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THE KEY E-TAIL OPPORTUNITIES AND CHALLENGES IN THE LEBANESE E-COMMERCE MARKET

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Abstract:

The e-tailing market in Lebanon is an active market and is growing steadily in the most recent years. The main aim of this research is to identify the key opportunities and challenges that e-tailing is encountering in Lebanon. Exploring these opportunities and challenges is based on a case study research strategy for gathering the necessary quantitative and qualitative data as required for answering the main research questions. The research findings indicate that the growth of the digital variables which include the internet users, social media users, mobile connections, and mobile social users have contributed to the most recent growth of e-tailing in Lebanon. Furthermore, the main challenges that are hindering e-tailing growth include the undeveloped ICT infrastructure, poor internet speed and high costs, online fraud and insecure transactions, and lack of laws and regulations for protecting online customers.

Keywords:

Electronic Retail, Business Models, Digital Growth

Introduction

Electronic Commerce (E-commerce)

Information and communication technologies are allowing companies to generate profits and to create value for their customers through e-commerce (Hanson and Kalyanam, 2020). The e-commerce is a modern business methodology that addresses the needs of businesses and customers (Joseph, 2019). Organizations are adopting e-commerce for several reasons such as cutting cost, improving quality of goods and services, and improving service delivery (Joseph, 2019). E-commerce involves using modern information and communication technology to perform online business transactions (Laudon & Trevor, 2017). The online business

transactions are represented in the buying and selling transactions that take place online. E-commerce is a key component of e-business; e-business is the use of technology specifically the internet in order to execute business processes; e-commerce is a part of e-business that allows online transactions (Laudon & Laudon, 2017).

The online business transactions result in rich information, cost advantage, and improved communication (Heizer, Render and Munson, 2017). E-commerce provides several ways to exchange information within and between organizations which supports the corporate decision making. As an example of cost advantage, Coca-Cola was able to reduce its B2B transactional costs by 85% when it moved its offline customers online (Del Rowe, 2017). The growth and development of e-commerce rely on the available IT infrastructure and the relevant organization's investments (Ho, Kauffman & Liang, 2011). New technologies such as social media are significantly contributing to the development of e-commerce through engaging customer and improving customer interactivity (Hajli, 2017). The availability and access to modern technologies and e-commerce applications enhance the trade flow locally and globally (Xing, 2017). Furthermore, the growth of e-commerce mainly depends on the institutional laws and provisions that facilitate customers' online transactions and protect information in addition to many other e-commerce aspects (Blythe, 2014).

Electronic Retail (E-tail)
E-commerce market size will be increased significantly in the coming decade as firms must invest in their digital capabilities especially e-commerce in order to stay competent and in business (Del Rowe, 2017). Customer satisfaction, affordable prices, and ease of use have substantial impacts on the e-commerce market growth (Goldsborough, 2009). E-commerce growth is also enhanced by its main characteristics including the 24/7 operations, global reach, and the efficient customer relationship management (Joseph, 2019). Mobile computing platforms and social media have also contributed significantly to the growth of e-commerce and customer satisfaction (Hajli, 2017). The increased customer awareness through the extended markets access has also enhanced the sustainable growth of e-commerce and online business over the traditional business practices (Sur, 2018).

The internet and new technologies are key enablers for e-commerce especially e-tailing. These technologies resulted in the growth of e-commerce with special trade mode and global business opportunities (Zhou et al., 2020). The digital transformation of the economy enables the development of high-tech industries as well as the information and communication infrastructure (Melnyk, 2018). E-commerce is the fastest growing sector within the technology industry (Alibekova et al., 2020). The development of e-commerce has accelerated the customers' shift from offline to online shopping; furthermore, as we reasoned, this shift can be enhanced by the improved customer satisfaction as for example in the case of Amazon Prime Now service (Ramadan, Farah and Daouk, 2019).

Research Aims & Objectives
The main aim of this research is to determine the key factors that represent the main opportunities and challenges for e-tailing in Lebanon. Furthermore, to assess how these factors can impact the electronic retail market's performance and development within Lebanon. To do so, the following research objectives need to be achieved:

- Build a conceptual framework from the current literature in order to determine the main variables that have impacts on the growth of e-tailing.
- Gather the necessary quantitative and qualitative data as required for answering the research questions.
- Analyze the collected data and finalize the research conclusions.

Research Questions

The main research questions are focused on the key elements that represent the opportunities and the challenges for the e-tail market in Lebanon, as well as, the impacts of these elements on the e-tail market. The research questions are:

- What are the main opportunities and challenges within e-tail market?
- How these opportunities and challenges impact the e-tail market?

Literature Review

The literature review focuses on the topics that are closely connected to the stated research objectives and questions. The main e-commerce topics that will be discussed include: the e-commerce types, e-tailing, e-tailing business models, and the most important challenges and opportunities that the companies are facing in the e-tail markets.

E-commerce Types

The e-commerce main goal is to increase the revenues of the businesses through commercial transactions with other businesses and customers. The simplest definition of e-commerce is; e-commerce is the online buying and selling of goods and services through computing devices such as computers, tablets, or smartphones (Alfonso et al., 2021). Laudon & Trevor (2017) have identified three main types of e-commerce:

- Business-to-consumer (B2C) e-commerce;
- Business-to-business (B2B) e-commerce;
- Consumer-to-consumer (C2C) e-commerce.

E-commerce transactions can be either buy-side or sell-side (Chaffey, Edmundson-Bird & Hemphill, 2019). Buy-side e-commerce includes the transactions between the organization and its suppliers and business partners, and the sell-side e-commerce is between the organization and its customers (Chaffey, Edmundson-Bird & Hemphill, 2019). The advanced information systems solutions, software programs, and collaborations tools are the main enablers for many businesses to become digitalized (Ismail et al., 2017). For example, Walmart has always been at the forefront of adopting new technologies, making use of them across all its operations. Walmart had automated almost all its inventory management processes including suppliers' related processes through its SCM systems and internet technology. But this is not limited to the B2B e-commerce division of Walmart; the leading position of the company in adopting digital technologies for commercial purposes is one of the main important factors of the company's overall success (Malenkov et al., 2019).

E-commerce Growth

The digital transformation within business calls for significant changes in the organization's processes, structure, and systems in order to improve the business performance through investing in digital technology (Chaffey, Edmundson-Bird & Hemphill, 2019). Figure 1

displays the worldwide e-commerce growth between 2014 and 2021 and the expected e-commerce growth from 2022 until 2025. The rapid growth of internet in the most recent years in the developing countries have resulted in growth in the internet users where these users are ready to use the internet as their main shopping platform (Alshehri and Meziane, 2017). The increased internet penetration in Ukrain has resulted in increased internet users visits to e-commerce websites where 67% of the total internet users visit websites related to e-commerce (Babenko et al., 2019). Smartphones and mobile financial services are the main drivers of e-commerce growth in Nigeria because the smartphone is the first point of internet access for most of the people there (Adesoji, 2019). Moreover, the mobile payment services allow most people to pay remotely for their purchases because there is a substantial number of people don't have payment cards such as bank's credit or debit cards (Adesoji, 2017). In another study which took place in Slovakia the results showed that mobile digital technology is the most preferred online shopping device (Štefko, 2019). Social media has also resulted in positive impacts on the e-commerce recent growth (Singh & Singh, 2018). Small businesses are relying on social media platforms as a winning and competitive strategy in order to improve their products and services and to increase customer satisfaction (Consoli, 2017). Furthermore, mobile, social, and local e-commerce became major enablers for e-commerce (Laudon & Trevor, 2017). Mobile commerce is growing significantly because most people are using smartphones for accessing the internet (Laudon and Laudon, 2017). Mobile commerce is an enabler for all e-commerce transactions such as B2C, B2B, and C2C, it also allows customers to access social sites and locate local merchants (Laudon and Laudon, 2017). Ease of use and convenience are main supporting factors for e-commerce growth in the most recent years as well (Mansur et al., 2019). Furthermore, user's confidence is a main enabler for the e-commerce sustainable growth (Mansur et al., 2019).
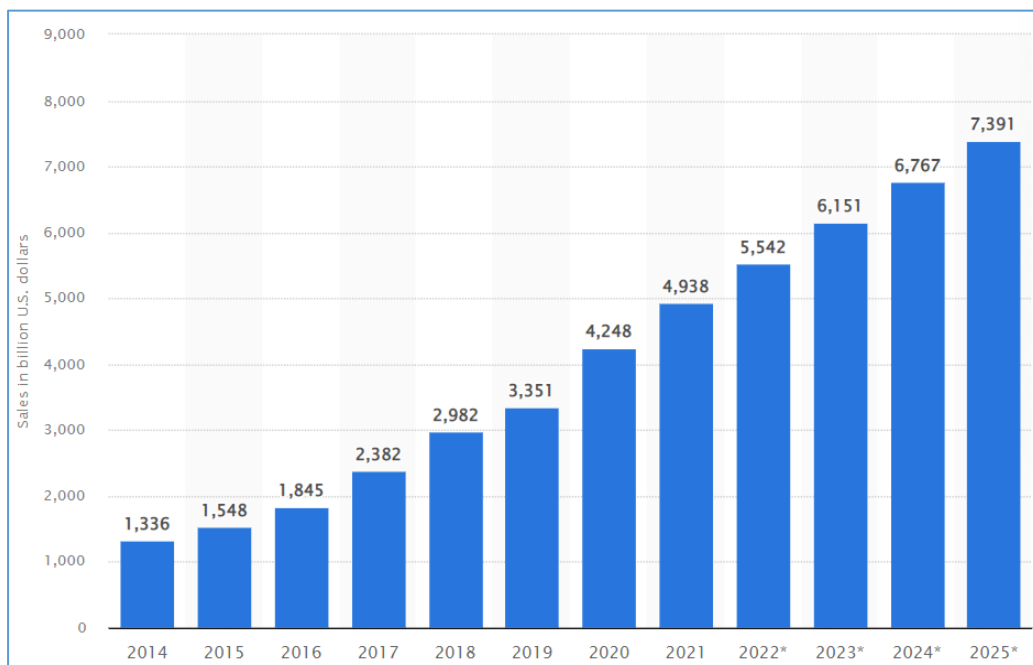

Figure 1: Retail E-commerce Sales between 2014 and 2025

Source: (Statista, 2022)

E-Commerce Challenges

Lack of information and communication technology (ICT) infrastructure is one of the main reasons behind the slow growth of e-commerce (Alshehri and Meziane, 2017). High speed internet and online security are the main challenges for e-commerce development in the developing economies (Xing, 2017). Internet global diffusion and other digital technologies such as smartphones and social media are key enablers for e-commerce growth, but lack of ICT infrastructure slows down this growth in developing countries (Vinod, Tasleem, and Majid, 2014). The continuous power outages are also preventing the smooth adoption of ICT by companies and non-governmental organizations (NGOs) in developing countries (Asare, Gopolang, and Mogotlhwane, 2012). The common challenges which are hindering the growth of e-commerce include: poor infrastructure services (e.g., electricity and ICT), low population size, and poor financial services (Karine, 2021). The technological and financial factors are the most critical factors impacting the growth of e-commerce in developing countries (Dahbi & Benmoussa, 2019).

Electronic Retail (E-Tailing)

E-commerce is a natural fit for retailers selling small consumer items such as hand wearables, gifts, clothes, and electronics among thousands of other items, because these products are easy to choose, commonly sold online, and inexpensive to ship (Ordysinski, 2011). The online retail stores are often called e-tailers, and the main difference between the traditional shop and the e-tailer is that the customers need to connect online to buy what they need (Laudon and Laudon, 2017). E-tailing is the online buy and sell transactions of goods and services between a business and its customers (Corporate Finance Institute, 2022). E-tailing is a B2C e-commerce which is mainly focused on selling products and services to individual customers (Laudon & Trevor, 2017). E-tailing's digital products are delivered to the customer directly online while non-digital products are delivered by other logistic means (Gupta & Hooda, 2011).

E-Tailing Business Models

In order to identify the main challenges and opportunities in e-tailing markets, we need to understand e-tailing business models and how they operate. According to Laudon and Laudon (2017), e-tail is one of the e-commerce B2C business models which include: e-tailer (online retail store), community provider (social platform for online transactions), content provider (information content provider), portal (search tools and centralized contents), transaction broker (transaction platforms), market creator (digital marketplaces), and service provider (online).

The e-commerce business model is the concept based on the ways of generating revenues and creating value (Turban's et al., 2015). Laudon and Laudon (2017) argued that a successful e-commerce business model should be based on eight elements including: value proposition, revenue model, market opportunity, competitive environment, competitive advantage, market strategy, organizational development, and management team. Hsu et al. (2008) classified the e-commerce business models based on three roles: supplier-oriented, consumer-oriented, and supporter-oriented. The supplier-oriented role includes the content provider, the e-tailer, and the manufacturing models; the consumer-oriented role includes the community and user creating models; and the supporter-oriented role includes the affiliate, brokerage, and trust intermediary models (Hsu et al., 2008). Hsu et al. (2008) stated that e-commerce business models tend to be more interactive and participable, and that the supporter-oriented and user-

oriented business models have more adoptive rates than the supplier-oriented business models. E-tailing business models are classified into four main types (Laudon & Trevor, 2017):

- Virtual Merchants: e-commerce firms that generate their revenues from online sales.
- Omni-channel Merchants (BRICKS-AND-CLICKS): companies that offer their products in physical stores and online.
- Catalog-Merchants: established companies that have a national offline catalog operation and recently developed online capabilities.
- Manufacturer-Direct firms: manufacturers who sell directly online to consumers.

Turban et al. (2015) have classified six categories of e-tailing business models based on the distribution channel used:

- Traditional mail-order retailers who also sell online.
- Direct marketing by manufacturers: direct online sales to the customers in addition to selling via retailers.
- Pure-play e-tailers: e-tailers who sell only online.
- Click-and-mortar ("brick-and-click") retailers: retailers who provide online offering to support their regular business activities.
- Internet (online) malls: a website that includes many stores.
- Flash sales: offering online discounts to the customers either directly or through intermediaries.

Chen et al. (2020) have determined two possible business models for e-tailers: the reselling model and the agency selling model. The main factors that determine the e-tailing systems' success include information quality, system quality, service quality, product quality, and perceived price (Wang et al., 2018). Firms typically make use of more than one business models at the same time to stay competitive, however, they have to pay extra attention in order not to have an offering that is too confusing to the customers (Stewart & Zhao, 2000).

E-tailing Market Opportunities
The internet has provided substantial opportunities for e-tailing market development as many of the existing brick-and-mortar retailers already have online retailing (Altıntaş et al., 2019). Online consumers are buying variety of products including expensive jewelries, cars, big TV screens, and building supplies (Turban et al., 2015). Many of the early pure-play online firms who pioneered the online retail had failed because they misjudged the success factors in this market (Laudon & Trevor, 2017). E-Tailing is growing faster than its offline counterparts even though it represents only 8% of the entire retail market based on the new functionalities and product lines being added on daily basis to this market (Laudon & Trevor, 2017). According to Doherty & Ellis-Chadwick (2006) the adoption of the online retailing by firms is driven by the organizational readiness and to a great extent by the external pressures.

The rapid advancement of digital technologies and services along with the continuous entrepreneurial innovations in business and marketing will ensure the full transformation of the coming decades into digitally enabled social and commercial life (Laudon & Trevor, 2017). The ICT infrastructure services (e.g., internet services and mobile services), social networks, and flexible and reliable financial services are vital opportunities for e-tailing success (Xu & Quaddus, 2009). Technology readiness and e-service quality have positive impacts on the

online retailing through influencing the customers' purchasing decisions (Mummalaneni, Meng and Elliott, 2016). Furthermore, there is a positive relationship between the adoption of the B2C e-commerce, and technology access, human resources development, and the political and regulatory environment (Adam, Alhassan & Afriyie, 2020).

Additional factors that can enhance e-tailing opportunities include transactions security, affordable prices, vendor quality, and advanced digital services (Liao & Cheung, 2001). Payment security has substantial impacts on the online shoppers' purchasing decision and intentions (Zhao et al., 2021). Customer's online purchasing intentions are influenced by the personal online experience in terms of the perceived value and satisfaction which are also influenced by the information quality, system quality and service quality (Wang, 2008).
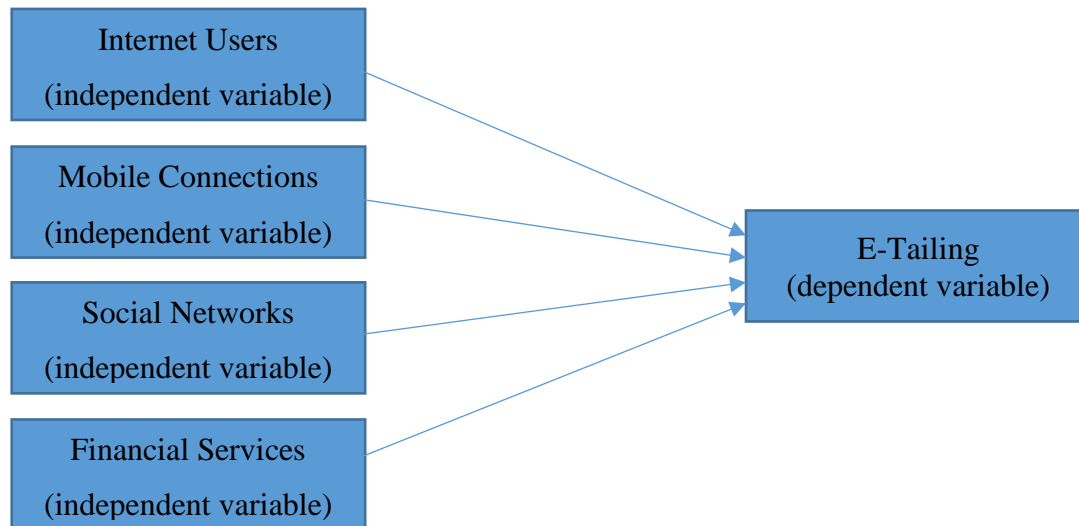
E-tailing Market Challenges
The government bureaucracies, poor telecommunication infrastructure, and the lack of information technology competencies are the main challenges for e-commerce growth (Dahbi & Benmoussa, 2019). The lack of digital technologies such as IT infrastructure, mobile network, and internet speed and availability prevent customers from purchasing online (Karine, 2021). Poor infrastructural services such as continuous power outages in developing countries and traditional banking and financial services contribute to hindering online purchases (Karine, 2021). The technological and financial factors are the most critical factors impacting the growth of e-tailing in developing countries (Dahbi & Benmoussa, 2019). Other challenges such as information security and online frauds can also hinder the growth of e-tailing and ecommerce (Turban et al., 2015). The commercial development of the internet has costs for individuals, organizations, and societies because the internet technology and its uses in e-commerce disrupt the existing social and business relationships (Laudon & Trevor, 2017). Moreover, there are major issues emerged with e-commerce such as information rights, property rights, governance, and public safety and welfare; in addition to the ethical, social, and the political controversies (Laudon & Trevor, 2017).

As a result, the e-commerce opportunities which include the technological advancements, e-markets developments, political and regulatory environment, business readiness, public technology literacy, and customer satisfaction can turn into challenges due to the reasons explained within this section.

Summary of Literature Review
The contemporary digital economy and digital transactions such as e-commerce are based on digital enabling infrastructure which consists of information technology, telecommunication equipment and services, organizations, Internet of Things, and support services (Barefoot et al., 2018). The technological innovation and the resulting digital technologies including internet diffusion, mobile devices, social networks, and secure online transactions are main enablers for digital transactions (Bukht & Heeks, 2017). Based on the majority of research, the internet diffusion and accessibility (Alshehri and Meziane, 2017); smartphones, mobile services, contemporary financial services such as mobile payments and wallets (Adesoji, 2019), social networks (Singh & Singh, 2018), and mobile commerce (Laudon and Laudon, 2017) are vital enablers for e-tailing through creating real opportunities for the online retail growth. At the same time, the majority of research determined lack of ICT infrastructure (Alshehri and Meziane, 2017), poor infrastructure services (e.g., telecommunications and power supply), lack of population, lack of financial services (Karine, 2021), poor internet speed

and insecure online transactions (Xing, 2017), lack of access to smartphones, poor mobile services, and social networks (Vinod, Tasleem, and Majid, 2014) as the main challenges which hinder the growth of e-tailing especially in developing and poor countries. Based on the presented literature review the following conceptual framework has been developed:

Research Methodology

Overview
The adopted research approach for this study is abductive with descriptive research purpose. Abductive research adopts range of research methods and data types in order to satisfy the main research purpose (Saunders, Lewis and Thornhill, 2019). The descriptive research provides the necessary answers about a certain situation or event and answers variety of questions including what and how (Greener, 2008).

Methodological Choice
This research is based on mixed research methods which use quantitative and qualitative secondary data for answering the main research questions and hence achieve the main research aim. Secondary data is the data which is collected by other researchers, organizations, and institutions and there is a vast amount of secondary data accessible over the web (Greener, 2008). The collected secondary data for this research includes statistical figures and thematic information.

Research Strategy
This research is based on case study strategy to collect the necessary research data from the available data sources about the main e-tailing opportunities and challenges in Lebanon. The data sources include statistical organizations, governmental institutions, and other specialized international and research organizations. The numerical data for this research were retrieved online from the Datareportal website which is a specialized statistical website. The qualitative data were collected online as well from the websites of the Lebanese Ministry of Economy & Trade, International Trade Administration, Executive Magazine, and LLOYDS Bank. Both types of data are available online and can be accessed freely. Thus, the collected research data can be accessed through the websites URLs as provided in the list of references.

Data Analysis Techniques

The gathered quantitative data about the digital variables, financial services, and online purchases were analyzed using inferential statistics (correlations) and descriptive statistics (exploratory charts) based on MS Excel software. The gathered qualitative data were analyzed using Thematic analysis.

Data Findings & Analysis

This chapter includes the data analysis and interpretations to deduce the relationship between the digital variables, financial factors, and e-tailing market in Lebanon. We will also discuss the main challenges of the e-tailing in the Lebanese market.

Data Findings

Table 1: Digital Indicators/Variables

	2017	2018	2019	2020	2021
Total Population	6.01 m	6.09 m	6.08 m	6.84 m	6.8 m
Internet Users	4.55 m	5.54 m	5.55 m	5.35 m	5.31 m
Active Social Media Users	3.50 m	4.00 m	4.00 m	4.1 m	4.37 m
Mobile Connections	4.48 m	4.56 m	4.65 m	4.65 m	4.57 m
Active Mobile Social Users	3.10 m	3.60 m	3.80 m	4.1 m	4.34 m

Source: (Datareportal, 2021)

Table 1 presents the real figures about the main digital indicators as key enablers for e-tailing in Lebanon for the period between 2017 and 2021. Based on the digital indicators as presented in Table1, the total population has increased from 6.01 m to 6.8 m. At the same time, the rate of the internet users has also grown from 4.55 m to 5.31 m during the same period. This is equal to 78% of the population who has access to the internet, while in 2017 the internet users represented 75% of the total population. The number of active social media users has also grown from 3.5 m to 4.37 m with 6% increase (from 58% to 64% of the total population). The number of mobile connections has also increased from 4.48 m to 4.57 m within the same period but it can be noticed that the mobile connections declined from 4.65 m in 2019 and 2020 to 4.57 m in 2021 which might be caused by the current economic crisis which the country is encountering. The largest increase can be observed in the number of active mobile social users that has increased from 3.10 m to 4.34 m within the same period (from 51% in 2017 to 64% in 2021).

Table 2: Annual Digital Growth - Yearly Changes In Key Digital Indicators

	2017	2018	2019	2020	2021
Population	0.1%	0.2%	-0.1%	-0.2%	-0.6%
Internet Users	+3% (+123k)	+22% (+995k)	+0.1% (+6.475k)	-0.2% (-13k)	-0.6% (-34k)
Active Social Media Users	+35% (+900k)	+14% (+500k)	0% (unchanged)	+6.8% (+261k)	0% (unchanged)
Mobile Connections	+3% (+141k)	+2% (+79k)	+2% (+89k)	+0.9% (+41k)	0.8% (+35k)

Active Mobile Social Users	+35% (+800k)	+16% (+500k)	+5.6% (+200k)	+7.9% (+300k)	+5.9% (240k)

Source: (Datareportal, 2021)

Table 2 depicts the yearly digital growth / digital adoption changes in percentages, as well as, in thousands for each digital indicator for the period between 2017 and 2021. Before start explaining the digital indicators performance, the data depicts that the total population has decreased from 0.1% and 0.2% in 2017 and 2018 respectively to -0.6% in 2021. With this information in mind, the internet users' growth has increased from 3% to 22% within 2017 and 2018 respectively and scored -0.6% decline by 2021. The Active social media users' growth has also decreased from 35% in 2017 to 0% in 2019 with minor growth by 6.8% in 2020 and another decline to 0% by 2021. Mobile connections growth has been declined from 3% in 2017 to 0.8% by 2021. Furthermore, the active mobile social users' growth has also decreased from 35% in 2017 to 5.9% in 2021.

Table 3: Financial Services

	2017	2018	2019	2020	2021
Bank Accounts	47%	47%	45.6%	45%	44.8%
Credit Card	11%	11%	13.6%	15%	14.9%
Mobile Money Account	0.7%	0.7%	0.7%	0.7%	0.7%

Source: (Datareportal, 2021)

The financial services and e-commerce data table shows the necessary data about the financial services included in this study and the necessary data about the online purchases in Lebanon during the period between 2017 and 2021. To start with the studied financial services, the first financial service which is the Bank Accounts showed slight decline from 47% to 44.8% during the specified period which might be related to other factors such as the COVID-19 pandemic as well as the current financial crisis in the country. The Credit Card service showed remarkable growth between 2018 and 2020 as it increased from 11% to 15% within these three years, while in 2021 it declined slightly by 0.01%. Another financial service is the Mobile Money Account which showed stability without any growth or decline between 2017 and 2021 where 0.7% of the total population using such accounts. This stability might be connected to other reasons that can be studied and analyzed in another research scope.

Table 3: Online Purchases/E-Tailing

	2017	2018	2019	2020	2021
Online Purchases	4%	4%	12.1%	16%	16.4%

Source: (Datareportal, 2021)

The online purchase which includes the electronic retail as well as the online bills payments showed steady and continuous growth between 2017 and 2021 as it increased from 4% up to 16.4% within these years. In 2019 the online purchases jumped from 4% to 12.1% and it continued its growth to reach 16% and 16.4% within 2020 and 2021 respectively.

E-commerce Challenges
The data in this section are based on an e-commerce survey which is published on the website of the Lebanese Ministry of Economy & Trade. The survey is about e-commerce challenges in Lebanon and it identified 75 businesses involved in B2C e-commerce where 56 of those

businesses responded to the survey (Ministry of Economy & Trade, 2011). According the Ministry of Economy & Trade (2011) the results of the survey came as the following:
The main stoppers of e-tailing in Lebanon are:

-   The high cost of Internet and the telecommunications infrastructure;
-   The unavailability of fast internet connections (broadband);
-   The lack of confidence of the consumer in Internet transactions;
-   The lack of a regulatory framework;
-   The high cost of shipping packages.

The most recent situation about the above e-tailing stoppers is summarized in the following table based on the most recent studies and surveys:

Table 4: E-Tailing Challenges

International Trade Administration (2021)	Executive Magazine. Nahas (2021)	LLOYDS Bank (2022)
Slow internet speeds and high connectivity costs	Lack of sufficient and developed ICT infrastructure.	Lack of trust when it comes to online payment security
Poor ICT infrastructure	Current legal system doesn't meet the international legal standards that protect customers in their online shopping process.	Poor e-commerce laws or a regulatory framework for e-transactions

The most recent studies have identified that the old e-tailing challenges are still existing except for the high cost of shipping packages.

Data Analysis & Discussion

Digital Indicators/Variables
The data analysis shows a moderate correlation between population and other digital variables including the internet users, active social media users, and mobile social users, and a strong correlation between population and mobile connections/subscriptions. Also, the data analysis shows strong correlation between social media users and mobile connections/subscriptions, and between mobile connections/subscriptions and mobile social users, and very strong correlation between mobile social users and social media users.

	Population	Internet_Users	SocialMedia_Users	Mobile_Connections	MobileSocial_Users
Population	1.000000	0.663443	0.642813	0.779814	0.611260
Internet_Users	0.663443	1.000000	0.249476	0.290952	0.228953
SocialMedia_Users	0.642813	0.249476	1.000000	0.794677	0.992279
Mobile_Connections	0.779814	0.290952	0.794677	1.000000	0.829398
MobileSocial_Users	0.611260	0.228953	0.992279	0.829398	1.000000

Figure 1: Digital Variables Correlations

The digital variables have a positive relationship with the total population wherein the total population growth has been accompanied with digital growth in the studied digital variables in Lebanon between 2017 and 2021. There is also a strong and developing relationship between the active social media users and the mobile subscribers. Based on the figures of the active social media users and the active mobile social users within the last two years, it can be inferred that almost all the active social media users are accessing their social media accounts from their mobile devices. During 2019 and 2020, the figures showed that there are 4 and 4.1 million active social media users as well as 3.8 and 4.1 million active mobile social users respectively. Therefore, almost all the active social media users during the last two years are accessing their social media accounts from their mobile devices. As a result, it can be concluded that there is a substantial growth in the given digital indicators over the past five years in Lebanon.

The growth in population has increased the internet users significantly especially in 2017 and 2018. The 0.1% and 0.2% increase in the population in these years has increased the internet users by 3% and 22% within the same years respectively. While in the last three years from 2019 until 2021 the decrease in the population has resulted in decrease in the internet users' growth in Lebanon for the same years. The active social media users have also been impacted by the population's growth rates as it increased by 35% and 14% in 2017 and 2018 respectively as the population grew by 0.1% and 0.2% during the same years. However, the active social media users' growth scored 6.8% in 2020 which less than the half of the growth rate scored in 2018 as the population's growth scored -0.2% for the same year. For years 2019 and 2021, the active social media users' figures were 0% as the population's digital adoption decreased by -0.1% and -0.6% in the same years respectively. The mobile connections/subscriptions growth continued to increase by 3%, 2%, and 2% from 2017 until 2019, while declined to 0.9%, and 0.8% within 2020 and 2021 respectively. The growth in mobile connections within 2017 and 2018 has been accompanied with growth in population by 0.1% and 0.2% for the same years respectively. While the decline in the population growth rates which started in 2019 and continued until 2021 has resulted in decline in the mobile connections growth within 2020 and 2021 by 0.9% and 0.8% respectively. As a result, the mobile connections/subscriptions indicator has been impacted by the population's growth and both are positively related. The active mobile social users continued to grow by 35%, 16%, and 5.6% during 2017, 2018, and 2019 respectively. It can be noticed that the active mobile social users declined substantially between 2017 and 2019 as the active social media users and population's growth declined over the same years. In 2020 and 2021, the active mobile social users' indicator started to improve again despite the decline in the rest of the digital indicators as well as the population which means that more people are accessing social media from their mobile devices. Finally, the interpreted results show a positive relationship between the growth of the population and the digital adoption, and hence the growth of the digital variables under study. In other words, the growth in the digital adoption between 2017 and 2021 has led to growth in the digital variables within this study, while the decline in the digital adoption's growth resulted in decline in the growth of the same digital variables.

Financial Services

The financial data analysis in Figure 2 shows a very strong positive correlation between credit card and online purchases. The other financial variables within this study don't provide any statistical significance with the online purchases.

	Bank Accounts	Credit Card	Mobile Money Account	Online Purchases
Bank Accounts	1.000000e+00	-9.759001e-01	-3.723801e-15	-9.890707e-01
Credit Card	-9.759001e-01	1.000000e+00	3.028382e-16	9.974087e-01
Mobile Money Account	-3.723801e-15	3.028382e-16	1.000000e+00	1.023084e-16
Online Purchases	-9.890707e-01	9.974087e-01	1.023084e-16	1.000000e+00

Figure 2: Financial Variables Correlations

Figure 3 shows the performance of the financial variables based on Table 3. The below figure shows that the financial services had poor performance between 2017 and 2021 except for the credit card variable which showed slow and gradual increase between 2018 and 2021. This growth interprets the psoitive relationship between credit card and online purchases which is supported by the strong positive correlation between both variables.
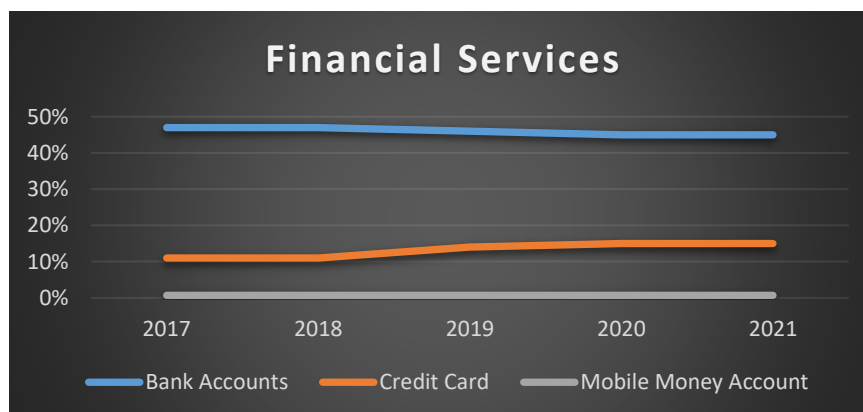

Figure 3: Financial Services Performance

Online Purchases

The following linear chart display the substantial growth of online purchases in Lebanon. The online purchases increased from 4% in 2017 and 2018 to 12% and 16% in 2019 and 2020 respectively. This growth in the online purchases is accompanied with growth in the digital variables including the internet users, active social media users, mobile connections, and mobile social media users.
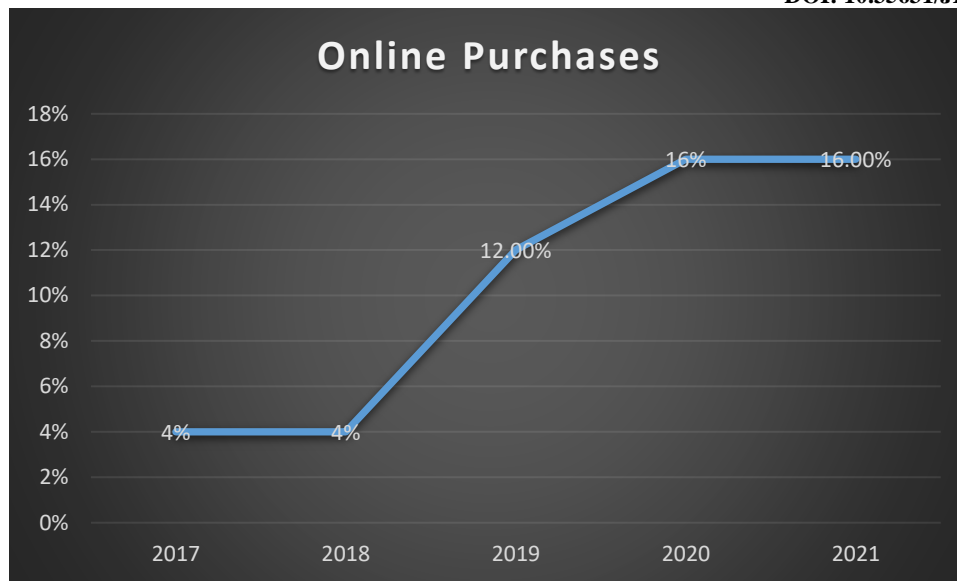
Figure 3: Online Purchases Performance

Online Purchases Challenges
Based on the provided data findings and the performed thematic analysis the challenges which continue to impact the e-tailing sector in Lebanon are:

- The undeveloped ICT infrastructure.
- Poor internet speed and high costs.
- Online fraud and insecure online transactions
- Lack of laws and regulations for protecting online customers.

Summary of Data Findings & Analysis
The increase in total population in Lebanon for the period between 2017 and 2021 has resulted in growth in the digital variables which include the internet users, active social media users, mobile connections/subscriptions, and active mobile social users. This growth is a result of the positive relationship between the total population and the digital variables under study. The data analysis presented a positive moderate correlation between the total population and the other digital variables. Furthermore, the data analysis depicted strong correlations between social media users and mobile connections/subscriptions, and between mobile connections/subscriptions and mobile social users, and very strong correlation between mobile social users and social media users. The decline in the total population growth which started in 2019 and continued until 2021 resulted in decline in the growth of internet users as well as slow growth of other digital variables.

The financial service that are discussed in this study have witnessed weak performance between 2017 and 2021. The bank accounts growth has declined from 47% down to 44.8% between 2017 and 2021 which can be understood as a result of the ongoing economic crisis within the country. As for the credit cards factor, it showed steady growth between 2017 and 2020 with minor decline in the growth by 0.1% during 2021. However, the mobile money accounts factor didn't show any growth improvements or decline between 2017 and 2021, as its growth rate continued to score 0.75 over the same period. The data analysis presented a strong positive correlation between the credit card factor and the online purchases. The online purchase

showed steady and continuous growth between 2017 and 2021 as it increased from 4% up to 16.4% within these years.

In 2019 the online purchases jumped from 4% to 12.1% and it continued its growth to reach 16% and 16.4% within 2020 and 2021 respectively. This growth has been accompanied with growth of other digital variables under this study. Regarding the e-tailing challenges in Lebanon, based on the most recent and previous studies the main challenges that can result in negative impacts on the e-tailing in Lebanon include: the undeveloped ICT infrastructure, poor internet speed and high costs, online fraud and insecure online transactions, and lack of laws and regulations for protecting online customers.

Conclusion, Limitations, and Recommendations

Conclusion
The growth of the digital variables including the internet users, social media users, mobile connections, and mobile social users within the period 2017-2021 in Lebanon has resulted in growth in e-tailing (online purchases). Technology readiness (Mummalaneni, Meng and Elliott, 2016) and digital technologies are vital enablers for e-tailing (Laudon & Trevor, 2017). These technologies include internet services, mobile services, social networks, and electronic financial services (Xu & Quaddus, 2009). The growth of the digital adoption rates in Lebanon which was enhanced by the growth of the population has enhanced the e-tailing growth. Based on that, the e-tailing growth scored 4%, 4%, 12.1%, 16%, and 16.4% within 2017-2021 respectively. However, the financial services didn't play a remarkable role in the growth of e-tailing in Lebanon within the same period. As for the key e-tailing challenges, the research results determined that the undeveloped ICT infrastructure, poor internet speed and high costs, online fraud and insecure transactions, and lack of laws and regulations for protecting online customers are the main challenges which are slowing down the rapid growth of e-tailing in Lebanon. Technology infrastructure (Dahbi & Benmoussa, 2019), internet speed and costs (Karine, 2021), online security (Xing, 2017), and supportive regulatory framework (Adam, Alhassan & Afriyie, 2020) are the main challenges which can hinder the growth of e-commerce business. However, despite the low internet speed and high connectivity costs many e-tailing ventures have emerged in Lebanon during the COVID-19 pandemic and the resulted business closures (International Trade Administration, 2021).

Limitations
The main limitations that impacted the results of this research can be summarized in the following points:

- The limitation of the data availability about the digital variables that have influences on the e-tail market in Lebanon.
- The data related to the years between 2019 and 2021 was impacted substantially by other factors such as the COVID-19 pandemic and the current economic & financial crisis which might not reflect the real/normal e-tailing growth trends as such factors might not persist in the future.
- The available data doesn't include the e-commerce transactions data including the transactions platforms, products, payment methods, and customers among many others.

Recommendations

The following recommendations can help improving the results of any future research that will focus on the e-tail market in Lebanon:

- Including the online customers and business in any future research will enhance the current research findings about the e-tailing opportunities and challenges in Lebanon.
- Future research including e-commerce transactions data can help finding the key relationships between the e-tail market and other factors such as products, customers, and financial institutions.
- The political and economic stability can help improving the quality of the gathered data and thus results in improved research results in the future.

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