Impact of Fintech Services on Adoption Intention with Mediating Role of Customer Experience: Evidence from Egyptian Banking Sector

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Abstract

The purpose of this research is to empirically investigate the relation between financial technology(fintech) services and adoption intention with mediating role of customer experience in the Egyptian banking sector. The objectives of This research are: to examine the relation between fintech services and adoption intention, to test the relation between fintech services and customer experience, to investigate the relation between customer experience and adoption intention, to examine the mediation role of customer experience between fintech services and adoption intention and to develop a theoretical framework illustrates the relation amongst selected variables using structural equation modelling. The methodology is based on quantitative approach using a questionnaire tool to gather required data and structural equation modelling analyses is used. The main conclusions drawn from this study are: the direct effect between fintech services and adoption intention is statistically significant, the direct effect between fintech services and customer experience is statistically significant, the direct effect between customer experience and adoption intention is statistically significant. Finally, the study found that the customer experience partially mediates the relation between fintech services and adoption intention.

Keywords: *Fintech Services, Customer Experience, Adoption Intention, Egyptian Banks.*

Introduction

The introduction of new operators with novel business models has prompted traditional financial intermediaries to adopt digital transformation strategies and alter their client relations (Spender et al., 2017; Schena et al., 2018). Within this particular framework, the dynamics between Fintech operators and conventional financial operators are undergoing a transformation towards novel models of cooperation and integration. This shift is also evident in the increased accessibility of digital and user-centric financial products, as well as in the revitalized interaction with more astute clientele (Temel et al., 2021). Along with significant market growth opportunities (such as digital payments, cryptocurrency, or peer-to-peer lending), new technological innovations expose the financial sector to significant risks that can undermine the sound and prudent management of operators, threatening the protection of customers as well as the stability and efficiency of the entire financial services sector (Yan et al., 2021).

However, it is imperative for the supervisory authorities to refrain from impeding the ongoing progress that is now shaping the industry. Meanwhile, they must prioritize maintaining the stability and effectiveness of the system, as well as ensuring the protection of clients' interests. In contrast to other sectors, the regulation of the Fintech industry typically does not possess the capacity to proactively anticipate innovation. Instead, it commonly adopts an adaptive approach. Numerous nations have implemented a regulatory framework commonly referred to as a "regulatory sandbox." This framework enables intermediaries to experiment with financial innovations under the guidance and support of regulatory authorities, with the aim of mitigating associated risks (ESA, 2019).

The current body of research on Fintech in the banking industry offers a limited perspective on the phenomenon, as it primarily concentrates on specific topics within various scientific domains. These topics encompass legal matters (Shaydullina, 2018), security concerns (Milian et al., 2019), and the utilisation of blockchain technology (Cai, 2018). Additional research has been conducted to examine the geographical aspects of this phenomenon, namely in Russia (Rudskaya et al., 2018) and Indonesia (Putra et al., 2019). These studies aim to identify the unique characteristics of the phenomenon in these regions in comparison to other contexts, such as Europe or the USA.

The Basel Committee on Banking Supervision (2018) conducted a comprehensive analysis of fintech's effects on the banking sector, examining the potential risks and opportunities for both financial intermediaries and customers. The committee emphasized the necessity for institutions to adapt their supervisory approach in response to these developments.

The implementation of fintech regulation is necessary in order to mitigate risks and safeguard the interests of individuals utilising fintech instruments, notwithstanding the absence of a universally adopted international regulatory framework across nations (Das et al., 2018). Despite the growing interest in Fintech within the banking sector, there is a lack of comprehensive studies that systematically analyse this subject. Specifically, there is a scarcity of literature reviews on this topic (Milian et al., 2019).

The financial sector is undergoing a fast transformation due to the emergence and proliferation of financial technology (FinTech). Because of digital technology, a variety of changes—many of which were unimaginable even a decade ago—are occurring at an unprecedented rate in almost every aspect of the global financial business (Huaa and Huang, 2020).

Recently, there has been a noticeable trend in the Egyptian banking sector towards prioritizing the improvement of customer experience as a means to bolster adoption rates. The Central Bank of Egypt, for instance, stressed in 2020 that enhancing the customer experience is essential for the development of the banking sector in the country. A study by Deloitte (2019) also showed that owing to their efficiency and convenience, significant digital banking solutions, such mobile banking applications and online payments, are becoming more and more popular in the country.

Fintech adoption within the Egyptian banking sector has shown notable growth throughout the years. According to a study conducted by Deloitte in 2019, there is a growing trend of increased adoption and usage of fintech services, such as mobile payments and digital wallets, inside the nation. Additionally, the Central Bank of Egypt (2020) has underscored the significance of the burgeoning youth population and the escalating rates of smartphone usage in driving the adoption of financial technology (fintech) inside this country.

Literature Review

Fintech services is considered as the independent variable, Customer experience is considered as the mediator variable and Adoption Intention is considered as the dependent variable

Fintech Services

The word "fintech" refers to the application of cutting-edge technology to the delivery of financial services. and has emerged as a prominent determinant within the worldwide financial sector. Fintech has

completely changed the financial industry by enabling the delivery of financial services through mobile banking, digital payments, and peer-to-peer lending. This has resulted in a range of advantages, including increased financial inclusion, decreased transaction costs, and increased efficiency and accessibility of financial services (Allen et al., 2018).

Fintech services cover an extensive range of technologies and platforms that offer financial services in a technologically sophisticated and customer-centric way (Sui and Barnes, 2019). Fintech services encompass a range of digital financial technologies, such as mobile banking, online payment systems, peer-to-peer lending, crowdfunding platforms, and digital wallets, among other examples. Numerous scholarly investigations have acknowledged the favorable fintech services on diverse facets of the banking industry, encompassing efficiency, accessibility, and comfort (Alalwan et al., 2018). These services can alter customer behavior and preferences, creating a heightened inclination toward adoption.

The transition of the banking sector from traditional brick-and-mortar branches to online and mobile banking techniques has led to reduced customer queues and waiting times. The advent of disruptive technologies has brought about significant transformations in several sectors and enterprises, resulting in enhanced convenience and reduced costs (Arslan et al., 2021). This paper encompasses the dimensions of fintech, including perceived value, perceived risk, perceived usability, social influence, and digital readiness.

Customer Experience

Real differentiation in an increasingly generic sector can only be achieved by delivering positive customer experiences (Barari and Furrer, 2018). In the banking sector, deregulation and technological advances have lowered entry barriers and created unprecedented competition among financial institutions. As a result, financial services (FS) firms are increasingly emphasising customer experience in order to gain a competitive edge (Cambra-Fierro et al., 2016; Klaus and Nguyen, 2013). Customers' experience perceptions are contextual, hence the causes of a positive experience vary across contexts (Lemke et al., 2011), necessitating context-specific study. As a result, FS contextual features are sure to impact customer experience perceptions.

Forzoni et al. (2002) found a positive relation between customer experience and consumer loyalty in the general retail context. However, this does not inherently imply that the same relation holds true in the fintech context. The concepts of the digital wallet, which seeks to create a seamless customer journey by simplifying e-commerce processes (Khanal et al., 2023), and the robo-advisor, a digital financial 'consultant' that uses mathematical algorithms to provide financial advice or manage investments with minimal human intervention (Tulcanaza-Prieto, 2016) are examples of how digital technology is redefining customer experience in the financial sector. Robo-advisors are used to improve the customer experience for individuals with limited trading knowledge and modest investment capital (Suryono et al., 2020). Utilising advanced technology in a variety of methods, businesses in the retail and service sectors are seeking to streamline the customer journey.

Adoption Intention

The concept of adoption intention pertains to an individual's inclination or willingness to adopt or utilise a specific technology or service (Davis, 1989). The examination of factors that either facilitate or impede the adoption of Fintech services within the Egyptian banking industry is of utmost importance. Prior research has examined several determinants that impact the intention to adopt, such as the perceived utility and simplicity of use, trust, security, perceived danger, and social influence (Zhou et al., 2010). Nevertheless, the existing research has not extensively explored the link between Fintech services and adoption intention, specifically in terms of the mediating function of customer experience.

The success of new banking services and technology is contingent upon a fundamental component. Several recent studies have indicated that the customer experience serves as a mediator in the relation between fintech services and the intention to adopt them within the banking sector of Egypt (Abdel-Basset et al., 2021; El-Masry et al., 2021; El-Haddadeh and El-Said, 2020).

Conceptual Framework and Research Hypotheses

The independent variable "Fintech services" is measured by 5 dimensions: (Perceived value, Perceived Risk, Perceive usability, social influence and Digital Readiness) (Liang et al. (2009); Garg et al. (2014); Chang and Lin (2015). Venkatesh et al. (2003b), Rahi et al., (2019), The variable "Customer experience" is measured by 4 dimensions: (Outcome focus, Peace of mind, Moment of truth and Product/service experience) (Klaus and Maklan (2012); and the variable "Adoption Intention" is measured by 9 items from (Hu et al. (2019); Patel and Patel (2018); and Marakarkandy et al. (2017).
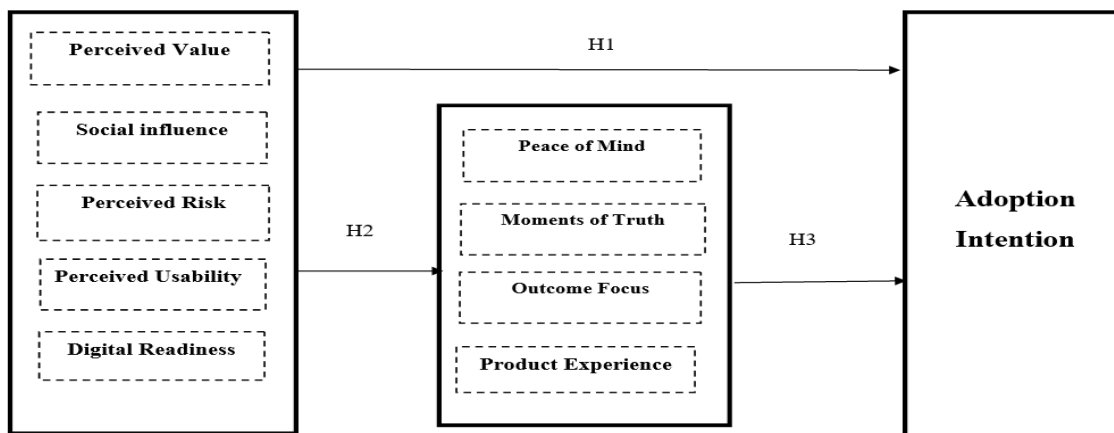

Figure 1 Conceptual Framework

Based on the conceptual framework, the hypothesized model and reviewing of the related studies and theories, the study hypotheses were formulated as below:

-    **H$_1$:** Fintech services have an impact on Adoption Intention in the Egyptian banking sector.
-    **H$_2$:** Fintech services have an impact on Customer experience in the Egyptian banking sector.
-    **H$_3$:** Customer experience has an impact on Adoption Intention in the Egyptian banking sector.
-    **H$_4$:** Customer experience mediates the relation between Fintech services and Adoption Intention in the Egyptian banking sector.

Research questions could be stated as follows:

1-   What is the impact of Fintech services on Adoption Intention in the Egyptian banking sector?
2-   What is the impact of Fintech services on Customer experience in the Egyptian banking sector?
3-   What is the impact of Customer experience on Adoption Intention in the Egyptian banking sector?
4-   Does Customer experience mediate the relation between Fintech services and Adoption Intention in the Egyptian banking sector?

Research Methodology

Fintech customers of Egyptian banking sector are referred as the population in this study. The questionnaire was divided in two broad categories. The first category is composed of general information and the second category is the body of the questionnaire that includes three sections: first: Fintech services.

Second section: Customer experience and Third section: Adoption Intention. The research questionnaire was given to 700 Customers, and 449 questionnaires representing 64.1% were returned, and 54 questionnaires representing 7.7% were incomplete or ineligible or refusals and 251 (35.9%) were not reached. There were 395 acceptable responses, a response rate 56.4%, which is very good given the study's nature. The structural equation modelling (SEM) software package was utilized in this Research Paper to investigate the interrelations between the constructs of the hypothesized model. Testing Hypotheses After completing a confirmatory factor analysis, the structural model is valued by evaluating the hypotheses that underpin the research model.

Results and Findings

The reliability of a construct in the measurement model is possibly calculated using Composite Reliability (CR). The research result shows the CR of (Perceived Value = 0.878, Social Influence =0.827, Perceived Risk= 0.906, Perceived Usability =0.918, Digital Readiness =0.846, Peace of Mind =0.927, Moments of Truth =0.827, Outcome Focus = 0.844, Product Experience = 0.852 and Adoption Intention = 0.950). As a result, it is evident that all of the constructs in the measurement model are reliable.

The Average Variances Extracted (AVE) should always be above 0.50 (Hair et al., 2019). Overall, the AVE of the constructs (Perceived Value = 0.591, Social Influence =0.561, Perceived Risk= 0.586, Perceived Usability =0.737, Digital Readiness =0.583, Peace of Mind =0.679, Moments of Truth =0.564, Outcome Focus = 0.575, Product Experience = 0.596 and Adoption Intention =0.702) are more than 0.500. Overall, the measurement results are satisfactory, indicating that the structural model may be evaluated.
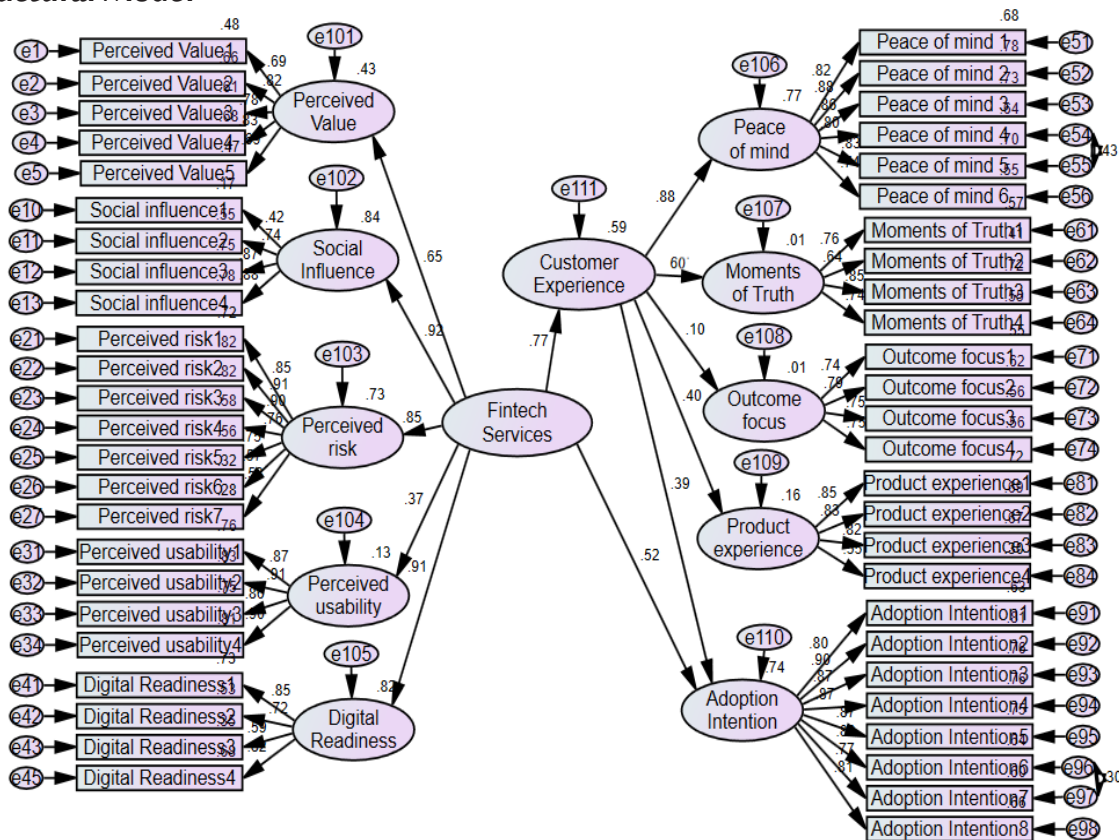
Structural Model

Figure (2) Structural Model

The findings and hypothesis testing revealed that the fintech services have a significant positive effect on adoption intention, fintech services have a positive effect on customer experience. customer experience has a positive effect on Adoption Intention. Finally, customer experience mediates the relation between Fintech services and Adoption Intention in the Egyptian banking sector.

1- The findings reveal that Fintech services have a substantial direct association with Adoption Intention. (β = 0.769, CR (Critical Ratio) = 13.356, CR > 1.96, p = 0.000, p<0.05).

2- The findings reveal that Fintech services has a significantly positive effect on Customer experience. (β = 0.522, CR (Critical Ratio) = 5.406, CR > 1.96, p = 0.000, p<0.05).

3- The findings show that in Egyptian banking sector., Customer experience has a significant direct relation with Adoption Intention. ((β = 0.395, CR (Critical Ratio) = 3.391, CR > 1.96, p = 0.000, p<0.05).

4- The results indicate that partial mediation effect of the Customer experience between the relation of Fintech services and Adoption Intention in the Egyptian banking sector (P = 0.003, P<0.05).

Conclusion

The focus of this paper is to investigate into the relation between Fintech services and Adoption Intention in the Egyptian banking sector, with the role of customer experience as a mediating variable. The study used a quantitative correlational methodology to obtain primary sample data from 395 fintech Egyptian banking customers.

The first objective is to investigate the relation between Fintech services and Adoption Intention (**H$_1$:** Fintech services have an impact on Adoption Intention in the Egyptian banking sector) is supported. This is consistent with El-Gazzar and Hassan, 2020; and Abdullah et al., 2021 who stated that use of fintech services has a positive impact on customers' perception of utility, ease of use, and trust. These factors, in turn, influence customers' intention to embrace such services. Fintech services have been causing significant disruptions within the banking industry on a worldwide scale, and Egypt is not exempt from this phenomenon. According to Yuniarti and Sujono (2020), The advent of fintech has brought about several innovative solutions such as online payments, peer-to-peer lending, robo-advising, and blockchain. These advancements have provided customers with enhanced convenience, accelerated transaction processing, and reduced expenses in comparison to conventional banking methods. The adoption of fintech services is changing as a result of this shift in customer behavior. Moreover, Bajunaied et al. (2023) examined the inclination of customers in Saudi Arabia to use FinTech services. Users' behavioral intention towards FinTech services is favorably and significantly impacted by performance expectancy, effort expectancy, enabling conditions, and service enablers, according to the present study. There was no noticeable effect of social influencers or privacy constraints on users' intention to use FinTech services, according to the research. Overall, the results suggested that practitioners and FinTech service providers should take into account privacy enablers on a larger scale and adopt a governance approach when creating dependable fintech applications based on information richness that can help build consumer trust.

The second objective is to test the relation between Fintech services and Customer experience (**H$_2$:** Fintech services have an impact on Customer experience in the Egyptian banking sector) is supported. Numerous scholarly investigations have been conducted to examine the correlation between financial technology (fintech) services and the customer experience. A study conducted by Cognizant (2020) demonstrated that customers have high expectations for fintech companies, namely desiring banking experiences that are both seamless and personalised. According to a publication in the FinTech Journal (2019), the incorporation of digital banking solutions, such as mobile banking applications and chatbots, has the potential to greatly improve the overall customer experience by offering prompt and effective services. Despite the increasing use of fintech in Egypt, there exists a lack of research pertaining to customer adoption behavior

and the underlying factors that influence it (Fouda et al., 2019). The Egyptian banking sector has always exhibited a conservative approach, leading customers to express apprehensions regarding the security, trustworthiness, and usefulness of fintech solutions (Kamel, 2020). Gaining a comprehensive understanding of the influence of fintech services on customer experience and adoption within the Egyptian environment has significant potential for regulators and fintech providers to acquire valuable insights.

The third objective is to examine the relation between Customer experience and Adoption Intention(**H$_3$:** Customer experience has an impact on Adoption Intention in the Egyptian banking sector)is supported. This finding is consistent with Yuniarti and Sujono (2020). The role of customer experience is of utmost importance in influencing the intention to adopt banking services in the Egyptian banking sector, as highlighted by El-Masry et al. (2021) and Kamal and Elsayed (2020). Previous studies have demonstrated that a positive customer experience has the potential to augment the intention to adopt a product or service by enhancing customer satisfaction and fostering customer loyalty. Hence, it is important to examine the influence of customer experience on the intention to adopt banking services within the Egyptian banking industry. Furthermore, the adoption intention within the Egyptian banking industry is notably influenced by customer experience, as indicated by recent research conducted by Abdel-Basset et al. (2021), El-Masry et al. (2021), and El-Haddadeh and El-Said (2020). The intention to embrace new banking services and technologies may be improved by a great customer experience, which can also increase customer happiness, trust, and perceived value.

The fourth objective is to investigate the mediation role of Customer experience between Fintech services and Adoption Intention (H$_4$: Customer experience mediates the relation between Fintech services and Adoption Intention in the Egyptian banking sector) is supported and the results indicate that partial mediation effect of the Customer experience between the relation of Fintech services and Adoption Intention. This finding is consistent with (Yuniarti and Sujono, 2020). Further, the adoption intention of digital payments in Egypt has been seen to be significantly influenced by customer experience, as evidenced by the study conducted by El-Masry et al. (2021). Digital payment services that provide a secure, convenient, and hassle-free experience can significantly increase adoption intention through improved customer experience.

This paper fills the gap and supplements the literature. The research developed a model contributes knowledge to other models that have recommended expanding the investigative scope using SEM technique. According to the analysis, At the 5% significance threshold, all are considered significant. The estimated structural model corroborated the four hypotheses, as Fintech services construct explained 59.1 % of customer experience variance ($R^2 = 0.591$), Besides, Fintech services through customer experience explained 74.3 % of Adoption Intention variance ($R^2 = 0.743$).

Model Validation

This paper developed and validated a model regarding the relation between fintech services and adoption intention in the Egyptian banking sector, with the role of customer experience as a mediating variable. using structural equation modelling. This is done through two steps:

- **First step, measurement model:** The eighth factor was CFA using the AMOS application. The value of DF was 1129 (it should be more than 0), c^2 /DF has a value of 2.239, that is less than 3.0 (it should be less than or equal 3.0). The RMSEA was .051 (it should be less than 0.08). The TLI index was .912 which is very close to 1.0 (a value of 1.0 indicates perfect fit). The CFI was .919. All indices are close to a value of 1.0 in CFA indicating that the measurement models provide good support for the factor structure determined through the CFA.

- **Second step, structural model validity:** The findings of the structural model using the AMOS software shows that DF was 1163 (it should be more than 0), c^2 /DF has a value of 2.338, that is less

than 3.0 (it should be less than or equal 3.0). The RMSEA was .053 (it should be less than 0.08). The TLI index was .905 which is very close to 1.0 (a value of 1.0 indicates perfect fit). The CFI was .910. All indices are close to a value of 1.0 in CFA, indicating that the measurement models provide good support for the factor structure determined through the CFA.

Based on the outcome of the measurement model analysis and the structural model analysis, the research model was re-arranged to conform to the outcome of the two analyses, the final model is validated.

Research limitations

The degree to which the conclusions may be extrapolated to a larger population, cases, or situations is referred to as external validity. (Saunders et al., 2019) As a result, the researcher cannot presume that the findings apply to other situations, so the study excludes:

First, Because the participants in this study come from just one nation (Egypt) and are all banking sector, the findings should be taken with a grain of salt. In spite of the fact that the research was conducted in a very specialised context, it is believed that the findings can be applied to a variety of other sectors, industries, and countries.

Second, cross-sectional data were used in this study to examine the relation between Fintech services and Adoption Intention, as well as the mediating role of Customer experience in the Egyptian banking sector. As a consequence of this, the study only offers a picture of a single instant in time. This suggests that the findings of the research are only useful under certain conditions, including when external factors such as governmental regulations, economic activity, the competitive climate, and so on are unaffected.

Third, Data gathering from respondents over a set period of time utilising a convenience sample approach had its limitations. The scope of potential responders was constrained by the short time span for data gathering. Because responses are collected based on the accessibility of respondents, this method may not produce a representative sample and may also lead to potential limitations in the range of respondents who would participate.

Future research Suggestions

The following areas for further investigation are suggested based on the findings of this study: First, a study should be undertaken utilizing a qualitative technique or a mixed strategy using both qualitative and quantitative approaches in order to acquire Fintech services on Adoption Intention views and expectations. Second, a longitudinal study should be done to examine the long-term relation between Fintech services and Adoption Intention in the Egyptian banking sector. Third, because the sample was limited to only Egyptian banking sector, a sample derived from other sectors, industries would improve the generalizability of the findings in the future. This would also aid in comparing the relation between digital services and Adoption Intention, as well as the role of customer experience in mediating the relation between digital services and adoption intention, in other sectors and industries.

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