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**THE IMPACT OF COVID ON E-COMMERCE NON-
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ABSTRACT

This paper has aimed to explore the impact of covid-19 on the E-Commerce Non-food business. An analysis has been done in this study to highlight the situation of the online sales in case of Non-food products. In order to execute this study, three suitable objectives have been determined in this thesis project. First objective of the study aims at studying the recent literature on the deliveries of non-food products. **The second objective of the study is to identify the important factors which are directly affecting the deliveries of non-food products in the chosen case scenario.** The third and last objective of the study has aimed at comparing the after and before situation of identifying the important factors within the study. Additionally, a range of different companies has been included in this study as it has helped to compare the growth pattern within this industry.

In the chapter methodology, the procedure of research has been described. Characteristics of the systematic literature review have been developed through this section. Moreover, the constraints of SLR are also discussed. Each and every step of the SLR has helped to ensure that this research topic is feasible. Adopted methodology of this thesis has explained the *Structured Literature Review* (SLR) process. Some of the elements of good practices from the SLR approach have been described while adopting all steps completely is not possible due to the current scenario of Covid-19 and its impact. In the finding section, it can be seen that “third-party” online marketplaces have performed well rather than the traditional E-commerce companies. It can be stated that the “wholly digital business models” have been more resilient during the period of covid-19 crisis.

In some areas, the trends within the sales have seen a downturn. In recent studies, the online marketplace has seen an increased number of buyers. The traditional way of buying has been changed. Population shows more interest in online marketplaces rather than the Retail stores. The pandemic has brought an awareness to prioritise the necessary products of daily life in consumers’ minds. It has not only changed the consumption pattern but also the perspective of buying. Hence, the habits of the people have moved towards

only essential products, which they need to live their lives while staying at home. However, many small businesses within the market have grown with the help of digital driven business models. The reinforcement of the E-commerce ecosystem has enhanced the “e-trade readiness”. The supply chains and logistics have improved throughout the internet.

Lastly, evaluating all the findings from the research, several recommendations and improvement strategies have been introduced to acquire the opportunities that can be implemented. This thesis paper has taken out the understanding towards the impact of the pandemic on E-commerce businesses. The pandemic has affected many industries.

Keywords:

Pandemic situation, customer purchase, online shopping, Retail stores, Last mile delivery

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TABLE OF CONTENTS

ABSTRACT	i
ACKNOWLEDGEMENTS	iii
LIST OF FIGURES	vii
LIST OF TABLES	viii
LIST OF EQUATIONS	ix
LIST OF ABBREVIATIONS	x
1 CHAPTER TITLE (USE HEADING 1)	Error! Bookmark not defined.
1.1 Section Heading (use Heading 2) ...	Error! Bookmark not defined.
1.1.1 Subsection Heading (use Heading 3)	Error! Bookmark not defined.
1.2 Section Breaks	Error! Bookmark not defined.
1.3 Inserting captions in the main document	Error! Bookmark not defined.
1.3.1 Referring to captions for figures, tables etc	Error! Bookmark not defined.
1.4 Updating Tables of Contents, Lists of Figures and Captions	Error! Bookmark not defined.
1.5 Inserting Landscape Pages	Error! Bookmark not defined.
2 CHAPTER TITLE (USE HEADING 1)	Error! Bookmark not defined.
2.1 Section Heading (use Heading 2) ...	Error! Bookmark not defined.
2.1.1 Subsection Heading (use Heading 3)	Error! Bookmark not defined.
3 CHAPTER TITLE (USE HEADING 1)	Error! Bookmark not defined.
3.1 Section Heading (use Heading 2) ...	Error! Bookmark not defined.
3.1.1 Subsection Heading (use Heading 3)	Error! Bookmark not defined.
4 CHAPTER TITLE (USE HEADING 1)	Error! Bookmark not defined.
4.1 Section Heading (use Heading 2) ...	Error! Bookmark not defined.
4.1.1 Subsection Heading (use Heading 3)	Error! Bookmark not defined.
5 CHAPTER TITLE (USE HEADING 1)	Error! Bookmark not defined.
5.1 Section Heading (use Heading 2) ...	Error! Bookmark not defined.
5.1.1 Subsection Heading (use Heading 3)	Error! Bookmark not defined.
6 CHAPTER TITLE (USE HEADING 1)	Error! Bookmark not defined.
6.1 Section Heading (use Heading 2) ...	Error! Bookmark not defined.
6.1.1 Subsection Heading (use Heading 3)	Error! Bookmark not defined.
7 CHAPTER TITLE (USE HEADING 1)	Error! Bookmark not defined.
7.1 Section Heading (use Heading 2) ...	Error! Bookmark not defined.
7.1.1 Subsection Heading (use Heading 3)	Error! Bookmark not defined.
8 CHAPTER TITLE (USE HEADING 1)	Error! Bookmark not defined.
8.1 Section Heading (use Heading 2) ...	Error! Bookmark not defined.
8.1.1 Subsection Heading (use Heading 3)	Error! Bookmark not defined.
9 CHAPTER TITLE (USE HEADING 1)	Error! Bookmark not defined.
9.1 Section Heading (use Heading 2) ...	Error! Bookmark not defined.
9.1.1 Subsection Heading (use Heading 3)	Error! Bookmark not defined.
REFERENCES	Error! Bookmark not defined.
APPENDICES	Error! Bookmark not defined.

Appendix A Appendix Title (Use Heading 7)**Error! Bookmark not defined.**

LIST OF FIGURES

Figure 1-1 A figure caption**Error! Bookmark not defined.**

LIST OF TABLES

Table 1-1 A table caption.....	Error! Bookmark not defined.
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LIST OF EQUATIONS

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LIST OF ABBREVIATIONS

IT	Information Technology
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1 Chapter 1: Introduction

2 Introduction

The entire customers' purchasing trend or pattern seemed to be changed as they switched their spending to online during the lockdown period. The outbreak of Covid-19 has increased awareness of the necessity of people's lives. Hence, a large population is moving towards e-commerce and digital solutions. This thesis is concerned with the factors impacting customer purchase behaviour and effect of Covid-19 on non-food products. At the same time, the research has evaluated the rise of e-commerce business. The issue of this study is the performance of the e-commerce businesses due to the covid-19 pandemic. There has been a major decline in the performance level in e-commerce businesses which is quite harmful for the industry.

This is an issue because e-commerce has a significant impact on certain business strategies. Kitukutha, Vasa and Oláh (2021) have stated that there are several opportunities present in the marketplace for this industry. For example, e-commerce businesses offer a variety of opportunities for buyers and sellers in the market. It increases the productivity within the firm. Additionally, the firms are seen to have "higher productivity" and "efficiency". As the e-commerce businesses represent lower search and transaction costs, the firms need not to perform in a traditional way.

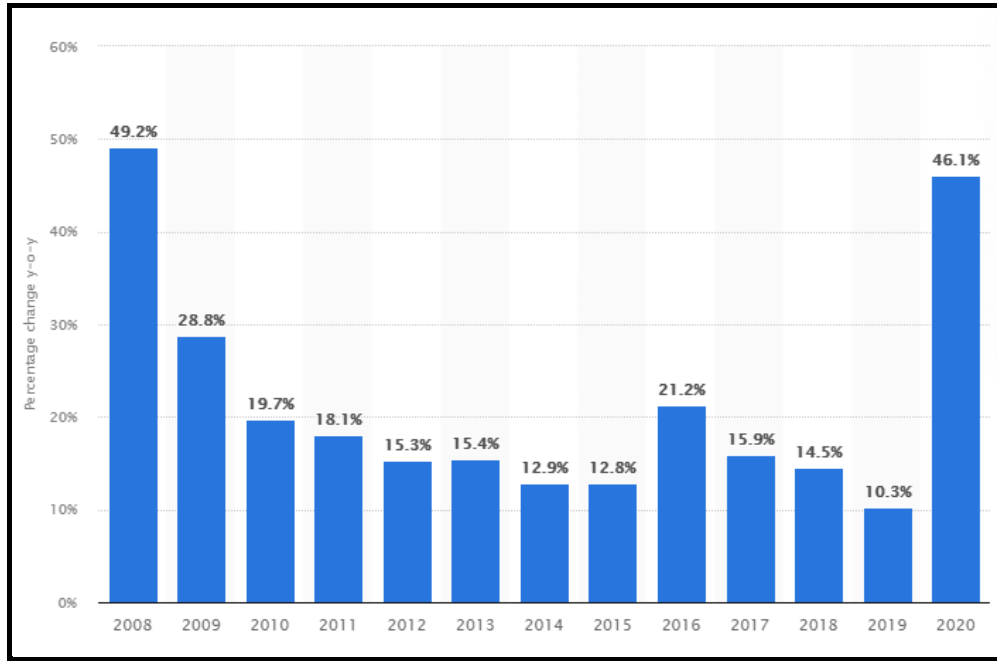
This is an issue now because in recent times the marketplace is constantly changing. Gao *et al.* (2020) have opined that in order to retain customers, it is necessary to satisfy the customer needs. Moreover, the UK government has enforced a strict lockdown on the non-essential retail store to stop the outbreak of the virus. In 2020, the non-food growth of the e-commerce sector was 25.7% (Gov.uk, 2021). Before the pandemic, the global retail share was expected to grow by at least 4% (Gov.uk, 2021). However, due to the outbreak, the expected growth in the retail sales share has decreased by 2% in the UK (Gov.uk, 2021).

This research study will shed light on the change in the sales and growth pattern in case of the non-food e-commerce businesses. However, the study will only focus on the information of the UK. In the year 2020, the observed total retail volume decreased by 1.9% (compared with 2019) (Gov.uk, 2021). This record was found to be one of the

largest annual falls. The impact of covid-19 on the non-food retail sectors was crucial. The clothing and fuel volume sales are decreased by 21.5% and 22.2% respectively (Gov.uk, 2021). Hillen and Fedoseeva (2021) have said that the consumer trend changed and most consumers moved towards online shopping. The online sales record was one of the highest in 2020 (Gov.uk, 2021). It was 33.9% as a share of retail spending (Gov.uk, 2021). As the retail industry of the UK represents an important part of the entire economy, the share of GDP in this case also plays an important part. This sector contributes almost 5.1% of the total UK's GDP (Gov.uk, 2021). The pandemic has affected not only the UK's economy but also the global economy.

3 Background

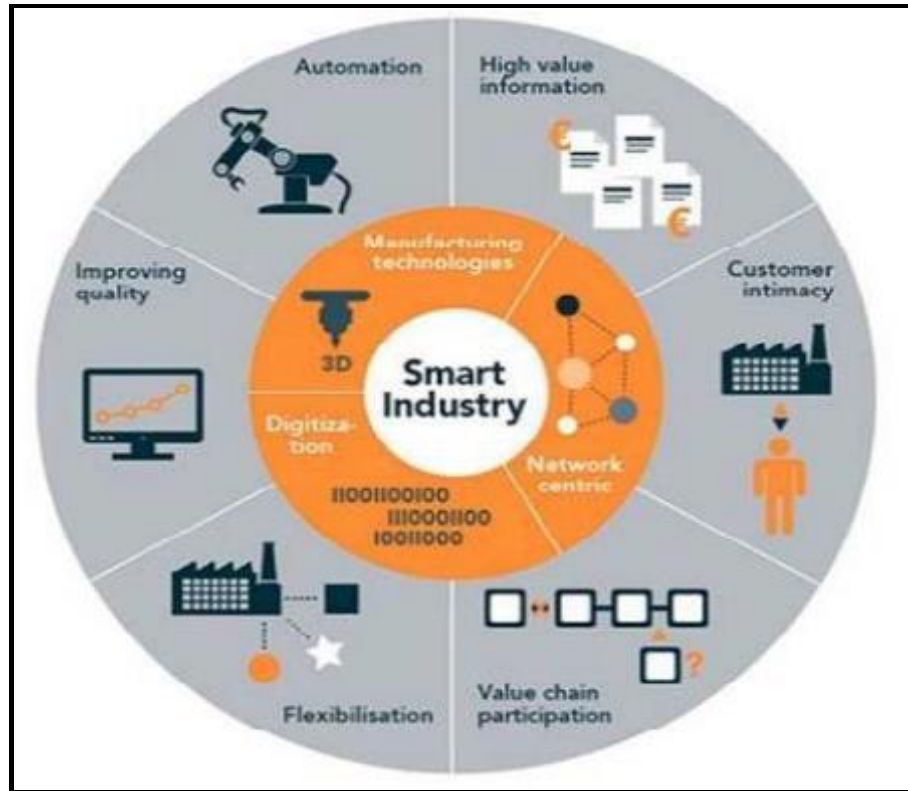
Here, the Last mile refers to the last stage of supply chain management, which also includes supplying products at customers' doorstep. **Hence, this procedure is connected to transportation services too. This process requires careful coordination for successful completion of transport operations.** The ability to foresee demand patterns can help optimize the movement of cargo from one end to another due to the versatility of freight forwarding companies and firms that are engaged in this segment of activities since they have access to resources with regards to quick contact with customers, high network coverage, ease in negotiating terms and conditions as well as connections with numerous specialized carriers. **Last mile delivery has** become one of the most used terms in the "e-commerce stage".



3.1.1.1 Figure 1: Annual internet retail sales value in the UK

(Source: Statista.com, 2021)

It has been noticed that e-commerce started a long time ago. However, before it did not gain such momentum the way it has spread after Covid-19. In 1995 Paul Stanfield was the first person who purchased a product through an e-commerce service in the UK (Yoma.co.uk, 2021). As shown in the figure 1, online purchase increased in the year of 2008, which started reducing in the next few years in retail services. However, the e-commerce service has started rising again after the year 2020. In this constantly changing market, *last mile delivery* plays a crucial role for the e-commerce logistics providers as it makes the service more effective. They can provide more products to the customers within short times. However, *Last mile logistics have faced certain challenges that include speed, visibility, and efficiency*. Apart from these, it has also impacted the environment, as increasing transport usage is contributing to air pollution and greenhouse emission (Theengineer.co.uk, 2021).



3.1.1.2 Figure 2: Technological evaluation in industry

(Source: Ahmad *et al*, 2020)

After the pandemic situation broke down across the world, it has been noticed that if the customer behaviour is compared, customer expectations have been increased due to technological development. As shown in figure 2, each part of the industry is influenced by modern technology. Customers also rely on online recommendations of a product, review of someone who has already used the product or service, advertising quality, manufacturers or vendor's website, and so on. All these factors are influencing customers' purchase behaviour effectively that are regulated by using modern technology. However, after announcement of lockdown in the UK in 2020, the retail sales have significantly decreased by a quarter (Agag, 2016). The researchers have found that the adoption of digital technologies have significantly increased due to the covid-19. This change speeded up the technological advancements by several years. Due to advanced technology people can compare products online, view 3D effects that give a real-life measurement, track order in each stage of shipment (Ahmad *et al*, 2020). However, due to covid regional or international businesses have been affected in terms

of development growth. For example, before the pandemic most of the users used to prefer offline shopping as they can go to the stores. However, now people are being forced to stay at their houses to stop the outbreak of the virus. Panasenکو *et al.* (2021) have said that businesses in this case are required to adopt new strategies and practices. In the current crisis, “third-party online marketplaces” are seen to gain more profit than the e-commerce non-food companies. Now, “wholly-digital business models” are more resilient in this case.

Hao *et al.*, (2020) stated that the consumption habits have been changed and there is a relatively high growth in mobile money payments. Before the pandemic, most businesses used to adopt only traditional ways to make profits. However, those same businesses are now forced to adopt new and improved strategies to make sustainable profit in the current highly competitive market. Additionally, the government has been forcing many e-commerce businesses to enhance the e-trade readiness to benefit the e-commerce development. Public and private sectors have implemented a wide range of measures to reduce the impacts of the pandemic.

The impact of pandemic is easily analysed with the sales figure. The fall in the sales record of 2020 was considered as one of the largest fall records in the last ten years. In the beginning of the pandemic, “Facebook” and e-commerce websites had seen tremendous growth in the sales channels. Kumar *et al.*, (2021) have mentioned that different payment methods are used in this situation. Mobile payment methods are one of the highest used methods in this section. Consumers are moving towards digital payments to reduce the possible contagion. This study has recorded the significant changes in sales growth of the e-commerce business. In absolute terms, it can easily be said that prominent businesses who have improved their strategies according to the change in the market, have seen a potential growth during the covid-19 pandemic. However, those companies who have not incorporated any change are seen to have severe decline in their growth. The increase in the sales is seen in maximum e-commerce businesses those who have online business methods. During the pandemic, those companies have acquired their maximum benefits and retained a sustainable customer-base.

4 Overview

The pandemic has a profound and everlasting effect on several sectors within the market. Many stores within the market were forced to close due to the lockdown. **The study has analysed how consumer perceptions have changed due to this pandemic. In this case, the has only considered the last mile deliveries.** This study has highlighted the changes of people's lifestyle that is brought up by the covid-19 pandemic situation. Moreover, a key focus of this research is last mile that has been also considered to analyse the change. In the last ten years consumer shopping behaviour has been changing. Chang and Meyerhoefer (2021) have stated that this represents that the constant change within the market influences customers. However, due to the pandemic and strict restrictions on movement causes many markets to sell their products or services online.

5 Aims and Objectives

The aim of this topic is *“to determine the current situation of the companies with respect to their online sales and the fulfilment of last mile deliveries excluding those that are in the food retail”*.

The objectives of the topic are as follows;

- *“To review the recent literature on last mile delivery for non-food products (fashion retail, books, household appliances, etc.)”*

This objective has been analysed to shed light on the change of non-food deliveries with the help of previous literature. In this case, previous literature is important to identify the gaps in the current knowledge. This will help to identify how the trend or pattern has evolved throughout the decade. Charlebois, Juhasz and Music (2021) have opined that as before the pandemic, customers had different ideas and knowledge about their consumption. However, after the pandemic, most customers across the world have preferred essential goods over luxurious products. Here, necessities are highlighted as they represent a sustainable and healthy life. Additionally, this objective is saving extra time to research what has already been done by the researchers. Moreover, this is helping to demonstrate the knowledge depth of the area of impact for non-food products. The invaluable research papers will help to carry on and develop new ideas

for the respective research (Suchánek and Bucki, 2011). Here, in this case, the analysis on the impact of covid-19 will be supported.

- ***“To identify factors affecting the performance of last mile deliveries”***

This objective is aiming to identify all the factors that are important in affecting the performance level in this industry. For the last ten years, this industry has been rapidly increasing. Some patterns or trends have changed due to the change within the market. However, if it is observed closely, the market has become highly competitive in nature. Ekrenet *al.* (2021) have stated that over the years, the change within the market has caused consumers to change their way of consuming products. However, the trend was constantly changing due to certain factors. There are several factors involved within the market which influences the performance level of a factor. Identification of those factors is important for this study. Here, those factors will help the study to analyse the change. The recent change due to the pandemic has decreased the performance level of the market. This drastic change not only influenced businesses but also influenced many customers. Hayati *et al.* (2020) have opined that in order to analyse the impact of covid-19, first this study needs to identify the factors which are influencing most customers to change the pattern of e-commerce. In this case, each factor is interrelated with each other.

- ***“To develop a before / after comparison using the factors identified to show the changes and develop recommendations to companies operating in the non-food online retail sector on how they should manage their last mile distribution”***

This objective is another important objective of this entire study to show the change of covid-19 on e-commerce businesses. The comparison between the identified factors before and after the pandemic will sketch out an image which will eventually describe the situation of the companies. Those companies, who are operating online retail businesses, will be considered in this study. As suggested by Ekrenet *al.* (2021), the companies are observed to have declined in their sales, this comparison will try to help those companies to manage their last mile distribution. In this case, the comparison will develop new recommendations for improvements. The companies will then try to adopt

those recommendations to accentuate the most recent trend to remain within the business.

6 Research Scope

The research has discussed the changes in the last mile delivery in the e-commerce businesses. Here, an after and before analysis has been done comparing to covid-19 pandemic. This study has focused not only on the e-commerce business (retail) but also on the supply chain management during the time of covid-19. The study has aimed at identifying a proper link between the “supply chain performance” and “e-commerce retailing” in this industry. Moreover, the entire study has been focused only on the “UK store retailers”. The research study has highlighted the affected areas. Jílková and Králová (2021) have opined that this has included the cost structure and the size of the workforce. Since the outbreak of the virus, it has been quite difficult for the businesses to sustain an ongoing process within their system. Few factors influenced the entire market and changed the pattern in the consumer. Dionysiou, Fouskas and Karamitros (2021) have stated that e-commerce businesses especially non-food sectors face huge challenges to cope up with other business strategies. During the pandemic, the existing bottlenecks were deeply rooted in the business areas. The e-trade initiatives in the businesses have helped most e-commerce businesses to increase their growth. The entire research has analysed the effects, challenges, and developments for the non-food e-commerce businesses and all the businesses are part of the UK’s retail sector.

7 Summary

This sudden change in goods and services has changed some areas. Now, the policy measures should be introduced in a manner where the public health concern will be highlighted in the first place. This study will cover all these topics which are quite relevant to the impact of covid-19. Additionally, only the change in the UK's retail sector will be highlighted.

8 Chapter 2: Methodology

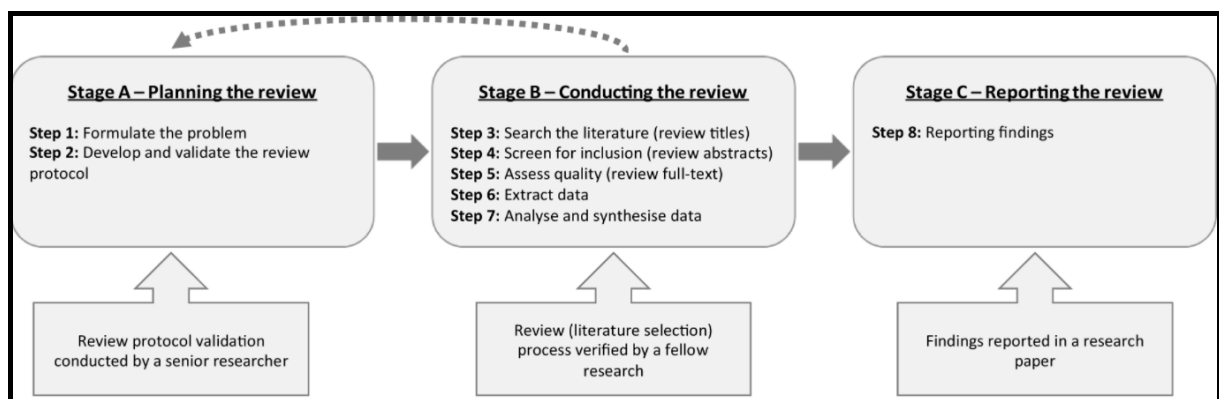
9 Introduction

This methodology section **illustrates** the research method that is, *Systematic Literature Review (SLR)* in depth. The definition, justification, characteristics, and the entire process has been depicted in this chapter.

10 Definition and Characteristics of Systematic literature review

11 Definition of SLR

The systematic literature review aims to review all the relevant existing literature to formulate clear questions about the chosen topic. For example, if any research topic is required to review past ten years' research work on that topic and also required to gather all findings to sum-up the end-point of the research (Smith, 2019). On the other hand, systematic literature review is the process in which, “evidence-based” information, “answers to research” questions by “locating”, “appraising”, and “synthesising the literature review”. In terms of that, Deb *et al* (2018), comparing narrative way of literature review and systematic literature review, SLR is more accurate and focused at the research questions respectively.



11.1.1.1 Figure 3: Steps of SLR

(Source: Mangaroo-Pillay and Coetzee, 2021)

In addition, this SLR method is more transparent as this helps to collect previous research works more sequentially. The above figure suggests all the important steps of SLR. Each stage of SLR requires reviewing of the literature in a proper way.

Based on SLR strategy, directing the manuscript, understanding the criteria of research study, scope, objective, significance of the research study should have to be understood first (Laurett, and Ferreira, 2018). Secondly, searching strategy should have to be established and which types of data should be collected (De Costa, Crowther, and Maloney, 2019). Inclusion-exclusion criteria, screening process, result synthesis method, all should have to be admired here to make a constructed research methodology chapter. From this point of view there is a slight difference from SLR to traditional LR method (Ortiz-Avram *et al.* 2018). SLR is the main methodology, based on which the whole discussion literature reviews discussion and result extraction done by the researcher. Whereas, the traditional LR method is just discussion of previous research work, based on which the research method can be done by the researcher as well.

12 Characteristics of SLR

The significant characteristic of SLR is it is more transparent from the traditional method. It is more scientific, replicable, and more focussed to the research result. At first, it is required to explicit the SLR method and should have to transform this SLR method to be more reproducible for examination purposes as well (Ali *et al.* 2018). It helps in the decision-making process for the researcher also. Generally, the thesis is required to adopt a scientific approach, for which SLR method is appropriate as well. Secondly, maintained, and strict conclusion criteria and quality criteria are required for reducing the bias at the result in the research study (Panasenko *et al.* 2021). Reliability, screening criteria, proper resources collections are essential criteria of this SLR method here.

Apart from that, there are several steps to conduct such a scientific approach for the research work respectively. In the first step, protocol establishing is necessary, in which, the process, strategy, intervention, data collection, techniques, comparison all types of ideologies are included (Nayak, and Singh, 2021). In step 2, there is searching strategy fixing, in which, searching keywords, and prediction of deliverable outcomes, numbers

of database, topic area fixations, investigation process all are included. In the third step, appraisal making, in which, screening of selected article, journals for the research study are essential. “**Grey literature**”, exclusion, inclusion criteria, presentation, abstract, systematic review of the previous research work all are included respectively (Novikov and Novikov, 2019).

In the fourth step, result synthesis, in which, classification of each data, categorise each data and information, review of those data, verify research objectives, setting parameters of selecting articles and journals all are included. The fifth step includes analysis of the result in which statistical, descriptive, or experimental or other types of result analysis are included sequentially (Ali, Wood-Harper, and Mohamad, 2018). In this point, it is essential to set the research design, strategy, and approach in the first step of this method that is in protocol (Maryati, 2020). The last step of the report, in which the ultimate presentation of all major findings sequentially makes the research complete at the end. It is essential to keep sustained every step of the scientific approach to extract the correct result.

13 Justification and Constraints of SLR

14 Justification

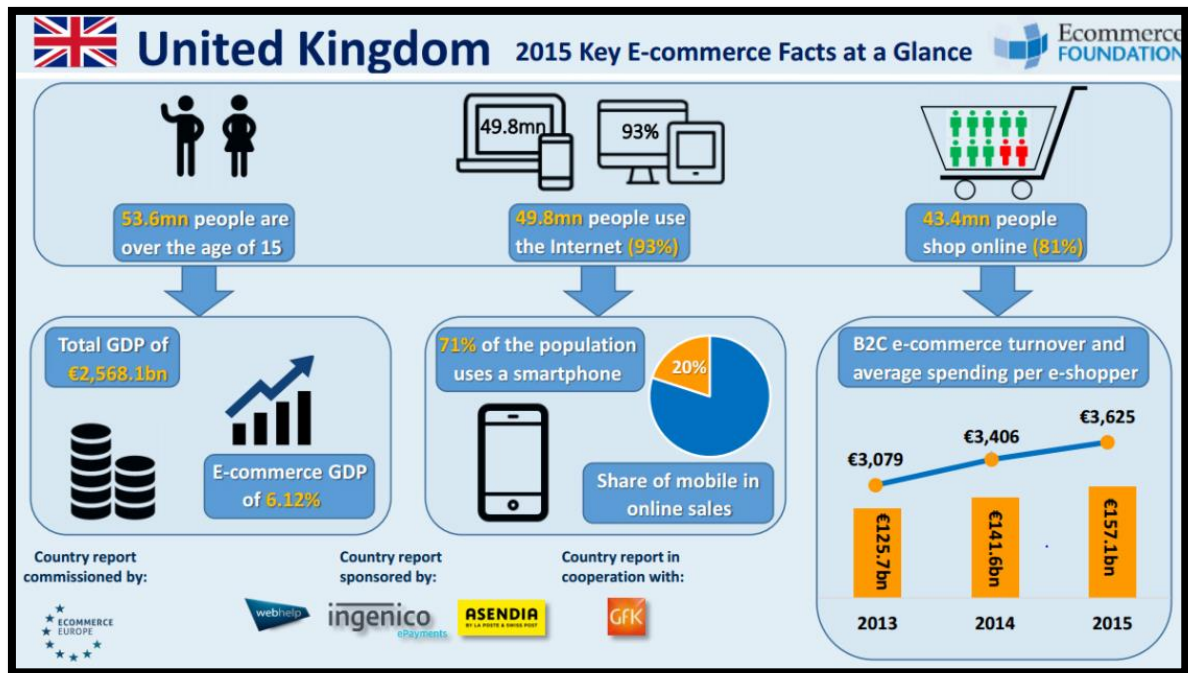
SLR is the selected method here for some significant reason here; this SLR method has strict principles and methods to maintain throughout the research study. As the research topic is the Covid impact on e-commerce non-food, for that reason, it is necessary to find the previous research work to review what has been done in past years (Maryati, 2020). Secondly, this SLR method has specific research questions to address. For which those research questions are required some omnichannel strategy to analyse the home delivery process, online stores, last miles and more at the peak time of pandemic (Laurett and Ferreira, 2018). In that case, such a scientific methodology approach helps to collect most relevant research papers, other scholarly articles, journals to see the previous research work progressions.

Thirdly, SLR has different points of view, reflections and discussions have various shades, which are somehow missing in traditional methods (Ortiz-Avram *et al.* 2018). For that reason, mainly researchers have a greater chance to analyse the research results

from the various points of view. According to this justification, here as per the research topic, it is essential to verify the increasing the penetration of home delivery, supply chain system and logistics system development at the pandemic from the various perspectives (Ali, Wood-Harper and Mohamad, 2018). Apart from that SLR is a very standard research method for any research study, through which research objectives and research questions are addressed very specifically and sequentially to extract the proper research result at the end.

15 Constraints

The identified constraints in this case are quality, quantity and screening process of the chosen research topic. In this case, the constraints can create different biases in the result. Due to the current situation, it is not possible to get first-hand information. Visiting places helps in gaining better knowledge and information about the retail stores. Due to the impact of Covid-19 collecting information can be difficult. Vlachopoulos and Makri (2017) have stated that these constraints in the respective systematic literature review can affect the reliability of the quality and quantity. De Costa *et al* (2019) have stated that another important and crucial constraint, limitations on the language can also affect the search results. The covid-19 pandemic is not an old topic. As a result, there are not many papers published on this topic. Therefore, the quality and quantity of the research topic is a vital constraint for the research work. It is necessary to consider the quality research papers for conducting any research work (Allen *et al.* 2018). Moreover, this constraint has created a bias that may have prevented the comprehensiveness of the study. Additionally, it has excluded the potentiality to add the unpublished resources which could complete the research work in a more appropriate manner.



15.1.1.1 Figure 4: E-commerce in the UK

There is another constraint within this study, which is the screening process of the chosen articles. In this case, the process of systematic literature review may detect some issues. Here, the screening process should be done with thorough reading through the abstracts and titles of the study. Machado and Davim (2020) have said that irrespective of the exclusion or inclusion criteria, there may be issues in filtering the journal-based abstracts. As a result, these all are the constraints of the systematic literature review.

16 Process of SLR

In this section, the process of the systematic literature review has followed the following steps of the figure 3.3.1. The first stage has included the steps, “formatting the research focus” and “establishing the searching strategy”. In this case, objectives and scope of the study has been decided as discussed in the chapter 1. Then, the entire process has gone through the first screening process by “determining the criteria” (Wang *et al.*, 2019). Then the results are synthesized and analysed.

Discussion of changes in Production Planning and control by using SLR approach

In light of the research content, regarding adhering to a critical analysis of the very impact of covid within e-commerce sectors especially in non-food sectors, many promising insights have been acquired. There is no doubt that the recent emergence of the covid-19 pandemic has severely affected many organizational and business sectors and e-commerce is one of those severely impacted sectors. Through acutely observing the current scenario in the e-commerce sectors after the uprising of the covid-19, it has been witnessed that, the sudden emergence of the pandemic has arisen the demand for many e-commerce products. However, many large-scale organizations, in order to respond to the enhanced social demand, e-commerce sectors have transformed their production system (Kumar *et al.* 2020). Therefore, it is easily comprehended that in order to avail a standardized production planning and control, an effective manufacturing system is required so that the increased demand can be fulfilled. In order to comply with the aforementioned strategy, it is required to manage the inventory stocks in a manner that they tend to address the general need of the society. Also, the sudden eminence of the pandemic has given way to manage the supply chain and production system in a more resilient manner, resulting in maintaining economic and social stability of the production system and control. Therefore, certain measurements are required to be adhered to in order to maintain effective production planning and control (Wang and Shi, 2017). Such as, several decision support systems are required to be discussed effectively to improve the reproduction planning and operating method. The very network of the supply chain must be managed in a manner that it remains ready to tackle such dire scenarios, such as this epidemic. Hence, according to first stage of SLR, establishment of proper research strategy should be considered for effective planning and control.

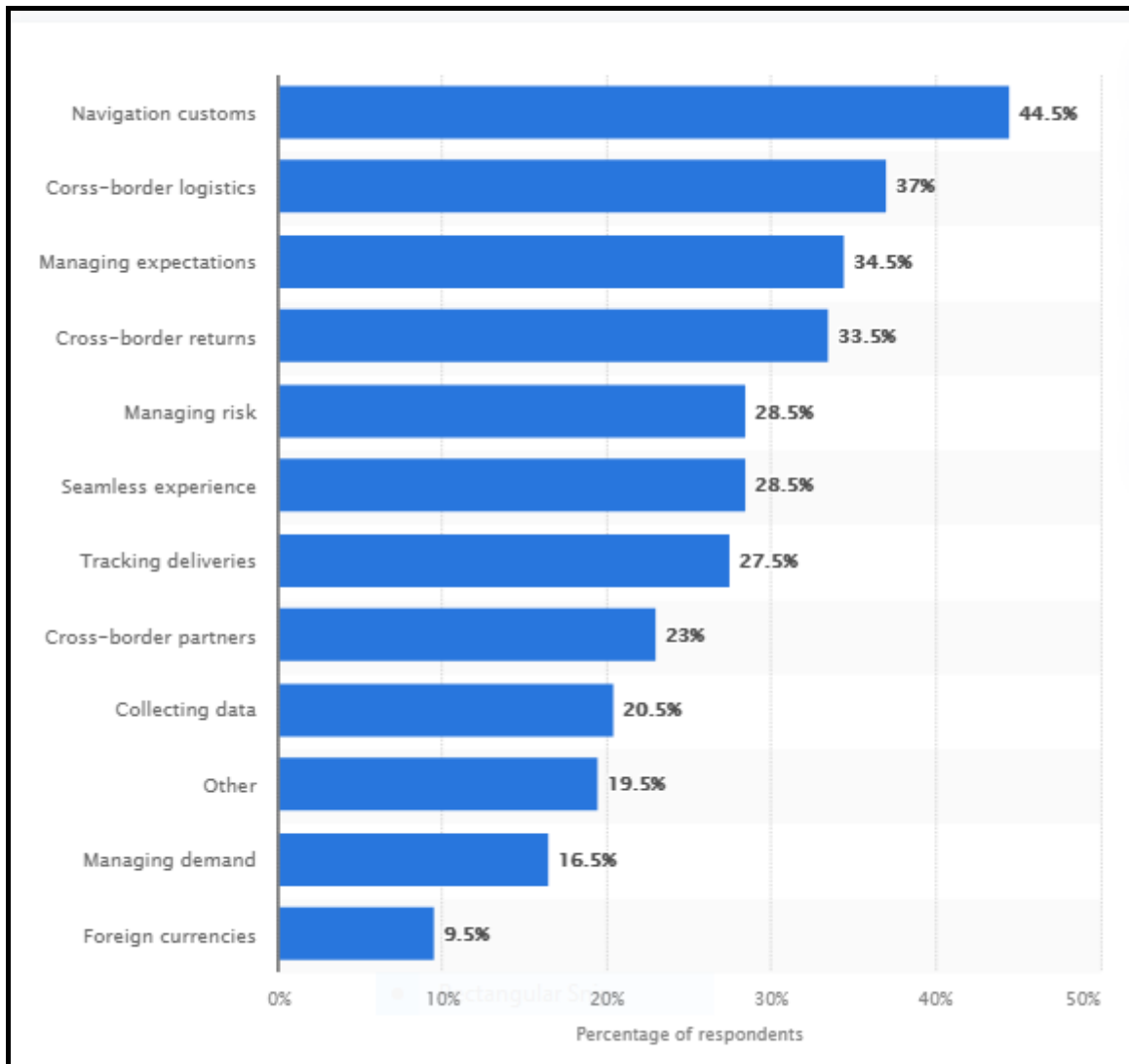
Changes in Operation Management

In consideration of the research context, that reflects the very impact of the covid-19 pandemic on the e-commerce sectors for non-food, it has been observed that the pandemic has been an obstructing aspect in the operation management system of many e-commerce firms. Therefore, possible changes have been adhered to comply with the ever-changing scenarios in the e-commerce market. Operations management is an integral part of e-commerce sectors as this system of operation management denotes the

flow of operations that are to be adhered to in the e-commerce sectors. In order to tackle the pandemic, certain changes in operation management have been observed (Pourhejazy, 2020). As discussed in the previous segment, the pandemic will provide both advantageous and disadvantageous aspects to the e-commerce sectors, hence it is essential to formulate effective operational and institutional policies. However, it has also been observed that this pandemic has impacted the manufacturing units, resulting in the shutdown of manufacturing units and a significant reduction in distribution, supply chain, and logistics operations (Kumar *et al.* 2020). Therefore, in order to tackle such scenarios, effective operational management transformation is required through composing appropriate operation management policies.

Barriers in Supply Chain Management

As the recent emergence of epidemics struck the whole world, the sectors of e-commerce were also immensely affected, especially the supply chain. The sudden arrival of the pandemic has created several barriers for the supply chain of the e-commerce sector. As the large production centers were sealed due to lockdown, it has disrupted the supply chain severely. Due to covid, nearly every manufacturing sector was closed, this was another vital barrier for the supply chain not being able to sustain in e-commerce sectors in a pandemic. Unpredicted and unplanned events like endemic and lockdown have disrupted the flow of service and goods within the supply chain management (Sarkis, 2020). Due to the production and transportation shutdown, the global price of intermediate supplies and raw materials has increased. Restrictions in the border due to the large worldwide lockdown have also been reflected as a barrier for supply chain management in the e-commerce sector. The disruption in transportation is the major barrier for the supply chain in e-commerce sectors, as it interrupts product mobility, goods flow and impacts the overall supply chain (Nesterenko *et al.* 2021). Therefore, through adhering to an effective analysis the very barriers of the supply chain management in e-commerce have been illustrated thoroughly.



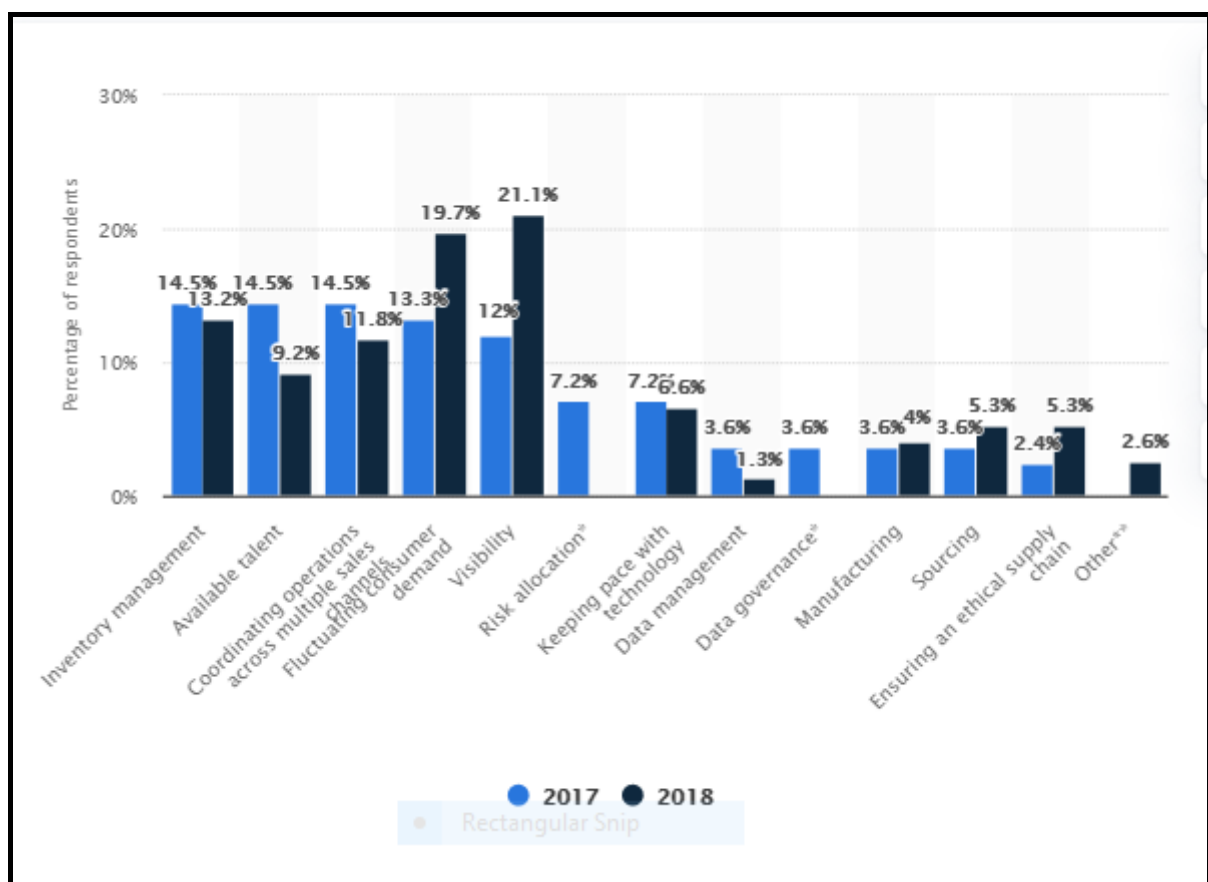
16.1.1.1 Figure 5: Cross-border challenges in e-commerce

(Source: Statista.com, 2021)

Need for Logistics Management and Physical Distribution

In light of the research context, it has been thoroughly observed that the recent pandemic has immensely impacted the different sectors of e-commerce. Therefore, it is necessary to act accordingly in order to mitigate the barriers confronted by e-commerce. Therefore, the effective management of logistics can be a beneficial trait for e-commerce sectors. As the pandemic has changed the management of logistics in e-commerce, it is essential to manage the logistics system accordingly, complying with

the current situation. Thus, it is essential for logistics firms to be -commerce friendly (Bylen, 2020). The importance of logistics in e-commerce is unprecedented, however, technological integration like going digital can enable logistics management to work fluently even in this pandemic state. In this context, a theory of technology acceptance model can be observed, as it influences the utilization of technology for acquiring effective benefits. Also, the aspects of physical distribution have been adapted by some large-scale organizations, to provide distribution-related services uninterruptedly. Hence, it is evident that logistics management and physical distribution is an effective method to rejuvenate the e-commerce sector.



16.1.1.2 Figure 6: Challenges confronted by Supply chain

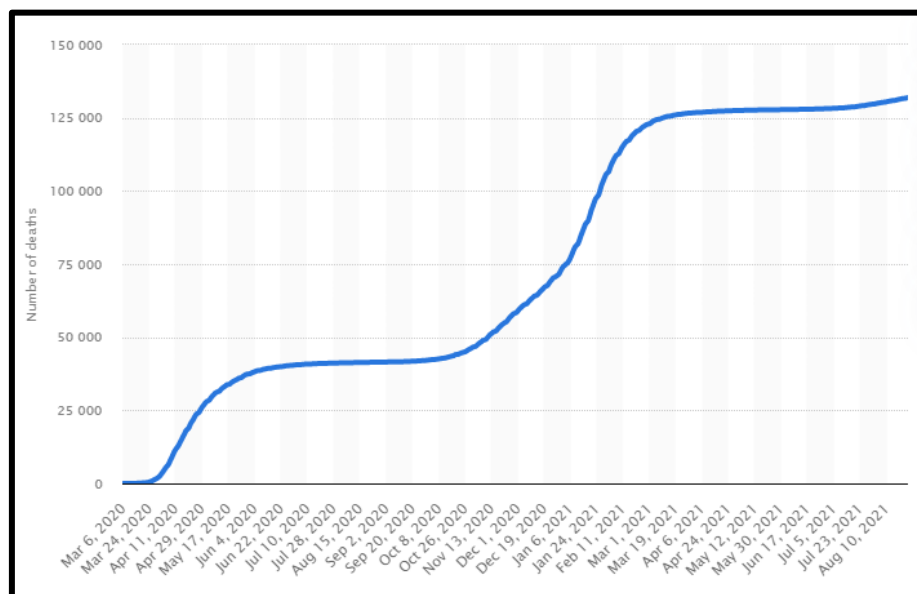
(Source: Statista.com, 2021)

Recommendations for improving Supply Chain Management in Post-Pandemic

In light of the research context, it has been thoroughly observed that the recent pandemic has severely impacted the supply chain management of e-commerce sectors. Hence, in order to mitigate such scenarios, certain recommendations can be adhered to. Such as, collective actions based on data-driven awareness, which will enable us to address critical situations like pandemics collaboratively. Another recommendation would be acquiring timely data that assist in developing new initiatives and decision-making (Sarkis, 2020). The very application of collaborative technologies like blockchain technologies can be adhered to in acquiring sustainable development of the supply chain, as this technology will assist in sharing information reasonably, transparently, and quickly. Also maintaining remote work, social distancing and reduced travel for business in this pandemic will enable sustainable lessons for the supply chain management.

Analysing Impact of Covid-19 on the UK population by using SLR approach

In the 2020, entire world has suffered from the impact of Covid-19 that has changed people's lifestyle significantly. Therefore, the business growth of retail shores has been impacted in the beginning.



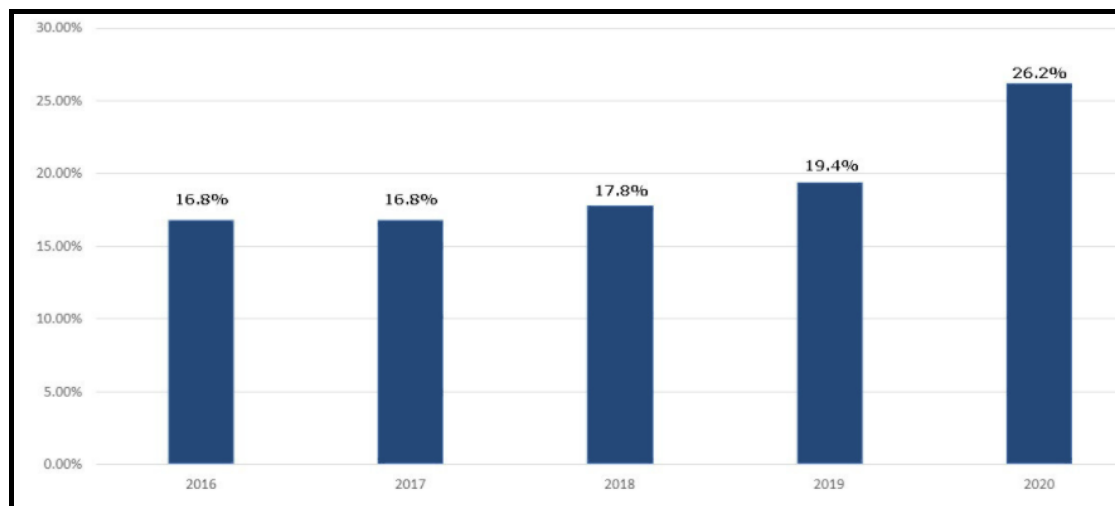
16.1.1.3 Figure 7: Death due to Covid-19 in the UK

(Source: Statista.com, 2021)

As shown in figure 5, death of people was constant from the beginning of the year 2020. Therefore, it has influenced customers' purchase behaviour. In this situation, people have focused on their daily necessity that they need to survive life. It includes food and water. Therefore, businesses of non-food products have faced immense loss. As a result, countries have faced economical break down. Due to lockdown and restrictions on the transportation, products and services delivery was delayed that impacts customer experiences. During the lockdown period people's mental health was impacted badly due to several complications like unemployment, job dissatisfaction, and so on.

Rise of E-commerce service during pandemic situation

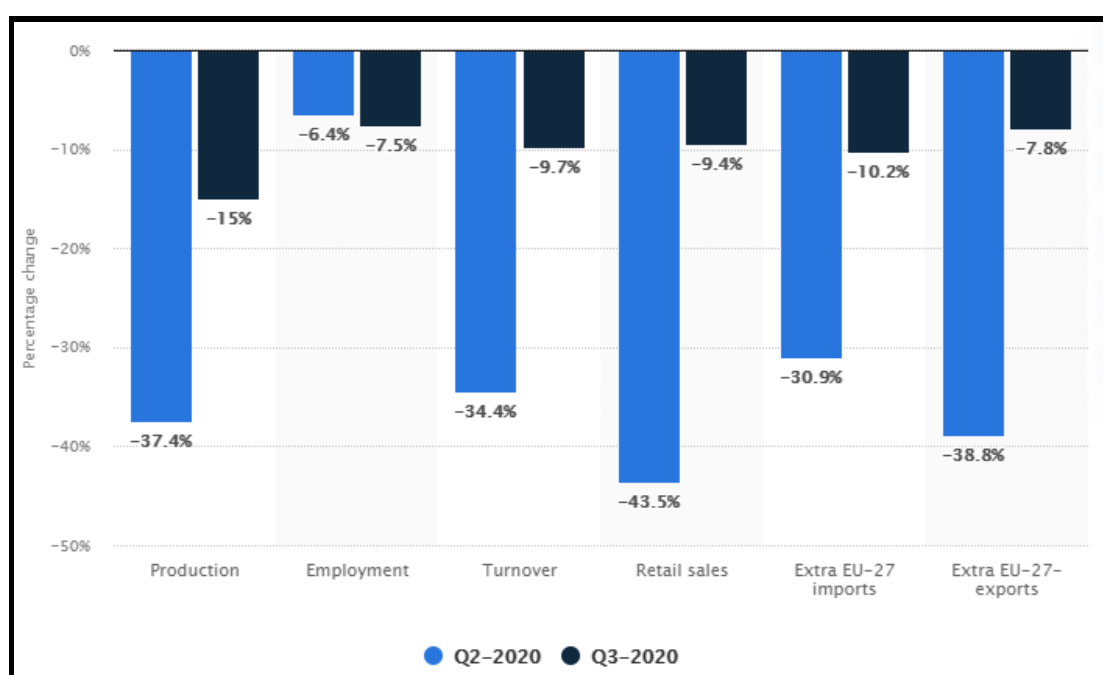
As mentioned earlier, during the pandemic situation businesses were highly impacted, they have evaluated a way to save the losses which is e-commerce service. By applying E-commerce service several organisations have overcome their business procedure. Implementing modern technology, these businesses have developed e-commerce services. As digital media becomes the most popular way of marketing. It has given an advantage to e-commerce service.



16.1.1.4 Figure 8: Retail e-commerce service growth in during Covid-19 in UK

(Source: Hostingdata.co.uk, 2021)

Though in the beginning of lockdown, sales of non-food products reduced, it has regained the market due to e-commerce services. As shown in figure 6, retail e-commerce service gained momentum in 2020. Therefore, it can be said that based on this service companies have started developing their business. It has been noticed that during the middle time of the year, online shopping started increasing significantly. Due to the restriction of store opening and social gathering, people started purchasing any product through online services. Hence, most of the stores have shifted their business online. With the help of UK government transportation for last mile delivery started their business. As the increasing demand of products, last mile delivery has developed during covid-19. Retail stores that sell non-food items, also focused on adopting these services to provide their products to the customers. During the pandemic situation, it becomes the only option for most of the stores to safeguard their business in the crisis. As ecommerce service started a long time ago, a few companies have already owned this service. They got a competitive advantage and profitability. Initially food consuming companies used this method and continued their business (Deloitte.com, 2021). However, non-food companies like retail industry have adopted this business strategy rapidly. With the help of last mile delivery services, these companies have maintained their annual revenue.



16.1.1.5 Figure 9: Retail business during Covid-19 in Europe

(Source: Statista.com, 2021)

As shown in figure 7, the retail industry was highly impacted in the beginning. However, after adopting e-commerce service, last mile delivery becomes effective. As a result, they are able to maintain their position in the UK market. In this context, people have shown a positive view towards online shopping. Hence, these companies have provided their products proficiently. Due to technological advancement, people can order products after comparing with various other products, reviews of other customers have increased visibility and people can rely on the products. In this context, they can also track the shipment procedure. Hence, company reliability has increased noticeably.

Advantages of E-commerce services

There are several reasons for adopting e-commerce services by non-food companies. It can target a larger customer-base with the help of digital marketing. Hence, companies can focus on globalisation that will make the organisation sustainable. At the same time, it will provide long-term vision to the organisations. After the pandemic situation resolves, companies can still maintain their e-commerce business as well as retail stores. It gives a faster buying procedure. Well-organised website is helpful for customers to find a product and purchase it while staying at their homes. Companies also can afford the marketing cost as it is cost effective and expands business in a broader area. It also helps an organisation in a competitive market through increasing sales.

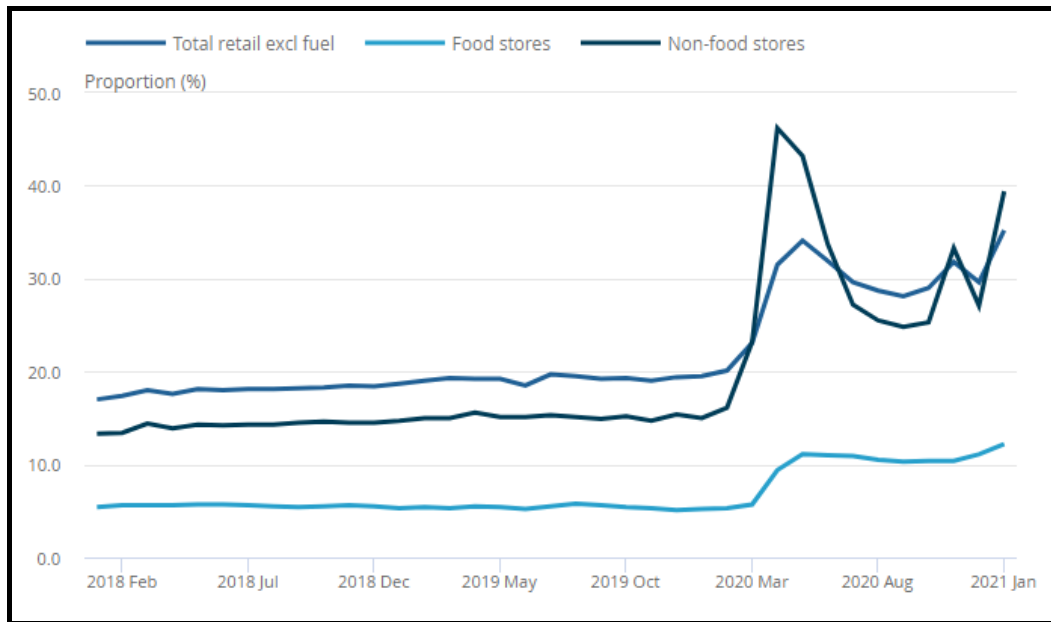


Figure 10: Non-food store sales

(Source: Ons.gov.uk, 2021)

As shown in figure 8, non-food stores have gained remarkable growth after the pandemic situation. One of the major reasons behind this growth is e-commerce services and effective last mile delivery. It has also impacted customer purchase behaviour effectively. Due to fast delivery, and huge collection under one website, it has attracted customers. At the same time, digital media has helped organisations to advertise these products in front of a larger population. Hence, companies get a chance to attract more customers and increase sales. Through various social media, companies have provided their products at the doorstep. While maintaining ethics in business they have gained customers' trust. Therefore, they could overcome the impact of Covid-19 and develop business during the crisis in the market.

Factors affecting E-commerce service

While companies were trying to overcome the impact of covid-19, fraudulent activities started increasing significantly, which has created a great barrier in e-commerce service. Due to these fraud activities companies were struggling to maintain their reputations in the market. Maintaining customer trust was challenging in this context. Fraudulent activities can impact company reputation that can lead to immense loss in the market. A brand can lose its customer-base. Cyber-crime has also increased rapidly. As e-

commerce services rely on the internet. It is a huge obstacle in expanding business effectively. Due to these factors' companies' development can be impacted and lose market position rapidly.

17 Formatting research focus

2.4.1.1 Objectives

The objectives are as follows;

“Objective 1: To review the recent literature on last mile delivery for non-food products (fashion retail, books, household appliances, etc.)”

“Objective 2: To identify factors affecting the performance of last mile deliveries”

“Objective 3: To develop a before / after comparison using the factors identified to show the changes and develop recommendations to companies operating in the non-food online retail sector on how they should manage their last mile distribution”

2.4.1.2 Scoping study

This section helps the study to identify the review questions and define the concepts of the study. The objective of the study is aiming to represent the current situation in the e-commerce non-food industry. In this case, the previous ten years of the e-commerce business has been taken into consideration. As this pandemic has been in the world for two years, only the health science articles have been taken for the research work. Moreover, any exclusion in the study may have created confusion in the general retail industry in terms of useful resources. Nayak and Singh (2021) have said that the synthesized results from the systematic literature review will be applied to the e-commerce non-food industry when appropriate and the focus of the study will be on the current performances and improvements of the e-commerce businesses. **“Grey Literature”** plays an important role in supporting the research work. In order to develop a more compact and complete view of the research work, grey literature is used here. **“Commercial publishing”** publishes this type of literature. In this study, the grey literature has been used to produce a systematic review of the entire study. For example, in this study, a collection of **“consultancy reports”**, **“industry insights”** and **“UN**

reports” has been selected. Additionally, few conference papers have also been selected to show the “**last mile delivery**” of the e-commerce businesses in the UK. Coronavirus (COVID-19) is not that old topic. As a result, there are not enough research papers on this topic to support the current study. This the underlying reason of using this grey literature in this study. In addition to this, the grey literature has helped the study to develop a systematic review so that other supporting approaches can help the research work. Moreover, the “**grey literature**” is considered as one of the most appropriate sources of data to identify different source research results. In this case, as this topic is a very recent topic, this type of data is **quite relevant for the research synthesis**. In this case, *grey literature* has only been taken for the research work. This “grey literature” has helped the study to show some more detail-oriented research that has helped the researcher. This type of data has reduced the issues of “publication lag” and “positive result bias”. In this case, “conference proceedings” and “peer reviewed publications” have been followed throughout the study.

18 Search Strategy

2.4.2.1 Database Selection

With the help of a review panel, the database has been selected to meet with the objectives of the study. As recommended by the supervisor, the academic journals and *grey literature* were selected as the secondary information source for the research work. Moreover, the database selection was undertaken only based on high-quality databases (Novikov and Novikov, 2019). The database selection is shown in the table below. Additionally, the database description has been categorized in terms of their quality, relevancy and coverage.

Database	Coverage	Quality	Relevancy
Emerald insight	Covers over 400 full text access and “peer reviewed journals”	“Full-text” and “peer reviewed” journals	“Business related disciplines”

ABI ProQuest	International coverage of thousands of industry reports and journals	“Full-text” and “peer reviewed” academic journals	“Business related disciplines”
Google Scholar	International coverage of thousands of journals, online articles, books and industry reports	“Full-text academic journals”	“Business related disciplines”
Factiva by Dow Jones	International coverage of more than 33,000 licensed publications and websites	Premium Full text and peer reviewed academic and business journals	“Business related disciplines”

18.1.1.1.1 Table 1: Database Selection

The above-mentioned information on the selection of the database has been represented to show the process. Here, the information has been extracted from the listed references. Ortiz-Avram *et al.* (2018) have stated that the data collection on the impact of covid-19 on the e-commerce non-food businesses has been collected from the articles and journals of supply chain management in the UK. Additionally, some of the information has also been extracted from the production and operation management in the UK. One important factor in this case was the information selected on the topic was a comparative study of the after and before of the covid-19 pandemic. Ali, Wood-Harper and Mohamad (2018) have opined that in this case, it was seen that journal of business logistics were taken into consideration to represent the after and before effect on the e-commerce non-food businesses in the UK. However, in the case of the before pandemic

situation, only the last mile deliveries have been taken into consideration to show the change.

2.4.2.2 Keywords and search strings

In any research work, it is quite important to create “search strings” in a proper way so that it can enhance the efficiency and save enough time for the researchers (Panasenko *et al.*, 2021). However, in order to create “search strings”, it is important to identify the keywords of the research work. The keywords of the research work have been created on the basis of the three selected objectives of the study. An initial list of the keywords has been created to produce the research directions.

Keywords	Elements
Supply chain management	Distribution / Logistics / IT / Returns
“Last mile delivery”	“Logistics”, “Challenges in Last mile delivery”, “Customer expectations”
Physical Distribution and Logistics Management	Delivery in specific time and cost
Business logistics	Shippers / Suppliers / Transport Carriers
Impact of covid-19 (Non-food sectors)	“Consumer behaviour during covid-19”, “Challenges during covid-19 in retails”, “Opportunities in e-commerce services” and “Distribution”
Production and operation management	Additional resources/ Responsibilities / Ideal skills

Customer purchasing behaviour	Complex/ Habitual / Variety Seeking
Customer experience	Satisfaction / Service Quality / Loyalty of customers
Current Status of the market	Success/ Best practices/ Failure
Performances of the e-commerce businesses	“Non-financial” / “Financial performance” determinants
Opportunities	Collaboration/ “Future development of e-commerce”/ “Investment in e-commerce”
Challenges	Potential “Obstacles” / “Barriers” / “Risks”

18.1.1.1.2 Table 2: Initial list of keywords

From the above list of keywords, search strings have been created. It was observed that any “and” between the keywords might not represent the desired result. In various cases, the searched keyword may end up giving different unnecessary results (Chang and Meyerhoefer, 2021). As a result, it was checked that these issues should be avoided to prevent the exclusion of any useful articles due to a wrong keyword in the search engine. In order to avoid any issue, four important keywords were selected for the research work. The focus of this section was to create a reasonable focused selection of sources. The research was strictly limited within the field of business logistics and supply chain management. The remaining keywords in the list were held to use for the “screening process”. In this case, four search strings are developed from the selected four keywords. They are as follows:

Keywords	Search strings
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Supply chain management	String 1: “supply chain” or “supply network” or “logistics”
“Last Mile delivery”	String 2: “Logistics”, “Speed of the delivery” or “challenges”
Production and operation management	String 3: “production” or “operation management in UK”
Physical Distribution and Logistics Management	String 4: “retail” or “shop” or “outlet”
Customer experience	String 5: “customer buying pattern” or “customer trend” or “change in consumption of non-food products”
Impact of covid-19 (Non-food sectors)	String 6: “Consumer behaviour” or “Trend in sales” or “Opportunities” and “Challenges”

18.1.1.1.3 Table 3: Combination of search strings

2.4.2.3 Exclusion and Inclusion

In this case, the first step was to enter the search strings into each database search engine. This was due to the proposed plan. Aziz *et al.* (2021) have said that the initial screening of the selected academic papers was conducted with the help of filtering. The papers were filtered based on the “exclusion” and “inclusion” criteria. These criteria are important for the research work to create a suitable decision-making process. It not only helps to clear the process of decision-making but also helps to evaluate in an explicit way. Merli, Preziosi and Acampora (2018) have opined that the criteria are ensuring

transparency within the systematic literature review process. In this case, “trade” journals were excluded from the search and only “scholarly articles” were selected. This was done to enable a “high level of academic sources”.

Criteria	Exclusion	Inclusion	Rationale
Full text	Only availability of abstracts and titles	Availability of full text	In order to obtain the details of the selected articles, it is important to read the full text.
Language	Non-English	English	As “English” is the “world-wide” official language. Moreover, this language is used in many countries across the nations to write “academic papers”.
“Peer review”	“Non-peer reviewed”	“Peer-reviewed”	The “peer-reviewed” journals and articles are valid in terms of research findings
“Type of publication”	“Magazines”, “conference	“Academic journal papers” and “online	As required for the research work

	proceedings” and news	articles”	
“Year of publication”	Before 2010	2010 to present	This topic was developed in 2020. Moreover, the aim of the study is to compare the previous e-commerce businesses to the current situation. Therefore, articles and journals were selected after 2010
Sector and focus	Articles focus on food e-commerce business	Articles focus on non-food e-commerce business	The study focuses on non-food e-commerce businesses rather than food e-commerce businesses
	Articles focus on industries other than e-commerce business	Articles focus on e-commerce industry and retail	The study focuses on specific e-commerce industry rather than other industries
	Articles which did not focus on the production and operation	Articles focus on production, operation management and	The study focuses on production, operation management in the retail sector within

	management or customer experience	customer experiences	the context of “supply chain management”.
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18.1.1.1.4 Table 4: Exclusion and Inclusion Criteria

19 Evaluation

In this section, a second screening has been conducted with the help of remaining articles. In this case, quality criteria have been taken into consideration (Xiao and Watson, 2019). In this case, “quality criteria” is separated into two different categories. The first part of the “quality standards”;

- Covers the basic concepts of supply chain management
- Covers “theories and practices of the performance” and “integration in e-commerce business in retail industry”
- Cover the discussion of the future of e-commerce business in non-food sections

The second part of the quality criteria followed according to the details provided in the coursework.

Criteria	Level
Contribution	This not only adds current knowledge about the e-commerce business but also fills important gap of theories
Theory	“Excellent literature review”, “a strong theoretical foundation” and “practical implications”
Methodology	Theoretical arguments in research designs

Data analysis	Sufficient data sample, there is statistical results in the journals to support the theoretical arguments, the limitation analysis with the help of well-explained statistical results
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19.1.1.1.1 Table 5: Quality Evaluation Criteria

The above table describes all the evaluation of the quality criteria. In this case, two parts of the quality criteria have been taken into consideration. However, the “remaining articles” are retained as the “data source” for “synthesis and analysis”.

20 Data extraction

After completing the screening process, the integrated data from the chosen articles has been extracted and classified in categorical order. Here, data extraction forms are made. *[Refer to appendix 1]* different journals have been selected in this case to show the data extraction method.

21 Analysis and Synthesis

The selected journals have been selected to show the difference in the sales trend of the e-commerce business of the “last mile deliveries”. For this study, 51 journals have been selected to show the “last mile delivery” of the e-commerce business in the UK. In this case, collected information has shown some insights into the trends of consumer purchasing behavior. Kolajo, Daramola and Adebisi (2019) have stated that the before pandemic analysis has represented that the sales of the ecommerce non-food businesses were high, but those trends became highest after the pandemic.

The main purpose of the synthesis is to combine only the useful parts of the individually identified articles and categories them in a proper order (Kraus, Breier and Dasí-Rodríguez, 2020). The results of the synthesis should maintain a certain strict order. The important and necessary elements of the synthesis are as follows.

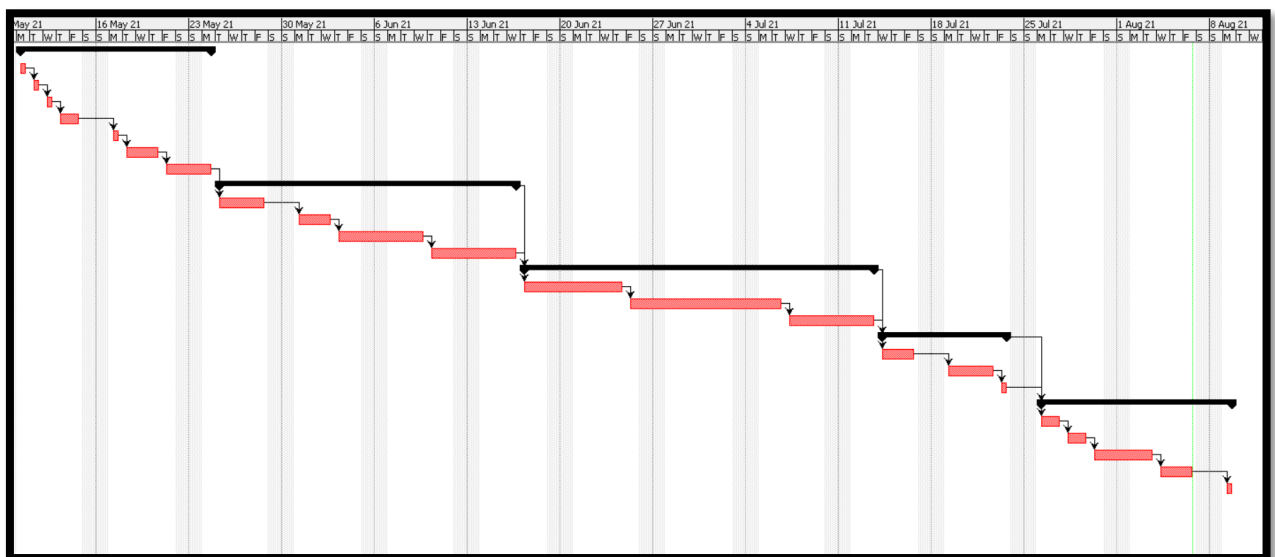
- “General identified details of the study”; “Author name”, “Title”, “Journal” and “date”

- “Type of the study”; “Literature Review”, “Data extraction”, “Experiments” and “Data validation”
- “Context of the article”; “Country”, “Industry” and “sector”
- “Key findings”

The entire study should be categorized in a suitable order with the help of all available information of the respective study (Naylor *et al.*, 2018). Additionally, in this case, all the objectives should be in accordance with the research objectives. As a result, all the given information and extracted data has been categorized to the research objectives. Moreover, the result of the entire study has been summarized in a descriptive order. Additionally, thematic findings have been done with respect to the collected data.

In the entire process, the last two phases of the systematic literature review are mainly based on the results extracted from the collected information (Taylor *et al.*, 2020). In this case, two types of data analysis will be done. They are: “***Descriptive analysis***” and “***Thematic analysis***”. In the descriptive analysis, all the statistical information of the collected journals, articles will be summarized. In this case, “the number of articles reviewed”, “journal discipline” and “geographical characteristics” will be taken into consideration. In case of the thematic analysis, the answers will be formulated based on respective research objectives.

		Name	Duration	Start	Finish	Predecessors
1		Introduction	11 days	10/5/21 8:00 AM	24/5/21 5:00 PM	
2		Selecting topic	1 day	10/5/21 8:00 AM	10/5/21 5:00 PM	
3		Aims Identification	1 day	11/5/21 8:00 AM	11/5/21 5:00 PM	2
4		Objectives Identification	1 day	12/5/21 8:00 AM	12/5/21 5:00 PM	3
5		Research Question Development	2 days	13/5/21 8:00 AM	14/5/21 5:00 PM	4
6		Significance understanding	1 day	17/5/21 8:00 AM	17/5/21 5:00 PM	5
7		Problem Understanding	3 days	18/5/21 8:00 AM	20/5/21 5:00 PM	6
8		Research Rationale	2 days	21/5/21 8:00 AM	24/5/21 5:00 PM	7
9		Methodology	17 days	25/5/21 8:00 AM	16/6/21 5:00 PM	
10		Defining the SLR	4 days	25/5/21 8:00 AM	28/5/21 5:00 PM	8
11		Justifying the SLR	3 days	31/5/21 8:00 AM	2/6/21 5:00 PM	10
12		Search strategy and Evaluation	5 days	3/6/21 8:00 AM	9/6/21 5:00 PM	11
13		Data Extraction	5 days	10/6/21 8:00 AM	16/6/21 5:00 PM	12
14		Results	19 days	17/6/21 8:00 AM	13/7/21 5:00 PM	9
15		Data Extraction	6 days	17/6/21 8:00 AM	24/6/21 5:00 PM	13
16		Thene Development	8 days	25/6/21 8:00 AM	6/7/21 5:00 PM	15
17		Linking with Qualative and quantitative Datadata	5 days	7/7/21 8:00 AM	13/7/21 5:00 PM	16
18		Discussion of the results	8 days	14/7/21 8:00 AM	23/7/21 5:00 PM	14
19		Analysis of the findings	3 days	14/7/21 8:00 AM	16/7/21 5:00 PM	17
20		Thematic analysis	4 days	19/7/21 8:00 AM	22/7/21 5:00 PM	19
21		Discussing the results	1 day	23/7/21 8:00 AM	23/7/21 5:00 PM	20
22		Conclusion	11 days	26/7/21 8:00 AM	9/8/21 5:00 PM	18
23		Summarizing obsevation	2 days	26/7/21 8:00 AM	27/7/21 5:00 PM	21
24		Linking with objectives	2 days	28/7/21 8:00 AM	29/7/21 5:00 PM	23
25		limitations	3 days	30/7/21 8:00 AM	3/8/21 5:00 PM	24
26		Recommendations	3 days	4/8/21 8:00 AM	6/8/21 5:00 PM	25
27		Final Submission	1 day	9/8/21 8:00 AM	9/8/21 5:00 PM	26



21.1.1.1 Figure 11: Time plan

22 Conclusion

In this chapter, a detailed explanation of the systematic literature review has been done. The detailed explanation will be used as a methodology for this respective research

work. At first, the main characteristics of the systematic literature review have been done with a brief definition of the SLR. Then a detailed description of the justification and constraints has been given in the study. Additionally, the entire process of the systematic literature review has also been done in this chapter.

23 Chapter 3: Findings

24 Descriptive Findings

25 Introduction

Descriptive findings are such a method that helps to find out systematic results inclusion at the end of the research. In this research report, based on the systematic literature review methods, ultimately 150 journals, articles have been selected here for selecting final resources. From that part, chronological analysis, geographical analysis, and time span analysis all have included. Proper graphs, charts and tables have been used here to verify the inclusion and exclusion criteria properly.

26 Overview of the SLR execution results

Total of 150 journals and articles have been taken here from different sectors, which were passively connected to the research topic. Those resources were from several e-commerce sectors. After first screening from 150 resources, 110 were selected for further screening here. The rejected number of resources (40) was not relevant to the research topic. However, it belonged to similar industry and has done research on similar topics. Nevertheless, they were in different directions. For that reason, those resources were not relevant to this research area, that is **“impact of Covid-19 on e-commerce non-food”**. After second screening, additional 30 resources were rejected as per the research needs. According to the industry, research topic, research contribution, authors, time span and years of the publications ultimately 51 journals have been finalised here.

The selection procedure has been shown here:

Primary selection	Final review of sources
	Total 150 journals have been selected

First screening method	40 resources are excluded and remain 110 have included
Second screening method	59 have excluded and 51 have remained
Final selection	Ultimate the last 51 journals have selected for this research

26.1.1.1.1 Table 6: Screening method

27 General Descriptive Findings

From 150 journals, here for this research, 51 final journals have been selected. Types of those journals have been summarised in the methodology section, according to the language, types, year of publications, peer review section and according to more. Now, in this section, those types are to be analysed according to their characteristics and features.

Journals contributing to the study

Numbers	Journal's publications	Articles	Disciplines
1.	E-commerce	Total 20	E-commerce in non-food sectors, innovations, regional e-commerce, pandemic time, responses of those e-commerce sectors, to reduce the negative impact of Covid-19 has been indulged here.

2.	Supply chain system and ecommerce	Total 10	Supply chain and ecommerce relations, and pandemic impact on supply chain and responses to the critical situation by using e-commerce
3.	Consumer behaviours and e-commerce	Total 5	Consumer behaviour changing and e-commerce impact on that
4.	Non-food sectors and e-commerce	Total 5	Online food shopping, e-commerce innovations
5.	Innovation and e-commerce in the peak time of pandemic	Total 11	Innovations, techniques, e-commerce revolutions have depicted

27.1.1.1.1 Table 7: Contribution of references

According to this table here, all those selected journals have categorised here, as per the:

- Supply chain system of non-food sectors
- Ecommerce and customer behaviours
- Innovation and e-commerce
- Pandemic impact on e-commerce non-food sectors

Chronological and Geographical Analysis

Now in this section, time span analysis is very much important to know from which period to which here those resources have been selected. As per the requirements, here only 2020 and 2021, these two time periods have chosen to select those resources. These two years have been selected to choose proper journals and articles within current time and to match the criteria of the research topic here.

According to the year of publications, the following table has been developed:

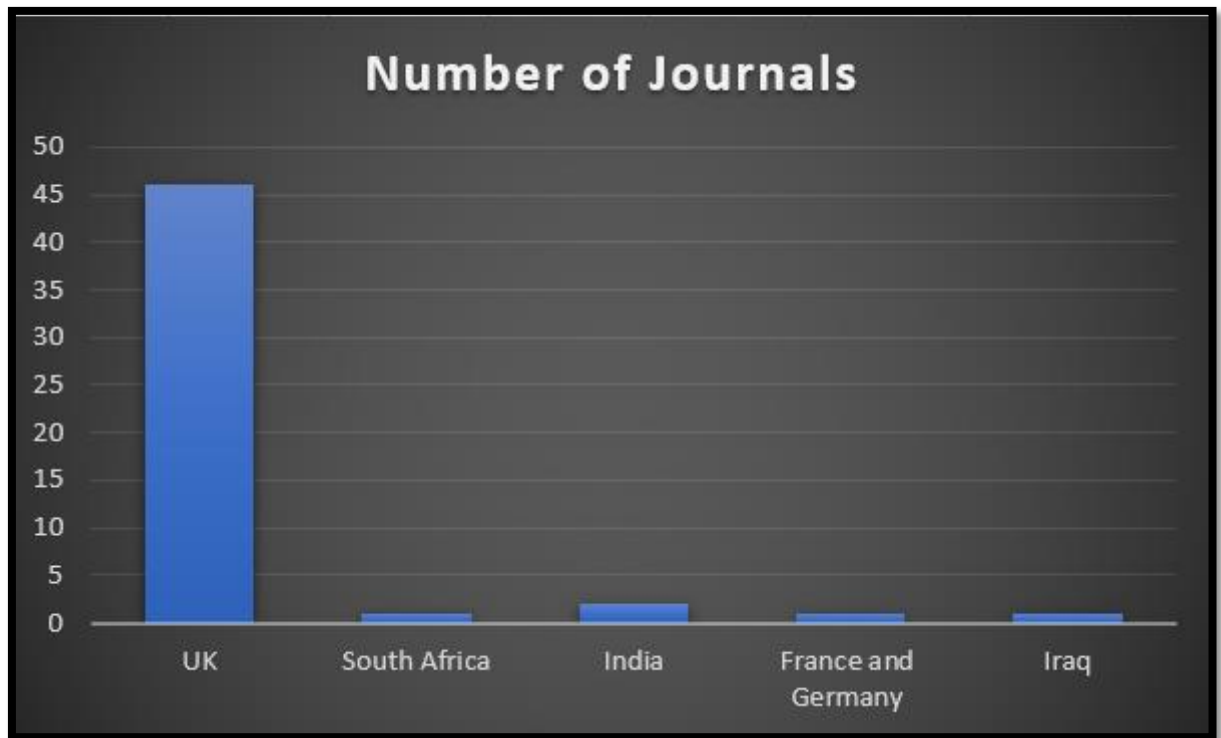
Yearly Journal Publication									
2011	2012	2013	2014	2015	2016	2018	2019	2020	2021
3	3	4	5	3	3	3	7	9	11

27.1.1.1.2 Table 7: years of publications

According to the geographical location of publications, following table is presented:

Locations	Number of journals
UK	17
South Africa	12
India	5
France and Germany	8
Iraq	9

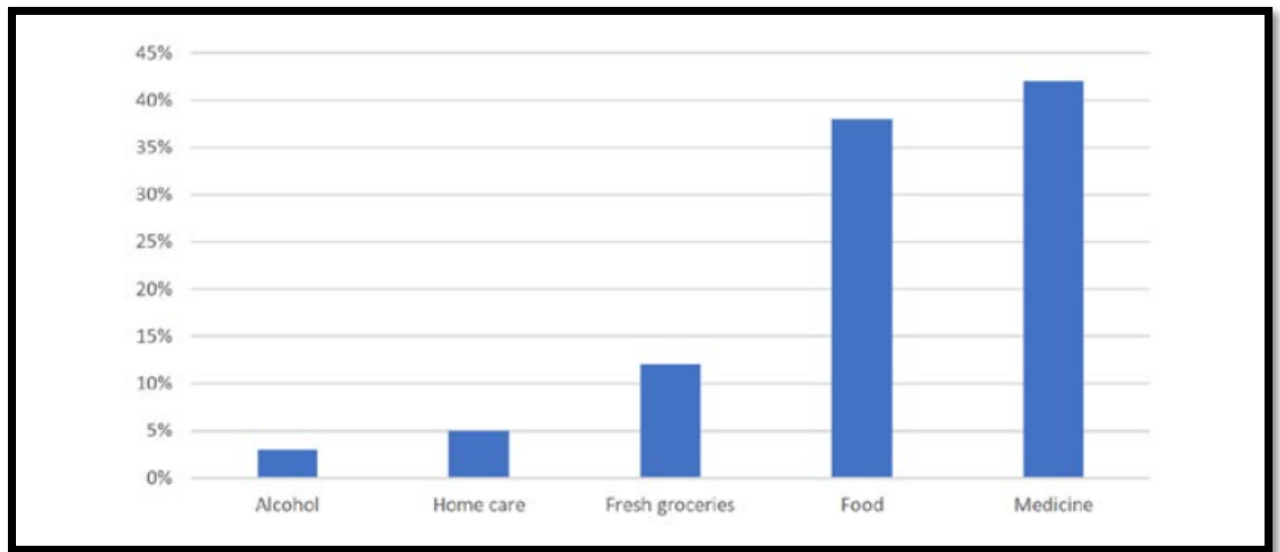
27.1.1.1.3 Table 8: Locations of publications of journals



27.1.1.2 Figure 12: Locations of publications of journals

Industries and sectors of the research

As per the previous research here, only retail industries have been included. According to those selected research journals, articles, it has been seen that most of journals have researched on sustainable e-commerce in UK, Africa and India here (Abdelrhim and Elsayed, 2020). Impact of Covid-19 on e-commerce non-food sectors, food delivery services have dispatched through the following research work [according to figure 8](#).



27.1.1.3 Figure 13: Statistics value of most purchased products (online) during Covid-19

In addition, **the analysis has** highlighted the issues in non-food sectors in the peak time of pandemic and the positive impact on e-commerce, that has been supported by the discussion of Alkhalidi (2020).

The above figure shows that how pandemic has changed the rate of purchased products as people are now preferring buying online over offline.

Research nature and purpose

As here, no empirical research paper has been included, only theoretical papers have been selected. For that reason, this research study is theoretical in nature. Data including verbal and numerical, graphs, charts, statistical methods, all have included in this research findings according to those theoretical research papers respectively.

Effect of the pandemic on “supply chain management”

Multiple restrictions, lockdown situations have changed the structure of the supply chain system in non-food industries. Supply chain risks, lack of suppliers, enclosure of manufacturing plans to reduce the shipping times and transport costs due to pandemic restrictions have changed the supply chain system now (Filipe Bela, Wilkinson, and Monahan, 2020). According to the situation, every business sector has focussed on the

digital supply chain. Direct delivery of the products to the customers from the warehouse is now the emerging trend.

28 Summary

This chapter has provided the research results with proper analytical evidence. Here, in this chapter, all descriptive findings have been included with proper evidence. Research nature, purpose, research industry, research paper's type and analysis along with justifications of graphs and charts has been depicted here to explain the relevance of those selected resources here. Proper disciplines and categories of those selected journals and articles have demonstrated here with proper numberings and sections. **In this section, the screening process has been done on the selected journals.**

29 Thematic Findings

30 Introduction

In the research work, five key themes have been emerged. This chapter provides a systematic understanding on the effects of the post and pre situation in e-commerce during the Covid-19 pandemic. In this aspect, few important factors have been identified that are affecting the business in the retail sector in the UK. The first theme **illustrates a number** of the crucial factors that are affecting the retail businesses. **The second theme compares the pre and post covid** effects of the pandemic in the retail sectors. The third theme demonstrates the opportunities and challenges during this time in the same sector in the UK. The **final** theme describes the devastating effects in supply chain management in the UK.

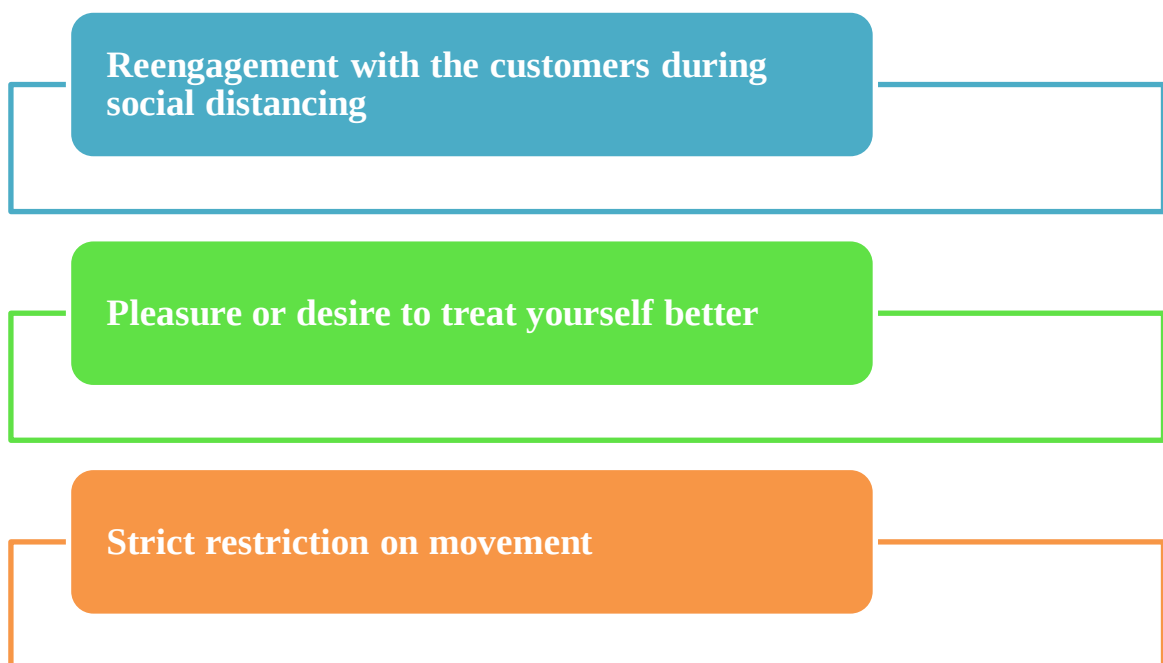
31 Theme 1: Some factors have affected the last mile deliveries after Covid-19

According to the business statistics, it can be seen that covid-19 pandemic has dominated many businesses (Wang, Yu and Shen, 2019). In this aspect, this devastating virus has affected a variety of sectors. Abdelrhim and Elsayed (2020) have said that the retailers in all sizes in the UK are falling into administration and the impact is increasing in nature in Britain. One of the important factors that have made the retailers to think outside of the box is the *“reengagement with the customers during social*

distancing". Due to the strict restriction on movement, brands are thinking a lot more to come out of the other side. In this case, one of the most important challenges in this case is the "speed". 84% of the customers have stated that speed is one of the crucial points in ordering an online service or product. On the other hand, 57% of the customers have stated that "same-day" delivery options help the customers to be loyal towards the service. The statement clearly states that more percentage of people in the UK use online services. The business reengagement strategies are becoming a lot more creative due to this factor. From the viewpoint of customer experience perspective, the online retail sectors are looking for robust trading.

Influence of Covid-18 on last mile deliveries

In the time of Covid-19, 25%-mile deliveries have been raised due to e-commerce saturations in the market (Wang, Yu and Shen, 2019). Pandemic, parcels, public transports, and last mile ecosystems have been raised due to e-commerce practices. In the middle of pandemic, last mile deliveries were increased up to 25% and in the post-pandemic it is up to 10% to 20% correspondingly. Emission free deliveries, decarbonisation has engrossed such deliveries in the peak time Covid-19s.



31.1.1.1 Figure 14: Factors affecting the retail sales in the UK

(Source: Author)

Another important factor that has affected the online retail sectors is the “*pleasure or desire to treat yourself better*” (Filipe *et al* (2020)). In this case, psychological factors are considered. Due to this pandemic, most of the time people are staying home. The physiological effects in this case are causing people to do something to uplift their mood. Clarke, Thompson and Birkin (2015) have said that this physiological change in customer behaviour is increasing the online retail business. “Visibility” in the e-commerce purchase is important for the businesses. The “last mile delivery” is often influenced by this factor. This is the main underlying reason for the inevitable growth in the retail sectors during the lockdown phase. The online delivery services are now unable to cope up with the scale of consumer demand in this case.

According to figure 11, the strict restriction on movement has forced people to shift to online shopping. One of the biggest issues in e-commerce businesses is that increasing demand during the restriction has created insufficiency to satisfy the consumer demand. Filipe *et al* (2020) have stated that the crisis has created major bad experiences for many people. Online shopping is not always good for them. In this case, a *last mile logistics processes* will help the e-commerce businesses. In addition to this, the efficiency in this case exhibits a great important in the last mile delivery. Due to the delay in the arrival of goods at suppliers’ place, this created a chaos in the delivery of the goods. This simply represents that unavailability goods have created confusion between the consumers and sellers. However, now people are more accustomed with online shopping rather than offline shopping. People now prefer online shopping to traditional offline shopping especially the young generation in UK (Yang *et al*, 2018). This simply represent that younger generations in the UK prefer online shopping over offline shopping.

32 Theme 2: The pandemic has created a significant change in the growth of retail sectors in the UK

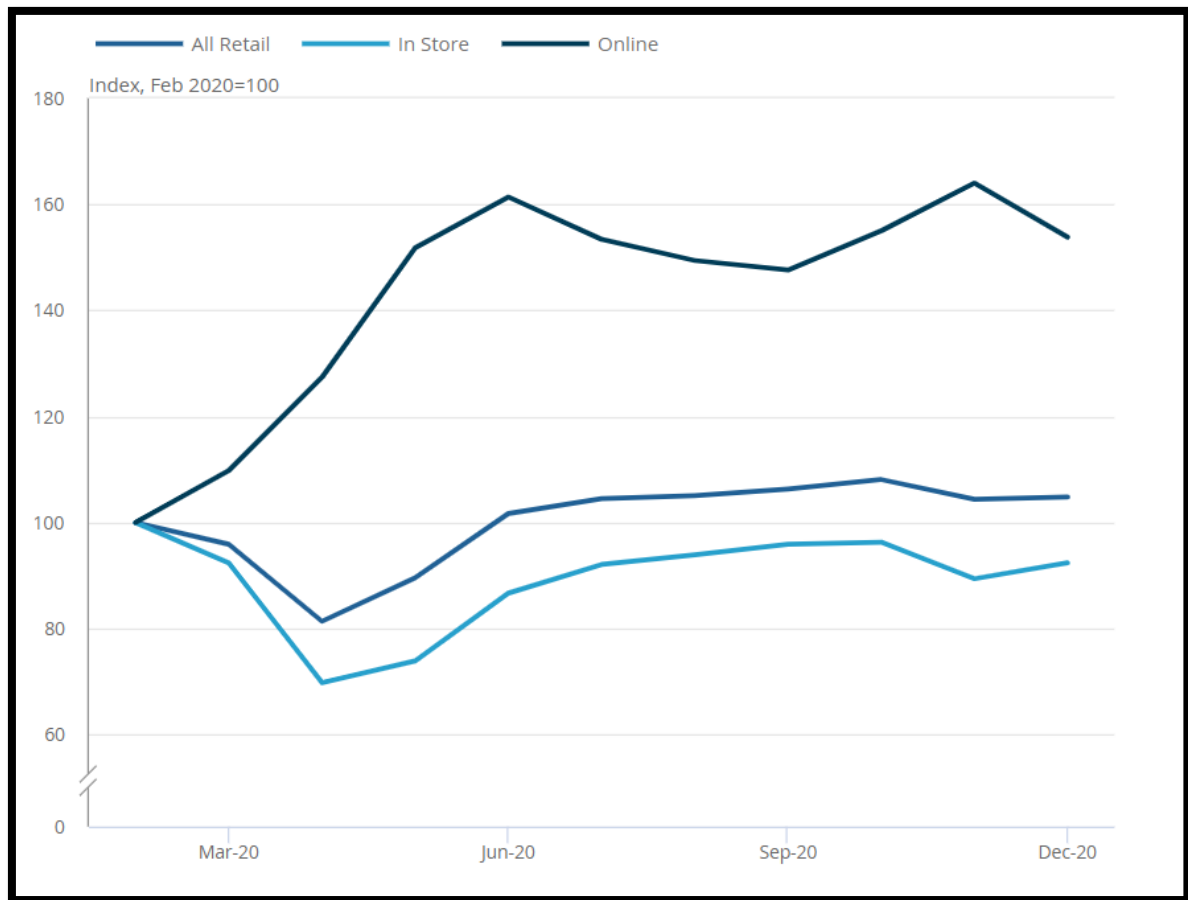
The pandemic started in the UK from the beginning of January, 2020. In august, 2020 the government of the UK eased the lockdown. According to the retail volume sales data observed in 2019, one of the largest annual falls has been recorded in 2020

(Statista.com, 2021). The net volume fell by 1.9% (Statista.com, 2021). The record was negative in both cases of consumer retail sectors that are clothing and fuel sales. As the retail industry is an important part of the economy, the share of GDP from the retail sectors in the UK contributes almost 5.1% of the UK's total GDP (Statista.com, 2021). The consumption of goods and services has changed drastically in some areas. The introduction of policy measures has influenced the retail industry (Pantelimon, Georgescu and Posedaru, 2020). In order to contain the spread of the virus, a strict lockdown was forced on the people of the UK. During the period, the retail sectors in the UK were not permitted to sell non-essential goods. There was a huge crisis in essential goods. However, the increase in online sales created a rapid growth in the online retail sectors. At the beginning of the pandemic, the sales rose at a rapid rate. The sale was much higher (60%) in May than the sales of February 2020 (Statista.com, 2021).

E-commerce changes arising from the pandemic

Customer behaviours, online deliveries, mile deliveries, online shopping all have been enforced due to pandemic (Pantelimon, Georgescu and Posedaru, 2020). Based on the global retail survey, it has been seen up to 60% customers who did not include their name into online shopping are also now indulging themselves in the category. Due to global lockdown, so many restrictions on transports, most customers are now depending on an online delivery system (Pantelimon, Georgescu and Posedaru, 2020). E-commerce is nothing new to the business industry, though in pandemics these practices have emerged its impact throughout the global business world now. E-commerce has raised the practices of online delivery and fastest delivery of every product from the retail industry.

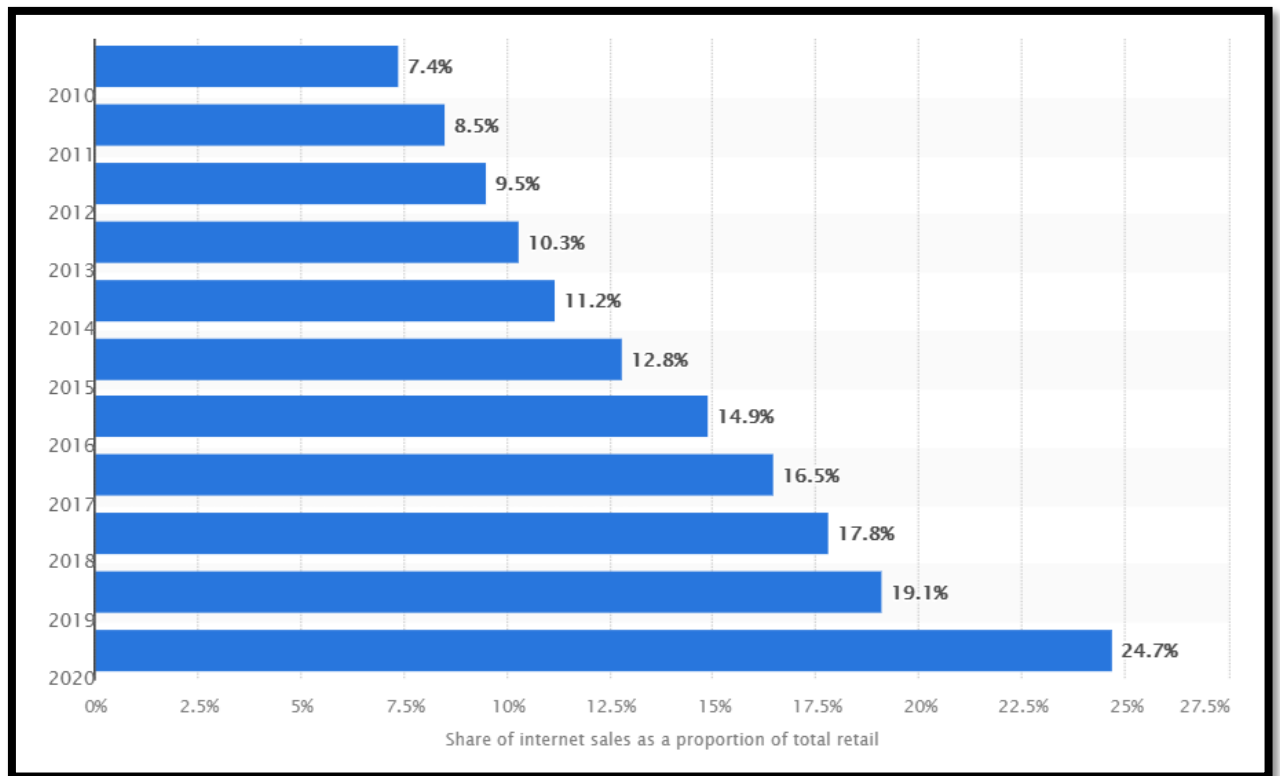
The second lockdown started on 5th November, 2020. During this period, the UK sales volume again decreased by 4.1% (Statista.com, 2021). However, some of the easing restrictions increased the sales by 0.3% in December (Statista.com, 2021).



32.1.1.1 Figure 15: Retail sales in the UK

(Source: Statista.com, 2021)

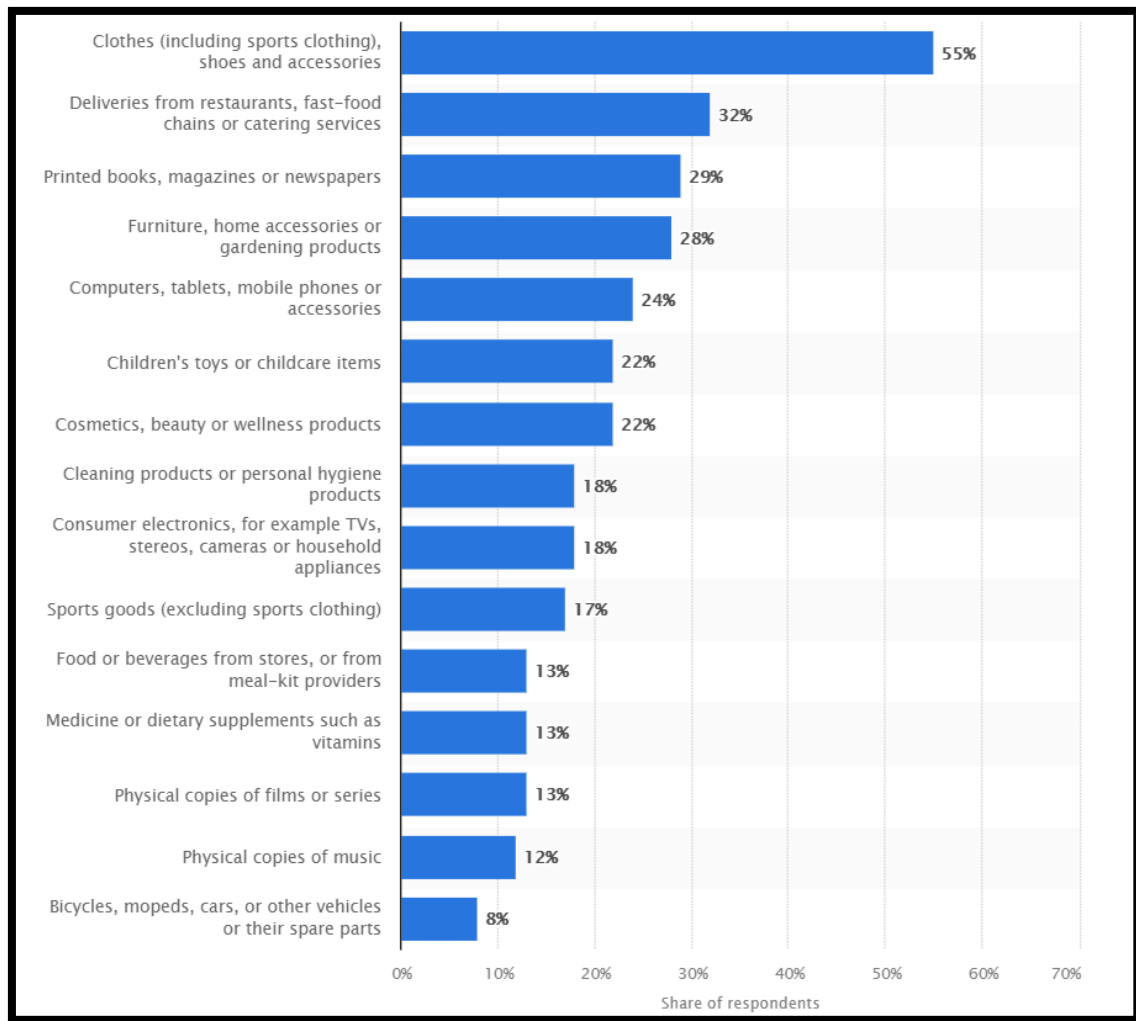
As mentioned in figure 12, by comparing the retail sales by retail sectors, it can be seen that there was a major change in the responses of goods and services. According to the online retail sales volume in the UK, the sales in the online retail sectors was 33.24 billion GBP (Statista.com, 2021).



32.1.1.2 Figure 16: Value of online retail sales in the United Kingdom (2010-2020)

(Source: Statista.com, 2021)

By comparing the last mile in the deliveries of retail sales in the UK, it can be observed that online retail sales have grown at a rapid rate. Due to the covid-19 pandemic, the sales volume of retail sales has estimated to reach 100 billion GBP (Statista.com, 2021). In retail non-food items, two of the most popular goods are clothing and household goods (Paramannand, 2021). Most of the consumers have seen to buy these two products at a higher rate. According to the data published by “*Office for national statistics (UK)*”, the consumption of other products and services has become more dependent on the internet (Statista.com, 2021). In retail trade, the United Kingdom has one of the highest shares of online retail sales volume, which can be seen through the findings of figure 13.



32.1.1.3 Figure 17: Share of Goods and services purchased online in the UK (2020)

(Source: Statista.com, 2021)

In the non-food retail items, clothing and sports items are the two most popular products **that had the largest share in the market**. According to the data in figure 14, the growth of the online retail sector in the UK has increased by 17.3% (“Share of internet sales as a proportion of total retail”) in comparison with data of 2010 (Statista.com, 2021).

	Most recent month on a year earlier	Most recent 3 months on a year earlier	Most recent month on previous month	Most recent 3 months on previous 3 months	June 2021 compared with February 2020
Value (amount spent)	13.1	25.5	1.6	13.5	10.6
Volume (quantity bought)	9.7	22.9	0.5	12.2	9.5
Value (excluding automotive fuel)	9.6	21.3	1.4	12.2	12.1
Volume (excluding automotive fuel)	7.4	19.9	0.3	11.2	10.8

32.1.1.4 Figure 18: Volume and value sales of June 2021

(Source: Statista.com, 2021)

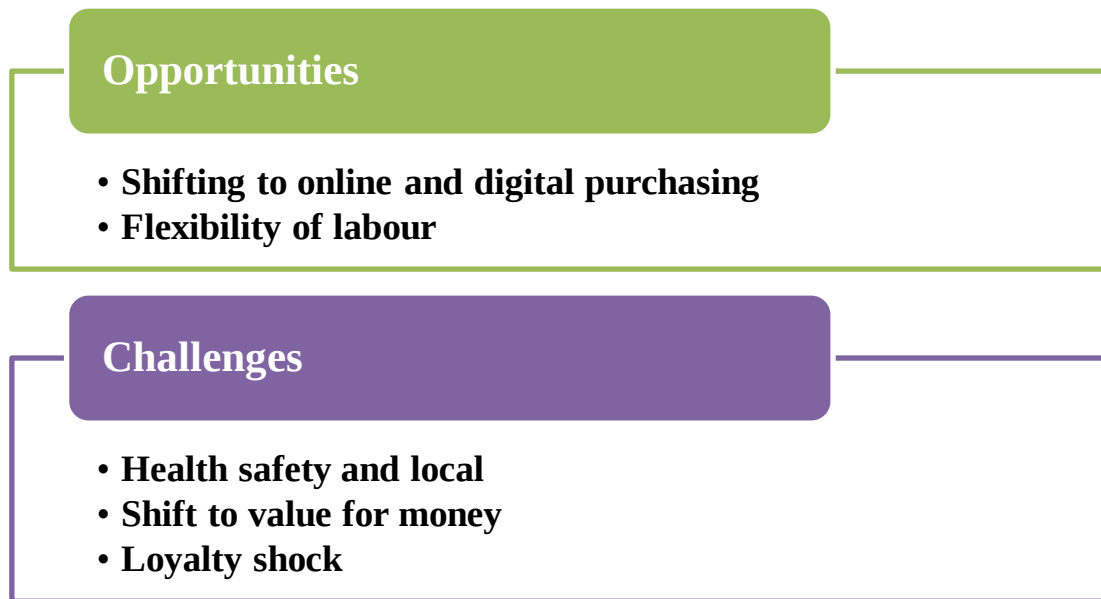
In the above figure 15, the percentage of share in volume sales has increased in past months after the pandemic. At the beginning of the pandemic, the sales volume was not that high. However, after a whole year, the value has increased by 10.6% (it is the amount spent on goods and services). Comparing the volume of the online retail sales, a growth of 9.5% has been seen in the UK (it is the quantity bought share). In June 2021, the online non-food items saw a decrease in its volume sales by 1.7% (Sheehan, E., 2021). However, according to the “*summary of internet statistics, June 2021*”, a negative growth of 11.3% (year on year growth) has been seen in the all-non-food online retail sector (Statista.com, 2021). In addition to this, the month-on-month growth was also negative in this case. The sector saw a negative growth of 9% (Statista.com, 2021).

33 Theme 3: The pandemic has created several opportunities and challenges in the companies operating in non-food online retail sector in the UK

In this rapidly changing online retail sector, this industry has always been facing sudden challenges and opportunities in its day-to-day businesses. The rapidly changing technological solutions are constantly influencing the online retail sectors in the UK (Rybaczewska and Sparks, 2021). The success of the business always depends on the business's adaptability in this constantly changing market. In case of the owner of the retail company, it is necessary to be aware of the challenges and opportunities in the changed approach view (Vader, Martin and Qian, 2021). Some of the challenges and opportunities are discussed below:

Shifting to online and digital purchasing: The change in consumer behavioural pattern has caused many people to shift to online purchases potentially. Most of the customers have already shifted to online channels (Sayyidaet *al.*, 2021). The likelihood of the change will be extended as the crisis stays. It can also be seen that online shopping might become the next normal thing for people in general.

Health safety and local: This is one of the greatest challenges during this pandemic to protect the customers from the contraction of the spread of coronavirus. The health and safety concerns have become more serious during this situation. The retailers are working day and night to provide a fully touchless automation in both cases such as in stores and in warehouses (Aday. and Aday, 2020). The increased demand in essential goods and services has forced the entire industry to focus on improving the health and safety of the customers.



33.1.1.1 Figure 19: Opportunities and challenges during the covid-19 pandemic

Shift to value for money: Due to the economic downturn, across all the retail sectors especially in non-food sectors, the demand in the consumption of goods and services has shifted to “demand value for money” (Tariq, 2021). In case of essential categories, this demand value for money has already been increased as the prices of the groceries and medicines have been emphasized in value terms by the “private-level sales at grocers” and “grocers”. According to figure 16, some opportunities and challenges have been discussed below.

Flexibility of labour: The crisis has influenced this sector to highlight the importance of flexible resources. The flexible resources are necessary for doing a broader range of activities in this sector. The increased flexibility in labour can easily develop the resource in a more agile and dynamic way (Vyshnavi and Mallika, 2020). The resources can be moved from “stores” to “distribution centres” to “corporate offices”. The idea can also create a new model that will address the scarce capabilities of the stakeholders and help them to meet the demand of the customers.

Loyalty shock: The crisis in the essential goods and services has spurred the “trail of new brands”. In the United Kingdom, new brands are opening up due to “proximity”,

“availability”, “ease of use” and “safety considerations” (Żurek, 2015). In this aspect, most customers have been seen to try some of the products for the first time.

These are opportunities and challenges in the online retail sectors in the UK due to the Covid-19 pandemic.

34 Theme 4: The retail sectors are taking sustainable measures to manage the last-mile distribution in retail sectors in the UK

In the beginning of the covid-19 pandemic, the restriction has hit the retail sector very hard. Most of the retailers in the UK have seen a huge fall in their respective revenues (Barker and Brau, 2020). Moreover, the retail sectors, especially the clothing and luxury brands have seen some shocking drop in their annual revenue. It can be seen that in the short-term, the retailers are instructed to follow stabilising strategies and focus only on recovery (Witczyńska, 2020). The retailers in the UK should focus few things.

Cater to online demand: Considering the challenges in the retail sectors, it can be seen that a huge traffic has been created due to the increased demand in the e-commerce site (Dalpini, 2021). Due to the closed warehouses, the retail sectors are unable to fulfil the orders. The retail sectors can manage this huge demand for traffic with the help of “*reassessing critical workflows*” and it can increase “*capacity for self-service*”. With these, the sectors can enhance the “*online ordering slots*”. In the short-term phase, it is quite necessary for the sectors to meet the online demand.

Additional services for the customers to keep them engaged: Different brands are associating with additional services to engage their customers (Erdmann and Ponzoa, 2021). For example, some of the sports brands and beauty brands are offering different at home services to prevent the challenges from happening.

The online retailers need to adapt to the new reality in this crisis. It can be seen that a new normal has been created due to this situation. In order to have a successful business, the retailers should be prepared to go more online.

Digitally transform: There are some retailers that are not significantly online. In this aspect, digital transformation is highly needed. The retail businesses should undergo a

full transformation with “online commerce”, “digital marketing” and “omni-channel services” (Nanda, Xu and Zhang, 2021).

Putting the customers preferences at the front and centre: The impact of the pandemic has shown that customers prefer empathetic and supportive brands to other brands. Those brands who value their customers' choices and preferences have acquired more profit than other brands who do not provide any value (Rizvi, 2021). In this case, the basics are more important. In order to achieve sustainable growth during this crisis, the brands are needed to operate in such a way where the values of the businesses are met with the customers' expectations.

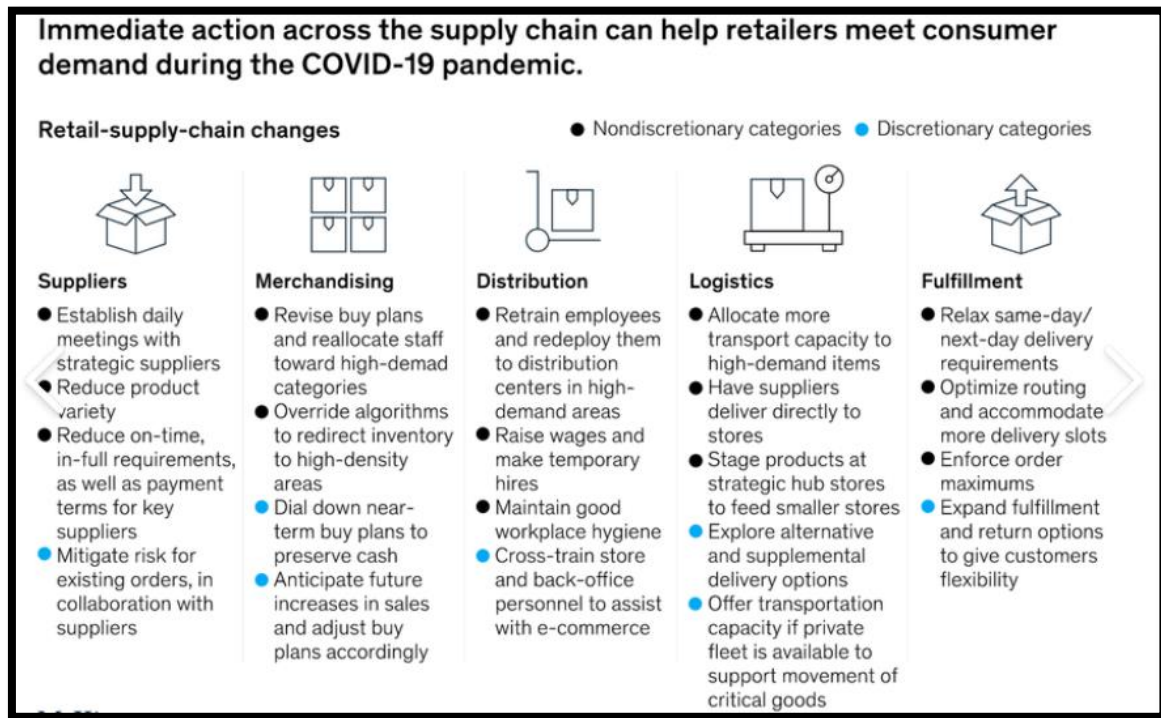
Agile and flexible operations: In order to hold up in the next year or so, the retail sectors should rethink the flexibility of the supply chain management (Kim, 2020). In this case, the internal operations need to be managed in a sustainable way.

Data driven tech: The technological advancements are highly appreciable for the retail sectors. The new normal need to be driven in a data driven form. In recent times, most of the companies are considering data driven technologies (Castillo *et al.*, 2021). Using artificial intelligence in the business operations will help the companies to fulfil the new shopping needs (Zoroja, Klopota and Ana-Marija, 2020). Artificial intelligence can provide some great insights about the company's loss and profit. This way the retailers can use the insights to connect the customer experiences with delight to the returning customers.

35 Theme 5: The pandemic has disrupted the entire supply chain management in the UK

The supply chain management in the UK has been disrupted due to the pandemic. Each business type of organization depends on the supply chain management for all the raw materials and resource needs. In order to assemble any product, it is necessary to source all the components (Erdmann and Ponzio, 2021). In this way, the manufacturers save more time. However, in this crisis, the natural disaster has affected the supply chain in the UK.

According to the “*geographical scope*”, no natural disaster has affected the supply chain in this way. This virus affected the entire global population. Before the pandemic, the retail sectors used to put too much emphasis on the “lowest bids” (Lim, Jin and Srari, 2018). Due to this situation, there is a lack of transparency in the supply chain management in the UK.



35.1.1.1 Figure 20: Actions on the supply chain during the covid-19 pandemic

(Source: Erdmann and Ponzoa, 2021)

Due to the negligence in risk management and risk mitigation, most retail companies have seen difficulties to cope up with the sudden change in the management. In addition to this, the stable business environment has caused many companies to be caught off guard. Most retail companies were not even prepared for this kind of situation. The dramatic change in consumer taste and preferences also changed the supply chain management (Kitukutha, Vasa and Oláh, 2021). The supplier relationship management (SRM) should be included within the management to understand the risks as per the information from figure 17. Without the risk management processes or strategies, most companies were unable to satisfy the customers. In supply chain management, the

“shortages of personal protective equipment” and other necessary medical supplies created a huge mess in the UK (Brennan *et al.* 2015). The huge crisis created medical dependencies on unreliable foreign sources for the necessary goods and services. However, this situation was unstable in the beginning of the pandemic (Shahzad *et al.*, 2021). Now, the companies are cooperating with other business entities to diversify their products. For example, the retail sectors are including different developments in different areas of the organization.

In the future, the retail sectors are going to re-evaluate the situation in terms of their stores. The effects of the pandemic have already changed consumer perceptions. This sudden change has made every human being on earth question the need of the goods and products (Kysh, 2020). As mentioned earlier, the luxury and fashion brands have seen the worst scenarios. In this case, due to the insufficiency in the risk mitigation techniques, the supply chain management got heavily disrupted. However, in recent times, most retail companies are incorporating sustainable strategies and they are investing more on the risk mitigation techniques. This improvisation on the system will help the retail sectors in the future to combat any further pandemic (Min, Zacharia and Smith, 2019). The significant change within the supply chain management created chaos within the system.

36 Summary

In this section, five different themes have been created. In this case, some crucial implications have been found in the research study. For example, one important implication of this study is the effects on supply chain management. In this case, it can be seen that certain effects were helpful for the supply chain in the online retail sectors (Ketchen and Craighead, 2021). This crucial implication has helped the study to capture the authenticity of the study. In this case, few important factors, challenges and opportunities have been identified. All these factors have helped the study to highlight the impact of the pandemic in the UK’s e-commerce sector. In this aspect, it can also be seen that recommendations for the e-commerce business are rapidly increasing. However, if the retail sectors use the opportunities in a proper way, then only it can easily acquire some sustainable benefit.

37 Chapter 4: Conclusion and Recommendations

37.1 41 Conclusion

In this chapter, all the important factors have been concluded. All the analysis from research findings has also been identified whether or not they have been met with the objectives of the study. Uddin Ahmed *et al.* (2020) have stated that from the analysis of the research findings, it can be concluded that the online retail sales in the UK have increased over the last ten years. In some cases, few retail sectors have seen the worst scenario in the pandemic due to decreased demand. In this aspect, it can also be concluded that luxury high-end brands have lost a huge number of customers. The customer behaviour towards purchasing products and services have also changed. Comparing the last mile in the e-commerce business, this sector has impressively increased throughout the years (Ivanova, 2020).

37.2 Objectives fulfilment

In this section, the fulfilment of the objectives of the study has been summarized in the following subsections.

Objective 1: *“To review the recent literature on last mile delivery for non-food products (fashion retail, books, household appliances, etc.)”*

Objective 2: *“To identify factors affecting the performance of last mile deliveries”*

Objective 3: *“To develop a before / after comparison using the factors identified to show the changes and develop recommendations to companies operating in the non-food online retail sector on how they should manage their last mile distribution”*

38 Fulfilment of Objective 1

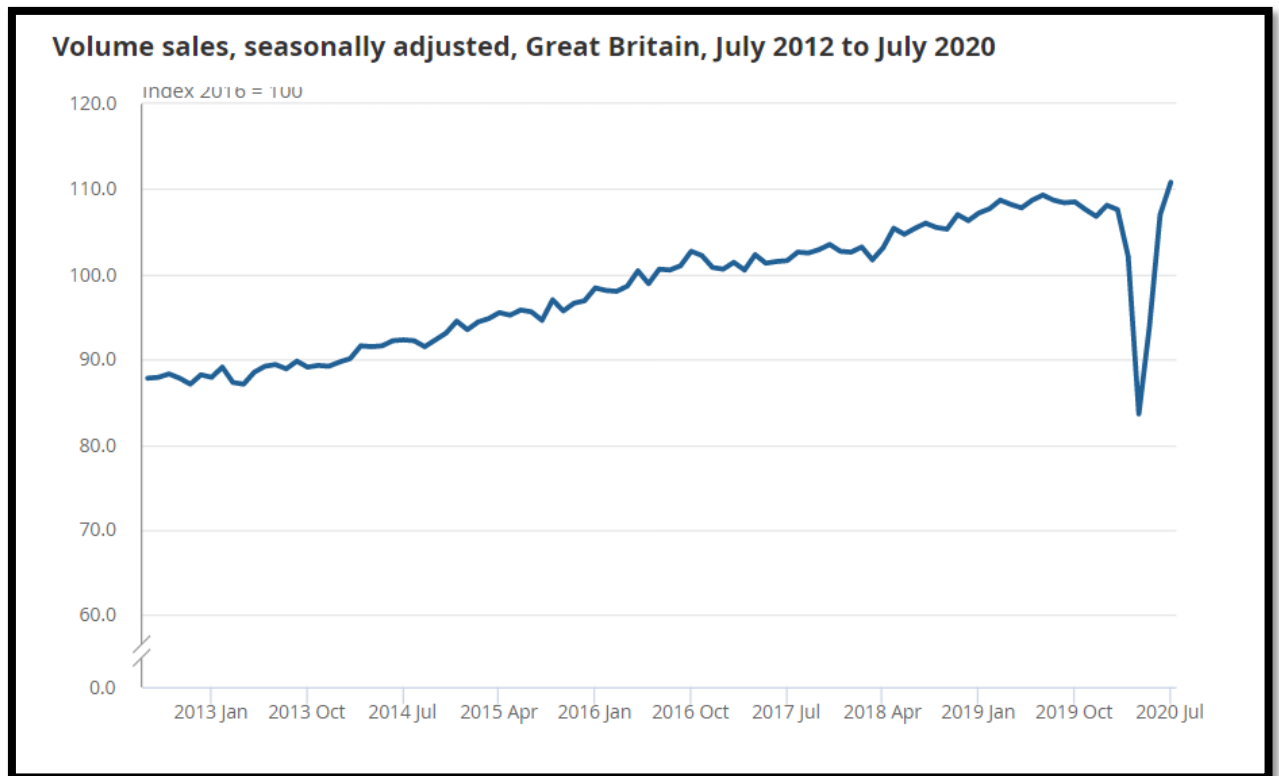
According to the findings in section 4.2.3, the current and previous non-products in the retail sectors have been identified. In this section, the data observed in this case has identified that after the pandemic, some of the non-food retail sectors have seen the largest annual falls. Different literature has been reviewed in this case to show the actual rate of fall in this sector. As a result, it can be identified that two important sectors that

have seen the largest falls are clothing and fuel sales. Allen *et al.* (2018) have said that as the consumption behavior has changed, the number of sales has also decreased. Moreover, the crisis in essential goods was one of the most crucial scenarios in this aspect. At the beginning of the pandemic, the sales of essential goods rose at a rapid rate. According to the observed data, retail sales have seen to be increased at an exponential rate over the past ten years. Moreover, the current statistics show that most customers now prefer online purchases over traditional ways of purchase. In this case, it can be seen that some of the important factors were identified which helped the study to show the effects of the pandemic.

39 Fulfilment of Objective 2

According to the findings in section 4.2.2, some of the important factors have been identified that have affected the consumption of non-food retail products and services. In this section, three important factors have been identified. Bertram and Chi (2018) have stated that in recent times, the constant change in the market has made the retail owner think outside of the box. In this aspect, “reengagement with the customers during social distancing” has a significant impact on the social behavior of the customers. In this aspect, it can be seen that some of the retail sectors have significantly had a larger growth rate than other sectors. This is solely because some of the reengagement strategies used by the retail sectors were useful to attract the customers (Zissis, Aktas and Bourlakis, 2017). On the other hand, those retail sectors that have not used the strategies were seen to have the lowest growth rates.

Another important factor that changed the consumer perception was the pleasure to fulfill the desires. Gabriel (2017) has said that this factor changed the customer behavior in a way that customers were drawn towards only the essential products. In addition to this, the strict restriction on movement forced people to buy online products. This created a huge traffic in the e-commerce websites. Most of the customers shifted to online purchase. This shift helped the study to attain the growth in this constantly changing market.

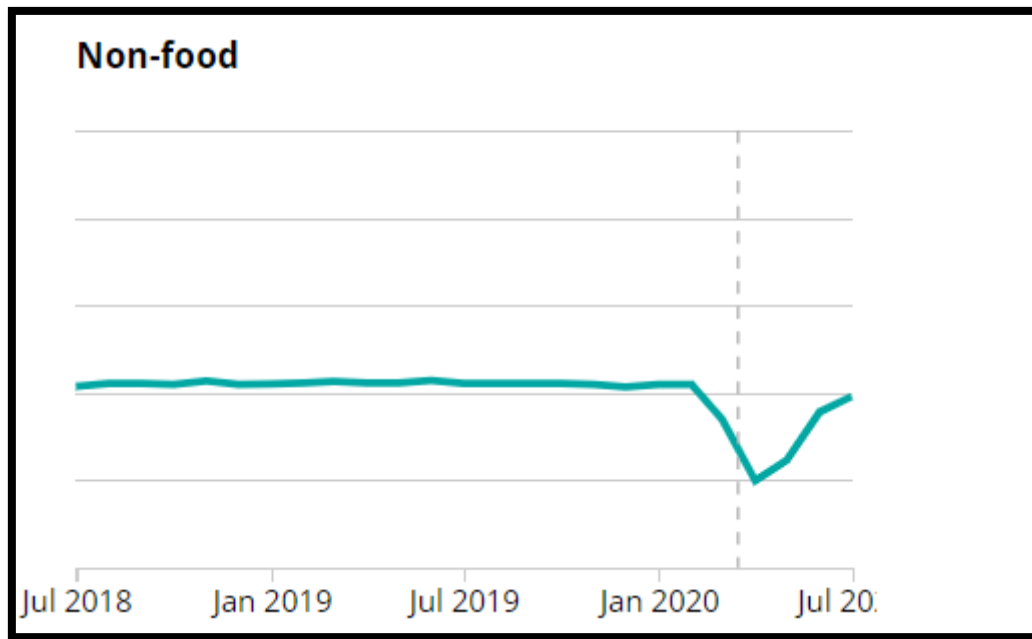


39.1.1.1 Figure 21: Retail sales in the UK

(Source: Ons.gov.uk, 2021)

40 Fulfilment of Objective 3

According to the findings in section 4.2.3, a comparison of the retail sales in the last ten years of previous and latest pandemic era has been shown. Jaehrling *et al.* (2019) have stated that in this aspect, it can be seen that in the year 2020, the United Kingdom had one of the largest shares of online purchases. Moreover, in the non-food retail section, “clothing” and “sports” items were the two most popular items that were considered as the most favorite items. In the beginning of the pandemic, the retail sales were not that high. However, as the demand for essential products rose, the resources became unavailable in the local markets.



40.1.1.1 Figure 22: Retail Sales in Non-food sectors

(Source: Ons.gov.uk, 2021)

This forced the customers to search for essential products online. Kumar and Shrivastava (2020) have stated that the constraints in the pandemic created several challenges and opportunities for the retail sectors. One of the most favoured opportunities in this sector was a huge number of customers shifting to digital purchasing. On the other hand, the loyalty shock was one of the most important challenges in this sector. This created a new trail of products and services (Hillen and Fedoseeva, 2021). As the demand for goods and services rose, more new brands started new businesses.

41 Research limitations

42 Limitations of Analysis

In this study, a thorough analysis of the retail sector's growth was shown to highlight the performance level. However, the identification of the trend pattern was not helpful for the research. Lechner (2020) has opined that there are other important factors as well which define the performance level. Three important factors have been identified in the research. However, there are other minor factors involved in the purchase limit that

decides the level of performance. In this study, only secondary qualitative data have been selected. The literature selected for the study is relevant to the topic. The performance level in each and every department of the retail sectors was not clearly mentioned. The performance level should be indicated as “high”, “low” or “moderate”. The other minor factors of the performance level should be identified to analyses each section in a proper way. Lu and Reardon (2018) have stated that in addition to this, the analysis of the research findings shows how the literature is important for the study. It aimed at indicating the performance level of the retail sectors in the after and before situation in the pandemic.

Additionally, another important factor in this analysis was the psychological fact. For example, the effects of pandemic have changed the way the customers used to think. The psychological factors cannot be measured. In this case, only the impact can be measured. Nilova and Malyutenkova (2020) have stated that lockdown has influenced everyday tasks in every individual's life. The impact on their mental health may signify the sudden increase in the purchase of products and services. The change in the behavior of people in after and before situations has indicated major information. The secondary qualitative data information has shown the importance of the positive side in retail sales. Paglioni (2020) has opined that the negative impact was not clearly shown or mentioned in the analysis section. The section has only mentioned how the rapid increase in the e-commerce sales have helped the retail sectors in the UK.

43 Critique on methodology and Data

In the first section, it can be seen that at the first screening process, the selection criteria were generated on the basis of article screening. Rutter *et al.* (2017) have said that there may be some issues in the subjectivities of the initial screening. The titles and abstracts discussed in the section have shown some crucial difficulties. However, the identified issues were not as important and did not exert any significant impact. The research quality was maintained throughout the research study. In this aspect, objectives were fulfilled in a proper way.

Secondly, only five articles from the selected literature have studied the different sectors of retail. Therefore, in the methodology section, different sections of the retail sectors

have been discussed. Seidel and Blanquart (2020) have stated that an in-depth study of the different departments of the retail sectors has been thoroughly analyzed. The data collection method has described different accurate and reliable information on the retail sector. Third, the thematic findings showed the qualitative information on the trend.

44 Recommendations for future

Based on the research findings, some major areas of development have been identified that can help the researchers to develop the study in a suitable manner. The recommendations are as follows;

- Some of the major factors that have been identified in the study have shown some major drawbacks for the topic. As mentioned earlier, the study has been developed based on the previous literature (Hood *et al.* 2020). Therefore, it can be recommended for the researchers in future to include other alternatives such as primary information to focus on the retail sectors in a more compact way.
- In terms of comparing the previous and latest scenario of the pandemic, it was necessary for the research work to focus on all the major aspects of the impact in the retail sectors. It can be seen that there are various minor facts included in the trend of the retail sales. Those minor factors were not identified in this case (SIEGFRIED, MICHEL and TÄNZLER, 2021). Therefore, it is recommended for the researchers to highlight the minor factors for better outcomes of the research in future.
- It can be seen that there has been a major confusion between the psychological behaviour of the customers in retail sales. As it is important for the study to measure the performance level in this sector, it is also necessary for the research work to include the factors that will generate a balance between the effects of the pandemic in retail sectors (Ullrich, 2019). The issues have created a major setback for this respective research work. Therefore, it can be recommended for the researchers to analyse the physiological facts to measure the performance level in this sector.

- In the secondary qualitative data, some major areas have been found that were highly related to most of the retail sectors in the UK. Over the years, this sector has experienced rapid growth in sales (Voldneset *et al.* 2021). However, some of the retail sectors could not make this profit. There was no major discussion on this area in the research study. Therefore, it can be suggested to the researchers to reflect on the areas of the retail sectors where industries could not make sustainable profit and had to close down their businesses.
- In this section, the opportunities and risks of the retail sectors should be discussed more sincerely. This is an important approach to identify how the pandemic has affected the retail sector in the UK. Another important recommendation for the study can be made here regarding the study is that this research can use sample cases to show the insights of the study. The case data may have represented a better approach and outcome of the study. The qualitative approach could give the study a better understanding towards the effects of the pandemic (Warren, 2020).

This research topic has already been based on an important area of the effects of the pandemic. In this case retail sectors have been shown. Different relevant aspects of the research are quite important for the retail sector. This study was able to show some of the major changes in the retail sector. Proper factors were identified in this case to show how important this change was for the retail sectors. Apart from this, the comparative analysis between the retail sales have shown some great insights about the retail industry in the UK (Zeng *et al.* 2017). This study will help the researchers to gather information about the retail sectors. They will be able to analyze the effects in a more compact way.

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46 Appendices

46.1 Appendix 1: Data Extraction Form

NO.1	
Title	The Impact of COVID-19 on the Economy and Sustainable E-commerce
Authors	Nicodemus M. Kitukutha, László Vasa, Judit Oláh
Year of publication	2021
Location	South Africa
Industry: Sector	Retail: Not Stated
Research Nature	Theoretical
Methodology	Literature Review

NO.2	
Title	Strategic Innovative Marketing and Tourism in the COVID-19 Era
Authors	Androniki Kavoura, Stephen J. Havlovi, Natalya Totskaya

Year of publication	2020
Location	UK
Industry: Sector	Retail: Not Stated
Research Nature	Theoretical
Methodology	Literature Review

NO.3	
Title	E-COMMERCE:A CATALYST OF MARKETINGESPECIALLY ON FMCG PRODUCT UNDER COVID PANDEMIC
Authors	PUNEET KUMAR1, NIDHI AGARWAL AND HIMANI SARASWAT1
Year of publication	2021
Location	INDIA
Industry: Sector	Retail: Not Stated
Research Nature	Theoretical
Methodology	Literature Review

NO.4	
Title	Supply Chain Responsiveness to a (Post)-Pandemic Groceryand Food Service E-Commerce Economy
Authors	Mark Juhasz and Janet Music
Year of publication	2021
Location	UK
Industry: Sector	Retail: Not Stated
Research Nature	Theoretical
Methodology	Literature Review

NO.5	
Title	Challenges and Opportunities Facing the ChineseEconomy in the New Decade: Epidemics, Food,Labor, E-Commerce, and Trade
Authors	Yu Yvette Zhang, Qiujie Zheng &Huashu Wang

Year of publication	2021
Location	UK
Industry: Sector	Retail: Not Stated
Research Nature	Theoretical
Methodology	Literature Review

NO.6	
Title	Analysis of The Impact Of Covid-19 on ConsumerBehavior in E-Commerce Transactions
Authors	MardhiyahHayati, YeniSusanti, Mad Heri, NindiRiyanaSaputri
Year of publication	2020
Location	UK
Industry: Sector	Retail: Not Stated
Research Nature	Theoretical
Methodology	Literature Review

NO.7	
Title	THE EFFECT OF SAFETY, EASY AND PROMOTION ON THE BEHAVIOR OF FOOD E-COMMERCE USE SYSTEM IN THE COVID-19 PANDEMIC TIME
Authors	Diah Iskandar and Istianingsih
Year of publication	2021
Location	UK
Industry: Sector	Retail: Not Stated
Research Nature	Theoretical
Methodology	Literature Review

NO.8	
Title	Lateral Inventory Share-based Models for IoT-Enabled E-Commerce Sustainable Food Supply Networks
Authors	Banu Yetkin Ekren, Sachin Kumar Manglab, Ecem Eroglu Turhanlara, Yigit Kazancoglu and Guo Lid

Year of publication	2020
Location	UK
Industry: Sector	Retail: Not Stated
Research Nature	Theoretical
Methodology	Literature Review

NO.9	
Title	Regional E-Commerce Development in the Context of the Covid-19 Pandemic
Authors	Svetlana Viktorovna Panasenko; Ibragim Agaevich Ramazanov; Leonid Aleksandrovich Bragin; Anastasiya Vladimirovna Boykova; Anna Viktorovna Surdina
Year of publication	2020
Location	UK
Industry: Sector	Retail: Not Stated
Research Nature	Theoretical
Methodology	Literature Review

NO.10	
Title	COVID-19 AND THE DEMAND FOR ONLINE FOOD SHOPPING SERVICES: EMPIRICAL EVIDENCE
Authors	Hung-Hao Chang, Chad Meyerhoefer
Year of publication	2020
Location	UK
Industry: Sector	Retail: Not Stated
Research Nature	Theoretical
Methodology	Literature Review

NO.11	
Title	The impact of e-commerce on final deliveries: alternative parcel delivery services in France and Germany
Authors	Eleonora Morganti, Saskia Seidel, Corinne Blanquart, Laetitia Dablanc, Barbara Lenz
Year of publication	2014

Location	France and Germany
Industry: Sector	Retail: Not Stated
Research Nature	Theoretical
Methodology	Literature Review

NO.12	
Title	E-commerce Logistics in Supply Chain Management: Practice Perspective
Authors	Ying Yua, Xin Wanga, Ray Y. Zhongb, George Q. Huanga
Year of publication	2016
Location	UK
Industry: Sector	Retail: Not Stated
Research Nature	Theoretical
Methodology	Literature Review

NO.13

Title	Taking a look at different types of e-commerce
Authors	Rania Nemat
Year of publication	2011
Location	UK
Industry: Sector	Retail: Not Stated
Research Nature	Theoretical
Methodology	Literature Review
NO.14	
Title	
Authors	
Year of publication	
Location	UK
Industry: Sector	Retail: Not Stated
Research Nature	Theoretical
Methodology	Literature Review

NO.15	
Title	The impact of the covid-19 pandemic on retail consumer behavior
Authors	Sayyida, Sri Hartini, Sri Gunawan, SyariefNurHusin
Year of publication	2021
Location	UK
Industry: Sector	Retail: Not Stated
Research Nature	Theoretical
Methodology	Literature Review

NO.16	
Title	The Challenges for Labour Market Policy during the COVID-19 Pandemic
Authors	Monica Costa Dias, Robert Joyce, Fabien Postel-Vinay and Xiaowei Xu
Year of publication	2020

Location	UK
Industry: Sector	Retail: Not Stated
Research Nature	Theoretical
Methodology	Literature Review

NO.17	
Title	Transforming Last-Mile Logistics: Opportunities for more Sustainable Deliveries
Authors	Oliver Bates, Adrian Friday, Julian Allen, Tom Cherrett, Fraser McLeod, TolgaBektas, ThuBa Nguyen, Maja Piecyk, MarzenaPiotrowska, Sarah Wise, Nigel Davies
Year of publication	2018
Location	UK
Industry: Sector	Retail: Not Stated
Research Nature	Theoretical
Methodology	Literature Review

NO.18	
Title	The impact of Covid-19 on consumers; Preparing for Digital Sales
Authors	Rae Yule Kim
Year of publication	2020
Location	UK
Industry: Sector	Retail: Not Stated
Research Nature	Theoretical
Methodology	Literature Review

NO.19	
Title	INTERNATIONALIZATION THROUGH E-COMMERCE. THE CASE OF MULTI-- BRAND LUXURY RETAILERS IN THE FASHION INDUSTRY
Authors	Simone Guercini and Andrea Runfola
Year of publication	2012

Location	UK
Industry: Sector	Retail: Not Stated
Research Nature	Theoretical
Methodology	Literature Review

NO.20	
Title	A Taxonomy of SME E-Commerce Platforms Derived from a Market-Level Analysis
Authors	Christopher P. Holland & Manuela Gutiérrez-Leefmans
Year of publication	2018
Location	UK
Industry: Sector	Retail: Not Stated
Research Nature	Theoretical
Methodology	Literature Review
NO.21	

Title	Mobility Restrictions and E-Commerce: Holistic Balance in Madrid Centre during COVID-19 Lockdown
Authors	Rafael Villa and Andrés Monzón
Year of publication	2021
Location	UK
Industry: Sector	Retail: Not Stated
Research Nature	Theoretical
Methodology	Literature Review

NO.22	
Title	E-COMMERCE AND IT IMPACTS ON GLOBAL TREND AND MARKET
Authors	ShahrzadShahriari, MohammadrezaShahriari and Saeidgheiji
Year of publication	2015
Location	UK
Industry: Sector	Retail: Not Stated

Research Nature	Theoretical
Methodology	Literature Review

NO.23	
Title	Impact of Covid-19 on consumer buying behaviour toward online shopping in Iraq
Authors	Bayad Jamal Ali
Year of publication	2020
Location	UK
Industry: Sector	Retail: Not Stated
Research Nature	Theoretical
Methodology	Literature Review

NO.23	
Title	E-COMMERCE INFLUENCE ON CHANGES IN LOGISTICS PROCESSES

Authors	Jadwiga Żurek
Year of publication	2014
Location	UK
Industry: Sector	Retail: Not Stated
Research Nature	Theoretical
Methodology	Literature Review

NO.24	
Title	METHOD OF SUPPLY CHAIN OPTIMIZATION IN E-COMMERCE
Authors	Petr Suchánek and Robert Bucki
Year of publication	2011
Location	UK
Industry: Sector	Retail: Not Stated
Research Nature	Theoretical
Methodology	Literature Review

NO.25	
Title	Online retail experience and customer satisfaction: the mediating role of last mile delivery
Authors	YuliaVakulenko, Poja Shams, Daniel Hellström&KlasHjort
Year of publication	2019
Location	UK
Industry: Sector	Retail: Not Stated
Research Nature	Theoretical
Methodology	Literature Review