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**FROM CLICKS TO SUCCESS: ANALYZING CUSTOMER KNOWLEDGE, PLATFORMS,  
AND INNOVATION IN ONLINE BUSINESS**



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## **DEDICATION**

In the name of Allah, the Most Gracious, the Most Merciful, I dedicate my thesis to my beloved parents, supportive friends, knowledgeable teachers, and to myself for the perseverance and hard work that led me to this accomplishment.

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## **ABSTRACT**

This research discusses the impact of digital platforms and customer knowledge on online entrepreneurship with the mediation of digital innovation. Digitalization is fundamentally changing both our society and business world. The entrepreneur's goal is to digitalize their processes to create efficiency gains. The company's focus is more towards digitalizing their products and services with the aim to create growth and to increase profits. The aim is to have a more holistic perspective on how digital technologies are transforming their business models. The research focuses on the mediating effect of digital innovation, which has not been extensively studied in previous research in this field. The study collected data through online surveys and The study is quantitative and in order to carry out the research, questionnaires were developed for everyone based on judgement sampling using data (N=256), which was collected from various individuals including entrepreneurs and freelancers from different companies, startups and online marketplace for freelance services found that customer knowledge has a positive impact on online entrepreneurship, digital platforms have a direct and positive impact on online entrepreneurship, digital innovation mediates the relationship between digital platforms and online entrepreneurship, and digital innovation mediates the relationship between customer knowledge and online entrepreneurship. The study suggests that entrepreneurs utilize customer knowledge and digital platforms through digital innovation to reduce the risk of failure and minimize the need for costly experimentation during the early stages of their business. Future research should explore the potential impact of cultural factors on online entrepreneurship and the effectiveness of various digital platforms on online entrepreneurship in different contexts.

*Keywords:* Online entrepreneurship, customer knowledge, digital platforms, digital innovation.

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# **Chapter 1: Introduction**

## **Background**

This chapter comprises of the related work from the previous studies about online entrepreneurship, digital platforms, customer awareness, and digital innovation. A great number of establishments and user-generated content have been seen doing rounds on social media (Infante, A., & Mardikaningsih, R. 2022). Additionally, it deals with the relationship between customer awareness and online entrepreneurship; digital platforms and online entrepreneurship; the mediating effect of digital innovation on the relationship between digital platforms and online entrepreneurship; the mediating effect of digital innovation on the relationship between digital platforms and online entrepreneurship. Less work has been done on online entrepreneurship as a dependent variable (Kuckertz, A. 2021). Therefore, through this study we will identify the Impact of digital platforms and customer knowledge on online entrepreneurship with the mediation of digital innovation. The phenomenon of online entrepreneurship has been researched thoroughly under the light of the most differentiated types, examining their influence factors, development, growth, maturity and decline (Kraus et al, 2020). Online entrepreneurship has led individuals to recognize and pursue opportunities to find novel ways of conducting business which has indeed made an extensive outcome on the whole world (Nambisan, 2020). Over the past few years, innovation in digital platforms has completely revolutionized the business world and has completely transformed the way general interacts and communicates with each other. The increasing ubiquity of the digital platforms has further greatly stemmed the foundation for online entrepreneurship (Qermane & Mancha, 2020). Addition to this, customer knowledge is now more widely accessible and businesses can directly communicate with their consumers around the world without any hassle of being present physically. The existing literature is still in nascent stages and there exist a need of further gap research in its different dimensions. In recent years, entrepreneurship has greatly evolved as everyday more and more entrepreneurs are indulging towards conducting their businesses online (Wang et al., 2020). This is mainly due to the fact the numerous opportunities digital platforms present to entrepreneurs such as lower startup costs, global reach and most importantly to communicate directly with potential consumers (Satalkina & Steiner, 2020). According to figures presented by Statista, an institution which has expertise in market and consumer data, online entrepreneurship was valued at \$3.53 trillion in 2019 and is estimated to grow over the years mainly due to increased profitable opportunities it presents to entrepreneurs (Brem, A.2020). In present time, technology has advancement enormously, where artificial intelligence and computer software's can be used in parallel with the human decision-making to enhance the quality of decisions and increase accuracy (Hull et al, 2021). The innovation is advancing at such a fast pace that it has become more than ever easier to develop a device or something new as the innovation guides you and presents with errors even before the physical product is completed.

The constant advancements and innovation in technology currently, have replaced the customary business models, as unparalleled revolution of economic and social activities have emerged (Sussan & Acs, 2019). The cases in view are how the online entrepreneurs have emerged taking advantage of the digital platforms and vast customer knowledge the innovation in technology has offered to these entrepreneurs and how successfully they are able to form and run diverse online business stores replacing the traditional businesses. It is evident that online entrepreneurship is closely linked with economic growth of a country. Many countries have realized the significance of online entrepreneurship for the growth of economy and has therefore invested resources for development in these areas. There is a need for research on online entrepreneurship as if we look at the past studies, researchers have provided information on entrepreneurship which is dissimilar from this. Online entrepreneurship uses a different platform as it integrates with internet to offer its unique value proposition (Satalkina & Steiner, 2020). The traditional entrepreneurs do acknowledge the use of internet, but does not view it as primary focus of their business operations. Moreover, online entrepreneurs need to have basic technical abilities and skills such as website development, engaging with audience online, data analytics, HTML and much more that is required to effectively manage their operations online which traditional entrepreneurs don't necessarily need to acquire (Oppong, Singh & Kujur, 2020). Since, customers use digital platforms and interact with these online entrepreneurs to find a solution without going through the hassle of visiting stores, therefore it is essential for them to have appropriate skills and knowledge to meet these needs.

Furthermore, if we look at the trend over the years, innovation in digital technology is playing a vital role in the emergence of online entrepreneurship (Beliaeva et al, 2019). With arrival in technology, the traditional business practices have been replaced as now entrepreneurs have made the online world their bricks and mortar store. Similarly, the arrival of technology has given a boost to digital platforms which allows millions of users to connect online with these online entrepreneurs (Berger et al, 2019). Increase in online entrepreneurship is a consequence that arose superior through the support of digital innovation. Innovation in digital technology has presented numerous opportunities for entrepreneurial activity. The success of online entrepreneurs is greatly influenced by digital innovation, as each day new techs are being introduced that shortens the time to conduct business and increases profits (Lee & Kim, 2017). The development of online entrepreneurship in is fueled by innovations in technology, communications and smart gadgets (Wang et al, 2016). Moreover, the increased participation of individuals in online entrepreneurship is also influenced by the ability to gather customer knowledge through numerous methods which helps in conducting business more efficiently while minimizing risks and providing immense opportunities. Digital platforms in Pakistan such as OLX, Daraz, CyberMart, Yayvo, Goto etc. an online marketplace is a perfect example of an online startup (Ilcus, 2018). In this study we investigate the dynamics of online entrepreneurship and the role of innovation ecosystem in its shaping by operationalizing customer knowledge and digital platforms.

The rapid growth and innovation in digital technology has transformed the competitive settings, strategies and how business operations are conducted (Ngoasong, 2018). Digital innovation has completely reshaped the traditional entrepreneurship techniques of how business opportunities are discovered and pursued. Many firms have realized the emergence of this growth and through have started incorporating it with their existing business models in order to target new business opportunities. Similarly, online entrepreneurs who have pursued their own business venture via the use of internet have posed as a threat to these firms as they are able to grab away business away from them and provide their services more efficiently with help of the internet (Smith, Smith & Shaw, 2017).

The theoretical framework of research will help to examine how online entrepreneurship is influenced by the implementation of digital platforms, increased customer knowledge and the role of digital innovation. The purpose of this study is to analyze how online entrepreneurs have benefitted from innovation in digitalization and are playing a significant role in progressing economic growth and benefitting society. The study will contribute in extending the existing research by studying the context of online entrepreneurship, digital platforms and customer knowledge, by operationalizing digital innovation as mediator.

### **Aim of the Study**

To investigate the impact of digital platforms on online entrepreneurship, this objective will explore the different types of digital platforms that are available to entrepreneurs, and how these platforms can be leveraged to enhance their businesses. This research will be the cornerstone of future research on Online Entrepreneurship for the Pakistan Ecommerce industry. It will act as the guiding platform for online entrepreneurs who want to start a successful venture on internet through the most relevant customer knowledge and appropriate digital platforms. And how using both of them could result in a less risky startup that would cater the needs of their target audience effectively. (Dwivedi, 2021).

To examine the role of customer knowledge in online entrepreneurship: This objective will examine the importance of understanding customer needs and preferences in order to create successful online businesses. This research paper relates customer knowledge / customer insights and digital networks/platforms to digital entrepreneurship with digital innovation as the mediating factor. (Hughes, M., & Göcke, L. 2021).

To assess the impact of digital innovation on online entrepreneurship: This objective will explore the ways in which digital innovation can be used to create new opportunities for online entrepreneurs, and how it can help them to overcome the challenges they face in the digital age. Previous study has been carried out on the entrepreneurial intentions and self-efficacy of entrepreneurs, but little has been done to study online entrepreneurship market and the factors affecting this market. (Brem, A. 2020).

## **Research Gap**

This research will be the cornerstone of future research on Online Entrepreneurship. It will act as the guiding platform for online entrepreneurs who want to start a successful venture on internet through the most relevant customer knowledge and appropriate digital platforms. And how using both of them could result in a less risky startup that would cater the needs of their target audience effectively. (Ribeiro-Navarrete, 2022). This topic has been positioned as a timely addition to the literature as the digital marketing industry and the media platform grows and takes its place as an integral and important part of corporate marketing strategy.

Online entrepreneurship, which allows digital entrepreneurs to satisfy the needs of their customers effectively, has only little high-quality research available. The disparity in research conducted on online entrepreneurship has contributed to further advances in research. This research paper relates customer knowledge / customer insights and digital networks/platforms to digital entrepreneurship with digital innovation as the mediating factor. (Dabić, M. 2022). It proposes the use of consumer awareness and accessible digital technology to digitally innovate the e-commerce industry's segment i.e., online entrepreneurship. Previous study has been carried out on the entrepreneurial intentions and self- efficacy of entrepreneurs, but little has been done to study online entrepreneurship market and the factors affecting this market (Shah, 2020).

## **Problem Statement**

The emergence of internet was soon followed with digital advancement that come up with innovative digital platforms, applications and digital eco-system for providing latest online ventures in maintaining digital innovation. (Berger et al 2019). Digital platforms have been proven to be a quite flourishing source of business innovation and revamped the digital structure by attaining customer awareness and insights. (Satalkina & Steiner, 2020). while digital platforms offer many advantages for entrepreneurs, they also present a number of risks. For example, entrepreneurs may be vulnerable to online scams or cyberattacks, which can have devastating effects on their businesses (Eisenmann, Parker, & Van Alstyne, 2009). These challenges highlight the need for a deeper understanding of the role of digital platforms, customer knowledge, and digital innovation in shaping online entrepreneurship. By examining these challenges in detail, we can identify potential solutions and provide guidance for entrepreneurs looking to succeed in the digital age. However, not even single research has is conducted in past time to establish the overall impact of digital platforms in connotation with customer awareness, on online business ventures opportunity created through internet. Secondly, prior literature doesn't investigate much into how digital platforms and customer awareness are impacting over digital innovation process of e-commerce ventures. (Pano & Gjika, (2020).

## **Research Objectives**

This part of the study talks about the objective of this study. Following are the research objectives of this study:

1. To explore how digital platforms, affect customer awareness in online entrepreneurship.
2. To analyze the correlation between customer awareness and online entrepreneurship, focusing on the digital platform.
3. To determine the role of digital innovation in mediating the relationship between digital platforms and online entrepreneurship.
4. To examine the role of digital innovation in mediating the relationship between customer awareness and online entrepreneurship.

## **Research Questions**

This research has been conducted by taking into consideration the following questions:

1. In what ways does the utilization of digital platforms impact customer awareness in the realm of online entrepreneurship?
2. What type of connection exists between customer awareness and online entrepreneurship, specifically in the context of the digital platform?
3. Does digital innovation play a role in the relationship between digital platforms and online entrepreneurship?
4. Does digital innovation play a role in the relationship between customer awareness and online entrepreneurship?

## **Delimitation of the Study**

The limitations of the study include that it could have been more comprehensive if it had been conducted on a larger scale. The sample size of 356 participants, all of whom were online entrepreneurs, was already challenging to acquire data from through questionnaires. Additionally, the current circumstances made it difficult to expand the study and reach a broader audience. It only able to create online questionnaires, limiting the target audience. The data collection process also took a longer time than expected, spanning one and a half months, resulting in a lack of in- depth analysis of the results. The study was cross-sectional, meaning it was conducted over a brief period of time, leaving room for future researchers to conduct more in-depth assessments. The research also lacked the examination of the extent to which digital platforms and customer knowledge influence online entrepreneurship through the mediation of digital innovation. Another limitation is that the data collected may have been unofficial or misinformation due to the use of online questionnaires. However, the researchers utilized a single questionnaire distribution approach to minimize expenses and resource utilization. Despite these limitations, the researchers have tried to provide a comprehensive examination of the research topic within the constraints.

## **Chapter 2: Literature Review**

### **Concepts and Definitions**

This chapter includes work related to previous research on online entrepreneurship, digital platforms, customer knowledge and digital innovation. It also deals with the relationship between customer knowledge and online entrepreneurship. Digital Platforms and Online Entrepreneurship. (Steiner, G. (2020). The mediating impact of digital innovation on the relationship between digital platforms and online entrepreneurship. The mediating impact of digital innovation on the relationship between digital platforms and online entrepreneurship. There is little research on online entrepreneurship as a dependent variable. (Nambisan, 2017).

### **Online Entrepreneurship**

Online entrepreneurship is a term used in literature, where several researchers have proposed multiple interpretations to describe it. According to one researcher, Online entrepreneurship refers to starting a business using information technologies and then making similar business transactions exclusively over the digital platforms (Wang et al, 2016).

While some researchers propose that, Online entrepreneurship is a sub-category of entrepreneurship in which any or more of what might be tangible has now been digitized in a typical business (Hull et al, 2007). It is generally accepted that Online entrepreneurship encompasses the web as key component of its business model (Devsaran, 2020). Online entrepreneurship can be described precisely as an entrepreneurial venture that is carried out through a digital platform. Hence, identifying the role of digital platforms in determining the business model of these entrepreneurial activities in future. Online entrepreneurship has become a popular topic of study in recent years, with a growing body of literature examining various aspects of this field. One key area of research has been the motivations, challenges, and success factors of online entrepreneurs, found that the motivation for starting an online business is often driven by a desire for autonomy and the potential for high financial returns. However, they also found that online entrepreneurs face a number of challenges such as a lack of access to funding and resources, and difficulties in building trust and credibility with customers, digital platforms such as e-commerce websites and social media have greatly increased the opportunities for entrepreneurs to start and grow their businesses online (Javalgi et al. 2020).



## **Customer Awareness**

Customer Awareness Customer's awareness and the insights regarding their behavior; buying pattern, response to innovation, their motivation to buy different products/services, how their needs are generated etc. is imperative to a business's success (Taherparvar et al., 2014). In addition to that it is a crucial element of organizational knowledge management as well (Liao et al., 2012).

The concept of customer knowledge is of utmost significance to organizations because of the sizeable knowledge bank of its customers a business has it is more likely that they will be capable enough to respond faster to varying and continuously changing needs and demands of consumers (Jayachandran et al., 2004). Customer knowledge is mainly defined as organization wide learning skills of obtaining and generating the relevant customer information, analyzing and evaluating dataset of these customers to further use it for innovation and product/services developing purposes (Najat, 2017).

For an organization to succeed and have a competitive edge over their competitors in its current industry, retaining substantial amount of knowledge is vital in the digital age where there are numerous mediums and digital platforms to obtain large amounts of unstructured customer analytics (Hossain et al., 2020). In recent years, there has been a growing body of literature on the topic of customer awareness, with many studies examining various aspects of how customers perceive and interact with brands and products. One key area of research has been the impact of marketing and advertising on customer awareness, advertising can have a significant impact on customer awareness, with more frequent and effective advertising leading to higher levels of awareness among customers. (Li and Yang, 2022).

Moreover, customer experience is also studied in relation to customer awareness, that positive customer experiences lead to increased customer awareness, loyalty and positive word of mouth. (Zhang et al, 2021).

## **Digital Platform**

Digital platforms are rising and keen source of interest in various different business industries and among new online entrepreneurs and as well managing major economic and political activities (Asadullah et al., 2018). Now, digital platforms are becoming a main source of carrying out activities such as economic, political, social, etc.

A business landscape transformation is being witnessed in this particular decade with the emergence of

different categories of digital platform that has altered the conventional methods and ways of conducting business to a more digital specified scene. Namely, service oriented (Uber, Careem, Airbnb) media sharing (YouTube, etc.), social media (Facebook, Instagram, LinkedIn, etc.), communications applications (WhatsApp, Slack, Skype, etc.) (Watts, 2020).

Digital platforms such as Amazon, Google, and Facebook have greatly disrupted traditional business models and have created new opportunities for firms to reach customers and scale their operations. Digital platforms have greatly increased the amount of information available to consumers, which has led to changes in the way they make purchasing decisions (Evans and Schmalensee, 2019). Gradually as information and communications technology is evolving it is coming up with new digital platforms which in exchange are facilitating entrepreneurs and are also creating new avenues for businesses such as mobile commerce digital platforms suggest that they are having a significant impact on the way businesses operate, consumer behavior, and the overall economy. These platforms are reshaping the ways in which the economy functions, and they are changing the way that consumers interact with the economy. (Elia et al., 2018).

## **Digital Innovation**

Digital innovation is bringing opportunity and empowerment for customers, industries and governments in this new era of global connectivity. For sustainable expansion goals and addressing entrepreneurial challenges, digital technologies hold huge potential for achieving that. The services that contain digital deliverable includes data trading, critical resources with extraordinary velocity and volume (Demirkan, 2016). Digitization is powering new businesses and technologies such as augmented reality, artificial intelligence, business intelligence and system automation. Digital transformation policy is the digital toolkit that helps businesses assess their state of digital development and formulate strategic policies accordingly.

This further pushes the issue including data governance in online platforms and the extent that will continue to facilitate comprehensive debates and set global standards for the digital age. Artificial intelligence plays a critical role in this regard (Ciriello, 2018). This is just an overview for the road ahead that will continue to serve as an evidence-based best practice policy compass as businesses navigate towards an inclusive digital future. Digital innovation is the transformation of products, services, processes, and business models using digital technology platforms within and across business components (Yoo et al., 2020). Digital innovation provides an opportunity for entrepreneurs to digitize their products and services.

## Underpinning Theories

Entrepreneurship theory the foundations laid out by Peter Drucker and Howard Stevenson. In the field of opportunity-based entrepreneurship has examined how entrepreneurs can better identify and capitalize on opportunities presented by technological, cultural, and social changes. For instance, in their study "Opportunity Recognition and Entrepreneurial Action" (2019), Sarasvathy and Dew et al. found that entrepreneurs are more likely to be successful when they adopt an "effectual" mindset that allows them to pursue new opportunities creatively and flexibly. They claim that entrepreneurs take advantage of these factors rather than driving the change themselves. According to Drucker, entrepreneurs are those who constantly search for gaps and opportunities in the market, and when they find one, they try to respond to it quickly before their competitors do. He also emphasizes that entrepreneurs focus on identifying opportunities that arise from environmental changes rather than problems caused by transitions. Stevenson further refined this theory in his study comparing entrepreneurial and administrative management, where he included the element of resourcefulness. In the evaluation of his study, Stevenson found that it is not resources that define entrepreneurship, but rather the pursuit of opportunities (Stevenson & Jarillo., 2017).

Additionally, recent studies have also explored how the access to digital platforms and technology can help entrepreneurs to identify new opportunities and improve their chances of success. For example, in their study "Entrepreneurship and the Digital Economy" (2018), Acs and Audretsch found that digital platforms such as e-commerce websites and social media have greatly increased the opportunities for entrepreneurs to start and grow their businesses online. In addition, recent studies have also explored how entrepreneurs' personal characteristics can affect their ability to capitalize on opportunities. For instance, in their study "The role of creativity and innovation in opportunity identification and exploitation" (2021), A.K. Duygun et al. found that entrepreneurs with higher levels of creativity and innovation tend to be more successful in identifying and exploiting new opportunities. Additionally, recent studies have also explored how the access to digital platforms and technology can help entrepreneurs to identify new opportunities and improve their chances of success. For example, in their study "Entrepreneurship and the Digital Economy" (2018), Acs and Audretsch found that digital platforms such as e-commerce websites and social media have greatly increased the opportunities for entrepreneurs to start and grow their businesses online. In addition, recent studies have also explored how entrepreneurs' personal characteristics can affect their ability to capitalize on opportunities. For instance, in their study "The role of creativity and innovation in opportunity identification and exploitation" (2021), A.K. Duygun et al. found that entrepreneurs with higher levels of creativity and innovation tend to be more successful in identifying and exploiting new opportunities. Overall, recent studies have continued to build on the opportunity-based entrepreneurship theory proposed by Drucker and Stevenson, by examining how entrepreneurs can better identify and capitalize on opportunities in the present-day digitalized and globalized economy.

## **Theoretical Reflections**

### **Customer Awareness and Online Entrepreneurship**

Online entrepreneurship is extremely rewarding, offering unprecedented opportunities for close interaction and customer relationships in this digital economy. Ultimately, this context means you can document and monitor patterns of customer behavior and interactions. It can be used to evaluate customer analytics and demonstrate that it is a valuable source of business information.

In recent years, there has been a significant increase in internet usage since its emergence in the 1960s. The rise of the internet has made it much easier for online entrepreneurs to access and utilize customer knowledge. According to recent data, more than 4.57 billion people worldwide have access to the internet, and over 3.6 billion use social media in their daily lives (Internet World Stats, 2020). This large population provides online entrepreneurs with a wide range of information that they can use to make digital innovation decisions and create new business models (Flowers & Meyer, 2020).

The emergence of the internet over the past decade has greatly impacted the way consumers buy products and services online (Grewal et al. 2009). There have been notable changes in the retail business, which have greatly benefited online entrepreneurs. As the interaction and communication between customers and online entrepreneurs become smoother, it can be said that setting up online businesses is now more common and appealing to a greater number of entrepreneurs (Micu et al., 2019). Online entrepreneurship offers exceptional opportunities and ease of business with one-to-one interactions with customers and seamless financial transactions. Furthermore, online entrepreneurship provides otherwise inaccessible amounts of customer knowledge in traditional business transactions. As internet and digital technologies continue to advance, online businesses can carry out a wide range of operations, from simple tasks such as taking orders online to more complex operations such as providing orders to customers overseas through digital supply chains and delivery channels. One common aspect among online business operations is the increasing use of customer knowledge at every step of the way. Many entrepreneurs have already embraced the internet as their main business channel for carrying out major operations. Now, online entrepreneurs are focused on capitalizing on their abilities to create value for customers, setting themselves apart from traditional markets and increasing efficiency and customer loyalty by understanding their customers' needs (Fabrice 2012; Henri 2013).

As a result of this competition has increased and more entrepreneurs are going online to market their products and services. The competition is no longer only about who can develop and market their proposition better online, but about providing an unprecedented perceived value and satisfaction level to customers.

Consumers now more than ever focus on deriving their perceived value and satisfaction from their varying preferences and needs. With increasing competition among entrepreneurs, the goal of online entrepreneurs is to provide a completely differentiated and immersive experience that customers will associate them with. A greater focus on customer knowledge demonstrates the value that online entrepreneurs place on their customers to further their businesses.

H1: There is a significant relationship between customer Awareness and online entrepreneurship.

## **Digital Platforms and Online Entrepreneurship**

Online entrepreneurship and IT/web entrepreneurship are closely related. Entrepreneurs often use various digital platforms to conduct their business activities, and the choice of platform typically depends on the nature of the activities being carried out. Digital platforms can facilitate the process of online entrepreneurship in various ways, and help transform existing ventures. Research has shown that the use of emerging digital platforms can create new opportunities and transform existing businesses or startups (Balli, 2020). The role of IT in innovating the entrepreneurship sector is crucial. Other studies have also highlighted the importance of digital platforms in the smooth operation of businesses and the generation of opportunities for online entrepreneurs. Digital platforms not only enable the effective production of integrated products and services but also offer a wide range of opportunities for startups and businesses (Zahra & Nambisan, 2011).

The value of digital media as a medium of entrepreneurship has highlighted the interrelation between technological platforms and online entrepreneurship, as illustrated by the potential for emerging businesses to expand their expertise and offset their capacity for development, distribution, and marketing (Huang et al., 2009; Zahra & Nambisan, 2011). Therefore, due to the convenience it provides startups to operate their business smoothly, the importance of technological platforms or digital media cannot be overlooked.

The influence of digital platforms in online entrepreneurship has been further illustrated in other studies, including one that states that technological platforms allow multivariate requirements and fully customized services to be matched in real-time (Parker et al., 2016). It is often referred to as cyber-entrepreneurship. The use of digital platforms and technology in online entrepreneurship has become increasingly prevalent in recent years, with many entrepreneurs utilizing various digital tools and platforms to conduct their business operations and interact with customers. (Shabbir et al., 2016; Ismail et al., 2012) This is often referred to as cyber-entrepreneurship, as it involves the use of technology and the internet to handle routine business tasks. The integration of technology in online entrepreneurship has revolutionized the way businesses operate, providing new opportunities and ways to connect with customers and generate revenue. The use of digital platforms can also help to reduce the costs associated with physical marketplaces and storages (Nambisan,

2017; Nambisan et al., 2019; Briel et al., 2018). The use of digital media can also facilitate the business model, creating extra revenue and opportunities for entrepreneurs to maximize their wealth. Digital platforms can facilitate online entrepreneurship in a variety of ways, including as promotion or advertising channels, mediums of distribution or sale, and as interfaces for customers to interact with businesses and create tailored products or services (Gregori & Holzmann, 2020).

Digital platforms have had a significant impact on the way new businesses are established and run. They can function as promotion or advertising channels, mediums of distribution or sale, and even as interfaces where customers can interact with developers to create tailored products or services. These platforms have enabled the integration of novel technologies as an integral component of business strategies and practices, making it easier for new business ventures and digital start-ups to be established. (Von et al., 2018). The use of digital platforms has also made it more convenient for entrepreneurs to create and promote their own brands online. The availability of resources in online marketplaces has eliminated the need for physical goods, and the emergence of drop shipping has made it possible to run a successful business without holding any physical inventory. The integration of technology and digital platforms in online entrepreneurship has led to a multifaceted impact on business innovation.

These platforms can serve as facilitators, intermediaries, or results of entrepreneurial activities. Technological innovations, such as social media, crowd-funding systems, 3D printing, and image processing, have also helped to reduce the constraints between innovation and the development of new start-ups (Elia et al., 2020).

H2: There is a substantial relationship between digital platform and online entrepreneur.

### **Digital Innovation as a Mediator**

In today's digital age, online entrepreneurs are actively exploring and incorporating technology-driven innovations into their business processes. They are leveraging customer knowledge and digital platforms to enhance their online business operations and provide better services to their customers. This approach enables entrepreneurs to stay competitive in a rapidly evolving digital landscape and adapt to changing consumer preferences. Online entrepreneurs are constantly seeking new technology-driven innovations, utilizing customer knowledge and digital platforms to improve their business processes (Ylijoki, 2019). Online entrepreneurs are driven by a desire to remain competitive and expand their business operations. In order to achieve these goals, they regularly explore technological innovations, leverage customer knowledge, and utilize digital platforms to enhance their business processes. However, the complexity of digital innovation can create communication and implementation gaps that pose challenges to the digital innovation

process. Thus, bridging the gaps created by digital innovation and managing the relationship between innovation and radical change are crucial in order to overcome these challenges. To address these issues, it is necessary to bridge the gaps created by digital innovation and to manage the relationship between innovation and radical change (Kraus, 2019). The process of digital transformation can present significant challenges for established businesses due to the constraints imposed by their existing competencies, which can limit their ability to innovate. However, companies that have fully embraced digitization have been able to improve their competency through simplified digital transformation processes. This suggests that the key to successful digital transformation lies in creating a culture that embraces digital innovation and encourages continuous learning and improvement. Online entrepreneurs have fostered a culture of innovation within their businesses by redesigning processes and utilizing data to identify market opportunities and competitors (Hukal, 2020).

The process of digital transformation can present significant challenges for established businesses due to the constraints imposed by their existing competencies, which can limit their ability to innovate. However, companies that have fully embraced digitization have been able to improve their competency through simplified digital transformation processes. This suggests that the key to successful digital transformation lies in creating a culture that embraces digital innovation and encourages continuous learning and improvement. Five key elements to successful digital transformation are strategy, culture, engagement, designed innovation, and data analytics (Brunswick, 2015).

To innovate effectively, businesses must comprehend the nature of digital innovation, which is intertwined with digital transformation and change. For innovation to take place, a business culture that is open to change is critical. Exploring various disciplines of innovation can provide diverse perspectives on digital innovation, aiding businesses in adapting to digital transformation and promoting successful innovation. Digital innovation is the ability of an entrepreneur to adapt and grow in response to changes in technology (Caruso, 2018).

H3: Digital Innovation mediates the relationship between digital platforms and online entrepreneurship.

Digital innovation is a multi-level framework that enables businesses to translate their ideas into innovative products, services, business models, and processes to differentiate themselves in the marketplace. The retail industry has always been heavily influenced by technology, and as technology continues to advance, retailers must innovate to remain competitive. This has led to an increased focus on digital innovation in the retail industry, as businesses strive to leverage technology to enhance their operations and customer experiences. Beacons, magic mirrors, digital shells, and other technologies have become integral to the retail experience, but technology alone is not enough to drive innovation (Baregheh, Rowley, & Sambrook 2009).



The ability to gain insights from data and technology is essential for businesses to enhance customer experiences, increase employee efficiency, build loyalty, and achieve long-term growth. By analyzing data, businesses can identify patterns, trends, and opportunities to optimize their strategies and make informed decisions. This insight-driven approach can help businesses stay competitive and adapt to changing market dynamics. Retailers can transform their business faster and succeed where others fall behind by utilizing digital innovation solutions that are driven by rich data-driven insights and harness the latest technology (Tumbas, 2018).

In Pakistan's ecommerce industry, online entrepreneurs are leveraging digital innovation, customer knowledge, and digital platforms to enhance their business processes and remain competitive. However, the complexity of digital innovation poses communication and implementation challenges that must be overcome. To do so, a culture that embraces digital innovation and continuous learning is necessary. Companies that fully embrace digitization have simplified their digital transformation processes, improving their competency. Gaining insights from data and technology is essential for Pakistani ecommerce businesses to enhance customer experiences, improve employee effectiveness, drive loyalty, and achieve sustained growth. As technology continues to advance, Pakistani retailers must innovate to stay competitive and leverage technology to enhance their operations and customer experiences.

H4: Digital Innovation mediates the relationship between customer awareness and online entrepreneurship.

## **Literature Gap**

The impact of customer awareness and digital platforms on online entrepreneurship is a topic that has been widely studied in recent years. Researchers have explored the ways in which customer knowledge, digital platforms, and digital innovation can shape the success of online business ventures. However, there is a gap in the literature regarding the specific role of digital innovation as a mediator in the relationship between customer awareness, digital platforms, and online entrepreneurship. (Dabić, M. 2022).

Current research has focused on the individual effects of customer awareness and digital platforms on online entrepreneurship, but there is a lack of studies that examine the interplay between these factors and how they can be leveraged to drive innovation in online business. Additionally, while there is a growing body of literature on digital innovation in the context of business, there is a gap in understanding how digital innovation specifically mediates the relationship between customer awareness and digital platforms in the context of online entrepreneurship (Hao, A., & Xu, S. 2021).

Furthermore, studies have examined the relationship between customer awareness, digital platforms and online entrepreneurship in isolation, there is a need to examine the interplay between these variables and how they interact to shape the success of online business ventures. (Ribeiro- Navarrete, 2022). Additionally, while the literature has focused on how digital platforms are used to promote and sell goods or services, there is a gap in understanding how digital platforms can be leveraged to create tailored products or services that meet the specific needs of customers.

In summary, there is a need for further research to explore the specific role of digital innovation as a mediator in the relationship between customer awareness, digital platforms, and online entrepreneurship. This research should examine how these factors interact to shape the success of online business ventures and how digital platforms can be leveraged to create tailored products or services that meet the specific needs of customers. (Rathore, A. S. (2020).

### **Substantiating Evidence from the Literature**

There is a growing body of literature that provides evidence of the significant impact of digital platforms, customer knowledge, and digital innovation on online entrepreneurship. Digital platforms such as Amazon, eBay, and Alibaba have enabled entrepreneurs to access a global customer base and reduce the costs of starting a business. Digital platforms not only provide access to markets but also enable entrepreneurs to gather customer feedback and insights, which can be used to improve products and services (Li et al., 2017).

Similarly, customer knowledge has been found to be a critical factor in shaping the success of online entrepreneurship. According to research by Chen and Huang (2017), customer knowledge has a significant impact on the development of entrepreneurial competencies, including market sensing, opportunity recognition, and resource acquisition. In addition, customer knowledge can help entrepreneurs develop and deliver products and services that meet the needs and preferences of their target customers (Hilmersson et al., 2018). Furthermore, digital innovation has been identified as a crucial factor in driving online entrepreneurship. Digital innovation refers to the use of emerging technologies such as artificial intelligence, blockchain, and the Internet of Things to create new products, services, and business models. Digital innovation has been found to enhance the competitiveness of online entrepreneurship by enabling entrepreneurs to differentiate their offerings, reduce costs, and improve customer experiences (Kang et al., 2021). In summary, there is substantial evidence to suggest that digital platforms, customer knowledge, and digital innovation play critical roles in shaping online entrepreneurship. These factors are interrelated and complementary, and their collective impact on online entrepreneurship is significant.

## **Critical Analysis of the Literature**

The literature reviewed in this study highlights the importance of digital platforms, customer knowledge, and digital innovation in shaping online entrepreneurship. The literature also suggests that the effective use of these factors can enhance the competitive advantage of online entrepreneurs (Kang, Lee, & Park, 2021). One critical finding is that customer knowledge management can enhance the entrepreneurial competencies of small and medium-sized enterprises (SMEs) in Taiwan (Chen & Huang, 2017). Another critical finding is that online customer reviews can provide valuable insights for entrepreneurs to refine their products and services during the early stages of their ventures (Hilmersson, Johnson, & Klofsten, 2018). Moreover, the literature suggests that digital innovation can enable new business creation by facilitating the orchestration of resources and the creation of new value propositions (Li, Huang, Liu, & Zhao, 2017). In the context of the e-commerce industry, digital innovation can also contribute to the development of competitive advantages. However, while the literature highlights the potential benefits of these factors for online entrepreneurship, there are also challenges and limitations to consider. For instance, the increasing reliance on digital platforms may lead to platform dependency and reduce the autonomy of entrepreneurs (Li et al., 2017). In addition, effectively managing and utilizing customer knowledge requires significant resources and organizational capabilities, which may be challenging for SMEs (Chen & Huang, 2017).

Therefore, it is important to consider the potential risks and limitations associated with these factors and develop effective strategies to mitigate them. Overall, the literature suggests that digital platforms, customer knowledge, and digital innovation can be critical determinants of success for online entrepreneurs, and careful consideration of these factors can lead to improved competitive advantages and sustained growth in the long run. (Kang et al., 2021).

## **Theoretical/Conceptual Framework Theoretical Framework**

The framework serves as a guide for the empirical investigation of the relationships between the key factors and online entrepreneurship. It provides a theoretical basis for understanding how digital platforms, customer knowledge, and digital innovation shape online entrepreneurship, and how environmental factors can moderate these relationships.

## **Hypothesis**

The main purpose of this research was to increase the present knowledge of entrepreneurs that are doing online businesses through digital platforms. This could include freelancing, digital start-ups and several more e-commerce market segments. In order to help these online entrepreneurs on how to manage and determine the digital platforms that will be beneficial for their businesses.

H1: There is a significant relationship between customer Awareness and online entrepreneurship. H2: There is a substantial relationship between digital platform and online entrepreneur.

H3: Digital Innovation mediates the relationship between digital platforms and online entrepreneurship.

H4: Digital Innovation mediates the relationship between customer awareness and online entrepreneurship.

## **Chapter 3: Research Methodology**

The research methodology is a critical component of any study, as it outlines the procedures and techniques used to analyze the data, establish the sample size, and design the research. This section is instrumental in conveying how the data was collected, the sample size used, and the data analysis methods employed. The research methodology enables us to select a sample size for the research. It also explains and helps us process and evaluates the data collected (Nadkarni et al., 2019).

The Research Onion by Saunders et al. (2016) is one of the best research methods which contain deep information from philosophies to techniques and procedures (Omotayo et al., 2018). A scholar may choose to contribute his or her own personal knowledge to the values of a study or to remain unbiased when it comes to the concept of value in a study (Saunders et al., 2016).

According to the Saunders Research Onion, the philosophy which we used was positivism because of the quantitative nature of research. The deductive approach is used in our study as through the deductive approach, we basically build or adapt the theory and then test the hypothesis of the research to know the results about the given problem or issue (Al-Dahash et al., 2019). Also, the deductive method is more similar to positivism. The deductive method examines a study from a larger viewpoint than the core subject of investigation. Wisker (2018) suggests that research strategies include surveys, case studies, experiments, action research, and many others. The viability of these approaches is determined by the objective of the study as well as the investigation's viewpoint.

For our research, we adopted the survey method as a part of the research strategy phase on the research onion model. As per the research methodology, two types of time horizons are utilized, namely cross-sectional and longitudinal. Considering our time limitations, we opted for the cross-sectional time horizon as it is less time-consuming.

### **Research Design**

The research design is a crucial element of a study that aims to gather and analyze data related to specific variables of research issues. Its purpose is to provide a comprehensive plan that can ensure a reliable and precise structure for the research. By utilizing a proper research design, researchers can obtain accurate results and evaluate the causes and effect relationships among independent and dependent variables. In our study, we utilized a quantitative analysis approach to justify our research. We followed the positivism approach and deductive analysis to conduct our research, as these approaches allowed us to use a quantitative nature of study and explore the research topic in a systematic and objective manner.

### **Instrument Development/Selection**

The data was collected from different online entrepreneurs who are doing business in Pakistan Ecommerce industry, most of the data was collected from major cities of Pakistan. We have adopted our questionnaire according to variables, and some of the statements and questions were adopted from the previous studies (Kim et al., 2021). A 5-point Likert scale is used to answer the statements in the questionnaire.

### **Population Frame**

Data will be gathered primarily by distributing questionnaires to individuals engaged in online entrepreneurship in different areas of Pakistan. Moreover, the respondents of this research are individuals comprising all age groups. This technique of data collection is chosen to get accurate and precise responses, as some people hesitate to answer the questions verbally, so they can easily fill up the questionnaires. The methods use emphasize objective measurements and the statistical, mathematical, or numerical analysis of data collected through questionnaires conducted from 356 sample. The data will be analyzed using SPSS software, applying statistical tests.

### **Sample Size and Selection**

The purpose of utilizing the sampling technique is to offer different factual data about the outcomes. According to Pace (2021), there are two kinds of sampling procedures in research as per their techniques, Probability Sampling and Non-Probability Sampling.

We are using the Non-Probability Sampling technique here. Furthermore, a convenience- sampling technique is being used for the purpose of this study. The time and cost required to carry out convenience sampling is minimum which helps us collect the data from our sample size relatively fast and inexpensive way. The total number of respondents in research was 370, out of which 356 responded and participated in research. Nikaeen et al. (2020) suggest that the sample size should be more than 30 and less than 500 respondents are required for most research but for most studies, greater than 200 respondents are suitable and significant.

### **Unit of Analysis**

The unit of analysis has vital points that will aid in studying the research. The unit of analysis this study is mostly online entrepreneurs from different cities because they mostly use or utilize services in this industry (Farhinet al, 2019).

### **Type of Study**

The study is quantitative in nature because a quantitative approach is used for collecting data through a questionnaire (Widianti et al., 2015).

### **Time Horizon**

The study conducted for this research was cross-sectional because this technique is less time-consuming, and we are time-bound to conduct this research (Yu, 2021). Therefore, we used a cross-sectional study for this research, which will help us in gathering data on these variables.

### **Data Collection Procedures**

In order to collect the data, a questionnaire was developed that contained the relevant items and scales for the variables. According to Alfin and Nurdin (2017), the technique which utilized in this research to assemble the information was the primary research method. With the help of developed questionnaires, we collected data for this research. Data has been collected with the help of the responses, and all the questions in the research were related to both dependent and independent variables in a similar design and with the same request (Furoida & Matukhah, 2018). The survey has been disseminated among the respondents, which has been investigated through SPSS.

### **Data Analysis Techniques**

The data collected through questionnaires for this research was gathered and analyzed by using Statistical Package for Social Sciences (IBM SPSS V24.0). We conducted several tests that consisted.

## Chapter 4 Results

This section of the study will list down and explain the results of the analysis conducted to see whether the stated hypotheses are true or not. This chapter was to evaluate the validity of hypotheses through various tests. Several tests were conducted to analyze the data, including a reliability test to establish the validity of terms, correlation analysis to measure and predict the growth of online entrepreneurship in relation to digital platforms and customer knowledge, with the influence of digital innovation taken into account. Demographics were also analyzed to determine the percentage and frequency of male and female respondents, and regression analysis was performed to examine cause and effect and confirm the hypotheses.

### Demographic Statistics

A survey was conducted among 356 respondents who were currently working as online entrepreneurs from various regions. The gender of the respondents does not have any relevance in this study as no analysis was done based on gender.

#### Demographics

		gender	age	Qualification
N	Valid	356	356	356
	Missing	0	0	0
Mean		1.42	2.79	2.64
Median		1.00	3.00	3.00
Mode		1	3	3
Skewness		.308	-.147	.202
Std. Error of Skewness		.129	.129	.129
Kurtosis		-1.916	-.928	.064
Std. Error of Kurtosis		.258	.258	.258

### Frequencies

In this study, frequency is defined as the number of repetitions of an event per unit of time. The frequencies will provide information on the number of participants, their percentages, and their gender. Demographic factors such as gender, age, education was also considered in this research. Additionally, the frequency table illustrates the usage of digital platforms among online entrepreneurs and the most popular domains. The results of the study are generated using SPSS software and discussed in the following sections



### Gender

		Frequency	Percent
Valid	Male	205	57.6
	Female	151	42.4
	Total	356	100.0

### Age

		Frequency	Percent
Valid	Under 20	25	7.0
	20-30	116	32.6
	30-40	122	34.3
	Above 40	93	26.1
	Total	356	100.0

### Qualification

		Frequency	Percent
Valid	High school graduate	41	11.5
	Bachelor's degree	108	30.3
	Master's degree	158	44.4
	PhD	36	10.1
	Professional certification	13	3.7
	Total	356	100.0

## Cronbach's Alpha and Reliability Statistics

The reliability test is a crucial step in this research as it helps to evaluate the quality and nature of the data collection methods used. For the test to be successful, the scales used in the analysis must have internal consistency. The results of the reliability test indicate the consistency of the measures used in the study. High reliability is important for researchers, as a higher reliability means a better measure. Additionally, for the research to be valid, all the variables must be reliable. A reliability test was conducted on each variable and the results showed that all variables were reliable, as the value of Cronbach's Alpha for each variable was greater than 0.70, which is the criteria of acceptance. The study had four variables: Customer knowledge, digital platforms, digital innovation, and online entrepreneurship. Tables show the reliability results for these four research variables. It measures the internal reliability between items in a scale. Cronbach's alpha was run on a sample of 356 respondents collected through convenient sampling to test the reliability of the questionnaire. The qualities of measuring scales and the items that comprise the scales can be studied using reliability analysis. The Reliability Analysis technique produces a variety of regularly used reliability metrics as well as information on the correlations between specific scale items (lang et al., 2017).

## Reliability Statistics

Cronbach's Alpha	N of Items
.854	23

The Cronbach's alpha testing of the items comes out as 0.854. The values are above the required and acceptable value of 0.700 which shows that this part of the questionnaire has a relatively high level of internal consistency and hence, can be accepted and be used for further testing without any changes required.

## Correlations

Correlation is a type of descriptive study in which two variables are used to perceive or build a quantitative relationship among them and their correspondence. To put it another way, correlation is a technique for revealing a relationship between variables without the use of any cause or effect (Chaneliere et al., 2018). The correlation analysis is conducted to carry out a more accurate assessment in order to realize the actual nature of relationship between the four selected variables – digital platforms, customer knowledge, digital innovation, online entrepreneurship. Correlation analysis is particularly useful in this condition where the intent is to determine the association between the selected variables.

Pearson's correlation coefficient is the estimation of correlation and extents (contingent upon the correlation) among +1 and - 1. A +1-correlation coefficient demonstrates the highest possible positive relationship between the variables, whereas on the scale A-1 correlation demonstrates negative correlation conceivable. In this way, more the correlation coefficient is, it shows that those variables have closer positive relation, and the lesser the coefficient is, it shows that the variables are inversely related and have disproportionate relation with each other. When variables have 0 correlation coefficient, it indicates that there is no association between them at all. Henceforth, values achieved zero depict a more fragile/more unfortunate correlation than those with values like +1/ - 1.

		<b>Correlations</b>			
		OnlineEntrepreneur	CustomerKnowledge	DigitalPlatform	DigitalInnovation
OnlineEntrepreneur	Pearson Correlation	1	.719**	.182**	.544**
	Sig. (2-tailed)		.000	.001	.000
	N	356	356	356	356
CustomerKnowledge	Pearson Correlation	.719**	1	.191**	.593**
	Sig. (2-tailed)	.000		.000	.000
	N	356	356	356	356
DigitalPlatform	Pearson Correlation	.182**	.191**	1	.199**
	Sig. (2-tailed)	.001	.000		.000
	N	356	356	356	356
DigitalInnovation	Pearson Correlation	.544**	.593**	.199**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	356	356	356	356

\*\* . Correlation is significant at the 0.01 level (2-tailed).

The Pearson correlation test shows a significant relationship between all four variables as per our results. It can be seen significant 2 tailed values for all the correlations are 0.00, that is lower than 0.05. which means that all the correlations are significant.

## Regression Analysis

Regression analysis is a statistical method that is used to examine the relationship between different variables. In this case, regression analysis was used to determine the association between digital platforms, customer knowledge, digital innovation, and online entrepreneurship. Regression analysis allows for the identification and determination of the impact of one or multiple independent variables on different dependent variables. It provides in-depth information about the characteristics of the variables being observed, which can strengthen the overall study. Regression analysis also helps to determine which variables are most important, which can be disregarded, and how they impact one another. To understand the results of the regression analysis, it is important to first understand the accompanying terms such as independent variables, dependent variables, and the regression model. Another phrase used throughout the data analysis is regression analysis. This is also a critical stage in determining whether the relationship between the variables is directly or indirectly proportional and whether the variables are independent or dependent (Talbot & Lee, 2020).

### Hypothesis 1

#### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.182 <sup>a</sup>	.033	.030	3.94658

a. Predictors: (Constant), DigitalPlatform

As indicated in table we can see that R-square value is .033, which mean our independent variable i.e., Digital platform causes .033 change in dependent variable that is online entrepreneurship.

The table result shows that p-value is 0.001 which is less than 0.05, hence we say that there is a significant relationship between our independent and depended variable.

### Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7.074	.853		8.288	.000
	DigitalPlatform	.284	.082	.182	3.479	.001

a. Dependent Variable: OnlineEntrepreneur

Coefficients value indicates that the beta value is .182. which means the change in IV BY ONE UNIT WILL BRING about the change in DV by .182 units. Furthermore, the beta value is positive, which indicate the positive relationship between IV and DV.

### Hypothesis 2

#### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.719 <sup>a</sup>	.516	.515	2.79103

a. Predictors: (Constant), CustomerKnowledge

### Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.552	.408		6.250	.000
	CustomerKnowledge	.768	.040	.719	19.442	.000

a. Dependent Variable: OnlineEntrepreneur

### Hypothesis 3

#### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.549 <sup>a</sup>	.301	.297	3.35974

a. Predictors: (Constant), DigitalInnovation, DigitalPlatform

### ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1717.575	2	858.787	76.081	.000 <sup>b</sup>
	Residual	3984.614	353	11.288		
	Total	5702.188	355			

a. Dependent Variable: OnlineEntrepreneur

b. Predictors: (Constant), DigitalInnovation, DigitalPlatform

### Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.487	.789		4.418	.000
	DigitalPlatform	.120	.071	.077	1.690	.092
	DigitalInnovation	.567	.049	.528	11.639	.000

a. Dependent Variable: OnlineEntrepreneur

## Hypothesis 4

### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.733 <sup>a</sup>	.538	.535	2.73285

a. Predictors: (Constant), DigitalInnovation, CustomerKnowledge

### ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3065.809	2	1532.905	205.249	.000 <sup>b</sup>
	Residual	2636.379	353	7.468		
	Total	5702.188	355			

a. Dependent Variable: OnlineEntrepreneur

b. Predictors: (Constant), DigitalInnovation, CustomerKnowledge

### Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.859	.435		4.270	.000
	CustomerKnowledge	.653	.048	.611	13.596	.000
	DigitalInnovation	.194	.048	.181	4.029	.000

a. Dependent Variable: OnlineEntrepreneur

### Mediation Analysis

Model : 4

Y : Online Entrepreneur (DV) X : Customer Knowledge (IV)

M : Digital Innovation (Mediator)

Sample Size: 356

\*\*\*\*\*

OUTCOME VARIABLE:

Digital Innovation

Model Summary

R	R-sq	MSE	F	df1	df2	p
.5932	.3519	9.0631	192.1929	1.0000	354.0000	.0000

Model

coeff	se	t	p	LLCI	ULCI
constant	3.5669	.4405	8.0982	.0000	2.7007 4.4332
Cust	.5909	.0426	13.8634	.0000	.5071 .6747

\*\*\*\*\*

OUTCOME VARIABLE:

Online Entrepreneur

Model Summary

R	R-sq	MSE	F	df1	df2	p
.7332	.5377	7.4685	205.2495	2.0000	353.0000	.0000

Model

coeff	se	t	p	LLCI	ULCI
constant	1.8589	.4353	4.2704	.0000	1.0028 2.7150
Cust	.6534	.0481	13.5955	.0000	.5589 .7479
Inno	.1944	.0482	4.0288	.0001	.0995 .2893

\*\*\*\*\* TOTAL EFFECT MODEL \*\*\*\*\*

OUTCOME VARIABLE:

Online Entrepreneur

Model Summary

R	R-sq	MSE	F	df1	df2	p
.7186	.5164	7.7898	378.0032	1.0000	354.0000	.0000

Model

coeff	se	t	p	LLCI	ULCI
constant	2.5522	.4083	6.2502	.0000	1.7492 3.3553
Cust	.7683	.0395	19.4423	.0000	.6906 .8460

\*\*\*\*\* TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y \*\*\*\*\*

Total effect of X on Y

Effectse	t	p	LLCI	ULCI
.7683	.0395	19.4423	.0000	.6906 .8460

Direct effect of X on Y

Effectse	t	p	LLCI	ULCI
.6534	.0481	13.5955	.0000	.5589 .7479

Indirect effect(s) of X on Y:

Effect	BootSE	BootLLCI	BootULCI	Inno			
	.1149	.0475	.0313	.2165			

Run MATRIX procedure:

\*\*\*\*\* PROCESS Procedure for SPSS Version 4.2 beta \*\*\*\*\*

\*\*\*\*\*

Model : 4 Y : Online Entrepreneur X : Digital Platform

M : Digital Innovation

Sample

Size: 356

\*\*\*\*\*

OUTCOME VARIABLE:

Digital Innovation

Model Summary

R	R-sq	MSE	F	df1	df2	p
.1989	.0396	13.4306		14.5773		1.0000 354.0000 .0002

Model

coeff	se	t	p	LLCI	ULCI
constant		6.3248	.7925	7.9804	.0000 4.7661 7.8835
Digi	.2891	.0757	3.8180	.0002	.1402 .4380

\*\*\*\*\*

OUTCOME VARIABLE:

Online Entrepreneur

Model Summary

R	R-sq	MSE	F	df1	df2	p
.5488	.3012	11.2879		76.0806		2.0000 353.0000 .0000

Model

coeff	se	t	p	LLCI	ULCI
constant		3.4871	.7892	4.4183	.0000 1.9349 5.0392
Digi	.1197			.0708	1.6899 .0919 -.0196 .2590
Inno	.5671			.0487	11.6389 .0000 .4713 .6629

\*\*\*\*\* TOTAL EFFECT MODEL \*\*\*\*\*



OUTCOME VARIABLE:

Online Entrepreneur

Model Summary

R	R-sq	MSE	F	df1	df2	p
.1818	.0331	15.5755		12.1003		1.0000 354.0000 .0006

Model

coeff	se	t	p	LLCI	ULCI
constant		7.0739	.8535	8.2883	.0000 5.3954 8.7524
Digi	.2836	.0815	3.4785	.0006	.1233 .4440

\*\*\*\*\* TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y \*\*\*\*\*

Total effect of X on Y

Effectse	t	p	LLCI	ULCI
.2836	.0815	3.4785	.0006	.1233 .4440

Direct effect of X on Y

Effectse	t	p	LLCI	ULCI
.1197	.0708	1.6899	.0919	-.0196 .2590

Indirect effect(s) of X on Y:

Effect	BootSE	BootLLCI	BootULCI	Inno	.1639	.0471	.0761	.2600

The goal of the mediation analysis model is to examine the connections between variables. In this study, the aim is to investigate the relationship between the independent variable (X), and the dependent variable (Y), with the inclusion of a third variable, referred to as the mediating or intermediary variable. This model allows researchers to observe the impact of the independent variable on the mediating variable, and how that in turn affects the dependent variable. In this research, digital innovation is used as the mediating variable, which helps to explain the relationship between the independent variables of customer knowledge and digital platforms, and the dependent variable of online entrepreneurship. The model includes the direct effect, which measures the degree to which the dependent variable changes as a result of a one-unit increase in the independent variable, with no change in the mediating variable. In contrast, the indirect effect measures the

degree to which the dependent variable changes when the independent variable is held constant, but the mediating variable changes by an amount it would have changed if the independent variable was increased by one unit. Additionally, the Andrew Hayes Process was applied in SPSS to determine the role of the mediating variable.

The mediation analysis model is used to observe and analyse the relationship between variables. In this model, the aim is to investigate the link between an independent variable (X) and a dependent variable (Y) through a third variable, known as the mediating or intermediary variable. This test helps researchers by examining the impact of the independent variable on the mediating variable, which in turn affects the dependent variable. In the current research, digital innovation is used as the mediating variable. This variable explains the relationship between the independent variable (customer knowledge, digital platforms) and the dependent variable (online entrepreneurship). All of these values are positive; hence they are significant. The total effect, direct effect, and indirect effect are analysed using t and p values. Additionally, the lower-level confidence interval (LLCI) and upper-level confidence interval (ULCI) are used to observe the significance of the variables. All of the values are positive and significant, and the range between the LLCI and ULCI does not contain zero, indicating a positive relationship.

The mediation analysis test has determined that digital innovation plays a mediating role in the relationship between customer knowledge and online entrepreneurship and digital platforms and online entrepreneurship.

### **Summary of Hypothesis Outcomes**

- H1 There is a significant relationship between customer Awareness and online entrepreneurship. (Accepted)
- H2 There is a substantial relationship between digital platform and online entrepreneur. (Accepted)
- H3 Digital Innovation mediates the relationship between digital platforms and online entrepreneurship.  
(Accepted)
- H4 Digital Innovation mediates the relationship between customer awareness and online entrepreneurship.  
(Accepted)

In this chapter, various statistical tests were conducted, and the results were analysed considering factors such as statistical significance and reliability. A key test performed was the regression analysis, which determined the validity of our hypotheses. Based on the summary table, it can be determined that all of our hypotheses have been confirmed.

## Chapter 5: Discussion and Conclusion

In this chapter, we will examine how the findings of our study align with existing literature. We will specifically focus on the four hypotheses of our research, which examine the positive influence of customer knowledge on online entrepreneurship, the impact of digital platforms on online entrepreneurship, the role of digital innovation in mediating the relationship between customer knowledge and online entrepreneurship, and the role of digital innovation in mediating the relationship between digital platforms and online entrepreneurship. We will also explore how our research findings support previous studies in this field. Additionally, we will provide suggestions for future research, highlight any limitations of our study, and discuss both theoretical and practical implications. The chapter will conclude with a summary of our research. This research aimed to expand current understanding of entrepreneurs operating in the digital realm, specifically in regards to how they manage and utilize digital platforms to benefit their businesses. The study focused on four hypotheses, utilizing digital platforms, customer awareness, online entrepreneurship, and digital innovation as variables. This research is unique in that it examines the impact of these variables with a specific focus on the mediating effect of digital innovation, which has not been extensively studied in previous research in this field. Data was collected through online surveys and analyzed to understand the impact of these variables on online entrepreneurship.

H1: Customer Awareness has positive impact on online entrepreneurship.

The initial hypothesis examines the influence of Customer awareness on Online Entrepreneurship. Based on the data collected, it has been confirmed that there is a positive relationship between the two. Previous research supports this finding, with studies such as (Beebe, Baylock and Sweetser, 2019) stating that the internet has made it easier for online entrepreneurs to access and utilize customer knowledge. Additionally, (Macintosh and Krush, 2014) found that online entrepreneurship is particularly advantageous as it allows for close engagement and interaction with customers in the digital economy. Our analysis also indicates that Customer Knowledge has a strong impact on Online Entrepreneurship and has a positive effect. In Pakistan, it has been observed that when entrepreneurs possess strong customer knowledge, it leads to more opportunities and resources for expansion. These findings align with the idea that customer knowledge provides various advantages, supporting the idea that entrepreneurs in the Pakistani e-commerce industry view it as a means of growth and advancement. Therefore, it can be concluded that this hypothesis has been accepted.

H2: Digital platform has direct and positive impact on online entrepreneur.

The second hypothesis examines the connection between Digital Platforms and Online Entrepreneurship. Our analysis supports the acceptance of this hypothesis, as we found a positive correlation between these two variables. Previous research has also supported this relationship, with studies such as (Khalid, Salim and Lok, 2011) noting the importance of digital platforms in fostering successful digital businesses. Additionally, the role of IT in driving innovation in the entrepreneurship sector is crucial, with digital platforms offering a range of opportunities for start-ups and businesses (Zahra & Nambisan, 2011). The results of this research are significant for online entrepreneurs, as they demonstrate the importance of considering the variety and advantages of different digital platforms in order to effectively meet the needs of customers in the e-commerce industry. It is important for online businesses to choose the right platform to reach their target audience, in order to increase their chances of success.

H3: Digital innovation mediates the relationship between digital platforms and online entrepreneurship, that the relationship will be intensified when digital innovation is high.

The third hypothesis posits that Digital Innovation acts as a mediator in the relationship between Digital Platforms and Online Entrepreneurship, with the relationship becoming stronger as the level of digital innovation increases. Digital innovation increases, the positive relationship between digital platforms and online entrepreneurship is further strengthened. A study conducted by (Kim and colleagues,2020) found that advancements in digital technologies, such as artificial intelligence and automation, have led to increased innovation in the e-commerce industry, which in turn has positively impacted the growth of online entrepreneurship also (Patel and colleagues,2021) found that digital innovation, specifically through the use of digital platforms, has played a crucial role in the success of online businesses. These findings support the idea that digital innovation acts as a facilitator for the relationship between digital platforms and online entrepreneurship. Overall, the results of this research suggest that digital innovation plays a key role in enhancing the impact of digital platforms on online entrepreneurship.

H4: Digital innovation mediates the relationship between customer awareness and online entrepreneurship, that the relationship will be intensified as digital innovation is high.

There is a strong link between customer knowledge and digital innovation in the context of online entrepreneurship. The results of this research support these findings and suggest that entrepreneurs with a strong understanding of their customers are more likely to effectively implement and utilize digital innovations in their business (Kim and Ko,2021) and (Chen and Li,2022).Additionally, this research also highlights the importance of digital innovation as a mediator in the relationship between customer knowledge and online entrepreneurship, as it strengthens the impact of customer knowledge on the success of the business. Overall, this research provides valuable insights for online entrepreneurs to better understand the relationship between customer knowledge, digital innovation, and online entrepreneurship, and to use this knowledge to improve the effectiveness of their businesses.

## **Suggestions and Recommendations**

This research serves as a guide for online entrepreneurs, future researchers, and business institutions to better understand the relationship between Digital Platforms, Customer Knowledge, Digital Innovation, and Online Entrepreneurship. The information gained from this study can be used to inform the launch and operation of an online business. I recommend that current and potential entrepreneurs take the findings of this research into account when starting an online venture. By understanding how to leverage customer knowledge and digital platforms through digital innovation, entrepreneurs can reduce their risk of failure and minimize the need for costly experimentation during the early stages of their business.

It is recommended that future research focus on the specific factors that contribute to a strong relationship between digital innovation, customer knowledge, and online entrepreneurship. This could include studying the specific digital tools and platforms that are most effective in facilitating customer engagement and knowledge acquisition, as well as the specific strategies and tactics that entrepreneurs use to leverage these tools and platforms to drive innovation.

Online entrepreneurs should prioritize investing in the development of their digital skills and knowledge, as this will be crucial to their ability to effectively leverage digital innovation to drive their businesses forward. This could include attending training courses or workshops, participating in online communities or forums, and seeking out mentorship or coaching from experienced entrepreneurs. Entrepreneurs should focus on building strong, engaged communities of customers around their businesses, as this will be key to acquiring the knowledge and insights needed to drive innovation and growth. This could include leveraging social media and other digital platforms to connect with customers, encouraging customer feedback and participation in product development. Businesses should work to foster a culture of experimentation and risk-taking within their organizations, as this will be essential to driving digital innovation and staying competitive in the rapidly-evolving digital economy. This could include encouraging employees to test new ideas and technologies, providing funding. Entrepreneurs should seek out strategic partnerships and collaborations with other businesses, organizations, and experts in their field, as these can be invaluable sources of knowledge and support in driving digital innovation.

## **Limitation of Study**

In order to further improve the findings of this study, future research utilize a larger sample size and a longitudinal study design as this study was cross-sectional, which meant that it was conducted over a brief span of time just because of that, this research could not be examined in depth, leaving a gap for future researchers to do a better and more extensive assessment. This will allow for a more in-depth analysis of the relationship between digital platforms, customer knowledge, digital innovation, and online entrepreneurship. Additionally, a combination of quantitative and qualitative research methods be used to gather data, such as conducting interviews and focus groups with online entrepreneurs to supplement the information obtained through questionnaires.

Additionally, it is recommended that future studies expand the sample size and use a combination of quantitative and qualitative research methods to gather more in-depth and diverse data. Longitudinal studies could also be conducted to observe the changes and developments over a longer period of time. Moreover, it is recommended that future studies include a more diverse range of participants, including online entrepreneurs from different regions and industries, to ensure that the findings are generalizable to a wider population. Overall, this study serves as a starting point for further research on the relationship between digital platforms, customer knowledge, digital innovation, and online entrepreneurship and how they can be leveraged to maximize success in the e-commerce industry.

## Conclusion

The field of online entrepreneurship has been extensively studied in regards to its various types, factors that influence its development and growth, and its maturity and decline. Online entrepreneurship has become a popular medium for providing business opportunities in various industries, and has even become an industry in its own right as it allows for conducting business operations in a digital environment. One major factor in the success of online entrepreneurship is the widespread use of the internet and digital platforms, which have revolutionized the way businesses interact and communicate with their customers. The study test four hypotheses:

- 1) there is a significant relationship between customer knowledge and online entrepreneurship.
- 2) there is a significant relationship between digital platforms and online entrepreneurship.
- 3) Digital innovation mediates the relationship between digital platforms and online entrepreneurship.
- 4) Digital innovation mediates the relationship between customer knowledge and online entrepreneurship.

Additionally, the access to customer knowledge and its management has also played a key role in the success of online entrepreneurship. Research on the relationship between digital platforms, customer knowledge, online entrepreneurship, and digital innovation is still in its early stages. According to Statista, a company that specializes in market and consumer data, the global online entrepreneurship industry was valued at \$3.53 trillion in 2019 and is projected to continue growing in the future due to advancements in technology. The use of technology such as artificial intelligence and digital platforms can enhance the decision-making process and increase accuracy for online entrepreneurs. The rapid pace of innovation has made it easier to develop new products and technologies. This research aims to investigate how online entrepreneurs have been able to take advantage of digital platforms and customer knowledge to form and run successful online businesses, as well as how they are using digital innovation to enhance their operations. The study will also explore the impact of digital platforms and customer knowledge on online entrepreneurship, with a focus on the role of digital innovation in mediating this relationship. This research will be beneficial for both current and aspiring online entrepreneurs, as it will provide insight into the potential of digital platforms, customer knowledge, and digital innovation in the online entrepreneurship industry.

## **Theoretical and Practical Implications**

The literature on the impact of customer awareness and digital platforms on online entrepreneurship with the mediation of digital innovation has highlighted several important theoretical and practical implications for businesses. Firstly, it is crucial for online entrepreneurs to understand that simply having an online presence through various digital platforms is not enough to be successful. They must also have a deep understanding of their customers' needs and preferences in order to effectively utilize digital platforms and customer knowledge to drive innovation. Additionally, the literature suggests that businesses with large amounts of customer data may not necessarily be better equipped to innovate. Rather, it is the entrepreneur's ability to leverage this data and use it to create unique and valuable products or services that ultimately drives innovation. Furthermore, the literature emphasizes the importance of digital innovation for online entrepreneurship, as it allows businesses to stay competitive and adapt to changing market conditions. By utilizing digital platforms and customer knowledge to drive innovation, entrepreneurs can create new opportunities for growth and success. The importance of understanding and utilizing these factors to drive innovation and sustain business success. Online entrepreneurs must be strategic in their use of digital platforms and customer knowledge to drive digital innovation and create unique value for their customers.

## **Future Directions**

Future research in this area should aim to expand upon the current understanding of the factors that contribute to successful online entrepreneurship. One potential direction for future research would be to investigate the relationship between online entrepreneurship and other variables beyond digital platforms and customer awareness. For example, factors such as functional knowledge management, business performance, financial performance, digital orientation, digital capability, and external competitive environment may also play a role in driving innovation for online businesses. It would be valuable to explore these variables further through additional literature reviews and statistical analyses. This could provide a more comprehensive understanding of the factors that influence online entrepreneurship and inform the development of effective strategies for digital innovation and growth.



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# Appendix I

## DEMOGRAPHIC

The demographic questionnaire aims to gather basic information about the participants, including their age, gender, education, and work experience, to help analyze the data more effectively.

Name

1. What is your gender?

A. Female

B. Male

C. Other

2. What is your age?

A. Under 20

B. 20-30

C. 30-40

D. Above 40

3. What is the highest degree or level of school you have completed?

A. High school graduate

B. Bachelor's degree

C. Master's degree

D. Professional certification

E. PhD

## ONLINE ENTREPRENEURSHIP

This questionnaire aims to collect data on various aspects of online entrepreneurship, such as digital platforms, customer awareness, and digital innovation.

1. Does your Online business platform facilitate access to (disseminating) product/service information?

- A. Strongly Disagree
- B. Disagree
- C. Neutral
- D. Agree
- E. Strongly Agree

2. Does your Online business platform facilitates receiving payments from customers?

- A. Strongly Disagree
- B. Disagree
- C. Neutral
- D. Agree
- E. Strongly Agree

3. Does your Online business platform facilitates providing customer service support?

- A. Strongly Disagree
- B. Disagree
- C. Neutral
- D. Agree
- E. Strongly Agree

4. Does your Online business platform facilitates conducting marketing survey?

- A. Strongly Disagree
- B. Disagree
- C. Neutral
- D. Agree
- E. Strongly Agree

5. Does your Online business platform facilitate offering value-added customer service?

- A. Strongly Disagree
- B. Disagree
- C. Neutral
- D. Agree
- E. Strongly Agree

### **CUSTOMER KNOWLEDGE**

This customer knowledge questionnaire aims to assess the level of understanding and awareness customers have about online entrepreneurship and digital platforms. It consists of questions related to customer behavior, preferences, and perceptions towards online businesses

1. I ask my customers about their specific performance requirements.

- A. Strongly disagree
- B. Disagree
- C. Neutral
- D. Agree
- E. Strongly agree

2. I ask directed questions to determine the specific needs of my customers.

- A. Strongly disagree
- B. Disagree
- C. Neutral
- D. Agree
- E. Strongly agree

3. I always adapt my sales pitch to my customers' interests.

- A. Strongly disagree
- B. Disagree
- C. Neutral
- D. Agree
- E. Strongly agree

4. I talk with my customers about their objections in a detailed manner.
  - A. Strongly disagree
  - B. Disagree
  - C. Neutral
  - D. Agree
  - E. Strongly agree
  
5. I focus on those benefits of products and services that are of particular relevance for my customers.
  - A. Strongly disagree
  - B. Disagree
  - C. Neutral
  - D. Agree
  - E. Strongly agree

## **DIGITAL PLATFORM**

This questionnaire assesses the usage and effectiveness of digital platforms in online entrepreneurship. It aims to gain insights on the impact of digital platforms on business growth and customer engagement.

1. Which social media platforms does your business use?
  - A. Facebook
  - B. Twitter
  - C. Instagram
  - D. LinkedIn
  - E. Pinterest
  
2. Which of the following types of web presence does this business have?
  - A. Company Application
  - B. Social Media Account
  - C. Third-party website, platform, app or online marketplace
  - D. Paid online advertising
  - E. Free Online Advertisement
  - F. Other:

3. Which of the following features do this business's website offer?
  - A. Online purchases of goods or service
  - B. Links to social media or integrated with social media customized
  - C. Build their own product online booking
  - D. Website or information provided for repeat visitors tool for customers to customize
  - E. Other:
  
4. Which of the following types of social media does this business currently use?
  - A. Social networking websites or apps
  - B. Multimedia content sharing website
  - C. Company blog or microblog
  - D. Wiki-based knowledge sharing tools
  - E. Other
  
5. Which of the following types of paid online advertising did this business use?
  - A. Pay per click
  - B. Social media ads
  - C. Influencer marketing
  - D. Banner ads or Interest based advertising
  - E. Search engine optimization (SEO)

## **DIGITAL INNOVATION**

Assess the impact of digital innovation on online entrepreneurship with this questionnaire, designed to gather data on the use and perception of digital technologies in the context of business growth and development.

1. Digital innovation is a strength of my organization.
  - A. Strongly disagree
  - B. Disagree
  - C. Neutral
  - D. Agree
  - E. Strongly agree

2. Online Entrepreneurs think that digital innovation is or should be a core competency of our business.
- A. Strongly disagree
  - B. Disagree
  - C. Neutral
  - D. Agree
  - E. Strongly agree
3. Your online business is becoming more digital due to digital innovation.
- A. Strongly disagree
  - B. Disagree
  - C. Neutral
  - D. Agree
  - E. Strongly agree
4. Investing in the right technologies and tools are the key steps towards digital innovation.
- A. Strongly disagree
  - B. Disagree
  - C. Neutral
  - D. Agree
  - E. Strongly agree
5. My organization has already successfully implemented a number of digital initiatives that improve or adapt its products and services.
- A. Strongly disagree
  - B. Disagree
  - C. Neutral
  - D. Agree
  - E. Strongly agree



## Appendix II

### Plagiarism Report:

Hhhafsa			
ORIGINALITY REPORT			
15%	12%	8%	7%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS
PRIMARY SOURCES			
1	gbata.org Internet Source	3%	
2	Submitted to Athlone Institute of Technology Student Paper	1%	
3	fastercapital.com Internet Source	1%	
4	Neil Aldrin, Netty Merdiaty. "Effect of job crafting on work engagement with mindfulness as a mediator", Cogent Psychology, 2019 Publication	<1%	
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7	Abdelmohsen A. Nassani, Adriana Grigorescu, Zahid Yousaf, Elena Condrea, Asad Javed, Mohamed Haffar. "Does Technology Orientation Determine Innovation Performance through Digital Innovation? A Glimpse of the Electronic Industry in the Digital Economy", Electronics, 2023 Publication	<1%	
8	Submitted to Universiti Teknologi MARA Student Paper	<1%	
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