

Professorial Inaugural Lecture



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Title:

Is e-business the saving grace for retailers during Covid-19?

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Professorial inaugural lecture

presented by

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1 Introduction

The question can be asked whether e-business is the saving grace for retailers during Covid-19. Without pondering on the question, we will immediately say yes due to the lived experiences we all have as final consumers of retailers. However, before answering the question, it is important to consider what transpired within the retail business environment.

The world has turned upside down towards the end of 2019 due to the outbreak of Covid-19 while South Africa felt the effect of Covid-19 as from March 2020. As cited by Verhoef, Noordhoff and Sloot (2022), the retail industry has been heavily affected by the pandemic. Not only has the retail industry been affected, the life of consumers also changed as consumers did not have direct access to their favourite traditional brick-and mortar-retailers. As the customers of these retailers, we have the lived experiences of not being able to patronise these retailers for an extended period of time.

Due to the hard lockdown restrictions imposed within the business environment on brick-and-mortar retailers, the retailers had to find different ways to reach and provide need satisfying products to their customers. According to the World Trade Organization (WTO) (2020) and Rindita et al (2021, p.108), the pandemic provided retailers with a good opportunity to develop and adopt an e-commerce strategy that can act as an economic driver. In addition, Gramling, Orschell and Chernoff (2021) state that e-commerce is essential for future existence of businesses. This is evident when considering that the South African e-commerce sector grew by 66% in 2020 when

compared to 2019 while in-store shopping has declined by 30% (Kibuacha 2021). These results are expected if we take into account the trading restrictions imposed on brick-and-mortar retailers during the Covid-19 lockdown. In addition, a study by Deloitte in 2021 showed that more than 70% of South African consumers are shopping online at least once a month while citing convenience and saving time for doing so (Kibuacha 2021).

However, whether businesses are implementing a new strategy or expand an existing strategy, the brick-and-mortar retailers were required to adapt their strategies with the focus on business survival.

2 Influence of the pandemic on businesses operations

The effect of Covid-19 on the economy of countries and businesses are well documented. Major stock exchanges, such as the FTSE, Dow Jones Industrial Average and the Nikkei plummeted as the number of Covid-19 cases increased. During 2020, the GDP globally decreased (Verhoef et al 2022). In addition, the pandemic not only influenced the economy of countries, but specific markets and industries were also severely influenced negatively. As stated by Verhoef et al (2022), many industries were temporary closed while other industries experienced a sharp decline in demand. However, some retailers responsible for providing basic essential products and services were allowed to trade, but with very strict restrictions.

As stated by Sopha, Arvianto and Tjahjono (2022, p.193), the pandemic severely influenced the bottom-line profit of businesses as both the supply and demand for products and services declined. Furthermore, the study showed that the sales reduction ranged from no reduction to 90% reduction since the start of the pandemic with only 10% of retailers having no reduction. However, it should be noted that these retailers were located within neighbourhoods and not in close proximity of public facilities.

A study conducted by Rindita et al (2021, p.108) using data from inter alia the World Bank and UNCTAD, showed that e-commerce within the second week of the first wave of Covid-19 in March 2020 for supermarkets exploded. However, this was expected as lockdown restrictions were in place. Although e-commerce is expanding on a yearly

basis under normal circumstance, the revenue from e-commerce has increased significantly due to the pandemic. Furthermore, brick-and-mortar businesses had to compete with online businesses even prior to Covid-19. The pandemic only accelerated the quest of brick-and-mortar businesses to have an online presence (Bhutani & Bhutani 2021; Yohn 2020).

Some of the strategies adopted by the retailers during Covid-19 include reducing inventory, using technology such as social media and mobile apps, providing home delivery of orders (Sopha et al 2022, p.193) or joining third-party platforms for trading (Bhutani & Bhutani 2021, p.653). The findings of Rindita et al (2021, p.109) concur that brick-and-mortar retailers moved to online platforms, created online shops and offered home deliveries. In addition, Kibuacha (2021) stated that retailers are establishing e-commerce as an essential sales channel as more consumers are becoming more technological savvy while mobile and internet penetration are increasing. In order to assist with the increased online shopping, brick-and-mortar businesses will require adequate staff to assist with the higher demand for online shopping, click-and-collect, home deliver or curbside pickup (Accenture 2020). In addition, digital communication via social media with consumers are vital for business success (Sullivan, Fox, Stoll & Jacobs 2021, p.20). However, regardless of the strategies adopted by the retailers, the implementation of the selected strategy has a cost implication for the retailers.

3 Previous research on strategies adopted during Covid-19

Several studies since 2020 focused on the influence of Covid-19 on consumer behaviour (see Sheth 2020), the impact of Covid-19 on moving to online stores (see Roggeveen and Sethuraman 2020), and the switching to online shopping (see Guthrie et al 2021). Furthermore, numerous studies found that online sales increased during the early phases of Covid-19 (Gurthrie et al 2021) and that online shopping has increased especially amongst older consumers (Kaiser et al 2021). It was also found that although online food shopping has increased since the start of Covid-19, that this increase is only temporary (Gijsenberg & Gielens 2022).

However, a study conducted amongst Indonesian consumers found that consumers are more willing to adopt online shopping (Hartono et al 2021, p.16). Rindita et al (2021, p.107) concur with Hartono et al (2021) when stating that new customers are more

willing to adopt e-commerce while the change in shopping habits and behaviour are to be more direct and permanent. Yohn (2020) also highlighted that the McKinsey report showed that consumers are more likely to retain the changed behaviour by shopping online instead of visiting the brick-and-mortar retailers. In addition, a study conducted in 2005 focusing on the shift of grocery shopping from in person to online have found that the demand for online shopping for grocery items increased during the SARS outbreak (Foster & Tang 2005). Therefore, during times when consumers' health is at risk, consumers tend to move towards online shopping. Rindita et al (2021, p.109) highlighted that the retailers of grocery and household goods experienced substantial increases in sales when adding an online platform for trading. Gramling et al (2021) reported that consumers are changing their shopping patterns by purchasing less from brick-and-mortar stores than before Covid-19 while buying more products online than before Covid-19.

A study amongst retailers in Germany regarding sales and marketing strategies before and during Covid-19 found several alternative strategies being adopted by the retailers. Strategies such as the retailers having their own online store, receiving written orders from customers and using social media for order placement have been adopted prior to Covid-19; however, the own online stores of retailers have not been used actively (Hardaker, Appel & Rauch 2022, p.7). Based on previous research conducted internationally, it can be concluded that the adoption of an e-business strategy was the saving grace for many retailers during the lockdown periods although the online presence of retailers may greatly differ from having an online presence by providing information only to the acceptance of orders and the payment thereof online.

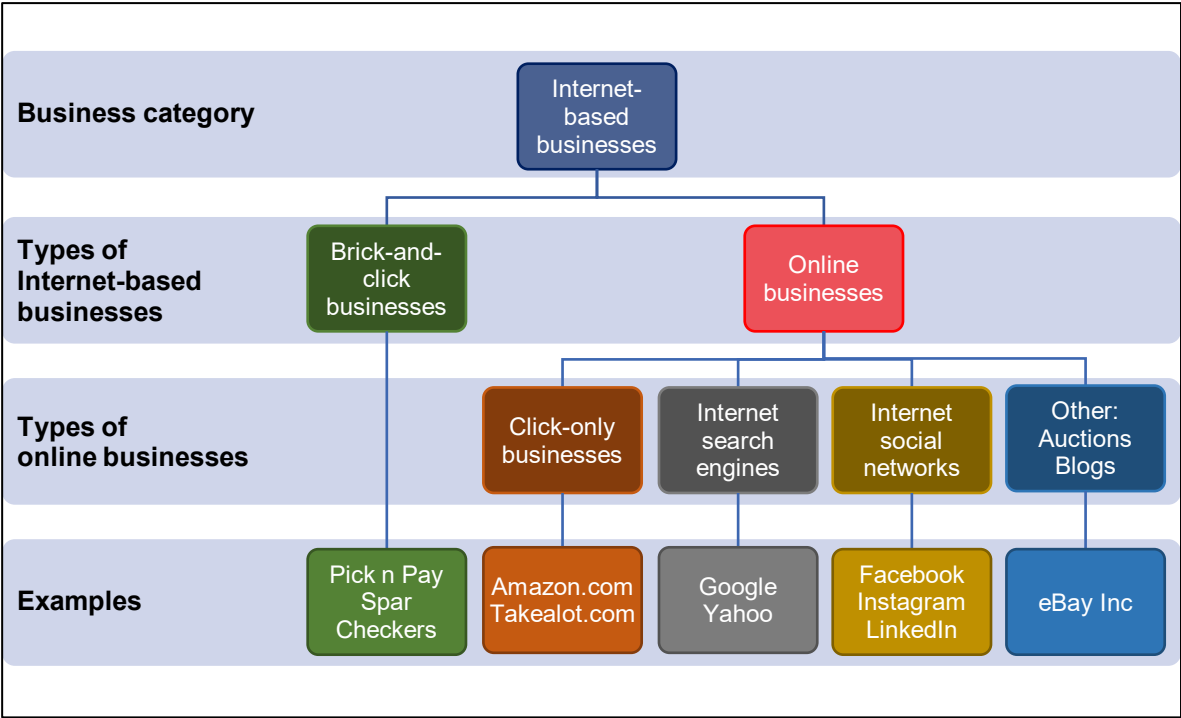
Therefore, to attract customers to return to the brick-and-mortar businesses and not only to remain an online shopper, brick-and-mortar businesses will have to create an extraordinary experience for making those visits worthwhile while ensuring the online shopping experience to be unique (Yohn 2020).

4 Types of online presence

Since the online presence of retailers can vary, it is important to establish what types of online presence that can be adopted. Krüger (2013) identified, when referring to types of online presence, two main types of Internet-based businesses, namely the

brick-and-click businesses and fully online businesses. The brick-and-click businesses have some form of online activity in conjunction with the tradition brick-and-mortar business while online businesses operate only through the use of online platforms. Figure 1 illustrates the various types of Internet-based businesses.

Figure 1: Types of Internet-based businesses



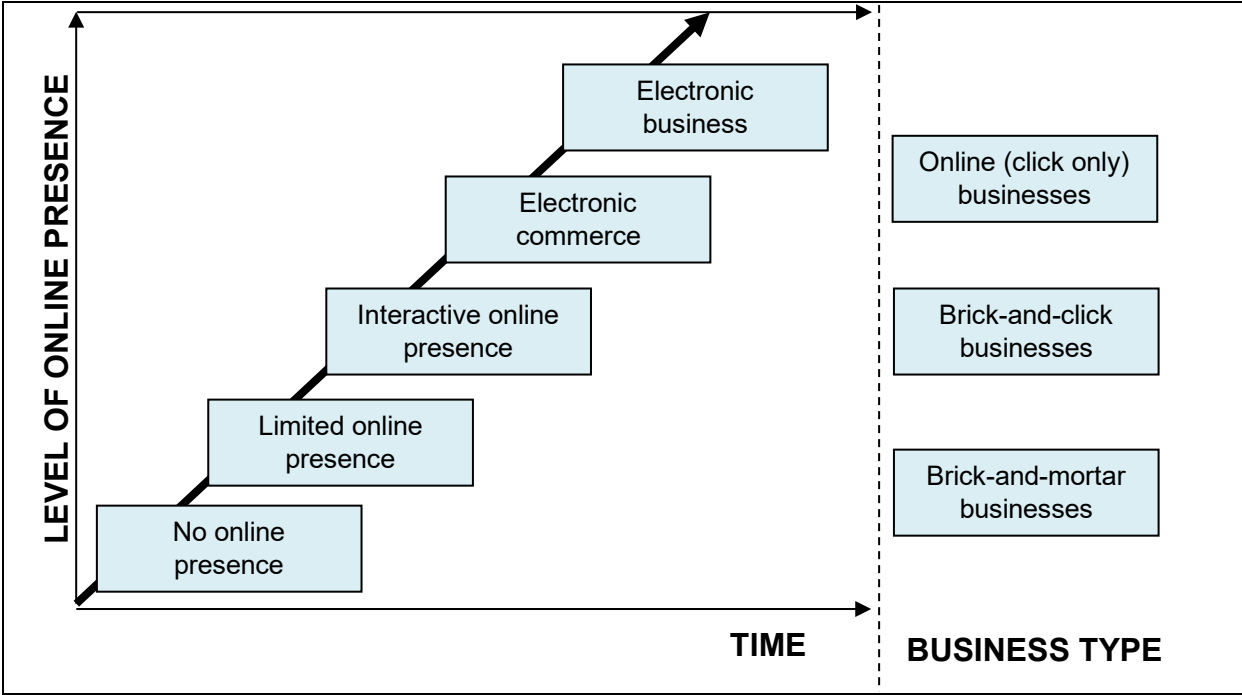
Source: Adapted from Krüger (2013)

As brick-and-click businesses adopt different online presence strategies, it is important to the various types of online presence that can be adopted. In order to determine whether a business should be regarded as a brick-and-mortar or brick-and-click business, the e-business model stages proposed by Krüger (2013) can be used as it is a combination of various existing stages identified by various authors (see the studies by Botha, Bothma and Geldenhuys (2008), McKay and Marshall (2004) and Turban, King, Viehland and Lee (2006)). Figure 2 links the type of online presence and business type.

Based on Figure 2, if a brick-and-mortar business has online presence, but the online presence is only to provide information to customers, the business is classified as a brick-and-mortar business with limited online presence. Therefore, a business is

classified as a brick-and-click business only when some online activity can be performed by customers. The click only (online) business does not have a physical brick-and-mortar store where customers can browse and purchase products in person.

Figure 2: E-business model stages



Source: Krüger (2013)

Now the question can be posed: Is it beneficial for businesses to adopt an e-business strategy? In order to determine whether it is beneficial for businesses to adopt an e-business strategy, one can conduct a comparative analysis of the financial performance of businesses over a period of time. Therefore, the results of two comparative analyses conducted to include the 2008/2009 global financial crises and the Covid-19 pandemic will be presented. The reason for the inclusion of the 2008/2009 global financial crisis period is to see how businesses performed during an economic difficult period and to compare the performance with the period just prior to Covid-19 until 2021. As it will not be possible to include all public companies listed on the Johannesburg Stock Exchange (JSE) in the analysis and discussions, three major retailers from the sub-sector Food Retailers and Wholesalers and one from the Consumer Digital Services are included in the discussion. The three major retailers are Shoprite Holdings Ltd, The Spar Group Ltd and Pick n Pay Stores Ltd while Naspers

Ltd is representing the Consumer Digital Services sub-sector. During the 2007 to 2011 period, the three retailers had different online presence ranging from brick-and-mortar retailer with limited online presence (Shoprite Holdings Ltd), to brick-and-click retailers with different forms of active online trading (The Spar Group Ltd and Pick n Pay Stores Ltd) to fully online only (Naspers Ltd). An analysis of the financial performance of the four retailers will be conducted to determine whether an e-business strategy is beneficial for retailers. The data used in the discussions were obtained from the McGregor BFA database and the IRESS database (previously known as McGregor BFA) to ensure the use of standardised data. The type of e-business strategies adopted by the various retailers will also be compared.

5 Classification of retailers for the 2007 to 2011 and 2017 to 2021 periods

5.1 Shoprite Holdings Ltd

In order to classify Shoprite Holdings Ltd in terms of the e-business model presented, it is important to consider the online transactions Shoprite Holdings Ltd engaged in online. Based on the information found on the website of Shoprite Holdings Ltd as presented by Krüger (2013), it is evident that no online transactions took place. The website of Shoprite Holdings Ltd merely provided customers with links to information regarding various transactions that can be performed in the physical stores. The only online activity that took place on the website was to email an enquiry to the customer service centre. Based on this information, Shoprite Holdings Ltd was classified as in the brick-and-mortar retailer with limited online presence stage.

Over the period 2007 to 2011, Shoprite Holdings Ltd expanded in terms of the number of stores operating nationally and internationally under various franchises from 1 181 to 1 710 stores. Shoprite Holdings Ltd comprised of the following retailers: Shoprite, Shoprite Hyper, Shoprite Liquor Shop, Shoprite Medirite, Checkers, Checkers Hyper, Checkers Medirite, House & Home, Hungry Lion, Megasave, OK Foods, OK Furniture, OK Grocer, OK MiniMark, OK Power Express/OK Express, Sentra & Value as well as USave. (Krüger 2013). Some minor changes in terms of the corporate stores occurred as the corporate stores as reported in 2021 are: Shoprite, Shoprite Liquor Shop, Shoprite Medirite, Checkers, Checkers Hyper, Checkers Liquor, Checkers Liquor Shop, House & Home, Hungry Lion, Megasave, OK Foods, OK Furniture, OK

MiniMark, OK Express, OK Liquor Shop, Sentra, Cellular K'nects and USave (Shoprite Holdings Limited 2021).

Two of the strategies adopted by Shoprite Holdings Ltd during 2020 are the introduction of ShopriteX and the mobile app Checkers Sixty60. The aim of ShopriteX is to assist with the development of digital commerce capability, digital channels to extend the retailer's reach, personalisation at scale, and data and insight monetisation to unlock precision retailing. The Checkers Sixty60 focuses on delivering on-demand orders to customers within one hour (Shoprite Holdings Limited 2021). Therefore, Shoprite Holdings Ltd has expanded their online presence from only providing information to having greater online presence and can be reclassified as a brick-and-click retailer with interactive online presence.

5.2 The Spar Group Ltd

The homepage of The Spar Group Ltd allowed the online purchase of SPAR voucher cards; however, no other online purchases could be made via the website. The website also provided links for customers to information regarding products and services offered. Customers could also email the customer service centre with queries. Therefore, The Spar Group Ltd was classified as a brick-and-click retailer in the interactive online presence stage. (Krüger 2013).

The Spar Group Ltd comprised of Spar, SuperSpar, KwikSpar, Tops at Spar, Built it and Pharmacy at Spar franchise retailers. The number of stores of The Spar Group Ltd increased from 1 340 to 1 635 during the 2007 to 2011 period. (Krüger 2013). As reported in the 2021 annual report, the following stores are part of The Spar Group Ltd nationally and globally: Spar, SuperSpar, KwikSpar, Spar Express, Tops at Spar, SaveMor, Built it, Pharmacy at Spar, EuroSpar, Maxi, TopCC, Mace, XL, Londis and Value Centre (The Spar Group Limited 2021).

In 2022, Spar has a dedicated online shopping link on Spar's homepage although only a few stores nationally are participating. The Spar Group Ltd is also working on rolling out SPAR2U which is an online shopping solution. However, during Covid-19 and the lockdown restrictions, The Spar Group Ltd implemented short-term online shopping solutions to assist in meeting customers' needs. In addition, the Spar SA App shows

the customer the rewards available. Therefore, The Spar Group Ltd remains in the interactive online presence stage although plans are in place to move to the e-commerce stage.

5.3 Pick n Pay Stores Ltd

Considering the activities that took place on the homepage of Pick n Pay Stores Ltd during 2007 to 2011, Pick n Pay Stores Ltd was classified to be in the brick-and-click in the e-commerce stage. It was noted that the transactions taking place on the homepage range from placing orders online to paying online for the orders placed. (Krüger, 2013, p.207).

The store format for Pick n Pay Stores Ltd are her company-owned or in the form of franchises. The company-owned Pick n Pay stores are Hypermarkets, Supermarkets, Clothing, Liquor, Pharmacy, Boxer and Franklins while the Pick n Pay franchise stores include Discount and Family supermarkets, Family supermarkets, Mini markets, Express, Clothing, Liquor and Pharmacy. Score supermarkets and TM supermarkets also formed part of the store formats for Pick n Pay Stores Ltd. The number of stores for Pick n Pay Stores Ltd increased from 768 in 2007 to 953 in 2011. (Krüger 2013). As reported in the annual integrated report (Pick n Pay Stores Limited 2021), the company-owned stores remained the same with exception of Franklins which was sold. Boxer stores included Supermarkets, Built, Liquor and Punch. The franchise stores also remained in the same format. However, more stores were opened during 2021 and the number of company-owned stores increased from 1 092 to 1 172 while the number of franchises increased from 59 to 61. (Pick n Pay Stores Limited 2021).

Pick n Pay Stores Ltd remains in the e-commerce stage as customers can order online to be delivered at the preferred address. In addition, customers are able to track their order from placement to delivery. Furthermore, customers can also order online and collect purchases from the store at a convenient time. Pick n Pay Stores Ltd relaunched their online shopping as Pick n Pay asap!. A commercial agreement was signed between Pick n Pay Stores Ltd and the Takealot Group to run a dedicated on-demand offer on the Mr D app from August 2022. In addition, Pick n Pay Stores Ltd formed a strategic partnership with online retail platform Zando (Pick n Pay Stores Limited 2022).

5.4 Naspers Ltd

Naspers Ltd comprised of various businesses focusing on the Internet (such as Kalahari.com, OLX and Price Check), pay television (such as MultiChoice and DSTV), print (such as Media24 and 24.com) and technology (such as ir.deto). (Krüger, 2013, p.209). The purpose of Naspers is to provide operating platforms linking users to media, e-commerce, content and advertising and it also provides communication facilities. Although no online transactions take place on the website of Naspers, the online transactions take place on the subsidiaries' websites. (Krüger 2013, p.215, 225).

According to the integrated annual report (Naspers Limited 2021), Naspers Ltd is involved in classifieds (OLX group), food delivery (iFood, Delivery Hero and Swiggy), payments and fintech (zooz, lyzico, PayU, Remitly, PaySense, rdp and Wibmo), etail (eMag and Takealot), Ventures (Eruditus, Udemy, Brainly, SimilarWeb, codecademy, sololearn, honour, Byju's, Movile and Meesha), social and internet platforms (Tencent and mail.ru group) and media (Media24). Naspers Ltd remains classified as an online retailer in the e-business stage.

6 Financial performance of the retailers prior and during Covid-19

The financial information presented in the following sections were obtained from McGregor BFA (2007 to 2011) and IRESS (2017 to 2021). The most appropriate financial ratios to use to determine the financial performance of businesses are the return on equity (ROE), the return on assets (ROA), and the net profit margin. In addition, the growth in the net profit after tax are also presented. Since the implementation of strategies involve some costs, the economic added value (EVA) for each of the retailers is discussed. The motivation for considering EVA is that EVA is regarded as a financial performance measurement based on the concept that all capital has a cost, and shareholders' wealth is created when earning more than the cost of capital.

6.1 Discussion of ROE

Table 1 summarises the ROE for the four retailers for the periods 2007 to 2011 and 2017 to 2021. The results are discussed in the subsequent subsections.

Table 1: ROE of the four retailers

	Year	Shoprite Holdings Ltd	The Spar Group Ltd	Pick n Pay Stores Ltd	Naspers Ltd
2007-2011 including financial crisis	2007	39.22%	80.33%	-139.87%	10.74%
	2008	43.91%	68.47%	-217.23%	43.27%
	2009	54.10%	57.77%	-844.80%	43.20%
	2010	52.47%	61.17%	449.43%	28.58%
	2011	48.79%	55.52%	237.66%	26.39%
2017-2021 including pandemic	2017	19.63%	27.68%	30.48%	19.28%
	2018	18.99%	25.70%	32.22%	41.26%
	2019	16.35%	28.97%	38.21%	23.38%
	2020	16.35%	26.06%	38.69%	14.01%
	2021	22.97%	27.62%	32.69%	17.93%

Source: Researcher's own compilation from IRESS data

6.1.1 Trend analysis of ROE

When considering the ROE of Shoprite Holdings Ltd, the performance during the 2017 to 2021 is well below that of the period 2007 to 2011. During the 2017 to 2021 period, the ROE declined slightly from prior to Covid-19 to 2020. The ROE increased by more than 6% with the ROE for 2020 being the highest during the 2017 to 2021 period but much lower than any of the ROE reported for the 2007 to 2011 period. For The Spar Group Ltd, the ROE decreased by nearly 30% in the 2007 to 2011 period. Considering the 2017 to 2021 period, the ROE remained fairly constant with the lowest ROE reported for 2018, which is prior to Covid-19. Pick n Pay Stores Ltd reported very high negative ROEs for most of the years within the 2007 to 2011 period. However, for 2010 and 2011 the ROE were exceptionally high. The ROEs for the period 2017 to 2021 were fairly stable with the ROE for 2020 being the highest within the period. Looking at Naspers Ltd, the highest ROEs were reported during the financial crisis of 2008 and 2009 with the lowest ROE being reported for the year prior to the financial crisis. For the 2017 to 2021 period, the ROEs reported prior to Covid-19 were reasonably high. The reported ROE for 2020, which is in the first year of Covid-19 restrictions for South Africa, was low compared to previous years; but not as low as in 2007.

6.1.2 Comparative analysis of ROE

Considering the ROE for the four retailers, it is evident that Pick n Pay Stores Ltd performed better during the pandemic than prior to the pandemic. In fact, the ROE for the period 2017 to 2022 was the highest for the 2020 financial year. Although the other three retailers did not perform poorly, their ROE performances were far below that of Pick n Pay Stores Ltd. However, the ROE for Shoprite Holdings Ltd, The Spar Group Ltd and Naspers increased from 2020 to 2021 while the ROE for Pick n Pay Stores Ltd decreased over the same period.

6.1.3 Conclusion remarks regarding ROE

Based on the ROE results, it is evident that brick-and-click retailers engaging in e-commerce activities were the winners during the pandemic. Moreover, if one considers the financial year 2020 which is the first year with Covid-19 lockdown restrictions, Pick n Pay Stores Ltd managed to improve the ROE while the other retailers either remain unchanged or reported a decline. However, looking at the financial year 2021, the remaining two brick-and-click retailers with some form of online presence also reported higher ROE ratios for 2021 than for 2020 which is aligned with the ROE ratios reported prior to Covid-19.

6.2 Discussion of ROA

The ROA for the four retailers for the two set of periods are presented in Table 2. The discussion of the ROA of the various retailers are presented in the following subsections.

Table 2: ROA of the four retailers

	Year	Shoprite Holdings Ltd	The Spar Group Ltd	Pick n Pay Stores Ltd	Naspers Ltd
2007-2011 including financial crisis	2007	9.81%	11.09%	11.32%	6.79%
	2008	11.49%	11.86%	12.33%	11.64%
	2009	12.71%	12.26%	11.75%	18.07%
	2010	13.38%	12.74%	12.23%	11.09%
	2011	13.16%	11.88%	8.23%	11.62%
2017-2021 including pandemic	2017	10.17%	7.57%	7.26%	15.68%
	2018	8.84%	6.81%	7.21%	33.14%
	2019	6.88%	7.46%	8.74%	21.34%
	2020	6.88%	4.53%	3.66%	9.18%
	2021	6.54%	5.01%	3.09%	10.31%

Source: Researcher's own compilation from IRESS data

6.2.1 Trend analysis of ROA

The ROA for Shoprite Holdings Ltd for the period 2007 to 2011 shows a slow upward trend. However, for the 2017 to 2021 a downward trend is visible with the ROA for 2019 to 2021 being fairly constant. When considering The Spar Group Ltd, the ROE is fairly stable with the highest ROAs reported during the 2008/2009 financial crises and peaking in 2010. The ROAs for the 2017 to 2021 period are much lower than the ROAs reported for the 2007 to 2011 period. The highest ROA was reported for 2017, with the lowest being reported for 2020 which is the year where South Africa were faced with lockdown restrictions. The ROA improved from 2020 to 2021. Considering the performance of ROA for Pick n Pay Stores Ltd, the ROAs reported for the 2007 to 2011 period were stable with a decline in the ROA in 2011. For the 2017 to 2021 period, the highest ROA was reported in 2019, that is the year prior to Covid-19. However, since Covid-19, the ROAs reported were very low and still declining, especially when compared to previous years. The ROAs for Naspers Ltd during 2017 to 2021 were much higher, on average, than those reported for the 2007 to 2011 period. The ROA for 2020, which was the first year for South Africa under lockdown restrictions, was the lowest during the 2017 to 2021 period. However, the ROA increased slightly in 2021.

6.2.2 Comparative analysis of ROA

For the three brick-and-click retailers the ROA ratio is much lower during the 2017 to 2022 period than in the 2007 to 2011 period while the ROA for Naspers Ltd over the same period fluctuated. Only the ROA for Shoprite Holdings Ltd remained constant from 2019 to 2020 with all the other retailers reporting a drop in the ROA. Considering all four the retailers, The Spar Group Ltd and Naspers Ltd were able to increase their ROA from 2020 to 2021 while both Shoprite Holdings Ltd and Pick n Pay Stores Ltd reported a further decline in their ROA ratios.

6.2.3 Concluding remarks regarding ROA

Although Pick n Pay Stores Ltd being the biggest winner when considering the ROE, the company was the biggest loser when comparing the ROA ratios of the four retailers. However, it should be noted that the change in declines in ROA from 2020 to 2021 are smaller than the improvement in ROA from 2020 to 2021. Based on the results of the ROA, it can be concluded that the online retailer Naspers Ltd reported the highest ROA.

6.3 Discussion of growth in net profit after tax

Table 3 summarises the growth in the net profit after tax of the four retailers for both periods (2007 to 2011; 2017 to 2021) and will be discussed in the subsections to follow.

Table 3: Growth in net profit after tax of the four retailers

	Year	Shoprite Holdings Ltd	The Spar Group Ltd	Pick n Pay Stores Ltd	Naspers Ltd
2007-2011 including financial crisis	2006/2007	20.89%	28.31%	21.05%	-36.77%
	2007/2008	45.92%	30.33%	28.86%	70.99%
	2008/2009	27.26%	9.33%	13.93%	68.55%
	2009/2010	13.43%	22.89%	12.98%	-43.47%
	2010/2011	10.73%	4.02%	-31.53%	61.50%
2017-2021 including pandemic	2016/2017	12.13%	0.28%	16.72%	180.52%
	2017/2018	-4.08%	0.39%	4.25%	302.35%
	2018/2019	-18.07%	18.40%	27.25%	-63.16%
	2019/2020	-18.92%	-9.58%	-27.57%	-18.21%
	2020/2021	36.18%	12.90%	-19.05%	113.51%

Source: Researcher’s own compilation from IRESS data

6.3.1 Trend analysis of the growth in net profit after tax

Looking at the growth of the net profit after tax for Shoprite Holdings Ltd, the net profit after tax increased from 20.89% in 2007 to 45.92% in 2008. However, from 2008 to 2011 the growth in net profit after tax declined from 27.26% in 2009, to 13.43% in 2010 and even further to 10.73% in 2011. Therefore, the financial crisis had an influence on the net profit after tax of Shoprite Holdings Ltd. The growth in the net profit after tax showed that the net profit after tax declined from 2017 to 2018, 2018 to 2019 (all prior to Covid-19) and 2019 to 2020. However, the growth in the net profit after tax showed a very strong increase from 2020 to 2021. Therefore, the marketing strategies implemented by Shoprite Holdings Ltd during Covid-19 paid off as evident in the growth of the net profit after tax.

The growth in the net profit after tax for The Spar Group Ltd as from 2007 to 2011 declined from 28.31% in 2007 to 4.02% in 2011, with the highest growth of 30.33% reported in 2008. The Spar Group Ltd was negatively affected by the financial crisis; however, the retailer was slowly recovering from the negative effects. However, the growth of the net profit after tax for the period 2017 and 2018 was nearly non-existent while high growth was reported for 2019. It is evident that Covid-19 had a major negative impact on the growth of the net profit after tax for 2020 while reporting a strong positive growth for the 2021 financial year. Therefore, Covid-19 had a major impact on the performance of the The Spar Group Ltd.

The net profit after tax for the 2007 to 2011 period for Pick n Pay Stores Ltd showed an increase from 21.05% in 2007 to 28.86% in 2008. The net profit after tax however declined to a report a negative growth of 31.53% in 2011. Therefore, Pick n Pay Stores Ltd experienced some great difficulty in recovering from the 2008/2009 financial crisis. The financial year 2018 showed a small improvement in the growth of the net profit after tax. However, the financial year 2019 was a lucrative year as the growth was nearly 6 times greater than the previous year. For the years 2020 and 2021 Pick n Pay Stores Ltd reported a decline in the net profit after tax. Therefore, Pick n Pay Stores Ltd felt the negative impact of Covid-19 when considering the growth in the net profit after tax and is still struggling to recover from the negative impact.

For Naspers Ltd, the growth in net profit after tax showed a decline of 38.77% for 2007 and 43.47 for 2010. However, for 2008, 2009 and 2011 strong positive growth of 70.99%, 68.55% and 61.50% were reported. Considering the growth experiences especially in years 2009 and 2011, that the financial crisis did not have such a severe impact on the financial performance of Naspers Ltd. The growth in the net profit after tax for the 2017 and 2018 were exceptionally high. However, the growth in the net profit after tax declined drastically in 2019 with a decline also reported for 2020 although the decline is not as severe as the decline in 2019. The net profit after tax recovered as a very high growth for the 2021 financial year was reported.

6.3.3 Concluding remarks regarding the growth in the net of profit after tax

Considering the growth rates presented in Table 3, it is evident that the online retailer outperformed the brick-and-click retailers that have adopted some form of e-business strategies. The brick-and-click retailer with interactive online presence, the brick-and-click retailer classified in the e-commerce stage for the 2017 to 2021 period as well as the online retailer reported positive growth rates for 2021 while the brick-and-click retailer within the e-commerce stage for both 2007 to 2011 and 2017 to 2021 still declining but at a diminishing rate. Based on the growth rates presented for the 2019/2020 year, all the retailers were negative affected by Covid-19, with Pick n Pay Stores Ltd being the biggest loser.

6.4 Discussion of net profit margin

The net profit margin of the four retailers for the two periods are presented in Table 4 and the discussion thereof follows in the subsections.

Table 4: Net profit margin of the four retailers for the selected periods

	Year	Shoprite Holdings Ltd	The Spar Group Ltd	Pick n Pay Stores Ltd	Naspers Ltd
2007-2011 including financial crisis	2007	2.76%	2.41%	1.72%	10.25%
	2008	3.30%	2.55%	2.06%	14.96%
	2009	3.37%	2.33%	2.02%	20.85%
	2010	3.36%	2.63%	2.15%	11.63%
	2011	3.47%	2.48%	1.51%	15.90%
2017-2021 including pandemic	2017	3.85%	1.91%	1.60%	47.90%
	2018	3.58%	1.81%	1.59%	170.53%
	2019	2.83%	1.98%	1.87%	104.37%
	2020	2.14%	1.67%	1.34%	78.4%1
	2021	2.88%	1.77%	1.04%	89.38%

Source: Researcher's own compilation from IRESS data

6.4.1 Trend analysis of the net profit margin

The net profit margin of Shoprite Holdings Ltd steadily increased from the financial year 2007 to the financial year 2011 which includes the financial crisis. However, for the 2017 to 2020 period the net profit margin steadily decreased with a slight improvement in 2021. Therefore, Shoprite Holdings Ltd is showing signs of recovery in terms of the net profit margin after the negative impact of Covid-19 on the net profit margin.

The net profit margin of The Spar Group Ltd over the period 2007 and 2011 remained fairly constant with only small changes in the net profit margin. However, the net profit margin for the retailer of the 2017 to 2021 period is not a favourable as the net profit margin ranges between 1.67% and 1.98%, which is much lower than reported during 2007 and 2011. The Spar Group Ltd shows some improvement in performance when considering the net profit margin for 2021 which is slightly higher than the net profit margin reported for 2020.

Considering the net profit margin of Pick n Pay Stores Ltd for the period 2007 to 2011, it is evident that the net profit margins reported changed slightly with the 2011 net profit margin being lower than the net profit margin for 2007. However, the net profit margin reported for the 2017 to 2021 are lower than those reported during the 2007 to 2011

period. The net profit margin further declined from 2020 to 2021. Therefore, the impact of Covid-19 can be seen in the decreased net profit margin for Pick n Pay Stores Ltd as from 2019 to 2021.

The net profit margin for Naspers Ltd for the 2007 to 2011 period is much lower than the ratios reported for 2017 to 2021. Naspers Ltd reported fairly high net profit margins over the period 2017 to 2021 when compared to the ratios reported for 2007 to 2011. The improved net profit margin reported in 2021 provides an indication that the retailer is recovering from the impact of Covid-19.

6.4.2 Comparative analysis of the net profit margin

The net profit margins reported for the three brick-and-click retailers, are all in line with only small changes in the ratios over the period. Only Pick n Pay Stores Ltd did not report a higher net profit margin in 2021 than in 2020. However, the online retailer has much higher net profit margins for both periods, especially for the 2017 to 2021 period. All four the retailers reported a slightly lower net profit margin in 2020 than in 2019, which can be due to Covid-19 lockdown restrictions. In addition, only Pick n Pay Stores Ltd did not report a higher net profit margin in 2021 than in 2020.

6.4.3 Concluding remarks regarding the net profit margin

The net profit margin of all the brick-and-click retailers for the 2017 to 2021 period are more or less in line with those reported during the 2007 to 2011 period. As Pick n Pay Stores Ltd is the only retailer reporting a lower net profit margin in 2021 than in 2020 implies that Pick n Pay Stores Ltd is struggling more than the other retailers to recover from the after-effects of the lockdown restrictions.

6.5 Discussion of economic value added of the retailers

Table 5 presents the EVA for each of the retailers for both period groups. The EVA values presented in Table 5 are as reported by McGregor BFA and IRESS respectively. The percentage change in EVA from the previous year is also indicated in Table 5 to assist in the comparative analysis. For the 2007 to 2011 period, the R153 government bond is used as the risk-free rate while the R186 government bond is used for the 2017 to 2021 period. The results are discussed in the subsequent subsections.

Table 5: EVA values of the retailers and change from previous year

	Year	Shoprite Holdings Ltd	The Spar Group Ltd	Pick n Pay Stores Ltd	Naspers Ltd
2007-2011 including financial crisis	2007	R511 198 042	R333 029 980	R510 342 210	-R1 237 497 487
	2008	R683 399 160 33.69%	R421 479 500 26.56%	R722 375 150 41.55%	-R1 516 200 655 -22.52%
	2009	R1 417 704 906 107.45%	R455 627 540 8.10%	R904 492 680 25.21%	R1 979 621 395 230.56%
	2010	R1 453 459 050 2.52%	R642 066 540 40.92%	R836 837 270 -7.48%	-R720 086 400 -136.37%
	2011	R1 457 569 476 0.28%	R684 068 250 6.54%	R548 510 250 -34.45%	R278 608 200 138.69%
2017-2021 including pandemic	2017	R 2 171 719 400	R 1 155 905 200	R 597 768.85	R 3 198 377 880
	2018	R 1 548 574 500 -28.69%	R 985 691 910 -14.73%	R 652 478.94 9.15%	R 80 486 444 520 2 416.48%
	2019	R 3 683 527 800 137.87%	R 1 444 151 000 46.51%	R 385 366.80 -40.94%	R 9 526 389 260 -88.16%
	2020	R 1 595 748 000 -56.68%	R 1 322 920 410 -8.39%	R 970 320.62 151.79%	R 6 119 397 550 -35.76%
	2021	R 3 105 170 000 94.59%	R 1 530 029 940 15.66%	R 738 629.85 -23.88%	R 63 227 058 210 933.22%

Source: Researcher's own compilation from IRESS data

6.5.1 Trend analysis of EVA

The EVA for Shoprite Holdings Ltd increased every year as from 2007 to 2011, although at different rates. For the period 2017 to 2021 EVA, Shoprite Holdings reports EVAs in excess of R2.5bn. Considering The Spar Group Ltd, the EVA for the period 2007 to 2021 increased. The amount of EVA ranged from just below R1bn to just over R1.5bn. The EVA for Pick n Pay Stores Ltd increases during the first three years, that is from 2007 to 2009; however, declined from 2009 to 2011. This decline may be due to global financial crisis. During the 2007 to 2011 period, Naspers Ltd did not create economic value added for years 2007, 2008 and 2010; however, Naspers did manage to a positive economic value added for years 2009 and 2011 although the amount for 2011 is fairly small as compared to the negative economic value added.

6.5.2 Comparative analysis of EVA

Considering the EVA values, Naspers Ltd reported the most diverse range of values for the 2007 to 2011 period as well as for the 2017 to 2021 period. Exceptionally high positive and negative percentage changes are evident from Table 5. Pick n Pay Stores Ltd is the only retailer showing a positive change in EVA from 2019 to 2020 while the other retailers showing a decline in EVA for the same period. However, from 2019 to

2020, the EVA of both Pick n Pay Stores Ltd and Naspers Ltd declined while the EVAs of both Shoprite Holdings Ltd and The Spar Group Ltd showed a large increase from the previous year. For the 2020/2021 period, the changes in EVA for both Shoprite Holdings Ltd and Naspers Ltd were fairly high while Pick n Pay Stores Ltd showed a decline in EVA.

6.5.3 Concluding remarks regarding EVA

During 2008/2009 financial crisis, all the brick-and-click retailers increased their EVAs from the previous year while Naspers Ltd had a negative EVA in 2008 with a positive EVA in 2009. Based on these results, the retailers trading in essential goods such as groceries were not as severely affected by the financial crisis as retailers trading in non-essential goods. For the period 2017 to 2021, all the retailers except Pick n Pay Stores Ltd showed a decline in EVA from 2019 to 2020 while all the retailers except Pick n Pay Stores Ltd showed an increase in EVA for the 2020 to 2021 period. Therefore, the EVA of all the retailers except Pick n Pay Stores Ltd were affected by the pandemic although the actual amounts of the EVAs remained fairly large. The decline in the EVA of Shoprite Holdings Ltd in 2020 can be due to investment in and the launch of their Checkers Sixty60. Regarding Pick n Pay Stores Ltd, the decline in EVA can be due to the investment in the re-launch of Pick n Pay asap!. The change in the EVA for Naspers Ltd can be a result of the various acquisitions made by Naspers during the various years.

6.6 Links between the ratios, growth rates and EVAs of the four retailers

Before answering the question whether e-business is the saving grace for retailers, it is important to look at whether correlations exist between the various ROE, ROA, growth rates of net profit after tax, net profit margin and EVAs of the four retailers for the 2017 to 2021 period.

In short, no significant correlations were found amongst the ROE, growth in net profit after tax, net profit margin and EVAs of the four retailers for the 2017 to 2021 period. This means that the ROE, growth in net profit after tax, net profit margin and EVAs of the four retailers over the 2017 to 2021 period are not related at all. Therefore, changes in any of the ratios at any point in time for any of the retailers during the stated period has no influence on the same ratio for the other remaining retailers during the same

period. However, a strong positive and significant correlation between the ROA ratios for the period 2017 to 2021 for both retailers The Spar Group Ltd and Pick n Pay Stores Ltd were found at a 95% confidence level. It should be noted that both these retailers are classified as brick-and-click business in the e-commerce stage. Therefore, it can be concluded that the ROA ratios for brick-and-click retailers within the same e-business model stage are correlated and move in the same direction. In other words, if the ROA for a brick-and-click retailer such as The Spar Group Ltd improves, then the ROA for brick-and-click retailer such as Pick n Pay Stores Ltd that is in the same e-business model stage will also improve.

Looking at whether the ROE, ROA, growth rates of net profit after tax, net profit margin and EVAs for each retailer are related, t-tests were done. In terms of the growth rate of the net profit after tax, no relationships were found amongst the growth rates for each year for each of the four retailers.

However, significant positive relationships ($p < 0.001$ for brick-and-click retailers; $p < 0.01$ for online retailer) were found between all the ROE ratios for each retailer over the period 2017 to 2021. The strongest relationship was found for The Spar Group Ltd with the weakest relationship was found for Naspers Ltd. This implies that if the ROE for any of the retailers (brick-and-click and online) increases, then the ROE for all the retailers regardless of the e-business model stage, increase.

Significant positive relationships were found between all the ROA ratios and Net profit margins for each retailer over the period 2017 to 2021. The significance level for the relationships found for all three brick-and-click retailers under investigation for both the ROA ratios and net profit margins are at 99% confidence level while a 95% confidence level is applicable for the online retailer for both the ROA and net profit margin. The strongest relationship was found amongst the ROA for Shoprite Holdings Ltd and the weakest relationship was found for Naspers Ltd. However, the strongest relationship was found amongst the Net profit margins for The Spar Group Ltd while the weakest relationship was found for Naspers Ltd. In other words, if the ROA for any of the retailers (regardless of the e-business model stage) increases, then the ROA for all the retailers (regardless of the e-business model stage) increase. The same applies to the Net profit margin.

When looking at the relationships amongst the EVAs for the four retailers, no significant relationship was found for Naspers Ltd. However, significant positive relationships were found for the three brick-and-click retailers in some form of e-business stage at the 99% confidence level. The strongest relationship was found for The Spar Group Ltd while the weakest relationship was found for Shoprite Holdings Ltd. In other words, if the EVA of one of the brick-and-click retailers within any of the e-business model stages changes, then the EVA of all the other brick-and-click retailers within any of the e-business model stages change in the same direction.

One can also compare each of the financial performance measurements for the 2017 to 2021 period of the retailers with one another. The t-test results using the ROE of the four retailers shows that if the ROE of Shoprite Holdings Ltd changes, then the ROE of both The Spar Group Ltd and Pick n Pay Stores Ltd will change in the same direction. In addition, if the ROE of The Spar Group Ltd changes, then the ROE of Pick n Pay Stores Ltd will change in the same direction. It should also be noted that the change in ROE is greater between brick-and-click retailer with interactive online presence and those in the e-commerce stage than between the two brick-and-click retailers in the e-commerce stage.

With regard to the ROA of the four retailers, relationships were found between the ROAs of Shoprite Holdings Ltd and The Spar Group Ltd, the ROAs of The Spar Group Ltd and Naspers Ltd and between Pick n Pay Stores Ltd and Naspers Ltd. The strongest relationship is between Pick n Pay Stores Ltd and Naspers Ltd. A possible reason can be that when considering the product offering of Pick n Pay Stores Ltd and the experienced gained within the online environment (as Pick n Pay Stores Ltd is longer in e-commerce stage than other two brick-and-click retailers), the online activity of Pick n Pay Stores Ltd can be regarded as direct competition with Naspers Ltd (eg Takealot.com).

No significant relationships were found between the growth rate of net profit after tax for any of the retailers under investigation. The results using the Net profit margin, however, showed that relationships do exist. Relationships exist between all brick-and-click retailers regardless of the e-business model stage adopted and online retailers.

Considering the results of EVA, relationships exist between the EVAs of brick-and-click retailers with an interactive online presence and in the e-commerce stage. However, the relationship difference between the two brick-and-click retailers in the e-commerce stage is stronger than when comparing to the brick-and-click retailers with an interactive online presence.

To summarise, if one considers the ROE ratios and the strongest and weakest relationships in the 2017 to 2021 period, it is clear that the financial performance of The Spar Group Ltd as measured by the ROE is the strongest while Naspers has the weakest financial performance as measured by ROE. As the ROE indicates the return shareholders will receive on their equity invested in the company, shareholders can consider the ROE to estimate future ROEs as the ROEs are related for each of the retailers. Turning our attention to the ROA ratios for the 2017 to 2021 period, the financial performance of Shoprite Holdings Ltd as measured by the ROA is the strongest with Naspers Ltd being the weakest. The ROA shows the return shareholders and lenders receive on their contribution to the capital of the company, therefore the ROA can be considered to provide an idea of future ROAs. The EVAs for the three brick-and-click retailers are related over the five-year period. Therefore, the EVAs of the brick-and-click retailers, regardless of the e-business model stage, can provide an indication of possible EVAs for the brick-and-click retailers. Considering the overall performance results presented, it is evident that the brick-and-click retailers, namely Shoprite Holdings Ltd, The Spar Group Ltd and Pick n Pay Stores Ltd, reported stronger relationships amongst the performance measurements used than online retailers such as Naspers Ltd. The evidence also supports that brick-and-click retailers in the e-commerce stage performed better than the brick-and-click retailers in the interactive stage or the online retailer.

6.7 Concluding remarks

It should be noted that there are many other factors, in addition to their e-business stage, that may influence the performance of the four retailers and there are many other financial performance measurements that can be added to this discussion. Some retailers may also feel the effect of the pandemic earlier than others as some of the retailers have a global and national footprint while other only have a national footprint.

Based on the trend and comparative analyses, as well as the statistical tests conducted, it is evident that moving from an interactive presence to the e-commerce stage was beneficial to The Spar Group Limited. Considering the fact that Pick n Pay Stores Ltd was originally classified to be in the e-commerce stage and remained in the e-commerce stage, it was also a stabilising factor as the financial performance was influenced by the pandemic but not as severely as some of the other retailers. Shoprite Holdings Ltd moved from the limited online presence stage to the interactive online presence. The move therefore was beneficial as the decline in some of the financial data presented is relatively small. Naspers Ltd, as the only online retailer included in this research, presented mixed results with some years doing exceptionally well financially while other years not doing so well.

As noted in many of the integrated financial reports of the brick-and-click retailers, it is highlighted that the retailers need to adopt some form of e-business strategy for future sustainability and that Covid-19 accelerated the implementation of such strategies. This is evident in the results presented as two of the brick-and-click retailers moved into the subsequent e-business model stage. Based on the results presented, the biggest winners during Covid-19 were the brick-and-click retailers in the e-commerce stage. Although the brick-and-click retailers with an interactive online presence did survive the pandemic, this e-business stage may not be sufficient in the long run. Therefore, to answer the question posed in the beginning whether e-business is the saving grace for retailers, the answer is definitely yes. It is a definite yes for these retailers to remain competitive within the dynamic business environment in which they operate as more customers will opt for online shopping while reducing the time spent in-store. It is thus my recommendation that brick-and-mortar and brick-and-click retailers move into the e-commerce stage rather sooner than later to capture and retain their online customers while those already in the e-commerce stage need to ensure that the online experience is memorable to retain these customers.

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