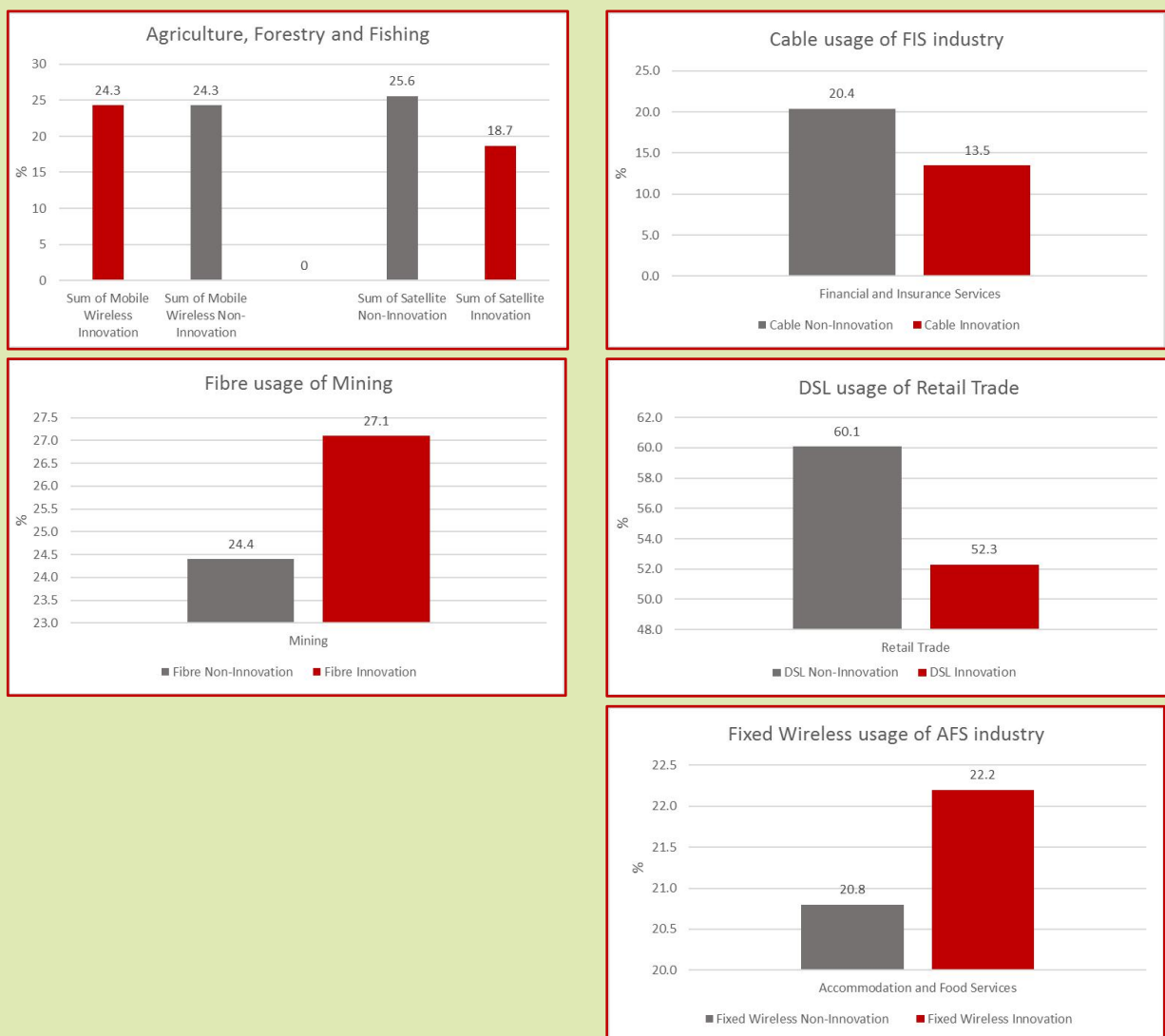


Figure 15: Comparison between Innovative and Non-Innovative businesses of each broadband connection type

Regards to the industry's broadband connection type usage, the highest proportion for DSL usage is the Retail Trade industry which is at 55.6%. Nonetheless, the figure of Non-Innovative firms at 60.1% was higher than Innovative firms at 52.3% for DSL usage in the industry. The highest degree of Fibre usage and Cable usage were Mining (25.6%) and FIS (16.6%) industries respectively. Innovative Mining businesses had higher proportion in Fibre compared to industry's Non-Innovative businesses. However, FIS Non-Innovative organizations' figure was greater than Innovative organizations for Cable usage. AFS industry had the highest proportion in Fixed Wireless usage while the industry seemed to be zero proportion in Satellite utilization. The highest percentage usage of Mobile Wireless and Satellite was AFF industry, however, the industry had the lowest proportion in DSL, Fibre and Cable categories at 22.9%, 7% and 1.9% respectively. The usage of Fixed Wireless by Innovative AFS businesses was also higher than Non-Innovative businesses. In contrast, Non-Innovative organizations proportion in Satellite usage were greater by 6.9% to Innovative organizations in AFF industry. The mobile usage statistic was the same at 24.3% for both Innovative and Non-Innovative types. However, the category was rarely used in HCSA industry, the industry's figure was only 2.5%. Finally, industries which had no usage on Satellite were AFS, TPW, FIS, PSTS, and ARS.

## 5. Findings

Based on the analysis, all Australian business forms and Industries have high proportion in internet access with the minimum at 90%. Internet access was also the highest category with a median at 97.6% for all small, medium and large companies. This is a strength of Australian businesses that every business can access to internet, digital and information technology. Even that, there was no big difference in internet access statistics between Innovative and Non-Innovative businesses. Nonetheless, the median of receiving orders via internet was only 49% which is lower by up to approximately 50% compared to internet access figures. It determined that firms were not able to utilize efficiently advantages of the internet to gain more online orders. The main reason is that they were still not active on social media presence. However, the regression model indicated a strong correlation between social media presence and receiving orders via internet. The social media presence figures of small and medium Innovative firms were much larger than Non-Innovative

firms. That made receiving online orders of Non-Innovative SMEs considerably low which were below 36%. However, medium businesses had both social media presence and web presence statistics which are higher than small businesses, their receiving online orders percentage of both Innovative and Non-Innovative types was lower than 5-19 employment size businesses. They failed in utilizing social media to generate orders. Hence, it indicated that although the higher social media presence provided the higher chances for firms to gain more online orders, businesses need to utilize it in appropriate an approach to take advantage.

Innovative businesses in IMT and ARS had the highest proportion in both web presence and social media presence but their receiving orders category were in the 3<sup>rd</sup> and 4<sup>th</sup> position. The Agriculture industry had the lowest figures in those three categories, however, the industry could gain substantial benefits from digital technologies compared to other industries (Department of Industry, Innovation and Science 2017). Moreover, Health Care and Retail Trade industries also generally had a low proportion in IT usage.

There was 90% of SMEs are online and 89% of them have broadband access (Sensis e-Business Report 2017). Small and medium businesses have a higher proportion in almost broadband connection types than large organizations, except for Fibre and Cable types which are linked to each other and reasonably used more in large-scale organizations. Hence, this is a strength of Australian SME businesses. DSL is a primary broadband connection type of SMEs, while Satellite is unlikely used by them. Besides that, Mobile Wireless is the second-lowest connection type for small and medium businesses. Nonetheless, 53% of businesses with internet access reported that mobile internet was of the main significance to their business (Australian Bureau of Statistics 2018).

## 6. Recommendation

### 1) Increase social media presence and develop a clear plan on social media

First, businesses should be more active on social media which is mostly free and easy to use. Therefore, social media can offer firms with a relatively fast and low-cost technique of connecting with their customers as well as reaching more target

customers. This is particularly beneficial to SMEs that may not have the technical expertise and financial backing required (McCann & Barlow 2015). There is a high percentage of Australian active users on social media with the age from 18 to 64 [Figure 16]. Moreover, it is reported that there is 59% of Australian citizen used social media at least once a day (Sensis e-Business Report 2017).

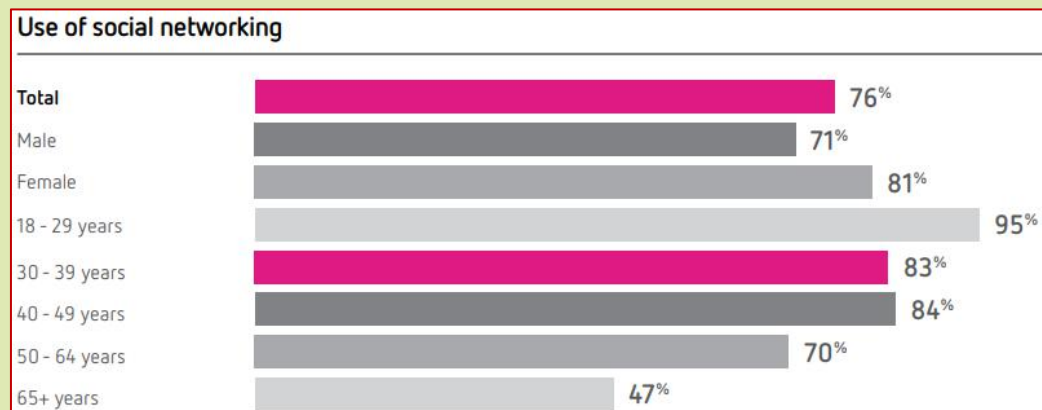


Figure 16: The use of social networking in Australia  
Source: Adapted from Sensis e-Business Report 2017

As a result, the outcome indicated the subsequent potential and value of social media to create business opportunities not only domestically but also internationally. Based on the data collected, large organizations had considerably high on both social media and web presence. Thus, SMEs need to enhance more their social media presence in order to have capability to compete in the market, especially Non-Innovative businesses. They need to reduce the gap in social media presence proportion with innovative firms. At least, companies should be available on common social media channels such as Linked In, Facebook, Instagram to promote their products and services and raise brand awareness. SMEs can particularly advantage from Internet to promote themselves and service clients in new markets for comparatively little cost. Internet provides a cost-effective technique for them to achieve a large potential customer base (Loane 2006).

Nonetheless, businesses need to develop a clear plan on determining how it will be used and what it will be used for and then build an appropriate strategy to ensure that they can utilize social media effectively (McCann & Barlow 2015). The industry can gain various advantages from social media is Retail Trade, besides listed benefits above, the industry can obtain insight of customers behaviors by data

analysis to meet their demands and enhance businesses' revenue. However, social media also contains various risks for businesses such as security, privacy, customer attacks and reputation damage (Horn et al. 2017, p.194). Furthermore, employees may access to company's social media sites while on the corporate network (Ayres 2013). Therefore, an appropriate strategy with risks prevention is required for businesses.

## 2) Enhance digital technologies in Agriculture and Health-care industries

There are two main reasons of significant benefits of digital technologies for Agriculture industry. First, digital technologies can improve efficiently sustainability and productivity in Agriculture. Second, the current application of digital technology in the industry is considerably low compared to other industries, hence there is a higher capacity for productivity improvement compared to other industries that have a greater degree of adoption (Department of Industry , Innovation and Science 2017). Furthermore, the report also indicated that advances in digital technology can adjust the Health Care manner is delivered. The industry should develop their online presence to provide the consultation, education and knowledge about health, medicines, etc... Besides that, mobile technology allows patients to acquire services, for instance telehealth and health apps which are fitness and wellness apps. These services can make SME firms differentiating itself in the competition. Therefore, small and medium businesses in these industries should consider enhancing their digital technologies and maximizing their internet access time to create more value for their customers. Nonetheless, privacy and security of both firms and customers need to be aware.

## 3) Mobile Wireless should be adopted by SMEs

It is necessary that firms can understand which broadband connection type is suitable and low-cost for them. There are noteworthy dissimilar in quality and type of internet access between organizations of disparate size, industry divisions and regions (Hasan & Muljadi n.d). Businesses need to be capable of recognizing new connection type which is low-cost and effective for their operations and implementing it quickly in order to embrace digital age. Besides that, Mobile Wireless should be adopted more by SMEs, as firms that have embraced mobile broadband report

quicker development, saved time, reduced costs, enhance sales as well as improved goods and services' quality (Freeman et al. 2016, p.10).

## **7. Conclusion**

Internet and information technologies are important to Australian businesses to embrace Digital Age and compete in the marketplace. The strength of Australian businesses is their internet access capability and the ability of broadband connection adoption of SME businesses. Based on the analysis, three areas need to be improved by businesses, particularly SMEs. The first issue is their limited social media presence. A clear plan and appropriate strategies which can prevent potential risks for social media usage. The second area is digital technology applications in Health-care and Agriculture industries. These industries need to review their performances and enhance their digital technologies in order to create efficient productivity and differentiate for their products and services. The final improvement aims to increase the capability of broadband connection adoption of SMEs.

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## Appendix

