


THE IMPACT OF E-COMMERCE AS A MEDIATOR ON CONSUMER TRUST IN INDEPENDENT SMALL AND MEDIUM LEBANESE RETAIL ENTERPRISES

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ARTICLE INFO	ABSTRACT
<p>Article history: Received: April, 22nd 2024 Accepted: June, 21st 2024</p>	<p>Objective: The objective of this study is to investigate the effect of consumer trust on small and medium enterprises (SMEs) in the retail industry, with the aim of proposing a model for electronic commerce as a mediating factor between retail SMEs and consumer trust.</p>
<p>Keywords: E-Commerce; Small and Medium Enterprises (SMEs); Retail; Consumer Trust.</p> <div data-bbox="172 1003 480 1249" style="text-align: center;">  </div>	<p>Theoretical Framework: In this topic, the main concepts and theories that underpin the research are presented. The Technology Acceptance Model (TAM), Trust Theory, and the Diffusion of Innovations Theory stand out, providing a solid basis for understanding the context of the investigation.</p> <p>Method: The methodology adopted for this research comprises a mixed-methods study design, including a quantitative approach. Participants included SME owners and consumers. Data collection was carried out through surveys, utilizing questionnaires to gather comprehensive insights.</p> <p>Results and Discussion: The results obtained revealed that e-commerce adoption significantly boosts consumer trust in SMEs, providing them with a competitive edge in the market. In the discussion section, these results are contextualized in light of the theoretical framework, highlighting the implications and relationships identified noting the limitations of the study, such as sample size and scope.</p> <p>Research Implications: The practical and theoretical implications of this research are discussed, providing insights into how the results can be applied or influence practices in the field of retail management and e-commerce. These implications could encompass strategic planning for SMEs, consumer behavior analysis, and digital marketing strategies.</p> <p>Originality/Value: This study contributes to the literature by proposing a new model that positions electronic commerce as a mediating factor between retail SMEs and consumer trust. The relevance and value of this research are evidenced by the potential impact on enhancing consumer trust and competitive advantage in the retail industry, particularly in the post-pandemic era.</p> <p>Doi: https://doi.org/10.26668/businessreview/2024.v9i7.4771</p>

O IMPACTO DO COMÉRCIO ELETRÔNICO COMO MEDIADOR DA CONFIANÇA DO CONSUMIDOR EM PEQUENAS E MÉDIAS EMPRESAS VAREJISTAS LIBANESAS INDEPENDENTES

RESUMO

Objetivo: O objetivo deste estudo é investigar o efeito da confiança do consumidor nas pequenas e médias empresas (PMEs) do setor de varejo, com o intuito de propor um modelo para o comércio eletrônico como fator mediador entre as PMEs de varejo e a confiança do consumidor.

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Estrutura Teórica: Neste tópico, são apresentados os principais conceitos e teorias que sustentam a pesquisa. Destacam-se o Modelo de Aceitação de Tecnologia (TAM), a Teoria da Confiança e a Teoria da Difusão de Inovações, que fornecem uma base sólida para a compreensão do contexto da pesquisa.

Método: A metodologia adotada para esta pesquisa compreende um projeto de estudo de métodos mistos, incluindo uma abordagem quantitativa. Os participantes incluíram proprietários de PMEs e consumidores. A coleta de dados foi realizada por meio de pesquisas, utilizando questionários para obter percepções abrangentes.

Resultados e Discussão: Os resultados obtidos revelaram que a adoção do comércio eletrônico aumenta significativamente a confiança do consumidor nas PMEs, proporcionando a elas uma vantagem competitiva no mercado. Na seção de discussão, esses resultados são contextualizados à luz da estrutura teórica, destacando as implicações e os relacionamentos identificados, observando as limitações do estudo, como o tamanho e o escopo da amostra.

Implicações da Pesquisa: As implicações práticas e teóricas desta pesquisa são discutidas, fornecendo insights sobre como os resultados podem ser aplicados ou influenciar as práticas no campo da gestão de varejo e do comércio eletrônico. Essas implicações podem abranger o planejamento estratégico para PMEs, a análise do comportamento do consumidor e as estratégias de marketing digital.

Originalidade/Valor: Este estudo contribui para a literatura ao propor um novo modelo que posiciona o comércio eletrônico como um fator mediador entre as PMEs de varejo e a confiança do consumidor. A relevância e o valor dessa pesquisa são evidenciados pelo impacto potencial no aumento da confiança do consumidor e da vantagem competitiva no setor de varejo, especialmente na era pós-pandemia.

Palavras-chave: Comércio Eletrônico, Pequenas e Médias Empresas (PMEs), Varejo, Confiança do Consumidor.

EL IMPACTO DEL COMERCIO ELECTRÓNICO COMO MEDIADOR EN LA CONFIANZA DEL CONSUMIDOR EN PEQUEÑAS Y MEDIANAS EMPRESAS MINORISTAS LIBANESAS INDEPENDIENTES

RESUMEN

Objetivo: El objetivo de este estudio es investigar el efecto de la confianza del consumidor en las pequeñas y medianas empresas (PYME) del sector minorista, con el fin de proponer un modelo de comercio electrónico como factor mediador entre las PYME minoristas y la confianza del consumidor.

Marco Teórico: En este tema se presentan los principales conceptos y teorías que sustentan la investigación. Destacan el Modelo de Aceptación de la Tecnología (TAM), la Teoría de la Confianza y la Teoría de la Difusión de las Innovaciones, que proporcionan una base sólida para comprender el contexto de la investigación.

Metodología: La metodología adoptada para esta investigación comprende un diseño de estudio de métodos mixtos, incluyendo un enfoque cuantitativo. Los participantes fueron propietarios de PYME y consumidores. La recogida de datos se llevó a cabo a través de encuestas, utilizando cuestionarios para recabar información exhaustiva.

Resultados y Discusión: Los resultados obtenidos revelan que la adopción del comercio electrónico aumenta significativamente la confianza de los consumidores en las PYME, proporcionándoles una ventaja competitiva en el mercado. En la sección de discusión, estos resultados se contextualizan a la luz del marco teórico, destacando las implicaciones y relaciones identificadas teniendo en cuenta las limitaciones del estudio, como el tamaño y el alcance de la muestra.

Implicaciones de la Investigación: Se discuten las implicaciones prácticas y teóricas de esta investigación, proporcionando una visión de cómo los resultados pueden aplicarse o influir en las prácticas en el campo de la gestión minorista y el comercio electrónico. Estas implicaciones podrían abarcar la planificación estratégica de las PYME, el análisis del comportamiento del consumidor y las estrategias de marketing digital.

Originalidad/Valor: Este estudio contribuye a la literatura proponiendo un nuevo modelo que posiciona al comercio electrónico como un factor mediador entre las PYMES minoristas y la confianza del consumidor. La pertinencia y el valor de esta investigación se ponen de manifiesto por el impacto potencial en la mejora de la confianza del consumidor y la ventaja competitiva en el sector minorista, especialmente en la era pospandémica.

Palabras clave: Comercio Electrónico, Pequeñas y Medianas Empresas (PYME), Comercio Minorista, Confianza del Consumidor.

1 INTRODUCTION

Electronic Commerce is defined as the exchange of products, services and information through different and various means of telecommunication network (Clegg, Gholami and Al-Somali, 2011). With the discovery of World Wide Web (WWW) and the rapid development of Information Communication Technology (ICT), the adoption of ecommerce in business became almost unescapable and impossible to avoid. E-commerce became a channel for technological bridges between consumer and companies. (Ilesanmi, 2007).

E-commerce serves as a vital conduit for fostering technological connections between consumers and companies, reshaping the way transactions are conducted in the digital age (Jalil, Yang, Al-Okaily, & Rehman, 2024). Nowadays, large companies seek electronic commerce for better competitive advantage and globalized market competition. In this study, Small and Medium Enterprises are the main focus because they represent almost 95% of overall enterprises worldwide businesses worldwide and contribute to more than 50% of employment globally (World Bank SME Finance, 2019), yet they are considered as special cases to observe their nature, obstacles and barriers in the Market.

Large companies firstly understood the transition towards collaboration exchange and customer centered business because of their big facilities available in many domains such as financial income and resources and adoption of E-commerce in their organizations was beyond easy. Meanwhile, SMEs were still behind the largest in adopting new technologies due to different motives, vision and resources.

The problem consists of SMEs' unawareness of the fact that, while large companies are leading drivers for E-commerce, yet, they have different motives for its adoption like customer demands and competitiveness improvement. Large companies, with their extensive resources and facilities, quickly embraced e-commerce for its ability to enhance customer connections, Meanwhile, SMEs have been slower than larger firms in adopting new technologies because they face many barriers to stay in competition and are unconscious of what E-commerce can bring to them. Some are resistant to change, and others are just fearful of adoption failure. An attempt to describe the barriers of adoption in SMEs and the benefits of E-commerce for them will be made.

The impact of E-commerce on SMEs will be illustrated by studying their perceived barriers and benefits for adoption. It will highlight the unique and changing factors influencing firms and encourage them to keep up with technology tools, if not used for better competitive advantage and trust.

1.1 OBJECTIONG OF WORK

Investigate the impact of consumer trust on the adoption of electronic commerce by small and medium enterprises (SMEs) in the retail industry in Lebanon, with the aim of developing a model that highlights e-commerce as a mediating factor between retail SMEs and consumer trust, especially after the COVID-19 pandemic.

2 THEORETICAL FRAMEWORK

2.1 E-COMMERCE

The creation of “paperless” offices started in the early 1990s and the age of E-commerce was at 1995 were companies built web presence and began to conduct transactions online. Great examples of the history of e-commerce and its application were Amazon and EBay, the first two internet companies using electronic transactions.

With time, the Rise of internet, increase of platforms and social media in a huge amount has opened an opportunity for E-commerce to grow and increase the communication for retailers one on one with consumers, gaining an overall idea of what their end users required and what was their feedback into future product development (Hong Kong Trade Development Council, 2017).

As a definition, electronic commerce or abbreviated “E-commerce” is a term used for any type of business that involves the flow and transfer of information, regardless of its use across the internet. It allows consumers to electronically exchange products and services (Jolaoso, 2023). It is Activity of electronically buying or selling products online or over the Internet.

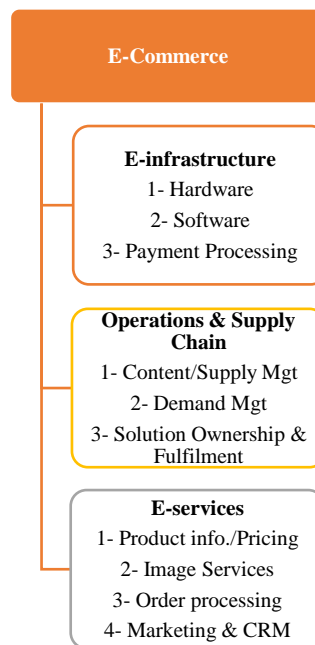
E-commerce is diversified by different types, Business to business (B2B) like online wholesaling, Business to consumer (B2C) such as electronic storefronts, Consumer to Business (C2B) where individuals create value that business consume, Consumer to Consumer (C2C) described by transactions between consumers, and the last most popular type, M-Commerce type that makes online buying and selling via wireless handheld devices like laptops, cellphones and others (Garrett and Skevington, 2013).

benefits of E-commerce came in big for companies. Taking as a general overview, it removed boundaries of time and space, decreased cost of promotion, advertisement, delivery and its transaction cost (Nejadirani et al., 2011, p. 757).

The Electronic Commerce framework consists of 3 levels: (1) E-infrastructure, as in hardware, software, database, and communication. (2) Services, summarized by the presentation of all kinds of information and products. (3) Operations and Supply chain, mainly defined by the allocation of goods, service and information to either customer or business and by the organization of electronic marketplace and its supply chain (Garrett and Skevington, 2013). Figure 1 illustrates.

Figure 1

E-commerce Framework



Segmenting E-commerce framework goes as follows: E-infrastructure is the technical components of business that makes ecommerce application works that includes its Hardware are generally personal computers, laptops, servers and others, its Software defined as a web server used to implement security and identification and tracking to identify the URL of visitors, their length of visit and their key words used in every search or a software that supports transaction processing, catalog management, shopping cart, product configuration and web traffic data analysis and its Payment Processing like checks, credit cards and debit cards or the new payment methods are e-cash, e-wallet and smart cards (Stefanini, 2023).

Operations & supply chain includes Content/Supply management that lays on allocating and planning for resources to meet demands in areas of client lays setups, product setups, and marketing content, Demand management that consists on anticipating market demand and

understanding customers buying patterns and developing forecasts and solution ownership & fulfilment to provide fast, accurate, and reliable delivery in areas of order fulfilment results, customer verifications to result in gaining competitive alignment through customer satisfaction and order promising (Lim, 2022).

E-services allow customers find their needs regardless to what it relates. It is a wide range of services that give the ability to find and present information offered through the internet used in many sectors such as banking, career site, travel, education, online publishing, delivery of media, marketing business, advertisement relations and so on.

Categories of e-services are Product Information Management, Pricing Management, Image Services, Order Processing, Marketing & CRM, Customer Support, and many others.

Ecommerce, compared to traditional commerce has an easy communication channel, where communications are made in asynchronous way, transactions handled by electronic systems, has a uniform strategy, no human intervention needed and universal platforms for commercial of business activities.

Ecommerce business enables non-cash payments, using credit cards, debit cards and any electronic card that transfer funds via banks along with different electronic payment such as PayPal and so on. The 24/7 service availability of ecommerce is an added value for customers making it available anytime and anywhere. The Marketing and Advertising sections is positively increasing with E-commerce.

E-commerce improved sales with anytime product order generation crossing distance boundaries without any human intervention. Adding to these, global out-reach, cost reduction, rapid time-to-market, increased speed, just-in-time business decisions and less importance of geography (Webandcrafts, 2023).

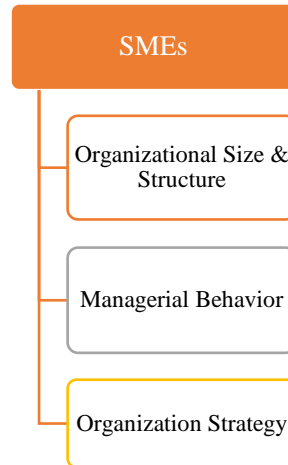
2.2 SMALL AND MEDIUM ENTERPRISES (SMES)

SMEs represent over 95% of businesses worldwide, and their development has been accelerated by globalization and e-commerce (Savrul, Incekara, & Sener, 2014). The definition of SMEs varies, with quantitative and qualitative criteria used to determine their size. Quantitative criteria include measures such as annual work units, turnover, number of employees, total assets, and annual revenue. On the other hand, qualitative criteria consider indicators related to management, personnel, organization type, sales, buyer relationships, and production. However, the quantitative concept is the predominant conceptualization when

discussing SMEs, it consists of three elements as provided in Figure 2: Organizational Size & Structure, Managerial Behavior and Organization Strategy.

Figure 2

SMEs Constructs



The number of employees defining small and medium firms differs across countries and industries. Generally, small firms have 5 to 20 employees, while medium-sized companies can have 20 to 500 employees (Janet, 2023). In larger countries, medium-sized businesses can have up to 2,000 employees and still be considered medium-sized. SMEs typically have flat organizational structures, with functional hierarchy being the most common, although matrix structures that combine functional and divisional elements are occasionally used (Janet, 2023).

An effective strategy is crucial for SMEs to gain a competitive advantage. It involves long-term aspirations, management skills and resources, and adapting to the operating environment, including technological developments, competitors, and changing market conditions (Charlesmore Partners International, 2011). In SMEs, the CEO is a key figure, and managerial support plays a vital role in fostering innovation and motivating employees. Managers in SMEs make decisions regarding skills and technology adoption, and their authority is often decisive in innovation-related choices (Kuratko et al., 2014).

While SMEs often rely on owner-manager expertise for decision-making, the importance of big data has become evident in enhancing firm growth and understanding customer preferences. Investing in big data allows SMEs to make faster decisions, determine

prices, analyze markets, and increase revenues. Affordable big data software has made it more accessible for SMEs to leverage big data for targeted marketing and overall success.

The analysis of big data in SMEs brings several benefits, including increased flexibility, productivity, and customer service. It enables precise demand forecasting, supply planning, and helps address market challenges (Manyika et al., 2011).

2.3 BIG DATA CONCEPT

Big Data couldn't be identified without the definition of the term 'Data'. Data is raw information or unorganized form like alphabet, letters, symbols and other, that are inputted, and processed by technology tools like computer for an output of usable information. Data can be numbers, pictures, words, figures, ideas and literally any collection of datum that means to give or something given (Chen & Zhang, 2021).

Unlimited Data and its availability everywhere created the term 'Big Data'. It is best defined as data sets that describe a massive volume of structured, semi-structured and unstructured data that's so big to be processed by traditional software and databases (Wu et al., 2022). In other words, Data with enormous size, growing exponentially with time in such a large and complex way.

Big data is affecting our daily lives, it is influencing the way human work, react, drive, and acknowledge. Every small activity made is historically based on data, recorded by data, analyzed using data, and resulted by output data. There is no way to escape from the huge impact of big data (Manyika et al., 2017).

Looking at some daily needs offered using big data that showed its importance. Nowadays, no one can live without Cellphones that store every picture, contact, song, chat and others, not forgetting the new technology of Mobile maps, where GPS is a result of scanned data, incident reports, construction areas and thousands of reports. Medical health reports can be saved or sent by mail or stored Electronically for easier and faster access. Young generation that loves shopping find a perfect gateway using internet and that is online shopping eliminates the distance and time and show unlimited variety without leaving your home and if nothing to do than music streaming is the fastest way to reach any kind of using, all thanks to big data process.

Data is knowledge, and that knowledge is incredibly powerful. Data can be measured starting from the Bit, Single binary digit (0 or 1) that entered everyday vocabulary, to Byte (8

bits), to reach its maximum of Exabyte (1,024 Petabytes). And as Peter Sondergaard said in Gartner research “Information is the oil of the 21st century, and analytics is the combustion engine” (Manyika et al., 2017).

Big Data invaded the world in such a way that no words can be described, it's importance can't be overlooked nor ignored, every step done has data in it to be transformed into information. Knowledge and if ever achieved, Wisdom (Laney, 2017).

Big Data is meaningless without its analysis, Big Data Analysis is the science of collecting and examining data and transforming it into useful information used later on, it understands what happened, why it happened, and predict what will happen. Big Data Analysis require analytical, mathematics and statistical skills, creativity, and a mixture of computer science and information technology (Monnappa, 2017).

Big data's potential has increased in volume to be emerged in all industries, in different shapes and multiple other gateways. E-commerce has a remarkable source of data considered as 'Big', starting from orders, products, baskets, visits, users to all kinds of technology rising holding data from internet to social media such as Facebook, Twitter, cookies, google analytics reaching mobile telephone and many others (Chen & Zhang, 2021).

Four perspectives are the focus in E-commerce definition as Kalakota and Whinston (1997) said: online buying and selling, technology driven business process, communication of information and customer service.

Therefore, E-commerce companies seeking leadership in their industry, immediately reached the understanding of the analysis of big data's definition as an apprehension of data to gain knowledge for better output decision making and business process (Shanks et al., 2010).

Big data eliminates the guesswork process and changes the way ecommerce store and operate, often called a game changer. 'Big Data enables merchants to track each user's behavior and connect the dots to determine the most effective ways to convert one-time customers into repeat customers' (Jha & Jha, 2021).

Savvier shoppers expect retailers to know exactly what they need and when they need it. With big data analytics, retailers are armed with big amounts of data gathered from loyalty program and buying habits for late examination that better suits the firm goals and objectives (Davenport et al., 2021).

2.4 SOCIAL MEDIA: THE NEXT BIG DATA

Data are available through the use of digital media, and the "data rush" refers to the flow of data through platforms like Facebook, Twitter, Instagram, Blogs, and other social media, promising new insights into consumer behavior, habits, and choices (Kearon & Harrison, 2011). Research on big data has shown that findings from digital media can be generalized to real-life settings, behaviors, and facts (Mehl & Gill, 2010), indicating that online behavior reflects technological aspects.

Figure 3

Next Big Data



From 2010 to 2015, the number of devices connected to the internet increased from 12.5 billion to 25 billion, and it was projected to reach 50 billion by 2020 (SpencerStuart, no date). The digital field is estimated to have 18 times 10 to the power 7 GB of data, and business data is growing at a rate of 55% (Chongwen and Scholten, 2016).

Social media, which encompasses web-based technology and mobile platforms, allows users to generate, create, edit, and share content, transforming the web into a tool for both reading and writing (Cambria et al., 2013). It serves as a significant database for understanding societal behavior, complementing data collected through webpages, emails, and online chats (Jones, 1999). Social media platforms have become a dominant source of data, accounting for 90% of today's data and serving as a rapid means of capturing population feedback. Every minute, substantial amounts of money are spent on e-commerce to analyze these data (Kübler et al., 2017).

As of early 2012, Twitter had 225 million accounts and received 200 million tweets every day. Facebook had over 200 million active users, and LinkedIn had more than 135 million

accounts (Cisco, 2017). The volume of digital data continues to grow, with millions of emails sent, Google searches conducted, videos uploaded to YouTube, photos shared on Instagram, Facebook messages sent, tweets published, Snapchat photos shared, Skype calls made, and Tumblr blog posts published every second (Cisco, 2017).

Since 2017, the usage of social media platforms and digital media has continued to increase significantly. Major social media platforms such as Facebook and Twitter have experienced a surge in active users, with Facebook reporting over 2.8 billion monthly active users and Twitter having over 330 million monthly active users as of 2021 (Planable, 2024). The tremendous growth in social media usage has led to a vast amount of user-generated data.

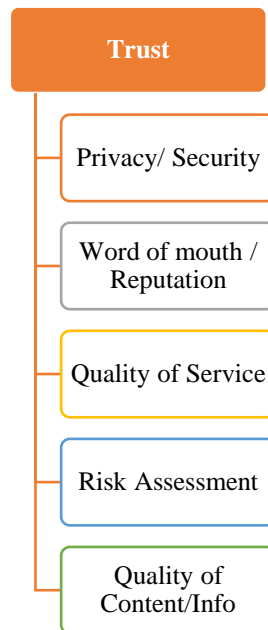
Big data analytics has made significant progress in analyzing social media data, utilizing machine learning algorithms and natural language processing techniques to extract insights and patterns related to consumer behavior, sentiment analysis, and marketing trends (Stieglitz et al., 2018; Talend, n.d.). Additionally, the rise of influencer marketing has transformed the advertising landscape, with companies leveraging social media platforms to promote their products and services through collaborations with popular influencers (OECD, 2023).

Social media and digital media growth as well as data analytics advancements are responsible for changes in communications, business activities and research about human behavior. It has brought with it new possibilities that assist one in understanding and utilizing large amounts of social data (Stieglitz et al., 2018; Talend, n.d.).

2.5 E-COMMERCE DATA TRUST STIMULATION

In the case of Firms, Trust is defined as the company's believe in the competence of an entity to act dependably, securely and reliably within a specified context when it comes to E-business, Trust definition is "the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party" (Mayer et al., 1995).

Trust is summarized by five elements: Privacy/Security, Quality of Content/Information, Word of Mouth/ Reputation, Quality of Service/Good Experience and Risk Assessment. Figure 4 illustrates.

Figure 4*Trust Elements*

Online shopping according to some customers is risky due to uncertainty of product expectation and honesty of the description listed and quality. The concern of fraud, phishing scams and malware, doubt of the prices offered online and finally, cost of shipping and handling can shake the consumer trust.

E-commerce has tried through time to build customers' trust by: (1) adding a human factor to their webpages. (2) showing that the company is trust using testimonials, (3) adding security to website adding an 's' in the browsers address bars as an abbreviate for the word 'Secure'. Finally, (4) adding shipping details and returns policy decrease the possibility that the buyer will not like the product and be stuck with without getting the money back (Hayes, 2012)

Other attempts were made according to The Boston Consulting Group (2013) such as providing transparency to customers about the way their data will be used and publishing trust metrics online like scorecard details that shows how well a company is stimulating trust.

When E-commerce expanded its online availability through social media, consumer trust increased thanks to many factors: Cost transparency that were published online to leave the user its freedom to choose the best price found. Feedback availability using likes, comments that are published as is, correcting irregular mistakes made by e-trader and adding refund policy that has been recently affecting major change of mind enabling consumers to seek to what's known as 'Buyer protection' with on-time delivery period.

2.5.1 Barriers to e-commerce adoption in SMES

The rate of E-commerce adoption in SMEs has been low through the past years. As been noticed in research and documentation, SMEs face inhibitors that prevent them from this implementation.

When seeking literature about electronic commerce adoption barriers, two-time period where reported: early 1990s to 1999 and those found in recent studies: 2000 and beyond.

Early adoption barriers were explored by many researchers. Abell and Lim (1996), through their study on use of internet in Small Businesses in New Zealand found that some of the barriers are that customers/suppliers were not belief connected in the old days because of many issues: privacy and security concerns, enforceability of contracts negotiation online, lack of expertise and lack of believe in effectiveness of online marketing.

Other barriers could be summarized by El-Nawawy and Ismail (1999) in their study in Egypt that it all revolves around awareness and education, size of market, e-infrastructure, legal and government issues, cost structure and of course social and psychological factors.

In the 20th century, literature showed that new barriers where reported from several studies. Dedrick and Karaemer (2001) described the major elements of up taking E-commerce by SMEs such as limited diffusion of personal computers, lack of online payment process yet insufficient ways of transportation and delivery.

Cloete (2002) later reported that limited knowledge of E-commerce and its methodologies, lack of computer hardware and software access and shortage in time for learning kept SMEs away from using online presence.

Excuses were in continuous increase, where Kapurubandare and Lawson (2006) summarized recent barriers to be Government regulation changes, little knowledge of procedures in ecommerce where no guidelines where available and finally instability of E-commerce especially that it differs from one country to another.

Barriers were numerous, but SMEs had to have the courage of delivering in the opportunities given by E-commerce and try to risk it because small firms' ability to adopt to any change is a positive factor to adoption opening the change to enter the market competition online.

Therefore, unfortunately, SMEs have been slower than larger firms in adopting new technologies due to several factors (Distichain, 2023):

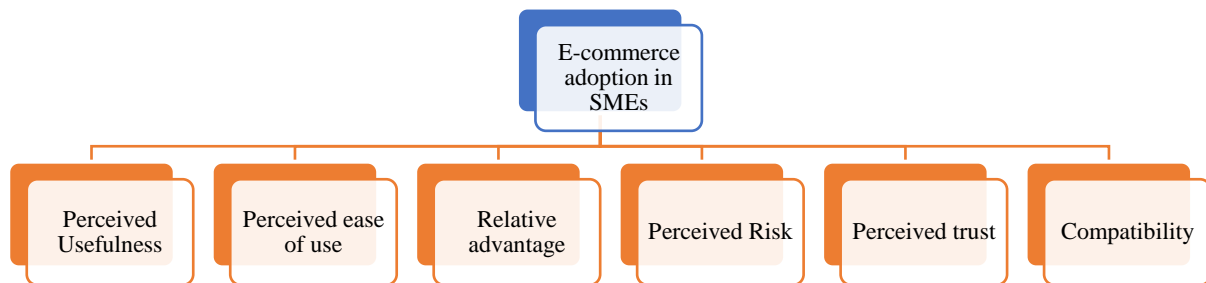
2.5.2 Opportunities to SMES on e-commerce adoption

According to Neergard (1992), electronic commerce increases input, improve services to customer, simplifies work procedures and saves records of every move.

Many success factors are related to E-commerce adoption in SMEs as shown in Figure 7 such as: perceived usefulness, perceived ease of use, relative advantage, perceived risk, perceived trust and compatibility (Calisir and Calisir, 2004). Figure 5 illustrates.

Figure 5

Opportunities of E-commerce adoption in SMEs



Perceived usefulness is the degree to which a person believes that by utilizing a feature or a system, one can improve one's working quality in terms of process & product. Perceived ease of use is the degree to which company's products and services are shown electronically using user friendly, with learning curves and intuitive interface to make it simple for potential customer to gain all information needed. Customers are able to use, perceive, understand and interact with wide range of capabilities. Relative advantage is where Ecommerce can have an added value for small and medium companies by relative superiority of position or conditions adding effectiveness to their business. Perceived risk is the Scale of gain and loss expected are easy to predict for companies using ecommerce. Perceived trust is the Degree of one's perception on technology solution as an application of safe and reliable adding the consumer willingness to use E-commerce portals for transactions on the feelings of confidence and assurance. Finally, compatibility refers to the Compliance degree of an innovation with existing solution perceived by potential users.

2.6 ADOPTION OF ECOMMERCE IN SMES: LEBANON STUDY CASE

In Lebanon, regardless that Lebanon is not growing as fast as other countries in the Middle East, yet the e-commerce is adopting its way in companies gradually. In 2011, statistical data showed that more than 20% are purchasing online. This percentage is slightly less than others for many reasons, such as: high cost of internet, shipping takes time, cost more adding the doubts and fears of privacy, security, payment, identity and contract. Lebanese consumers like to be always assisted and guided. A new feature is aiding the e-commerce to be involved and is known as social commerce, purchasing, advertising and marketing using social networks (Jazra, 2011).

In 2019, statistics revealed a noticeable increase where small and medium enterprises (smes) constituted a substantial portion of businesses, accounting for approximately 95% of companies, surpassing the regional average. However, the adoption of e-commerce among Lebanese smes has lagged behind in comparison to other countries in the Mena region (Holtmeier & Holtmeier, 2019).

Barriers to e-commerce adoption in Lebanon include a lack of awareness of the benefits and potential of e-commerce, technological and infrastructure limitations such as poor internet connectivity and the absence of e-payment gateways, as well as a preference for cash-based transactions and resistance to change. Resource constraints, including high implementation costs and a lack of digital skills, further hinder the adoption of e-commerce in Lebanese smes. Despite these challenges, the COVID-19 pandemic has accelerated the need for smes to embrace digital transformation and e-commerce to meet the changing consumer behavior and tap into regional and international markets. Overcoming these obstacles and enhancing e-commerce adoption in Lebanese smes is essential for them to leverage the opportunities presented by digital transformation and online commerce in a rapidly evolving business landscape (Merhe & Baroud, 2020).

2.7 COVID-19 EFFECT

The COVID-19 pandemic had a significant impact on the e-commerce industry in the Middle East region. In the UAE, Saudi Arabia, Qatar, and Kuwait, which account for 80% of the region's e-commerce market, the sector grew from \$4.2 billion in 2015 to \$22 billion by the end of 2020. The pandemic accelerated this growth, with 50% of people aged 18-24 in the

region purchasing more online after the outbreak. In the UAE specifically, the digital sector accounted for 4.3% of national GDP before COVID-19, and the country's e-commerce market is expected to reach \$62.8 billion by 2023 (Alkhalidi,2020).

The COVID-19 pandemic has undeniably affected each and every industry across the world, and the commercial sector has been significantly impacted. Despite the initial slump faced by the commercial sector at the onset of the pandemic, long stretches of progress have occurred recently with the offline market moving to the web. This growth can be mainly attributed to the increased demand for quick, comfortable, and speedy delivery of products and services (Bluecast, 2021).

In Lebanon, The COVID-19 pandemic had a significant impact on e-commerce adoption. Results from a quantitative study showed that Lebanese consumers increase d their online ordering of food and groceries through WhatsApp during the COVID-19 pandemic (Bluecast, 2021). However, the pandemic was considered the least factor affecting e-commerce in Lebanon compared to the ongoing economic and political crises in the country.

Figure 6

Covid online effect



3 PROPOSED FRAMEWORK

The literature review based on a wide range of research and articles enabled the option of creating a theoretical model concerning three contexts: E-commerce, SMEs and Customer Trust.

Ecommerce Factors enable customer trust and with lacking this feature to SMEs. The following theory needs to be proven **Adoption of E-commerce in SMEs enables Customer Trust.**

The proposed framework explains the ability of public sector to deliver a maintainable and competitive business services when information and communication technology is implemented and mediated by E-commerce use, which raise the consumer trust and empower the work of Small and Medium enterprises.

From the previous literature review, a correlation is observed between small and medium enterprises and consumer trust and their willingness to buy from them. According to AXA report (no date), lack of expertise to respond to customers in all situations and circumstances erodes trusts, while their small size returns it to be flexible into all outer changes that occur and gives them a step ahead than large enterprises. Studies also showed that human factors in such enterprises affect direct communication with customers to boost trust. E-commerce through time tried to build customers' trust by multiple factors, little help with big data analytics that made these attempts easier till social media gave trust a real value for E-commerce. (Gligorijevic & Leong, 2011).

E-commerce hardware maintenance, software stability and payment processing flexibility and transparency enable customers to feel secure about their personal information and their privacy issues when it comes to payment like credit or debit cards. E-commerce supply analysis and demand fulfillment to customer is an added value for the quality of content delivered to individuals seeking specific or specialized products put in mind. Ecommerce wide services such a pricing, imaging, orders processing, customer support and other result good customers first experience and strong quality of service that encourage consumer to use the same business again and increase the ability of rebuying process.

The concept of ecommerce is a tool to achieve good SMEs business delivered to customers, potential customers or consumer in general. Ecommerce adoption in SMEs increase the ability for these enterprises to gain customer trust in increasing its privacy, quality of content/information and quality of service not forgetting increasing the word of mouth for SMEs that results a good reputation in the market.

The proposed framework will prove the following three hypotheses:

Hypothesis 1: SMEs have a significant and positive influence on the consumer trust.

Hypothesis 2: E-commerce has a significant and positive influence on consumer trust.

Hypothesis 3: E-commerce has a significant and positive mediating influence between SMEs and consumer trust.

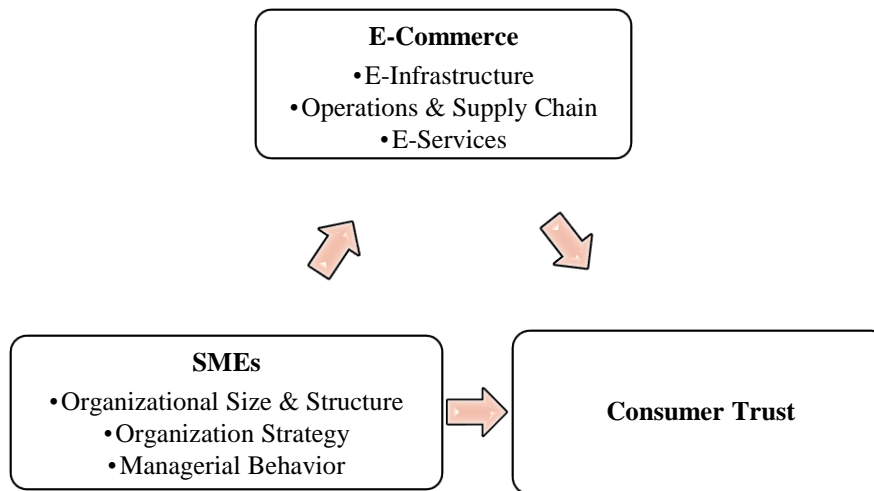
Finally, the null Hypothesis is a standard Hypothesis used to disagree with the proposed ones, and to show that there is no significant relation nor a positive influence between the two variables analyzed. Data analysis seeks to reject null Hypothesis and accept the proposed one that best fit the study results.

4 METHODOLOGY

The study will be classified as correlational research since it studies correlations among different variables, mainly SMEs, E-commerce and consumer trust as shown in Figure 7.

Figure 7

Proposed Framework



Research design for this work will be built quantitative in nature because of its dependence on numerical representation and units of analysis to reach larger sample of respondents (Sekaran & Bougie, 2013; Chen & Hirschheim, 2004). Data collection will be in the form of a questionnaire and no interviews will be conducted. Responses will be collected to be later on analyzed using the Statistical Package for the Social Sciences (SPSS) version 23.

Main tool for data collection is a questionnaire of 34 questions, where 30 are of 5 Likert scale answers and 3 are informational questions. The Design of the questionnaire will consist of four main sections: A, B, C and D. Section A measure the consumer trust (DV), section B measures the SMEs (IV), section C measures the E-commerce (mediator) and section D corresponds to demographical information of the applicant. The questionnaire was divided into two sections. Section 1 of the questionnaire collected general information related to the company's profile and section 2 focused on the aims and objectives of the study.

According to statistics from the Ministry of Economy and Trade in 2020 and a report by the World Bank in 2019, SMEs are 95% of Lebanese Enterprises. El Khoury (2013) estimated the current number of SMEs is 170,000 enterprises. According to Canaan (2011), enterprises tend to be in developed area of the country, and in case of Lebanon, Beirut and

Mount Lebanon are the most developed while other enterprises dominate poorer regions. Therefore, the population of the study is determined to be the Capital Beirut. As for sample frame of this study, it consists of two types of respondents, the first type should be educated, skilled and expertise respondent who are in the SMEs environment in Beirut such as CEO, Managers and Employees that have experience in the business domain and Adopting in E-commerce tools and analysis. The second type of respondents are the consumers, young people that are exposed to technologies, social medias, especially being from current generation that are living in the globalization.

The population for the study is mainly small and medium enterprises managers and employees that have a professional opinion enriched with experience and knowledge background, along with some individuals, basically in a young to mature age, having interest of E-commerce, online shopping and the use of social networking systems. A minimum samples size of 200 will be required with individual unit of analysis

The study made use of descriptive, analytical and correlational research. Data collected are fed into Statistical Package for the Social Sciences (SPSS) v.23 using frequencies and percentages. Data is described to show illustrated understanding of the responses from the respondents of the study. Relations are collaborated using Chi-Square significance test and an extended Model Structure using AMOS Graphics.

Some limitations exist to the study. Geographical constraints to only one city in Lebanon, secrecy of companies that didn't allow the availability of interviews, concealment of success factors for firms and the examination of companies who already started the process of E-commerce adoption and not exploring in detail the barriers experience of non-adopters but the benefits of adoption.

3.1 AMOS AND STRUCTURAL EQUATION MODEL (SEM)

Using SPSS statistical Data, the relationship of dependent and independent variable can be achieved, for further analysis, an introduction of a Structural model with a mediating factor between both variables is made.

AMOS stands for Analysis of a Moment Structure. It is an added SPSS module. it is a visual program for Structural Equation Model (SEM), allows the drawing of models graphically and performance of SEM to display further results.

SEM can be conducted from statistical data file imported from original SPSS file. It fits relationships among a large number of variables, validate a questionnaire as a measurement instrument and specify, constrain and test each relationship using theoretical knowledge and testing hypothesis. SEM measures the goodness of fit between the hypotheses model and sample data, how well the data fits the structure.

In our study, a simple direct effect and indirect effect are analyzed to output a well-structured model and predict the mediating effects for latent/unmeasured constructs.

5 RESULTS AND DISCUSSIONS

5.1 NATURE OF SMES SURVEYED

- most enterprises were considered medium in size more than small;
- enterprises used hierarchy strategy;
- SMEs are in continuous update to technologies, software and network systems along with training sessions for employees to be always ready and prepared to update.

5.2 BENEFITS OF E-COMMERCE FOR SMES, TABLE 1 ILLUSTRATES.

- paperless work allows employees to be more effective and focused on achieving better production;
- online display of products and services reduces clerical work for purchasing department and improve effectiveness;
- online presence benefits from real time fact and reliable reporting system to compare budget and financial issues;
- recommendation system decreased customer risk perception and increasing attractiveness to the brand;
- transparency of details such as contractual details, time and trace of order detail and delivery status to give customers their purchase rights;
- data collection and Big Data Analysis from online presence are the keys to important decisions such as changing the firm's strategy, way of thinking and better understanding for customer's needs.

Table 1

E-commerce adoption benefits statistical results

	1-Strongly Disagree 2- Disagree 3-Neutral 4-Agree 5-Strongly Disagree					
	1	2	3	4	5	%
Paperless work allows employees to be more effective and focused on achieving better production	0	0	4	12	184	98
Online display of product and services reduce clerical work for purchasing department and improve effectiveness of work	4	4	0	4	188	96
Website and online presence allow real time fact and reliable reporting system to compare budget and financial issues	4	0	0	0	196	98
Use of recommendation system decreased customer risk perception and increased attractiveness to the brand	4	8	0	4	184	94
Transparency of details such as contractual details, time and trace of order and delivery to give its customers right	4	0	0	16	180	98
Data collection and Big Data Analysis from online presence are the keys to important decisions such as changing firms' strategy, way of thinking and better understanding for customers' needs	8	0	0	4	188	96

5.3 OVERVIEW ON ONLINE SHOPPING FROM CONSUMERS, TABLE 2 ILLUSTRATES

- online shopping is faster and more accessible with no distance nor time boundaries;
- social media & online advertisement is an attraction to buy and even change their mind on previously selected items;
- customers have full control on the online shopping process.

Table 2

Online Shopping Overview statistical results

	1-Strongly Disagree 2- Disagree 3-Neutral 4-Agree 5-Strongly Disagree					
	1	2	3	4	5	%
Online Shopping is faster and more accessible with no distance nor time boundaries	15	50	34	68	33	68
Social media & online advertisement attracts me to buy and even change my mind on something I selected before	10	24	14	95	50	75
When Buying online, I have full control on the shopping process	8	54	34	64	40	55

5.4 HYPOTHESIS TESTING

- organizational size and structure have a significant and positive influence on consumer trust;
- organization strategy has a significant and positive influence on consumer trust;
- managerial Behavior has a significant and positive influence on consumer trust.

The significance of three sub hypothesis related to SMEs and consumer trust allows the adoption of the hypothesis one: SMEs has a significant and positive influence on the consumer trust.

- e-infrastructure has a significant and positive influence on consumer trust;
- operations & supply chain have a significant and positive influence on consumer trust;
- e-services have a significant and positive influence on consumer trust.

E-infrastructure, operation & supply chain and e-services showed a significant relationship to trust; therefore, we can accept Hypothesis 2: E-commerce has a significant and positive influence on the consumer trust.

5.5 MODEL VALIDATION

A model of simple effect of SME on Consumer Trust is illustrated in Figure 8. The output in Table 3 shows an estimation of 0.39 and it has a significant effect on Consumer Trust (p-value<0.001).

Figure 8

Modeling the direct effect of SME on Consumer Trust



Table 3

Direct effect of SME on Consumer Trust is significant (Beta Coefficient 0.39).

Variable		Variable	Estimate	S.E	C.R.	P-Value	Result
Trust	←	SME	0.39	0.044	6.951	0.001	Significant

Now the test for mediator is only meaningful if the direct effect is statistically significant. As proven, direct effect is established, and the mediating test is the following step.

Ecommerce mediating variable is included into the model as shown in Figure 9. Once the model is executed, the result for path coefficient is shown in Table 4.

Figure 9

Modeling mediator E-commerce in AMOS Graphic for observed variable.

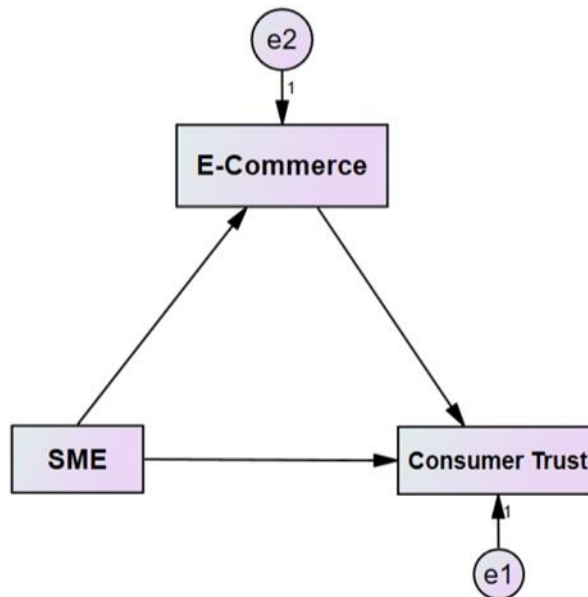


Table 4

The Path Coefficient and its significance

Variable		Variable	Estimate	S.E	C.R.	P-Value	Result
Trust	←	SME	0.11	0.055	1.352	0.051	Not Significant
Ecommerce	←	SME	0.564	0.042	11.847	0.001	Significant
Trust	←	Ecommerce	0.376	0.048	5.657	0.001	Significant

As shown in Table 4:

Hypothesis 1: SMEs has a significant and positive influence on the consumer trust.

Result: Hypothesis 1 is not supported.

Hypothesis 2: E-commerce has a significant and positive influence on consumer trust.

Result: Hypothesis 2 is supported.

Hypothesis 3: E-commerce has a significant and positive mediating influence between SMEs and Consumer trust.

Result: Hypothesis 3 is supported.

Ecommerce is a mediating variable in the relationship between SME and Trust. The type of mediation here is called a “complete mediation” since the direct effect of SME on Trust is no longer significant after Ecommerce entered the model (Hypothesis 1). Instead, the indirect effect is significant. Thus, SME has an indirect effect on Trust through the mediator variable Ecommerce.

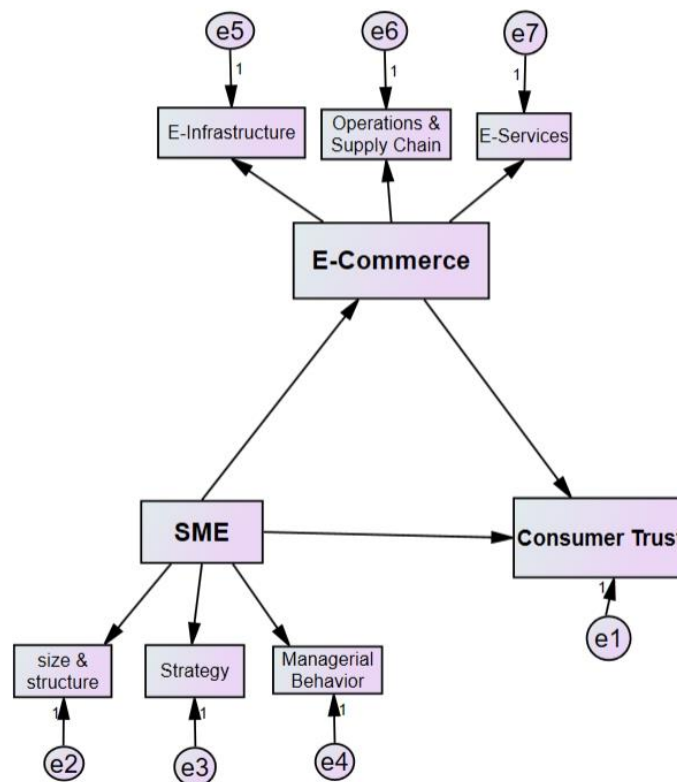
5.6 FURTHER WORK ANALYSIS:

After the proof of mediating effect, latent constructs can be added. E-commerce has three constructs: e-infrastructure, operations & supply chain and e-services. SME also has three constructs: size & structure, Strategy and managerial behavior.

Taking into consideration that the data retrieved from the survey wasn't direct questions to the above constructs, Full structure model for latent constructs was not actually analyzed but predicted. Figure 10 illustrates.

Figure 10

Predictive Modeling of the mediator for latent construct Ecommerce in AMOS Graphics



6 CONCLUSION

The main research objective of this study was to understand why some smes adopt e-commerce while others do not and how it effects consumer trust. Based on the literature reviews, e-commerce showed a real opportunity for all business industry in firms, and especially in smes, regardless of the discussed barriers, it allows them a better chance for communication and gaining competitive advantage. Every e-commerce adoption requires its

data analysis, better called 'big data' that assembles all electronic information for the company using different tools and facilitates the overall work for the company, starting from supply & demand to strategy modifications. Multiple examples were mentioned in the review to support all points of view discussed, starting from examples of multiple firm adoption to e-commerce, their usefulness to big data collection, exploring data analysis tools along with examples to finally relating it to boosting customer trust.

Review was summarized to have a positive hope in e-commerce adoption, breaking many barriers that firms have or face, and its increase in usefulness and benefits along time period and technology development.

The research methodology was an electronic and paper work questionnaire answered by sme ceos, department managers and staff along with a sample of random individuals that are knowledgeable with electronic platforms, online buying and internet of things with the evolution of social media and are considered as active users in the internet world. The questionnaire responses resulted a quantitative analysis in spss, using chi-square and multinomial logistic regression for significance of hypothesis whether to accept or reject. Analysis was based on if smes adopt e-commerce, why they adopt it, its benefits on all level, its disadvantages if existed and its effect on trust.

Firstly, findings showed that small and medium enterprises generally in lebanon, specifically in beirut, are characterized by its size, structure, strategy and managerial behavior. Each characteristic was unique in its own way. Size and structure were an advantage for firm's flexibility in adopting to all kinds of changes required for customer satisfaction and firm improvement. Strategy defined the firm vision, mission, goals and objectives to be achieved for continuous success, adding to it continuous skills training requirements for employees rendering an organized work with a specific target known by all labor force in the company. Managerial behavior was an essential factor on all important decisions related to firm's success. Having a company with such characteristics were proven to be trusted from customers with maintaining a good, positive relationship.

Secondly, taking e-commerce as a single entity to be analyzed from customers, analysis demonstrated that elements of e-commerce such as e-infrastructure, operations & supply chain and e-services generate trust in a big amount for all customers and may develop or create new potential consumers especially if e-commerce was manifested in social media and other platforms. E-infrastructure like hardware, software and payment process are known as the backbone of electronic online buying, simplifying firms engagement in electronic business.

Operations & supply chain provided better service of supply and demand fulfillment with lack of stock errors or availability issues. E-services, whose focus was specifically on customers, created a comfortable environment with its customer relationship management through many gateways, a direct image of the company with a display for its content and what do they offer as extra services, all in the interest of the consumer.

Finally, after testing the adoption of e-commerce in lebanese smes, a significant variation in the utilization of e-commerce among the enterprises was revealed. The current study showed that online presence has become an essential means for maintaining a business relationship. E-commerce, being affordable for small companies nowadays, became more than just an added value for the company, but a key of success in different domains and departments. It reduced paper work, generated faster revenues, created a solid database from both buying and seller, eliminated stock error, reduced redundancy, recorded all payments, from the moment it left the stock till its delivery to the customer etc.... the adoption of e-commerce in such enterprises differed by their characteristics and study found that most smes are aware of the opportunities of buying and selling online and they believed that the online presence exposed them to new ways of thinking. The adoption improved clerical work and focus, security and privacy of data, quality of content and information not forgetting a better buying experience both for sellers and buyer resulting a good word of mouth between users and a good reputation for the enterprise. E-commerce generated an overall improvement for the organization on all levels.

As a result, e-commerce played an important mediating factor in boosting consumer trust for smes and facilitated the entry to big market competition.

Start on the completion of this research, and upon the literature in this field, the following recommendations could enhance e-commerce adoption in smes:

6.1 IMPROVE UNDERSTANDING OF E-COMMERCE

The opportunities for smes adoption in e-commerce are numerous and various and in order to stay in competition, smes managers need to self-develop continuously especially when it comes to technology and be aware of how e-commerce can help their enterprises. They need to have a clear knowledge and objectives on whether e-commerce brings value to their company and how. In order to achieve these, right information and overview of e-commerce should be

available for every sector. Managers should be able to learn from the experience of others in detail and know which e-commerce activities are appropriate for them.

6.2 ENHANCE THE QUALITY OF SECURITY

In such countries, where internet is available for every person, open and practical worldwide numerical infrastructures are being challenged in the forms of cyber-attacks, ranging from small malware to a potential crisis. Hackers with bots, scripts and illegal methods of gaining financial, personal and intellectual property continue to target firms and businesses all over the world. Gap in security can cost companies their money, their customers and their standards and render them vulnerable to significant threats. Some of the type of attacks are: malware, viruses, worms, phishing, sniffing, denial of service, penetration, password attack and so many others. Cyber strategy should be planned in all countries, to prevent such attacks. Boosting detection system and intrusion prevention system can increase security. The challenge here lies in developing a targeted security plan that combine cyber and physical security to have the best results (mansour, 2017).

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