BUSINESS MODEL INNOVATION: REINVENTING THE MILKMAN

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— Abstract —

Business model innovation is a catalyst for creating competitive advantage. During the mid-1900s the lack of good refrigeration led to daily deliveries by the milkman, but improvement in packaging, affordability of refrigeration, and theft made the milkman obsolete. Although the milkman is no longer with us, its business model, through innovation could be reinvented as an online convenience grocer who delivers at the doorstep. A qualitative research design was employed to investigate the possibilities of this innovation. Results shown that there is a market for an online convenience grocer. Businesses are increasingly using technology to offer their products and services. Customers are willing to pay for deliveries because they see the value in the service. Deliveries create a competitive advantage. The biggest hurdle for the implementation of this business model is crime; other concerns are the inspection of the quality of goods before purchasing, packaging, and times of delivery because of availability of customers.

Key Words: Business model, Innovation, Technology,


1. INTRODUCTION

During the early to mid-1900s, there was a lack of good refrigeration, which led to fresh milk going off quickly. This brought about a need for the daily delivery of milk (Tahmncioglu, 2007). As refrigerators became more affordable and
improvements in packaging made the lifespan of milk longer, the demand for daily deliveries diminished. Theft compounded the diminishing demand because people would steal the products left outside by the milkman. Additionally, the cost of milk in a basket amounted to a small cost and could not justify the cost of delivery (Tahmncioglu, 2007). The business model of the milkman became thus redundant because of better technology (refrigeration), theft (environmental/ situational circumstances/changes), and cost (competitive advantage/ sustainability). Although the milkman is no longer with us, its business model could be innovated to create opportunities and value. Technology, such as digitisation, environmental or situational circumstances and the creation of a competitive and sustainable advantage therefore needs to be considered and investigated as drivers of innovation for the reinvention of the milkman business model. A disruptive technological innovation in the early 1900s thus made the milkman obsolete. The same phenomenon, namely a disruptive technological innovation, in the Schumpeterian sense of the word, can reinvent this business model through creative destruction (Nicholas, 2004).

1.1 Background to the research problem

Disruptive technological innovation, as a form of creative destruction is according to Schumpeter a process that incessantly revolutionises the structure from within by destroying the old one and creating a new one (Spencer & Kirchhoff, 2006). All businesses need to stay relevant in a fast changing environment (Prahald & Oosterveld, 1999; Teece, 2010; Wirtz, Pistoia, Ullrich and Göttel, 2016; Bogers et al., 2017; Viswanadham, 2018) therefore, their business models should be reinvented continuously to maintain or create competitive advantages (Voelpel, Leibold & Tekie, 2004; Zott, Amit & Massa, 2011).

Digitalisation improves productivity and efficiency and has emerged as a strategic resource. Incorporating digitisation and innovative digital approaches can enhance an organization (Bleicher & Stanley, 2016) in the current fast-passed environment (Joshi & Parihar, 2017). Businesses must move out of their comfort zones into a realm of digitalisation to establish growth. Therefore, the milkman as business model needs to establish digital value drivers within its design to become viable again. Ultimately, the purpose of business models should be to satisfy needs and increase profitability leading to a competitive advantage. The question is thus: How can digital value drivers and innovation create a feasible business model for an online innovation of the milkman in the South African context with all its challenges? The literature review will define concepts such as a business model,
innovation, digitisation, the online grocer, and the creation of a competitive advantage.

1.2 Rationale for the Research

This article will establish how innovation could be used as a catalyst to develop a viable business model for the milkman in the form of an online convenience grocer. The scope of the research was restricted to establishing how innovation can be used to reinvent an existing business model. This will be a disruptive approach, according to Joseph Schumpeter (Spencer & Kirchhoff, 2006) and not an incremental approach, and is achieved by implementing digital drivers to the existing business model with the aim of achieving sustainable competitive advantage (Johnson et al., 2008).

2. LITERATURE REVIEW

Business model research has become increasingly popular and regularly discussed by scholars (Casadesus-Masanell & Ricart, 2010; Wirtz et al., 2016). A business model is the way of doing things, or the business concept implemented to sustain the business (Hamel, 2000). This basic definition is built upon by Osterwalder et al. (2005) as well as Zott et al. (2011) who define a business model as the primary element in the firm’s strategy for value capture and creation. Breuer, Lüdeke-Freund and Brick (2018), add that a business model is a depiction of how the value propositions are made, how it unfolds for customers and stakeholders, and how the firm’s customers and stakeholders obtain net value from the interaction.

Companies commercialise innovation, technologies, and new ideas through their business models. Their business model identifies a market segment, value proposition, revenue mechanisms, the structure of the value chain, cost, revenue mechanism estimates, profit potential, suppliers, and the competitive strategy (Chesbrough, 2010). A business model is normally flexible, because it implies changes in core processes that do not work, to build new ones, which brings about new opportunities (Cavalcante, Kesting & Ulhøi, 2011) through innovation.

Increasingly, practitioners are embracing innovation to manage their firms. It has become a prerequisite to compete and create wealth (Prahald & Oosterveld, 1999). Organisations that explicitly communicate their business model innovations had a positive impact on growth, competitiveness, profits, and value proposition (Bojoaga & Petrisor, 2013). Innovation is not just a form of continuous improvement, it also offers disruptive competitive advantages which are increasingly necessary to carry on and to prosper (Voelpel et al., 2004).
Traditional industries were regarded as single dominant business models and they competed and succeed through brand, lean, product innovation, better execution, and efficient processes (Viswanadham, 2018). These traditional companies are today faced with challenges such as new labour laws and compensation structures as part of the cost structure and are prone to closed loop innovation. These closed loop companies cannot compete with start-ups that emerged from e-commerce such as Amazon, Alibaba, Flipkart, Netflix, Airbnb, and Uber, because they have aimed to reduce resource intensity with improved asset utilisation through automation and shared services.

There is a difference between business model change and reinvention (Voelpel et al., 2004). Most sustainable competitive advantages are achieved from the reinvention of the business model. Reinvention, most of the time, comes from disruptive innovation, not continuous improvement, or incremental change. Business model innovation drivers therefore often include deregulation and globalisation (Casadesus-Masanell & Ricart, 2010), as well as improvements in technology. This disruptive technology, according to Schumpeter, is creative destruction in action (Spencer & Kirchhoff, 2006).

One such form of technology is digital transformation. In the traditional sense it refers to the use of internet technology and computers to create economic value and improve efficiency. Digitalisation has a lasting and revolutionary impact on economic systems, organisations and increasingly on society at large (Reddy & Reinartz, 2017). Society is living more and more in the era of the fourth industrial revolution (4IR), and entrepreneurs need to understand that each industrial revolution brought with it, seismic changes to the way society live and does business. It creates new value opportunities through new services which transform conventional value chains. It is therefore important that organisations should rethink and reshape their business models (Iansiti & Lakhani, 2014).

To successfully introduce a digitalisation strategy, companies need to change their existing strategies, operations, and value chain (Bustinza, Parry & Vendrell-Herrero, 2013). This change consists of preserving a constant stream of innovation (Vendrell-Herrero et al., 2014). This should not only be around value creation but rather in how services are designed, produced, delivered, and sold. Innovation is thus an ongoing process and should not only be implemented at the start-up phase of a venture (Reddy & Reinartz, 2017). Technology changes the way value is created for consumers and how firms compete (Porter & Heppelmann, 2014). It should therefore include the product and service to achieve long term success (Visnjic, Wiengarten & Neely, 2016).
The business environment of the 21st century brings an unpredictable landscape which conveys challenges for firms to achieve sustainable competitive advantage (Teece, 2010). Technological advancements have improved the traditional business model (Evans & Wurster, 1999). Rapid and intense competitiveness increasingly requires companies to innovate and to build new forms of competitive advantage (Dess & Picken, 2000). The introduction of innovation enables a firm to be more flexible and to be more adaptive in changing environmental conditions (Atuahene-Gima, 2005). A link exists between innovation in service companies and competitiveness (Grawe, Chen & Daugherty, 2009). Firms that want to acquire a competitive advantage need to implement a strategy that exploits their internal strengths and external opportunities (Chen & Tsou, 2012). For a firm to maintain competitive, it is important to own rare and valuable resources (Barney, 1991). This resource-based view maintains that the business model must be protected from imitation (Teece, 2010; Anning-Dorson, 2018).

According to Mulpu (2013), online sales touched €190 billion in Europe and $370 billion in the United States of America by 2017. They anticipate that the trend will continue in years to come. Kumar (2014) indicates that it is estimated that 20% of adults in the United Kingdom do their shopping online. The USA has captured 12% of the market with a spending increasing from $23 billion to $100 billion in 2019.

The positive attitudes and intentions of consumers are increasing towards shopping online and they are purchasing different types of products on the internet (Limayem, Khalifa & Frini, 2000). Nilsson, Gärling, Marell and Nordvall (2015) note that time pressure and transportation costs are factors that motivate consumers to use online stores. The online grocery segment is rapidly becoming crowded with retailers using multichannel and multiformat business models and strategies. While there is evidence that online grocers are growing globally, there is very little evidence to suggest that the same trend is occurring in South Africa.

Choudhury and Karahanna (2008) argued that customers weigh the advantage of the present innovation over how things were done in the past. Akroush and Al-Debei (2015) noted that the attitudes of online shoppers towards purchasing online are affected by perceived advantage and trust. This is important for entrepreneurs to consider because customers will only adopt an online convenience grocer if they perceive it to be more convenient than getting in their vehicles and purchasing the product somewhere.

The annual growth rate of e-commerce sales is about 20% (Hayel, Quadri & Jiménez, 2016). In 2013 it was $963 billion, and this number is growing year on
year. This suggests that there will be a demand for new logistic distribution centres and online platforms to manage purchases. The last mile delivery is a critical stage of delivering parcels to the customer and is vital for promoting the development of e-commerce (Zhou et al., 2017). What makes e-commerce distribution challenging is the wide spatial distribution and the variability of customers’ availability. A study by Aized and Srai (2014) noted that the last mile delivery cost accounts from 13% up to 75% of the total supply chain cost. Home or work delivery of individual parcel deliveries is time consuming and costly. The last mile of a business to customer delivery is not only the most expensive but also the least efficient stretch of the supply chain (Zhou et al., 2017).

3. METHODOLOGY

The research for this article was conducted through the qualitative, cross-sectional research design. Semi-structured interviews were conducted with businesses that offer delivery services and their customers. Data was analysed, categorised and emergent themes were identified.

3.1 Population and sample

This research used a purposive sampling technique. Stores and customers within the Randburg area, Gauteng, SA, were contacted. Non-probable, snowball sampling as described by Saunders et al. (2008) was used by utilising the researcher’s informal network. The sample size was grounded on the likelihood that a data saturation point for a homogeneous population would be achieved (Saunders and Lewis, 2012) and the research continued until data saturation (Mack et al., 2011) which was reached by the fourth interview with stores that deliver, and by the eighth interview with customers.

3.2 Analysis approach

The initial codes were generated with Atlas.ti (Braun & Clarke, 2006) and the transcripts were coded according to the responses. The validity of the study was reliant on the researcher’s self-introspection, reflection of the participants and clear findings extracted from data collected. The following four research questions were formulated: Is there a market for online grocers and the delivery of consumables? Are consumers willing to pay for delivery services? Is subscription-pricing an appropriate pricing strategy for an online grocer? Is digitalisation a catalyst for the successful start-up of a convenience grocer?
4. FINDINGS

A total of sixteen interviews were conducted. Eleven customers, or potential customers and five store owners participated.

4.1 Market for online grocers and home delivery of products

All the stores had increased their turnover by offering delivery services. Consumers are increasingly using delivery services, and store owners saw that there was a trend that business were going online.

P 1: Deliveries are 40% of our business.

P 3: At the moment it is 50% deliveries, and 50% in store sales!

P 4: Deliveries are about 60% in our business.

P 7: I see the future of grocery stores as virtual, minimum floor space, mainly delivery dominating industry, because our deliveries are growing year on year.

P 8: It appears there is a trend where people will no longer have the desire to go to a shop and will start buying online exclusively.

Two customer-respondents spoke about time becoming a constraint and that life was becoming busier. They regarded online stores as saving time and making life easier. Four respondents explained that they are willing to pay for convenience and that ordering online and having groceries delivered was convenient.

4.2 Consumers’ willingness to pay for delivery services

All participants agreed that they are willing to pay for deliveries. From the store owners’ perspective, all but one offered delivery services free of charge. It must be noted that the stores had a minimum order threshold for free delivery. The one store owner who charged for delivery, answered: We charge R15 for every delivery. On our side it is a flat rate. We have a 5 km perimeter. P 4 said that customers get free delivery for orders above R65. It became evident that customers are indirectly charged for delivery. P 1 noted that product prices on their online platform are higher than the in-store prices, however customers are still buying. Store owners worked the delivery cost in with the price charged.

Consumers are weighing up the cost of delivery with the cost of the trip. There was a trade-off between the price of the delivery, the benefit received and the cost that would be incurred if they had to take a trip to the convenience store.
4.3 Subscription-pricing and safety issues

There was not much consensus for a monthly subscription pricing for the same basket of products. The data suggests that customers want a choice of products as well as for their payment method. Stores were challenged with a prominent theme of trust with, and safety for their customers and workers. P3: We do not deliver late at night to new customers however, we do for our regular customers because we know them and trust that our drivers will be safe. We are always cautious and suspicious when new customers order late at night and request delivery.

P2: An incident occurred even where we made sure all the details the customer gave us were true. The telephone number, address, street number were all correct. We know the customer. The driver went to deliver, but he soon realised that the people at the house did not order. Thieves made the false order and when the driver pitched at the address, the thieves stopped the driver and stole his bike and personal belongings.

P4: We stop deliveries after 6 in winter and after 7 in summer in risky areas as it is too dangerous for our drivers.

4.4 Digitalisation as catalyst for the successful start-up of a convenience grocer

Digital value drivers were noted by all the participants as necessary to stay relevant in today’s fast paced environment. P3: Technology is very important. Take Uber eats as an example. Who would have thought 2-3 years ago that you could log in on an app, select food and drinks from a menu and have it delivered to your door within 10 minutes by a “food taxi”?

The customers responded that they believe that online platforms and digital drivers were improving the value creation, as well as convenience. P14: I used to go to Checkers every day to get bread, milk, and veggies. If I can open an app and select everything I need, checkout and have it by the time I get home, think of how much time it would save.

From the interviews, customers noted that, due to higher levels of security and access control, delivery services face access challenges to their residences. P13, and almost all the customers replied that access to their complexes as well as a secure place to leave the parcel, is a huge challenge. All the stores noted that access to homes, residential estates, complexes, and apartments were increasingly becoming challenging.
Crime was noted as a major concern for the viability of the value proposition. There were two perspectives that emerged from the interviews. The first was that “we live in a complex and it is relatively safe, but access is a problem” and the second, from the store owners’ perspective: “we cannot leave our products unattended at a house…because it would be stolen or damaged… who is then responsible for it?” All the stores noted that crime and the safety of their drivers was becoming increasingly challenging.

5. DISCUSSION

Responses to research question one revealed that there is a market for online grocers and the delivery of consumables in South Africa. It also emerged that the life of a prospective customer was becoming busier and time is becoming scarce resulting in a need for convenience. This is supported by Nilsson et al. (2015) who note that time pressure and transportation are factors that discourage shoppers from visiting supermarkets. From the store managers’ perspective, deliveries are increasingly being demanded while delivery orders are increasingly becoming a larger proportion of their turnover. This is a global trend that consumers are increasingly purchasing online (Mulpuru, 2013; Kumar, 2014; Reddy & Reinartz, 2017).

Research question two discovered that customers are willing to pay for the delivery service and convenience of an online grocer. However, this willingness correlated with the cost of the trip to a store. The explosive demand for online platforms has increased the demand for deliveries (Zhou et al., 2017). The increased demand on delivery services, asks for an effective business model innovation (Breuer et al., 2018). Customers see advantages such as time saving and reduced effort in online shopping. Customers, however, want to be satisfied by the additional benefits before they switch to online shopping.

Responses to the third question revealed that subscription pricing should not be an only pricing strategy pursued by online convenience grocers. It emerged that stores were attempting to profile their customers, but customers want a choice of products and payment methods.

It emerged that trust was lacking between customers and stores. Customers were concerned with data security and stores with the safety of their delivery drivers. Stores explained how they used their historical order books to profile their customers to establish the risk the driver could be exposed to when delivering orders. Customers weigh their levels of trust for online grocers with their perceived risk of shopping on online platforms. One needs to view perceived risk and trust together. Uncertainty and risk were intrinsic factors when purchasing online.
because customers are not physically present and could not confirm the quality of the merchandise.

The response to question four viewed digital value drivers as necessary to stay relevant in today’s fast paced environment. It emerged that customers perceived online platforms and digital drivers as improving the value creation while digitalisation improved convenience. Digitalisation creates new value opportunities through new services which will transform conventional value chains. It also has a lasting and revolutionary impact on economic systems, organisations, and society at large (Reddy & Reinartz, 2017). New business models will keep on emerging from the 4IR. It is suggested that customers are increasingly seeing the value of digital value drivers that online grocers need to keep improving with technology.

What emerged as a significant theme among all participants was that crime negatively affects the viability of the business model of an online grocer. While challenges exist such as the time when the goods are delivered, environmental conditions, inspection of quality and the packaging of the goods, crime emerged as the most significant challenge facing the business model of an online grocer.

The results showed that there is a market for an online convenience grocer, and it identified opportunities for an existing business model, namely The Milkman, to innovate and create a viable business for an online convenience grocer. The digital drivers and co-creation were identified as enablers for the facilitation of a viable business model of a convenience online grocer. Crime was identified as a significant challenge for the viability of the business model.

It is suggested that for the successful launch of an online convenience grocer an entrepreneur should consider innovative strategies that leap over the challenges of crime. It is further suggested that co-creation in partnership with residential estates and complexes will improve the value creation for the customer and will result in a competitive advantage by creating difficult to imitate entry barriers for competitors.

6. CONCLUSION AND RECOMMENDATIONS

6.1 Implications for management

The aim of any business is to create sustainable competitive advantage. One way in which it can be attained is through the innovation of a business model by means of disruptive technology (Schumpeter). In this article, the innovation of the milkman was investigated through the creative destruction (“destroying”, to use the concept in Schumpeter’s definition) of the old-fashioned milkman and to incessantly create a new one, namely the online convenience grocer.
Managers should now also use innovation to leap over the challenges that crime pose. By so doing they can create a business model that is difficult to mimic and create a sustainable competitive advantage by using digitisation as a driver for innovation.

6.2 Limitations of the research

This research used an exploratory qualitative analysis methodology. Therefore, the results in a generalised context are limited. The small sample size limits how the results are generalisable in other contexts; and, the focus on an online convenience grocer in a South African context limits how the research can be transferred to other business models.

6.3 Suggestions for future research

A qualitative study can be undertaken to gain a deeper understanding of innovative strategies that could leap over the challenges of crime to develop a framework that leaders can use to create competitive advantage.

6.4 Conclusion

The research revealed the market for online platforms that deliver goods in a South African context. It highlights that digitalisation is a prominent enabler and catalyst for the business model. However, the crippling challenge of crime was exposed. It is suggested that through innovation, these challenges could be overcome to create a difficult to imitate business model that creates sustainable competitive advantage.

The insights from this research also suggest that Schumpeter’s framework of creative destruction through disruptive technological innovation is still as relevant as in 1942 when it was formulated. Business models can thus, within the Schumpeterian definition, be reinvented and innovated by incessantly destroying the old one and incessantly creating a new one.

REFERENCES


