

Factors affecting Saudi Arabian SME retail e-commerce fulfilment due to Covid-19

Majed Alotaibi

Tabuk University Business School, Saudi Arabia

Date of Submission: 02-03-2023

Date of Acceptance: 13-03-2023

I. Introduction

During Covid-19 small and medium enterprises (SMEs) have changed their logistics process to maintain electronic commerce (EC) fulfilment and meet consumer expectations. More than 73 articles discuss the factors of Covid-19 e-fulfilment from consumers to the supply chain (Chowdhury et al., 2021). However, each country has differing specifications of technology and infrastructure. Further, cultural aspects are considered essential to maximize consumer fulfilment. On the other hand, SMEs have various perspectives for dealing with such urgent matters but coping with fast changing situations might confuse firms with unfortunately lost sales or business closure. The focus of this study is to understand the situation in the Saudi Arabia (SA) EC market and emerging factors that affects SMEs and e-fulfilment. This study explores that through six general questions:

1. What factors due to the Covid-19 pandemic affected your business operationally?
2. Which of the above factors most affected your business operationally? Why?
3. What actions have you taken to address these factors?
4. What technological solutions have you considered to address these factors? Which ones have you adopted and why?
5. What results have you seen both positive and negative?
6. What has been difficult for you during the pandemic? Why?

II. Literature Review

EC in Saudi Arabia (SA)

SA is a large country with a population of 30 million inhabitants. The major city is the capital Riyadh followed by Jeddah and Dammam. SA has highest number of internet users at 25 million compared to the rest of the G20 countries. The highest percentage of users are between 15-32 years of age. The communication and information technology commission CITC is the regulatory of internet activity (CITC, 2020). A previous study by (Alotaibi, 2018) found the SA postal system inaccurate when delivering consumer shipments and that cultural factors play an essential role in e-fulfilment. SA has rapid growth of internet users which consider the highest country in the middle east after Iran (CITC, 2020). The number of e-stores are 36,447 with rapid sales growth which duo heavy investment in internet infrastructure. Hence, SA placed in top ranking of 5G connection among G20 (MCI, 2020). Moreover, SA has significant rankings in the World Economic Forum (36th place) and the Logistics Performance Index or LPI (55th place) which is the result of the new vision for 2030 led by Crown Prince Mohammad bin Salman (weforum, 2019).

E-fulfilment in Covid19

A variety of studies have discussed the pandemic and the effective factors from wide different of views. Previous studies consider the factors from supply chain or technology factors (Chowdhury et al., 2021). Moreover, previous studies focus on supply chain demand especially in health care and vital goods. This study investigates the factors of Covid-19 in SMEs, which have had little research to date, to illustrate their status in SA EC fulfilment. A full lockdown and quarantine took place in SA from February March 2020 with a partial opening beginning at the end of May 2020.

Factors Influencing E-fulfilment

Covid-19 has affected enterprises from inbound through outbound activity. The reaction of countries over the world has been different regarding policy, international trade and strategy (Gunessee & Subramanian, 2020). Therefore, factors affecting e-fulfilment and consumer behaviour vary across each country. However, there was rapid introduction of similar quarantines, which required firms across countries to redesign their business strategy (Hobbs, 2020). However, others have delayed due to consumer confusion of various hygiene processes.

Social distance is another factor that needs to be considered during deliveries. Delivery packaging and provision of additional hygiene and safety play an essential role. Additionally, delivery channels whether via third-party logistics service providers (3PLs) or directly requires new policies and rules. Some factors considered important but which have not been detailed in Covid-19 studies, such as cultural factors, also play an important role in SA (Alotaibi, 2018). Finally, regulatory policies have appeared quickly due to the pandemic, which usually not happened before, and regulations keep changing regarding society's health to try and respond to their needs (Quayson et al., 2020).

Grocery and E-grocery

Regarding groceries, perishable food and dealing with them in SA is a challenge due to the extremely hot weather for most of the year (Kumar et al., 2021). In addition, the SA e-grocery market is still not mature with few active grocery firms and 3PLs. Notwithstanding the pandemic, when facing high demand both physical store and EC channels struggle to fulfil consumer orders and hence dark stores have become a solution for delivery (Tanskanen et al., 2002; Al-Nawayseh, 2012; Alotaibi, 2018). Finally, complexity or delays in global supply chain have direct effects on food supplies and may lead to shortage (Onuma et al., 2021) and thus grocery firms need to assure consumer their supply chain work efficiently to prevent panic buying (Ghezzi et al., 2012).

Logistic service providers

We define 3PL in this study as a 'mobile application that handle orders from stores through consumer delivery'. During the pandemic 3PLs are involved in most logistic operations and can help by providing more innovative solutions (Ramcharran, 2013), and this involves e-fulfilment for any inbound or outbound element of logistics operations. Further, global LSPs can enhance innovative solutions with expertise and experience whether in e-grocery and non-food segments.

III. Methodology

This study is inductive and uses an interpretive theoretical paradigm of empirical reality and qualitative interviews to obtain information and understand the current environment of e-firms in SA by gathering in-depth data of factors affected logistics operation in e-commerce channel (Collis & Hussey, 2009). Fifteen semi-structured interviews were conducted with SME owners or CEOs and logistics managers in SA EC firms in the capital Riyadh and other cities. Due to Covid-19 and social distancing two interviews were conducted in public spaces in Riyadh and the rest through technology platforms such as Teams, Skype and Zoom. All interviews were recorded, and verbal consent agreed before starting the interview. Each interview took from 30-45 minutes. The firms are anonymously named as E1 to E15. All interviews were done in Arabic language and then translated, and back translated again to assure validity. All data were input into NVivo 12 software with subsequent analysis leading to six main themes that follow in the next section (Neuman, 2004; Marshall, 2014).

IV. Findings And Themes

Change business strategy

Most e-firms immediately changed their strategy to cope with pandemic matters however sales declined by up to 20% of total sales on average for non-grocery retailers. Two non-food e-stores closed their businesses after three months. Thus, in the beginning of the first lock-down non-food businesses were affected by new regulations except for the grocery sector, which continued running their businesses as essential services. In addition, some firms relied on 3PLs as the only way to keep customers as they first have permission to take the delivery channel with increased the online advertisement to aware the service still available. In addition, moving residence of working staff to be closed to their stores and offices to avoid changing of regulations and keep works continues. On the other hand, SA as a large country, which large city have optional of 3PLs and human resources (Chowdhury et al.) to work on delivery, whereas small city still suffering from the contrary of that as too high demands and less of firms of 3pl and HR make the situation worse and affected strongly SMEs.

Grocery retailers saw a positive impact with sales significantly increased. Further, supermarkets who have a large supplier base had more revenue than SME grocery retailers. The regulation that food and pharmacy were exempt from closure during quarantine helped walk-in customers residing in the same district as well as other segments from health staff and police. An important point related to grocery supplies were that they mostly came from distributors to retailers. SMEs expressed that large grocery suppliers had high price during pandemic except E4, who offered lower price to all small retailers to be the main supplier to them.

Limitations of 3PLs and HR issues

As the previous theme presented, 3PLs have different distributions over the eighteen cities. All 3PLs struggled during the outset of the pandemic with the sudden increase in demand along with new regulations and limited HR. SA regulations only allowed one 3PL to handle deliveries in first part of the lockdown and that firm

couldn't meet the high volume of demand and thus service and quality were affected. The next phase in the partial re-opening allowed other 3PLs to participate but a new regulation that only Saudi firms could do deliveries, except grocery stores. The Saudi market is large but there was not enough staff in the indigenous 3PLs to cover deliveries regardless with 50% of customers receiving either wrong or late orders, or both. The grocery segment did not provide a 'pick-up' model as there were no plans to execute that for high demand in the 'closed window' of shorter working hours. However, five new 3PLs entered the market but three ceased trading in the market leaving only the other two operating. Small cities have one or two 3PLs, which puts SME retailers in a difficult situation as deliveries did not arrive in time as 3PLs had limited staff without using non-SA citizens.

Government support

This theme emerged from analysis. Most firms, whether small or large enterprises, noted that without initiatives from the SA government the situation would be worse, and a few commented they would be out of business without it. The support included postponed transaction bank interest and 50% coverage of Saudi staff salaries. Labour card for non-Saudi staff were extended three months for all labour in the SA market. In addition, SA applied new rules to allow everyone in country affected by Covid-19 to have health care and treatment including medicine no matter if the labour identity card was expired or lost. If any staff of grocery or delivery staff were infected, they had to go to a special residence provided by the government to quarantine which the accommodation and food. Moreover, the government provided a service called 'Estrdad', which refunded administration fees to the firm's bank account for six months to help them with business expenses. Finally, the government extended the labour card expiry date for all staff abroad until they could return to SA.

Policies for Operations

Besides the foregoing government support, changes to regulations and policies were needed to deal with new issues arising from the pandemic. Some regulations were clear and easy to cope with, however, the rapid change affected SMEs and 3PLs. First, permissions to only have limited number of staff prevented some retailers from delivering, leading retailers to designate only certain stores for delivery. Second, strict traffic zone controls led to undeliverable orders as new delivery drivers were unable to go into these areas, which led them to return to their zone when they became lost. Changes for 3PLs were noted above but hygiene processes and social distancing saw some 3PLs only provide one delivery method, i.e. leave an order at the door, to adhere to a safe social distance. New packaging that completely seals products were applied but some firms declared that delay us for a while as manufacturing late. Lastly, drivers had to provide evidence of a negative Covid-19 test result to start employment with any firms.

Technology

Investment in technology was a major theme for most firms, especially for grocery retailers who had to stop or postpone sales due to high demand in stores. During quarantine, the only channel to reach consumers was e-commerce driven by technology. Easy to use technology made shifting to e-commerce easy for consumers who were retained. Some firms established their own website, enhanced their pages on social media platforms, and engaged 3PLs more predominantly. In addition, some firms designed phone applications to respond to consumers and fulfil their demands. During the pandemic most 3PLs were busy to respond to high demand and tried to serve firms' current in-store and e-store customers with the applications to avoid any errors. Lastly, 3PLs provided results on one app or platform for three user levels: consumers, retailers, and delivery staff. However, grocery retailers still have not focussed on technology during pandemic.

V. Discussion

1. What factors due to the covid-19 pandemic affected your business operationally?

There are various factors, such as declining in-store sales 20% for some firms. Additionally, the regulation to assign one 3PL as the outset unfortunately could not address the high demand and fulfil full delivery services in most cities except the capital Riyadh (Quayson et al., 2020). The other cities suffered shortage of 3PL services (Brintrup et al., 2020). Furthermore, technology emerged that did help provide full service online, in particular for stores with regular walk-in customers (Rowan & Laffey, 2020). Suppliers providing products had major issues which led to shortages for most SME retailers. However, grocery retailers did not endure many of these factors, as government permission allowed them to open as usual. E-grocery however was not very effective and had little focus on technology, which meant their platforms were not ready for high volumes. Their sales increased, especially those who focussed on wholesale to other SME retailers, and was in contrast (Onuma et al., 2021). Non-food stores had to change strategy as lack of inventory caused issues during the pandemic, which led some firms to make major business changes to remain open running and risk a loss of supply and inventory (Guan et al., 2020). Hence, they provided discount offer on excess stock and increased marketing for new methods of service.

2. Which of the above factors most affected your business operationally? Why?

The grocery segment had the advantage of increased sales, government support, and an ability to provide wholesale services (Gao et al., 2020). However, if any staff were infected it had a negative impact as the store had to close for at least two weeks. Therefore change strategy to cope with this was a theme for all firms (Gunessee & Subramanian, 2020). Amended business plans or using different services were used to run the business and include moving to investing in technology solutions with applications.

3. What actions have you taken to address these factors?

All firms had to cope with new hygiene protocols and some firms solved that situation with using new packaging, however about one-third of them had to wait for new packaging designs to bundle goods for delivery (Laborde et al., 2020). In grocery retail, they competitively priced against the other large store who were also wholesaling to obtain a value return (Hobbs, 2020). Most 3PLs have reject full shipments due to being unable to cope with high volumes, which caused delay and cancelled some delivery shipments. High demand cause grocery retailers to focus on in-store but most 3PLs didn't provide fully grocery services. Small grocers could deliver urgent products, but hygiene processes were not fully followed. The pandemic affected all stores in all matters from sales, new policy, hygiene, and delivery, leading the government to provide various initiatives to help private sector to survive as long as possible. They first gave permission for more 3PLs to deliver and secondly supported Saudi employees by paying half of their salary. Lastly, they postponed all bank transaction interest for all firms to provide cash and liquidity for SMEs and large firms. One authority under Ministry of Trade launches the 'Estrdad' service to return administration tariffs to all firms that registered formally with the government (Monshaat, 2021).

4. What technological solutions have you considered to address these factors? Which ones have you adopted and why?

Technology solutions were provided by some firms during the pandemic, including some grocery retailers. However, the then current technology for stores and 3PLs couldn't meet the high demand. SA is a large country with 18 cities with suppliers in various areas. Large cities have more 3PLs who have sufficient HR staff available to undertake most deliveries. However, small cities have one or two 3PLs and cannot service all stores. Two stores in smaller cities went into bankruptcy and one changed its entire business model to cope with the changing situation (Nichiporuk, 2021). For grocery retailers, technology could not help with deliveries due to lack of specific focus, leading some firms to design their own website, app and pages in different platforms, while other SMEs in small cities initiated their own 3PLs as they could not afford to purchase technology (Rowan & Laffey, 2020). Nevertheless, 3PLs could not deliver all shipments as desired and could not cover all areas, including new drivers not reaching old consumers. Therefore, existing consumers were lost despite new ones being gained (Laborde et al., 2020).

5. What results have you seen both positive and negative?

Investment in technology though phone application design and more availability in different platforms is a positive result. Another is exploring new consumer segments by contacting them directly and obtaining feedback to improve deliveries (Farias & Araújo, 2020). This includes a better understanding of consumer experience with technology and to enable targeting more segments across different generations. Furthermore, online service practices are at a higher level than before the pandemic with more than 25% of stores continuing their same strategies and plans applied during the pandemic, which has led to reduced costs through changing rented space to cheaper, non-store front locations to rely mostly on online channels (Hobbs, 2020). Logistics and supply chain strategies for stores have changed by make contingency plans to not buy high volumes and changing suppliers for assured supply to fulfil consumer high demand (Guillen-Royo, 2019). On the other hand, some focussed too much on technology and neglected their normal channels. A move to outsourcing some service and delivery channel to 3PLs may have been an error of strategy by both that some areas have orders without delivery driver available. Strategies by SMEs to close some non-primary store branches and focus main ones led to 'dark stores', which were successful for half of stores during quarantine, but which provided a mixed message about product and service offerings. Government support has been welcomed, especially by grocery stores who struggled with repeated closures as infected staff emerged by time to time (Gao et al., 2020). Lastly, larger size and SME grocery retailers have provided pick-up and delivery plan in closed areas as a starting point for a new strategy.

6. What has been difficult for you during the pandemic? Why?

Difficulties include not being ready for technology regarding staff dealing with new tools and being sufficiently trained (Ker & Cardwell, 2020). Also, strategy decisions whether to in source or outsource deliveries is a major issue. Investment in technology in an immediate manner cost more as opposed to normal procurement practices (Rowan & Laffey, 2020). Few firms had emergency plan ready to deal with sudden and rapid changes.

Cancelling or postponing rent was considered an extreme issue as not all space owners and companies assisted with that and thus store costs were too high relative to reduced sales. Furthermore, new agreement contracts required more legal services to avoid losing money without any revenue in quarantine. In addition, reducing staff was a hard decision to keep business going, and firms lost experienced staff, which has a direct effect on consumer support and trust. HR shortage was a major difficulty with all stores and 3PLs. New packaging requirements and trained delivery staff were also issues. Location errors remained as not all Google or satellite navigation directions are correct, especially with apartments in older areas. Use of technology was an issue, particularly if there were new software programmes or where there was no internet available. The initial choice of one 3PL to provide all SA delivery services led to 'leave order at front of the door' were issues due to finding locations i.e. apartments, especially when consumers could not confirm receiving an order. Hygiene concerns for most consumer was a challenge for firms as consumers wanted to receive their correct order in the right place with proper social distance. This was not always assured by the delivery driver and thus delivery was not confirmed to the store to close the order. Lastly, only one 3PL provided paying online. Others 3PL drivers had to carry cash which provided its own transaction difficulties regarding hygiene and social distancing.

VI. Conclusion And Contributions

This paper has discussed factors that affected SMEs in Saudi Arabia during the pandemic of Covid-19 and the fifteen interviews conducted with firms, e-firms and 3PLs have provided an understanding of this situation in Saudi Arabia. The exploratory empirical study followed an interpretivist approach whereby "*the social world is mostly what individuals perceive it to be, and that reality is socially constructed as individuals attach meaning to their experience*" (Narcisse & Harcourt, 2008). Hence, the rich data available in interview transcripts enabled five themes to emerge from analysis to address the six research questions. SME retailers and the Saudi market have not been the subject of much previous study from an e-fulfilment logistics perspective. Furthermore, the findings have illustrated different factors driving strategic change with extraordinary government support. To that end, this paper contributes theoretically to our knowledge of in store and online retailing in both grocery and non-grocery settings, and related business strategies to address the immediacy and depth of business issues resulting from the pandemic in the non-Western context of Saudi Arabia. This paper also contributes practically by detailing business operational problems emerging during the pandemic and what solutions worked or didn't work to address them. Firms elsewhere in Saudi Arabia and other country settings should be able to consider these findings within their own context and adopt what will work for them.

As with all research there are a few limitations. First, there have been many studies in the last year considering the effects of Covid-19. Many are desperate and thus a good synthesis of conceptual and empirical papers should be done to provide contacts veracity and ensure validity and reliability. Furthermore, the study reported in this paper is exploratory and could be extended to determine generalizability of the findings across not only in SA but across other non-Western contexts.

References

- [1]. Al-Nawayseh, M. (2012) Electronic Commerce Logistics In a Developing Country: The Case of Online Grocery Shopping In Jordan. PhD thesis Brunel University.
- [2]. Alotaibi, M. (2018) Challenges and opportunities of e-fulfilment operation in the Gulf Cooperation Council. PhD thesis Hull University.
- [3]. Brintrup, A., Pak, J., Ratiney, D., Pearce, T., Wichmann, P., Woodall, P. & McFarlane, D. (2020) Supply chain data analytics for predicting supplier disruptions: a case study in complex asset manufacturing. *International Journal of Production Research*, 58(11), 3330-3341.
- [4]. Chowdhury, P., Paul, S. K., Kaiser, S. & Moktadir, M. A. (2021) COVID-19 pandemic related supply chain studies: A systematic review. *Transportation Research Part E: Logistics and Transportation Review*, 102271.
- [5]. CITC (2020) Internet users in Saudi Arabia. Communications & Information Technology Commission: Available online: <https://www.citc.gov.sa/en/mediacenter/pressreleases/Pages/2019121801.aspx> [Accessed 13/3/2021].
- [6]. Collis, J. & Hussey, R. (2009) *Business Research: A Practical Guide for Undergraduate and Postgraduate Students*. Palgrave Macmillan.
- [7]. Farias, D. & Araújo, F. F. (2020) Will COVID-19 affect food supply in distribution centers of Brazilian regions affected by the pandemic? *Trends in Food Science & Technology*, 103, 361-366.
- [8]. Gao, X., Shi, X., Guo, H. & Liu, Y. (2020) To buy or not buy food online: The impact of the COVID-19 epidemic on the adoption of e-commerce in China. *PloS one*, 15(8), e0237900.
- [9]. Ghezzi, A., Mangiaracina, Riccardo, M. & Alessandro, P. (2012) Shaping the e-commerce logistics strategy: a decision framework. *International Journal of Engineering Business Management*, 4.
- [10]. Guan, D., Wang, D., Hallegatte, S., Davis, S. J., Huo, J., Li, S., Bai, Y., Lei, T., Xue, Q. & Coffman, D. M. (2020) Global supply-chain effects of COVID-19 control measures. *Nature human behaviour*, 1-11.
- [11]. Guillen-Royo, M. (2019) Sustainable consumption and wellbeing: Does on-line shopping matter? *Journal of Cleaner Production*, 229, 1112-1124.
- [12]. Gunesssee, S. & Subramanian, N. (2020) Ambiguity and its coping mechanisms in supply chains lessons from the Covid-19 pandemic and natural disasters. *International Journal of Operations & Production Management*.
- [13]. Hobbs, J. E. (2020) Food supply chains during the COVID- 19 pandemic. *Canadian Journal of Agricultural Economics/Revue canadienne d'agroeconomie*, 68(2), 171-176.

- [14]. Ker, A. P. & Cardwell, R. (2020) Introduction to the special issue on COVID- 19 and the Canadian agriculture and food sectors: Thoughts from the pandemic onset. *Canadian Journal of Agricultural Economics/Revue canadienne d'agroeconomie*, 68(2), 139-142.
- [15]. Kumar, A., Mangla, S. K., Kumar, P. & Song, M. (2021) Mitigate risks in perishable food supply chains: Learning from COVID-19. *Technological Forecasting and Social Change*, 166, 120643.
- [16]. Laborde, D., Martin, W., Swinnen, J. & Vos, R. (2020) COVID-19 risks to global food security. *Science*, 369(6503), 500-502.
- [17]. MCI (2020) Increased number of e-stores in Saudi Arabia. Ministry of commerce: Available online: <https://mc.gov.sa/en/Communityparticipation/Pages/marooof.aspx> [Accessed 5-04-2021].
- [18]. Monshaat (2021) Estrdad Initiative for new Large & SMEs. Available online: <https://esterdad.monshaat.gov.sa/Home/Index?landingpage=3&referrer=Saip> [Accessed 15-4-2021].
- [19]. Narcisse, S. & Harcourt, M. (2008) Employee fairness perceptions of performance appraisal: a Saint Lucian case study. *The International Journal of Human Resource Management*, 19(6), 1152-1169.
- [20]. Neuman, L. (2004) *Social Research Methods: Qualitative and Quantitative Approaches*. Boston: Allyn and Bacon, USA.
- [21]. Nichiporuk, B. (2021) Covid 19 and its labor demand, migration, and military force structure implications in East Asia. *Journal for Peace and Nuclear Disarmament*, 4(sup1), 308-319.
- [22]. Onuma, H., Shin, K. J. & Managi, S. (2021) Short-, medium-, and long-term growth impacts of catastrophic and non-catastrophic natural disasters. *Economics of Disasters and Climate Change*, 5(1), 53-70.
- [23]. Quayson, M., Bai, C. & Osei, V. (2020) Digital inclusion for resilient post-COVID-19 supply chains: Smallholder farmer perspectives. *IEEE Engineering Management Review*, 48(3), 104-110.
- [24]. Ramcharran, H. (2013) "E-commerce growth and the changing structure of the retail sales industry". *International Journal of E-Business Research (IJEER)*, 9(2), 46-60.
- [25]. Rowan, N. J. & Laffey, J. G. (2020) Challenges and solutions for addressing critical shortage of supply chain for personal and protective equipment (PPE) arising from Coronavirus disease (COVID19) pandemic—Case study from the Republic of Ireland. *Science of The Total Environment*, 725, 138532.
- [26]. Tanskanen, K., Yrjölä, H. & Holmström, J. (2002) The way to profitable internet grocery retailing—six lessons learned. *International Journal of Retail & Distribution Management*, 30(4), 169-178.
- [27]. weforum (2019) Global competitive index -Performance overview: Saudi Arabia weforum.org. Available online: http://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2019.pdf [Accessed 28-3-2021].

Majed Alotaibi, "Factors affecting Saudi Arabian SME retail e-commerce fulfilment due to Covid-19." *IOSR Journal of Business and Management (IOSR-JBM)*, Vol.25, No. 03, 2023, pp. 18-23