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Digitalization of the Algerian Transportation Sector

Cezayir Taşımacılık Sektörünün Dijitalleştirilmesi

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ÖZET

Bu araştırma, Cezayir'de toplu taşıma sektörünün ilerlemesinin temel önemine ışık tutmayı ve elektronik ödeme sistemlerinin entegrasyonunu etkileyen faktörlerin kapsamlı bir şekilde incelenmesine yönelik acil ihtiyacı vurgulamayı amaçlamaktadır. Bu araştırma, Tiaret'teki kentsel ve yarı kentsel ulaşım kamu kurumu tarafından uygulamaya konulan bir elektronik ödeme ve otobüs takip sistemi olan hafilati uygulamasının benimsenmesini etkileyen belirleyicileri incelemektedir. Teknoloji kabul modeli ve yapısal eşitlik modelinin kullanıldığı çalışmada 296 müşterinin bu hizmetleri benimsemeye ilişkin tutum ve davranışları araştırılıyor. Sonuçlar, algılanan faydalar ile müşterilerin hizmetleri kullanma niyetleri arasında güçlü bir korelasyon olduğunu vurgulamaktadır. Tersine, algılanan riskler hem algılanan faydalar hem de kullanım kolaylığı üzerinde olumsuz bir etki göstermektedir. Bu inceleme, dijital teknolojilerin ulaştırma sektöründe benimsenmesini şekillendiren temel faktörlere ilişkin anlayışımızı önemli ölçüde geliştirmektedir. Paydaşlar ve politika yapıcılar için önemli hususlara ışık tutarak, kentsel ve yarı kentsel ulaşım ortamlarında bu tür teknolojik yeniliklerin kabulünü ve kullanımını artırmaya yönelik değerli bilgiler sağlar.

Keywords:

Electronic Payment System,

Bus Tracking System,

Hafilati App,

Technology Acceptance Model,

ABSTRACT

This research endeavors to shed light on the pivotal significance of advancing the public transport sector in Algeria, emphasizing the urgent need for a thorough examination of the factors influencing the integration of electronic payment systems. This research scrutinizes the determinants influencing the adoption of the Hafilati application-an electronic payment and bus tracking system introduced by the Urban and Semi-Urban Transport public institution in Tiaret. Employing the Technology Acceptance Model and structural equation modelling, the study investigates the attitudes and behaviors of 296 customers regarding the adoption of these services. The results highlight a robust correlation between perceived benefits and the intention of customers to use the services. Conversely, perceived risks exhibit a negative impact on both perceived benefits and the ease of use. This examination significantly advances our understanding of the pivotal factors shaping the adoption of digital technologies within the transport sector. It sheds light on crucial considerations for stakeholders and policymakers, providing valuable insights into enhancing the acceptance and utilization of such technological innovations in urban and semi-urban transportation settings.

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1. INTRODUCTION

The word "*digital*", which is the origin of the concepts of "*digitalization*" and "*digital transformation*", which are increasingly used in the literature, is derived from the Latin word "*digitus*", meaning "*finger*". The term digital refers to the digitization of analog data that forms the basis of information systems. With digitization, data can be processed, stored and managed by computers and devices developed through computers (Klein, 2020:998).

In the 2000s, technological developments have enabled even larger data to be obtained, stored, processed, analyzed and used as products quickly, easily and at low cost. Local and regional data have been integrated at national and sometimes even global levels. The technologies used have been renewed and a faster, more effective, secure and comfortable flow of information/services has been provided. Machines, smart devices, systems, networks, applications, goods and even objects have been included in the network of relationships and interactions between people (Yılmaz and Mecek, 2021:103-104).

For example, technological advancements have led to the creation of new business models, transforming traditional practices and making processes more efficient, easier, and more cost-effective. With developments known as the Fourth Industrial Revolution, there has been a significant increase in the amount of information generated within the scope of accounting in businesses. As a result, digitalization has been utilized to support decision-making by providing better and cheaper data, enabling deeper data analysis, and uncovering new insights about tasks and processes. Furthermore, AI applications have improved time efficiency, allowing for a focus on more valuable task (Sümerli Sarıgül and Oralhan, 2022:186).

Digital interactive applications are not only a service delivery method that provides prestige and reduces costs; they are also the basic requirements of a professional, rational, transparent, auditable, participatory and effective management approach. For this reason, they contribute to the reduction of costs, the acceleration of service delivery, and higher quality and more effective access to service by providing savings in areas such as time, energy and human resources for citizens, who are stakeholders in these services, and all public and private legal entities, and even the units that provide the service themselves (Mecek, 2018:2313).

In an increasingly digital world, the adoption of electronic payment systems is transforming the way we live and interact. This trend is particularly evident in the realm of transportation, where technology is rapidly changing how people travel and pay for their journeys. Algeria, like many other nations, is embracing this digital transformation, with the government actively promoting the use of technology across various sectors, including transportation. This push toward digitalization aims to improve efficiency, enhance service quality, and bring convenience to Algerian citizens (Raida and Bouslama, 2013:197-203).

One notable example of this digital shift is the introduction of "*Hafilati*", an e-payment and bus tracking mobile application, by the Tiaret Province Public Transport Company. This initiative represents a significant step toward modernizing public transportation in Algeria. However, the success of such endeavors hinges on user acceptance and adoption. This research investigates the attitudes and behaviors of customers towards "*Hafilati*", exploring the factors that influence their decision to embrace this new technology. Using the Technology Acceptance Model and structural equation modelling, the study analyzes data from 296 customers to understand the key drivers and barriers to e-payment adoption in this context.

This study holds significant implications for Algeria's transportation sector. By shedding light on the factors that influence the adoption of e-payment systems, the research provides valuable insights for policymakers and transport companies. These insights can inform strategies to encourage greater use of digital solutions, ultimately leading to a more efficient, convenient, and modern public transportation system in Algeria.

2. CONCEPTUAL DIMENSION OF THE RESEARCH

Several factors play a pivotal role in the adoption of electronic payment services in the public transport sector in Algeria. These things have helped digital payment methods become quickly part of people's daily lives and have made it possible for businesses like the Tiaret Province urban and semi-urban transport company to successfully offer these services.

- ***Government Initiatives*:** The Algerian government's commitment to digitizing various sectors, including public transport, has been a crucial driver. Government support and policies promoting electronic payment adoption have created a conducive environment for its implementation.
- ***Technological Infrastructure*:** The development and availability of the necessary technological infrastructure, such as secure payment gateways and mobile applications, have played a significant role in facilitating electronic payments in the public transport sector.
- ***Consumer Convenience*:** Electronic payments offer convenience to passengers. The ability to pay for tickets electronically simplifies the process and reduces the need for physical cash, making it a preferred choice for many commuters.
- ***Security Measures*:** Trust in the security of electronic payment systems is vital. Implementing robust security measures and encryption protocols has bolstered confidence in these systems.
- ***Promotional Campaigns*:** Public awareness campaigns and incentives by transport authorities and service providers have encouraged individuals to adopt electronic payment methods.
- ***Accessibility*:** Widespread access to smartphones and the internet has made electronic payment services easily accessible to a broad spectrum of the population.
- ***Cost Savings*:** Electronic payments often come with reduced transaction costs compared to traditional cash-based systems, making them an attractive option for both passengers and service providers.
- ***Global Trends*:** The alignment of Algeria with global trends in digital finance and payment systems has contributed to the acceptance and adoption of electronic payment methods.

The adoption of electronic payment services in the public transport sector in Algeria is the result of a combination of factors. Understanding these factors is crucial for further enhancing the utilization of electronic payments and promoting financial inclusion in Algeria's transportation sector.

3. STUDY METHODOLOGY

This study employed a descriptive-analytical approach to present the theoretical foundations of electronic payment systems and the Technology Acceptance Model (TAM). The research aimed to investigate the factors influencing the adoption of the "*Hafilati*" e-payment and bus tracking application among customers of the Tiaret Province Public Transport Company.

To achieve this objective, a quantitative research design was adopted, utilizing a survey to collect data from a sample of 296 customers. Participants were selected at various bus stations and terminals within Tiaret Province. The inclusion criteria for participation were being a customer of the Tiaret Province Public Transport Company, and having awareness of the "*Hafilati*" application.

The survey instrument was adapted from established scales measuring the constructs of the Technology Acceptance Model, including perceived usefulness, perceived ease of use, attitude towards using, and behavioral intention to use. The survey also included questions about participants' demographics and their experiences with public transportation and e-payment systems.

Data were analyzed using structural equation modelling with partial least squares (PLS) method. This method is well-suited for exploratory studies applying TAM, as demonstrated in previous research (Karim et al., 2020). The analysis was to assess the relationships between the TAM constructs and their influence on the adoption of "*Hafilati*".

4. TECHNOLOGY ACCEPTANCE MODEL

Since the 1980s, researchers have widely used the Technology Acceptance Model (TAM), an empirical model based on Davis's ideas about individual behavior when using computers, a modern technology at the time (Raida and Bouslama, 2013:197; Yakob et al., 2018:455).

This model was later developed in many studies and research to fit the theoretical frameworks adopted in these studies. As a result of these studies, the TAM model has been applied in various fields such as e-banking, e-learning, e-commerce, digital libraries, etc. The TAM model includes the main factors of perceived benefit,

perceived ease of use, and external variables that can support the user's potential position to achieve the actual use intention (Iviane et al., 2019; Yu et al., 2002).

Chandra et al. (2018:455) pointed out that the use of TAM is to study human behavior through the acceptance of new technology and how an individual can adopt such technology. In light of this, the model is frequently utilized to assess how people behave when utilizing technology (Marakarkandy et al., 2017), with a suggested set of external variables that can be observed on a specific phenomenon that changes based on the setting, time, and place.

The simplicity of the TAM model has contributed to its adoption in the field of e-payment in order to identify the factors that can contribute to the acceptance of e-payment methods and media. For example, the model was adopted by Afshan et al. (2018) to identify the most important factors (personal inclinations, trust, etc.) that can contribute to the adoption of Internet banking among bank customers in Pakistan. In an attempt to expand the TAM model by including a set of external variables, Marakkarandhy et al. (2017) and LI et al. (2019) identified the importance of the integrated variables in the model, such as perceived benefits, perceived ease of use, perceived risk, trust, self-efficacy, bank initiative, and government support in the adoption of e-banking services in India.

Regarding the use of the TAM model in vital sectors and to know the most important factors that can affect the acceptance of mobile payment in the transportation sector, Chandra et al. (2018) tried to review the most important factors that can contribute to the development of transportation in Indonesia through the GO-Jek electronic application. Kuberkar et al. (2020) worked to solve the problems that citizens face in the field of benefiting from public transportation services in a country like India, which suffers from overcrowding, delayed service, and dissatisfaction of travelers, through the Chatbot application, When talking about the same thing, Lubanga et al. (2017) talked about what makes people want to use electronic payment systems in Kenya's public transportation, mainly for the Matatus that run on the road that connects Nairobi and Kitengela.

5. ELECTRONIC PAYMENT IN THE URBAN AND SEMI-URBAN TRANSPORT CORPORATİON OF TIARET

The transportation sector plays a crucial role in achieving economic development. The development of this sector contributes to improving the business climate and attracting domestic and even foreign investments. The Algerian government has sought, over the past two decades, to make this transportation sector a source of public revenue by improving the structure of basic facilities, stimulating investment projects in the transportation sector, and supporting economic institutions operating in the field of transportation.

The Urban Transport Corporation of Tiaret is the only one in Algeria that has implemented the project to digitize the ticketing and electronic payment system proposed by the Ministry of Transport at the national level. The project was implemented by a start-up company that owns the idea and the project. The project was adapted to the requirements of the corporation, as it included the development of a bus tracking application called Tiaret Bus, an electronic payment application called ETUS PAY, and a charging and refilling card called "*Hafleti*". All of these applications work according to a digital ticketing and electronic payment system. The project was launched in 2021.

The initial estimate for the corporation was that the revenue from electronic payments in the first year would not exceed 3%. However, it exceeded expectations by achieving a rate of 15%. The first month of the launch of the application and card saw a 30% decrease in the corporation's revenues. The reason for this was the lack of promotion of the new service, and the exploitation of competitors of the bus tracking application Tiaret Bus, which took a significant market share. In the following month, the two applications spread to around 10,000 users, with the revenue and market share doubling.

The average rate of use of electronic payment is 19% per day of the total passengers of the ETUS Tiaret Public Transport Corporation. According to statistics, the number of users of electronic payment services during the period from December 2021 to December 2022 was approximately 567,003 users. The number of electronic payment cards that were sold during the same period was 9,410 cards. The number of users registered in the Hafleti application via mobile phone was 4,594 users. The number of transactions that were carried out during the period exceeded 40,525 transactions.

Despite the recorded figures, the corporation is seeking to increase the number of subscribers to the mobile application and to raise awareness among citizens of the importance of the application to benefit from the

advantages that these services offer, especially in terms of reducing the waiting time to pay for the paper ticket, avoiding cash, protecting the environment by reducing the use of paper, etc.

6. APPLİCATİON STUDY

The study aims to understand the level of acceptance of electronic payment technology by studying the factors that influence the level of acceptance in the studied community (*users of public transportation in Tiaret Province*). The study sample consisted of 114 users, of whom 101 were retrived. The users were given electronic and paper questionnaires during the period from July 10 to July 31, 2023. The study hypotheses were formulated based on the theoretical framework of the Technology Acceptance Model of 1989 Davis;

H1: The perceived benefit has a positive impact on the attitude towards using the Hafleti electronic application.

H2: Perceived ease of use has a positive impact on the attitude toward using the Hafleti electronic application.

H3: Perceived ease of use has a positive impact on the perceived benefit of using the Hafleti electronic application.

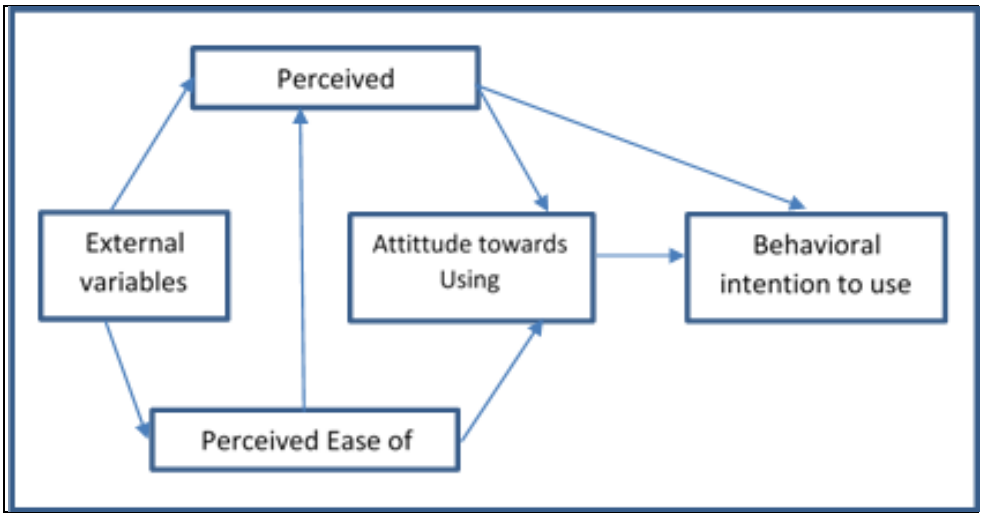
H4: The attitude towards use has a positive impact on the actual use of the Hafleti electronic application.

The researchers used a questionnaire to collect data. The questionnaire consisted of two parts: the first part consisted of 4 personal questions, and the second part consisted of 20 items divided into four axes. The second part, which consisted of 20 items, was answered on a five-point Likert scale, covering the variables of the (TAM) model. The study approach was based on structural equation modeling using the partial least squares (PLS-SEM) method, which is characterized by its contribution to the development of theories in exploratory research. The study axes were as follows;

- *The ease axis* consisted of *5 items*
- *The expected benefit axis* was composed of *5 items*
- *The attitude axis consisted 5 items*
- *The acceptance axis included 5 items.*

The initial study model was created using the Smart-PLS 4 program. It has four hidden variables that we use to test the truth of the four hypotheses we chose;

Figure 1. Initial Study Model



Source: Prepared by the Researchers Based on the Theoretical Framework

6.1. Analysis of the Results

In this section, we will try to address the evaluation of the initial study model and make the necessary adjustments by evaluating the measurement model and the structural model. The evaluation of the measurement model is based on indicators of convergent reliability and also on indicators of discriminant reliability.

6.1.1. Convergent Reliability

We are trying to evaluate internal consistency through a set of indicators, such as individual indicator reliability, composite reliability, and average extracted variance. The following table summarizes the most important results of these indicators.

Table 1. Convergent Reliability Criteria

Building	Item	External Loading	Cronbach's Alpha	Composite Reliability	Average Extracted Variance
Perceived Benefit	H1	0.765	0.714	0.824	0.54
H2	0.687				
H3	0.746				
H4	0.714				
H5	0.344				
Ease of Use	H6	0.141	0.658	0.808	0.59
H7	0.599				
H8	0.497				
H9	0.901				
H10	0.776				
Attitude	H11	-0.421	0.798	0.868	0.623
H12	0.76				
H13	0.759				
H14	0.85				
H15	0.755				
Actual use	H16	0.765	0.755	0.843	0.579
H17	0.668				
H18	0.841				
H19	0.858				
H20	0.362				

Source: Prepared by The Researchers Based on the Smart-PLS 4 Program

Based on the table above on convergent reliability, we note that the external saturations of all indicators of the axes exceed the acceptance threshold of 0.70 (with the deletion of items 5, 6, 8, 11, and item 20), meaning that the items explain what they were designed for. This indicates the reliability of the indicators that were adopted in the study. Some items were accepted even though their loadings did not exceed the acceptance threshold (0.7) as a result of the deletion process not changing the value of composite reliability much.

As for the convergent reliability criteria for both Cronbach's alpha and composite reliability, they exceeded the threshold of 0.70, indicating the reliability of the internal consistency of the measurements. The average extracted variance (AVE) also exceeded the threshold of 0.50, confirming that each building in the study explains on average more than half of the variance of its indicators.

6.1.2. Discriminant Reliability

Discriminant reliability expresses the extent to which the building is differentiated from the others buildings in capturing phenomena that are not represented by the other buildings in the model. Among the most important indicators of discriminant reliability, we find both the Fornell-Larcker criterion and the cross-loadings criterion.

Fornell-Larcker criterion: This indicator is based on comparing the square roots of AVE values with the other correlations of the latent variable. The square root of the AVE value for each building must be greater than the highest correlation it has with any other building to indicate that the building shares more of the variance of its indicators than it shares with the variance of the other indicators. The results of the Fornell-Larcker criteria in our study were as follows.

Table 4. Measurement of Discriminant Reliability of the Buildings

Acceptance	Attitude	Perceived benefit	Ease of use	
			0.768	Ease of use
		0.735	0.289	Perceived benefit
	0.789	0.468	0.434	Attitude
0.789	0.719	0.585	0.541	Acceptance

Source: Prepared by the Researchers Based on the Smart-PLS 4 Program

The diagonal elements of the Fornell-Larcker test matrix are greater than the values in the lower part of the matrix, which confirms that the buildings in the model are related, meaning that each axis is consistent and explains itself.

6.1.3. Model Predictive Ability (GoF) - Goodness of Fit

The model quality expresses the extent to which the standard model matches the proposed theoretical model. The model quality coefficient can be calculated by the square root of the average of the model's R^2 coefficient of determination multiplied by the average of the total AVE.

$$GOF = \sqrt{(AVE * R^2)}$$

We have a total average of AVE = 0.583 and an average R^2 coefficient of determination = 0.306.

$$GOF = \sqrt{0.15344} = 0.4223$$

Since GoF is equal to 0.4223, which is greater than the estimated threshold of 0.36, it can be said that the final model is acceptable and has a high predictive ability.

6.1.4. Testing the Hypotheses

Testing the study hypotheses requires us to determine the direct path coefficients of the structural model and their statistical significance. This is done by using the bootstrapping technique. The table below shows the results of this test.

Table 3. Path Coefficients of The Structural Model

Nature of the Relationship	P-Values	T-Statistics	Path Coefficient	Direct Relationship	Hypotheses
Positive Relationship	0.043	1.96	0.389	Ease of use -> Perceived benefit	H1
Positive Relationship	0.002	3.164	0.326	Ease of use -> Attitude	H2
Positive Relationship	0.000	7.128	0.784	Perceived benefit -> Attitude	H3
Positive Relationship	0.000	10.330	0.719	Attitude -> Acceptance	H4

Source: Prepared by the Researchers Based on the Smart-PLS 4 Program

7. FINDINGS AND RESULTS

The findings of this study provide significant insights into the dynamics surrounding the adoption of electronic payment services in Algeria’s transport sector, with a specific focus on the "Hafilati" application. The analysis using the Technology Acceptance Model (TAM) and Structural Equation Modeling (SEM) has yielded noteworthy conclusions.

7.1. Quantitative Insights

The study established positive and statistically significant relationships among several key variables at the 0.05 level. Notably;

- ***Ease of Use and Perceived Benefit*:** A unit increase in ease of use resulted in a 0.39-unit increase in perceived benefit (*Path Coefficient: 0.389, T-Statistics: 1.96, P-Value: 0.043*). This underscores the role of usability in enhancing customers' recognition of electronic payment systems' advantages.
- ***Ease of Use and Attitude*:** Ease of use also positively influenced customer attitudes toward the system (*Path Coefficient: 0.326, T-Statistics: 3.164, P-Value: 0.002*). This suggests that intuitive design and functionality significantly shape user perceptions.
- ***Perceived Benefit and Attitude*:** A strong relationship emerged between perceived benefit and attitude (*Path Coefficient: 0.784, T-Statistics: 7.128, P-Value: 0.000*), indicating that users are more inclined to adopt systems they perceive as beneficial.
- ***Attitude and Acceptance*:** Customer attitude and acceptance of electronic services showed the most robust relationship, with a 0.719 path coefficient (T-statistics: 10.330, P-value: 0.000).

7.2. Theoretical Implications

These findings align with prior studies utilizing the TAM framework but offer unique contextual insights specific to Algeria. For example, the study corroborates Marakarkandy et al. (2017), who highlighted ease of use and perceived benefits as pivotal factors in technology adoption. However, this research uniquely emphasizes the socio-economic and infrastructural challenges within semi-urban Algerian settings, providing a nuanced understanding of local barriers to adoption.

7.3. Practical Implications

The results carry significant implications for stakeholders, including;

- ***Transport Authorities*:** Simplifying interface design and ensuring robust user support mechanisms can enhance perceived ease of use, subsequently improving adoption rates.
- ***Policy Makers*:** The strong linkage between attitude and acceptance highlights the importance of public awareness campaigns to influence user perceptions positively.
- ***Technology Providers*:** Addressing perceived risks through enhanced security measures and transparent communication will further solidify user trust and satisfaction.

7.4. Comparative Analysis

While this study identifies trends similar to those found in Indonesia (Chandra et al., 2018) and Kenya (Lubanga et al., 2017), such as the importance of ease of use and consumer trust, it also sheds light on unique aspects. The role of government-backed initiatives and local infrastructure limitations emerged as distinct factors impacting adoption in the Algerian context.

7.5. Challenges and Future Research Directions

Several barriers to adoption were identified, including limited awareness of the application, concerns about security, and infrastructural gaps. Future research could explore the following;

- Expanding the sample size to include users from other provinces for broader generalizability.
- Investigating the impact of demographic variables such as age, education, and income on technology adoption.
- Analyzing long-term user engagement trends to refine service delivery and policy frameworks.

8. CONCLUSION

In the course of this investigation, our primary objective was to illuminate the dynamics surrounding the adoption of electronic payment services within public economic institutions in Algeria, a phenomenon gaining momentum globally. The impetus for this exploration stems not only from the international trend toward embracing such services but also from the Algerian government's proactive stance in supporting both individual and collective initiatives in this transformative domain. To gauge the response of customers to novel electronic payment technologies, we conducted a case study focusing on patrons of the Public Urban Transport Company of Tlemcen (ETUS), a pioneering institution in national electronic payment adoption. This initiative gained particular prominence amid the challenges posed by the COVID-19 pandemic, serving as a unique context to evaluate the acceptance of electronic payment services among ETUS customers.

The empirical findings of our study, with their applied focus, culminate in several noteworthy conclusions. Firstly, the study establishes a positive and statistically significant impact, at the 0.05 significance level, of the ease of use on the perceived benefits associated with electronic payment services. This implies that the perceived ease with which customers can utilize these services significantly influences their perception of the benefits derived from such transactions. Additionally, the study reveals a robust positive and significant effect, again at the 0.05 significance level, of the ease of use on the overall attitude of customers towards electronic payment services.

Furthermore, a compelling insight emerges from the study, indicating a strong positive and statistically significant relationship, at the 0.05 significance level, between the perceived benefits and customers' attitudes. This underscores the pivotal role played by customers' perceptions of the anticipated benefits in shaping their overall attitude toward electronic payment services. The culmination of these factors contributes significantly to customers' acceptance of electronic services, as evidenced by a strong positive and statistically significant effect, at the 0.05 significance level, of customers' attitudes on the acceptance of electronic services.

In a broader context, our study lends robust support to the Technology Acceptance Model (TAM), affirming its validity and reliability in explaining the intricate web of factors influencing the acceptance of new information technology. By ravelling these factors, our research provides not only a nuanced understanding of customer behavior in the realm of electronic payment adoption but also valuable insights for policymakers and industry stakeholders seeking to navigate the evolving landscape of technological integration within public economic institutions in Algeria. As such, our findings offer a strategic roadmap for fostering the seamless assimilation of electronic payment services, thereby contributing to the ongoing modernization efforts within the Algerian public transport sector and potentially serving as a blueprint for similar initiatives on a global scale.

YAZAR BEYANI / AUTHORS' DECLARATION:

Bu makale Araştırma ve Yayın Etiğine uygundur. Beyan edilecek herhangi bir çıkar çatışması yoktur. Araştırmanın ortaya konulmasında herhangi bir mali destek alınmamıştır. Makale yazım ve intihal/benzerlik açısından kontrol edilmiştir. Makale, "*en az iki dış hakem*" ve "*çift taraflı körleme*" yöntemi ile değerlendirilmiştir. Makalede kullanılan ölçek için yazar(lar) tarafından ölçeğin orjinal sahibinden izin alındığı beyan edilmiştir. Yazar(lar), dergiye imzalı "*Telif Devir Formu*" belgesi göndermişlerdir. Mevcut çalışma için mevzuat gereği etik izni alınmaya ihtiyaç yoktur. Bu konuda yazarlar tarafından dergiye "*Etik İznine Gerek Olmadığına Dair Beyan Formu*" gönderilmiştir. / This paper complies with Research and Publication Ethics, has no conflict of interest to declare, and has received no financial support. The article has been checked for spelling and plagiarism/similarity. The article was evaluated by "*at least two external referees*" and "*double blinding*" method. For the scale used in the article, it is declared by the authors that permission was obtained from the original owner of the scale. The author(s) sent a signed "*Copyright Transfer Form*" to the journal. There is no need to obtain ethical permission for the current study as per the legislation. The "*Declaration Form Regarding No Ethics Permission Required*" was sent to the journal by the authors on this subject.

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