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Using the Technology Acceptance Model to Understand the Adoption of the E-Vehicle Insurance Services Application in Saudi Arabia

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Abstract-The Kingdom of Saudi Arabia has digitized certain official procedures to facilitate their use by residents. The objective of the current study is to evaluate the experience of using the E-Vehicle Insurance Services mobile application, employing the Technology Acceptance Model. E-Vehicle Insurance Services is a mobile application that facilitates the reporting of traffic accidents by automatically sending an accident report to the respective insurance company. For this purpose, a mixed-method study was conducted to determine beneficiaries' opinions regarding the ease of use, usefulness, satisfaction, and quality of the function for reporting accidents of the E-Vehicle Insurance Services mobile application. The results showed that citizens gave low ratings to the ease of use, usefulness, and satisfaction of the services application, indicating that it did not adequately facilitate their tasks in handling accident claims. This suggests that citizens do not have the knowledge necessary to use the application.

Keywords: Technology Acceptance Model, Saudi Arabia, e-Vehicle Insurance Services Application, application

Introduction

Unlike those in the banking sector, technical innovations in the insurance sector have not received much attention in academic research. Existing insurance companies have until now maintained their positions by exploiting their products' complexity, taking advantage of strict regulation, and maintaining sizable balance sheets.

This does not imply, however, that the insurance market has not been affected by developments in digitization. Indeed, the entire insurance industry supply chain has been impacted by the paradigm shift brought about by digitalization. Like other commercial or financial firms, insurance companies have undergone these changes in their ancillary areas such as program management, IT, human capital, regulating, the legal staff, or public relations. In the health insurance industry, for example, even core activities, like construction contracts, litigation support, investment management, and risk mitigation, are changing as a result of technologies such as the Internet of Things, cloud technology, chatbots and machine learning, block chain technology, robot consultants, and big data (Milanović et al., 2020).

One area of Internet of Things (IoT) technology that could hasten the digitalization of the automobile insurance industry is vehicle telematics. In its widest sense, vehicle telematics is the collection, transfer, and assessment of information from a device installed in a vehicle. Telematic automobile devices have for more than a decade been heralded as a technology that would transform the way auto insurance is offered. The market for automotive telematics is predicted to reach a value of up to $750 billion by 2030. Although there are various applications for the technology, it functions most effectively when used by auto insurance firms. Adoption of telematics is justified primarily by the possibility that it will modify driving behavior and reduce moral hazard among drivers. There will be greater safety and fewer accidents as a result. Risk will progressively become lower and less expensive. To close the information gap between the policyholder and the insurer, data gathering on driving behavior is being used to make possible fine-grained risk segmentation based on drivers' actual degrees of risk.

A potential problem with this strategy was the early assumption that all drivers are the same. In the past, telematic gadgets were "one size fits all" according to several specialists. The methods and tools used to contact prospective customers

JOURNAL OF ALGEBRAIC STATISTICS
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lacked customization. By exploring the important elements that influence consumers' desire to utilize automotive telematics, this research seeks to address a knowledge gap in the field. We specifically explore how receptive drivers are to adopting new technologies. We used the Unified Theory of Acceptance and Use of Technology (UTAUT), one of the most well-known theories on user acceptance of technology, to achieve the goals of this research. The corpus of information that currently exists acknowledges the significance of modern insurance technologies, particularly automotive telematics.

The processing of information has become faster because of technological improvements and the interchange of data via online and offline channels, enabling quick responses to events to ensure a high degree of promptness and competitiveness. Over the last 10 years, significant innovation has been integrated into cars and roads, and as more effort has been put into the development process, creativity in automotive invention has risen continuously. As a result, certain inventions were created by manufacturers of automobiles, while others were added to vehicles after they were sold. Telematics technology, also known as automation technology, is always being improved.

Telematics technology is a wireless communications system designed for data collection and delivery. The technology, therefore, makes use of systems for obtaining and storing data, along with the ability to input data while the information is being processed is incorporated. These qualities result in a broad variety of innovative and application opportunities. The effects of technological advancement include both new possibilities and the potential for tangential conflict with the sources of technology. Rather than featuring a structured system that is created, implemented in the workstation, and evaluated from a driver-focused perspective, the rapid growth of telematics technology has led to a haphazard variety of inventive techniques to automate the experience of users. According to frequently expressed opinion, implementing sophisticated telematic technologies without considering how drivers will handle incorporating complex data may result in data overload, a lack of driver support and preparation, drivers' dependence on innovation to the detriment of their skills, poor social adjustment to innovation, and finally, insufficient understanding or even abuse of the technologies. Human characteristics are essential considerations in the design and presentation of technological advancements, but they are sometimes overlooked as unimportant (Xu, Wang, and Wang, 2022).

In 2020, 578,000 automobiles were supplied to Saudi Arabia, and 610,000 were sold. Saudi Arabia has the fourth-highest global death rate from vehicle accidents, a cause of death ranking behind only heart disease, pneumonia, and cerebrovascular illness in the country. It also has the third-highest incidence of fatal traffic accidents in the Middle East. According to police figures, Saudi Arabia saw a slight increase in the number of fatal traffic accidents in 2020. The traffic police are still unsure of the causes of many incidents, however. Therefore, a dashcam video recorder may provide indisputable evidence to shield drivers from unjustified allegations and help authorities make more accurate judgments.

The dashcam or dashboard camera is an onboard camera mounted inside the vehicle that continually records in the driving environment while it is in operation. Dashcams have recently gained popularity. The video that is taken by a dashcam may be extremely helpful to the police and insurance companies; using one is like having a "Quiet Observer" in the vehicle.

Few if any studies have referenced consumers as active participants in the telematics-based insurance ecosystem. New business models may be developed as a result of technological advancements in the insurance sector, also highlighting the digital transformation in the sector. As a result, there is a pressing need to look again at the sector's prospects, problems, and worldwide trends and to explore how these may both directly and indirectly help the insurance business achieve sustainable development. Due to the immediate effects they have on the environment, safety, energy, and resource savings, telematics-based insurance solutions have already been advocated in the literature as a feasible option for sustainable insurance practices. This study seeks to answer the following questions: How has digital information helped to improve citizens' lifestyle? How are citizens aware of the function of the E-Vehicle Insurance Services Application? And How has this application improved citizens in traffic? In the next section we review the previous literature in the areas of E-Vehicle Insurance Services Application and the theory of Acceptance Model Technology. Then, the research methodology is presented. This is followed by the results and analysis of the empirical tests of the model, and a discussion of how this model offers new insights into e-government adoption. We conclude with the contributions of this research. The following paragraphs survey the extant research about The E-Vehicle Insurance Services Applications

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Literature review

The E-Vehicle Insurance Services Application

Users anticipate the further development of human-machine systems, as customized and adaptable system solutions and as part of navigation procedures as digitalization improves. Early development phases with great complexity and expanding capabilities are the primary outcome of this. The research by Schimanski (2016) is based on the author's independently-generated viewpoint on use phases in the context of navigation in order to develop user interfaces that are easier to use and more resilient. When developing new system ideas, it is necessary to consider the many ways that technical systems are used, which become relevant in the utilization stages. Based on the analysis of data collected in an e-vehicle survey, the most crucial metrics related to the mobility-related use stages of product and system development were updated for the next validation phase. The importance of use stages for the development of a route recommendation system was demonstrated in this phase using the example of cars and bikes. All this is in the public interest in improving the citizen's lifestyle and developing digital information.

Thanks to recent technological developments, the automobile sector is booming. The industry is already paying attention to electric and driverless cars, and this is encouraging adoption of other cutting-edge technology. This development has affected a wide range of parties, including buyers and sellers. The cutting-edge sector of blockchain technology may enhance our knowledge of the experiences of automobile users. The enabler is a feature of blockchain technology. It can function as a transactional mediator between communicating parties. A tamper-proof ledger with a record of transactions may also be kept. Numerous applications may be able to improve the experiences associated with automobiles using blockchain technology via these two essential features. Demir, Turetken, and Ferworn, (2019) suggest the use of a tamper-proof ledger of occurrences as a motor vehicle insurance record in this paper. This system of insurance records could be used to store all elements of insurance transactions. It would simplify the process of establishing insurance and provide documentation in the case of a disagreement. This ledger could provide additional services related to maintaining a spotless driving record. Participants in this blockchain-based system include individual drivers, dealers, insurance companies, legal firms, law enforcement organizations, and motor vehicle authorities. this system has been developed into an electronic application for insurance services for vehicles, which has become one of the major applications that facilitate dealing with traffic and making it easier to serve beneficiaries.

Many industries, including the transportation industry, employ contemporary information technology. New "alternative" forms of passenger transportation have recently begun to appear in European cities. This cutting-edge means of transit entails utilizing a digital app to request a cab with a driver who can take one to four people to a certain area for a fixed price. These mobile apps are not yet sufficiently covered by Slovakian law. As a result, users have started behaving unlawfully. A new piece of law that regulates taxi services has been in effect since April 2019. Čulík, kalašová and Otahálová (2020) examined the expenses and revenue of a cutting-edge taxi service that relied only on a digital platform and a vehicle without a taximeter.

Model-free control approaches were established by XYZ to manage permanent magnet-assisted (PMa) synchronous reluctance motors (SynRMs). The main advantage of the proposed control method by Sriprang et al. (2022) is the ability to forecast the behavior of the state-variable system under fixed-point and transient operations. For the PMa-known SynRMs and unknown components, simple linear models were created. The proposed controller, the intelligent proportional-integral (iPI), has already been used as a control rule to address certain ineluctable modeling faults and motor uncertainty. A dSPACE control platform was then used to put the recommended control strategy into practice. A prototype 1-kW test bench based on a PMa-SynRM machine was built in the lab to assess the suggested control strategy. The simulation using MATLAB/Simulink and the testing results revealed that the suggested control achieved excellent results under transient operating scenarios when compared to traditional PI and model-based controls for the motor drive's cascaded control.

ReadyToGo is an electric car leasing, pooling, and sharing service. This kind of service allows users to reserve an electric car, pick it up from any of the seven locations across Bilbao, Spain, and drop it off somewhere else. Users have the opportunity to communicate their planned route with other users while making reservations, so they can ask to be picked up at a certain location. The University of Deusto in Spain is implementing this service as part of a bigger smart grid

JOURNAL OF ALGEBRAIC STATISTICS
Volume 13, No. 3, 2022, p. 4888-4909
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initiative. The goal of Zabala et al.'s (2013) project is to meet the mobility requirements of academic staff, support staff, and administrative personnel commuting from their residences to the Deusto University campus.

Mobile Applications

Incentives for e-vehicle adoption and usage that are in place in several European nations are discussed in Figenbaum et al. (2015). Their work analyzes Norway and Austria to identify and comprehend the elements influencing the competitiveness of e-vehicles and their prospective market penetration. Norway now has the highest per-capita adoption of electric vehicles thanks to a variety of incentives offered there. In an effort to encourage market involvement, Austria has adopted the idea of Model Regions. This strategy has not yet been shown to be as successful as others. This study includes data analysis from national travel surveys as well as data from online polls of owners and non-owners of e-vehicles. It considers socioeconomic elements such as the convenience and time savings offered by e-vehicle rules. After analyzing national travel surveys, the authors conclude that e-vehicles have a bright future based on people's frequent travel. Social media networks are essential for disseminating information about this still-emerging technology. The user value of e-vehicle incentives and the acceptance by users of battery electric cars are closely related. Electric vehicle subsidies have significant long-term financial impacts. Government incentives are costly when it comes to commercializing new technologies. The authors emphasize the need to develop a plan for the progressive phase-out of e-vehicle regulations in nations with significant financial incentives as car costs decline and technology advances. Significant, pricey, and all-encompassing regulations are needed for the market uptake and proliferation of electric automobiles. Support, a long-term commitment, and incentives focused on the market from the central government all contribute to lower perceived risk for market participants like automobile importers and encourage the growth of the e-vehicle sector. The potential is great for nations with small e-vehicle market shares. For the bulk of people's regular travel and trip chains, battery electric cars are now a practical option. However, incentives are required to make up for their relative downsides, at least during the first market launch period. Diffusion mechanisms are essential. It is also necessary to address the public's lack of awareness.

Modern power grid management is dependent on the use of effective communication networks that enable connection and interaction among various components, including storage systems, safeguards, and distributed energy supplies. Electric charging stations are a new factor that must be considered in the development of future grid management systems due to the expanding use of electric vehicles. The installation of many devices might have a negative impact on grid management and control even if each charging station uses only a small amount of grid energy. This is particularly true given the unpredictability of the power consumption patterns of EVs. The usual EV use profile and the State of Charge (SOC) of the EV battery are often not well-documented. It is necessary that EVs and electrical charging stations regularly convey the necessary charging current. Access to the relevant data is required to appropriately govern energy flows, particularly in private grids run by an energy management system (EMS). The development and implementation of a gateway for communication between EVs and neighborhood information systems is described in Rinaldi, Pasetti, Trioni and Vivacqua (2017). Direct data recovery from the EV On Board Diagnostic (OBD) system is made possible by the suggested technique. By tracking the SOC of an EV for a full month, the authors demonstrate the usefulness of the suggested technique.

E-Vehicle Insurance mobile application Services in Saudi Arabia

Nowadays, various Semi-government applications in Saudi Arabia aim to provide assistance and support to reduce the cost of public services improve, services to citizens, and increase efficiency across the sector. The application aims to provide a simple and straightforward way to report and identify an incident and one can quickly find out all updates regarding the incident, including arrival time, investigation time, and location. The application aims to provide a limitation of liability for accident inspectors to ensure that international standards are met. It also aims to fully comply with Saudi traffic laws to determine and assess liability between the parties involved. It also enables the sharing of vehicle insurance policies created by the Saudi transport system to align it with the high-tech electronic systems and stations and also with the national information security center (Alkorbi and Alrwais, 2014). The application also allows the user to track claims and receive insurance claims for damaged vehicles so that all claims can be submitted to the insurance company. The user benefits from a comprehensive car insurance service that includes the generation of accident reports, damage reports for the damaged vehicle and driver evaluations (Najm, 2020). Future transportation networks are expected to undergo a worldwide revolution due to the increasing growth of technology for vehicular Internet of things applications and the

increased demand for autonomous road vehicles. Unmanned aerial vehicles may provide a model for (have the potential to be a platform for creating) the processing, connectivity, and modern communications necessary to facilitate this new environment. In specific, if the data flow is nonstationary and nonhomogeneous, a UAV-enabled Intelligent Transportation System (ITS) may provide an economically beneficial communication option to increase the safety and effectiveness of the transport network. The manufacturer's approved IEEE802.11p MAC protocol is often used in an ITS network to facilitate wireless communication between devices and unmanned aerial vehicles (UAVs). The network's performance, delay, and range are limited since the IEEE 802.11p MAC protocol works only with omnidirectional antennas. The antenna array, in contrast, offers greater broadband service, space utilization, and bandwidth. To accommodate the rising need for latency-sensitive vehicle industries like vehicular video predictive analytics, automated vehicles, and intelligent guidance, a multi-access edge computer (MEC) facility at the backhaul connection will also offer ultralow latency and fast broadband services. An innovative dual-mode MAC method that works in both targeted and omnidirectional antenna modes is presented by Khan et al. (2021). They design and replicate methods employing the Optimized Network Engineering Tool to examine throughput, media access latency, and restoration attempts (OPNET).

The automotive industry increasingly recognizes vehicle ad hoc networks (VANETs) as crucial elements thanks to their recent surge in popularity. VANETs, a subtype of MANETs, are used by the intelligent transport system (ITS) to serve travelers, vehicles, and infrastructure, providing safety features like accident alerts and driver assistance as well as various entertainment services. VANETs obviously provide advantages and conveniences for the continual advancement of autonomous vehicle technology, but they are also becoming more susceptible to security problems such as DoS, Sybil, impersonation, replay, and other related attacks. Mahmood et al. (2021) examine the features and security issues, such as attacks and threats, at various protocol levels of the VANETs architecture. The research also examines several defenses.

Intelligent transportation systems now include billions of smart gadgets that are prepared to connect to the Internet thanks to the Internet of Things (IoT) and improvements in wireless technology. Modern vehicular ad hoc networks (VANETs) have been greatly improved by the Internet of Things (IoT), which has changed the traditional VANET into the Internet of Vehicles (IoV) to boost traffic flow and safety. However, because of the degree to which a VANET relies on its infrastructure, processing, dynamic nature, and control technologies, security concerns are on the rise. Through making the message sending and receiving nodes more reliable, the security issues brought up by VANETs may be completely eliminated. Over the other hand, the VANET may be seriously threatened by the existence of dishonest vehicles, such as Man in the Middle (MiTM) attackers, which disseminate dangerous material on the network. Increased authenticity, privacy, accuracy, security, and reliable information flow may result from higher node trustworthiness in the VANET. In Junejo et al. (2020), the method of using a simple trust architecture to spot dishonest nodes and invalidate their credentials in the event of an MiTM attack is demonstrated. The need for security and privacy is likewise satisfied by the pseudonym system. RSU, a trusted source in the network, initially established trust on behalf of all nodes in the VANET. The usefulness and validity of the suggested lightweight trust model are assessed via several experiments based on various network situations. Their model outperformed MARINE significantly in terms of recall, accuracy, and F-score. It is a trust model, namely, Man-in-the-middle Attack Resistance trust model IN connected vehicles (MARINE), which identifies dishonest nodes performing MiTM attacks in an efficient way as well as revokes their credentials (Ahmad et al., 2020). In comparison to the MARINE model, the simulation results revealed that the proposed lightweight model received a high trust level with 40% of MiTM attackers and a 95% F-score, allowing the model to achieve excellent detection accuracy.

AMultiaccess Edge Computing (MEC)-based architecture for 5G autonomous cars was created and investigated by Alshamrani, Jha, and Prashar (2021). Monte Carlo simulations were used to create a graph showing the total, handling, and propagation delays in relation to vehicle density. In order to validate their results, they also produced a dependability curve. When the RSU density is continuous, the propagation latency is directly related to the vehicle density, but when the car density is fixed, it has the inverse proportion. Total delay has a linear proportional behavior, much like propagation latency.

In comparison, the directed antenna provides more broadband service, space reuse, and capacity. A multiaccess edge computing (MEC) infrastructure at the backhaul link will also provide ultralow delay and high bandwidth solutions to meet the growing need for latency-sensitive vehicle industries including vehicular video big data, automated vehicles, and intelligent navigation. Khan et al. (2021) provide a ground-breaking dual-mode MAC protocol as a consequence; it

JOURNAL OF ALGEBRAIC STATISTICS
Volume 13, No. 3, 2022, p. 4888-4909
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can function in both focused and omnidirectional antenna configurations. To analyze throughput, media access delay, and retransmission attempts, they created a simulation model using the Optimized Network Engineering Tool (OPNET).

Parking guidance solutions must be created in order to reduce both the amount of time spent looking for parking and greenhouse emissions. Biyik et al. (2021) investigated the technical elements of smart parking solutions, with a focus on the devices and sensors that are now in use and have been discussed in the literature. The objective of the study was to provide in-depth insights on the development of smart parking systems. A thorough examination of the current state of smart parking systems should include the classification of such systems as large vehicle sensing technologies.

The Technology Acceptance Model

In the field of the Information Systems, researchers have investigated models and theories to more effectively predict and explain the behavior. Various models such as the theory of the Reason Action, Innovation Diffusion Theory, Theory of Planned Behavior, Diffusion of Innovation and the Technology Acceptance Model have been developed (Davis, 1986). The TAM was created by Davis (1986) in order to identify the usage of behavior related to computer technology. It proposes specifically to explain the determinants of information technology to explain behavior. The TAM uses two perceptions, those of perceived ease of use and usefulness, to determine an individual's intention to use a technology (Davis et al., 1992). Igbaria et al. (1997) found that perceived ease of use is a major factor for explaining perceived usefulness and system usage.

Research Model and Hypotheses

H1: There is a positive relationship between perceived usefulness and driver satisfaction.

H2: There is a positive relationship between perceived ease of use and driver satisfaction

H3: There is a positive relationship between driver satisfaction and traffic

Methodology

The present study aimed to explore the application acceptance model in relation to e-government adoption in Saudi Arabia using as a case study the third-party E-Vehicle Insurance Services Mobile Application. For this purpose, a mixed-methods qualitative-quantitative study was conducted to explore the use of E-Vehicle Insurance Services Mobile Application in Saudi Arabia, and the data were also analyzed quantitatively.

Research Design: The approach used in this study is quantitative in nature as an online survey was conducted and at the same time qualitative as data were gathered from the E-Vehicle Insurance Services Mobile Application preview application. The rationale of using this design is the purpose of measuring the major aspects such as satisfaction, usefulness, and accident crowds; it was considered important to conduct a survey in order to identify the responses of citizens regarding the use of the E-Vehicle Insurance Services Mobile Application.

Setting: The survey to collect data for this study was developed and published online. The study involved people from all around Saudi Arabia who intended to meet their needs through the use of an application. The sample consisted of 117 responses. The inclusion criteria included that the individuals were proficient in technology and able to use technology for the learning of tasks. As courses in the technical skills are generally compulsory before people can be enrolled in the E-Vehicle Insurance Services Mobile Application, individuals were considered to be technically proficient. E-government has made use of the mobile application referred to as the E-Vehicle Insurance Services Mobile Application. The second inclusion criterion was that individuals be interested in and encouraged to use mobile applications. It is imperative that

JOURNAL OF ALGEBRAIC STATISTICS
Volume 13, No. 3, 2022, p. 4888-4909
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accident information is sought at appropriate time.. People who do not wish to evaluate the E-Vehicle Insurance Services Mobile Application may might not have purchased the application.

For the purpose of data collection, first, the questionnaire was designed. The first part of the questionnaire included demographic variables, and the second part included 15 questions categorized into various constructs such as ease of use, usefulness, satisfaction, and traffic. The survey includes 15 questions that were adopted and contextualized from previous studies using a five-point Likert scale. After the completion of the questionnaire, the data collection was begun. For this purpose, an online survey was conducted to evaluate citizens regarding their use of E-Vehicle Insurance Services Mobile Application, and the inclusion criteria for the responses were determined. A total 117 responses were recorded based on the inclusion criteria, and the remaining responses were discarded.

Results and Analysis

Sample Description

Total numbers and percentages of the demographic variables were determined through demographic analysis. The demographic variables included age, gender, qualification, and use of the E-Vehicle Insurance Services Mobile Application.

Table 1

Sample Description

Variable	f	%
Gender		
Male	25	21.4
Female	92	78.6
Age		
(18-25)	31	26.5
(26-30)	8	6.8
(31-40)	32	27.4
(41-50)	38	32.5
51 and more	8	6.8
Education		
Secondary certificate	23	19.7
Baccalaureate	78	66.7
Postgraduate	16	13.6
Use of the E-Vehicle Insurance Services Mobile Application		
Yes	31	26.5
No	86	73.5

The results indicated the following:

- A total of 92 or 79% females participated in the study, and 25 or 21% males participated in the study. A total of 117 responses were calculated regarding gender.
- A total of 38 or 32% participants were in the age range of 41-50 years. 32 participants or 28% belonged to the 31 to 40 age range, while 31 or 26% belonged to the 18-25 age range. 8 or 7% belonged to the 26-30 and the 51 and higher age ranges.
- The number of 78 or 67% of participants had completed their Baccalaureate degree, while 23 or 19% had completed their secondary certificate. Only 16 or 14% had completed their post-graduation degree.

JOURNAL OF ALGEBRAIC STATISTICS
Volume 13, No. 3, 2022, p. 4888-4909
https://publishoa.com
ISSN: 1309-3452

- The number of 86 or 73% reported that they did not use the E-Vehicle Insurance Services mobile application, while 31 or 26% reported that they used the E-Vehicle Insurance Services mobile application.

Measures of Reliability and Internal Consistency

The psychometric properties of scales were based on the Mean, Standard Deviation Frequency Percentage, and Cronbach's Alpha. Respondents' answers were measured using 5-point Likert scales. The following are the relevant results:

Table 2

Reliability of the Parts

Factors or Parts	Number of Statements	Cronbach's Alpha
1- Ease of use	3	0.781
2- Usefulness	3	0.779
3- Satisfaction	4	0.883
4- Crowds of accidents	5	0.886

The Cronbach's Alpha for the four factors was more than 0.70, which indicates the reliability of the evaluated parts. The following tables test the internal consistency of each statement in the four parts. The procedure was as follows. We removed one statement and calculated Cronbach's Alpha for the remaining statements. If the calculated Alpha was more than the Alpha for the parts, this indicated that the reliability increased, and therefore we removed the statement. However, if the calculated Alpha was less than the Alpha for the parts, this indicated that the reliability decreased; therefore, we retained the statement. We repeated this procedure for each statement.

Table 3

Consistency and Validity for the Statements of Variables

Statements	Correlation between item and total •	Cronbach's Alpha if Item ••Deleted
Ease of Use		
1-I find the E-Vehicle Insurance Services mobile application easy to use.	0.869**	0.610
2-Learning how to use the E-Vehicle Insurance Services mobile application was easy for me.	0.837**	0.682
3-Using the E-Vehicle Insurance Services mobile application requires little effort.	0.796**	0.781
Usefulness		
1-I know a lot of other people who have successfully used the E-Vehicle Insurance Services mobile application.	0.817**	0.779
2-The E-Vehicle Insurance Services mobile application seems useful.	0.876**	0.583
3- I believe the E-Vehicle Insurance Services mobile application will help me succeed.	0.812**	0.693
Satisfaction		
1- Is the E-Vehicle Insurance Services mobile application user-friendly?	0.806**	0.871
2- Do you find the E-Vehicle Insurance Services mobile application dependable?	0.846**	0.844

JOURNAL OF ALGEBRAIC STATISTICS
Volume 13, No. 3, 2022, p. 4888-4909
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Statements	Correlation between item and total •	Cronbach's Alpha if Item ••Deleted
Ease of Use		
3-Is the E-Vehicle Insurance Services mobile application efficient?	0.893**	0.824
4- Are you satisfied with the accuracy of the E-Vehicle Insurance Services mobile application?	0.854**	0.858
Crowds of Accidents		
1-Do you think the E-Vehicle Insurance Services mobile application reduces congestion?	0.813**	0.864
2-Do you think the E-Vehicle Insurance Services mobile application helps to organize traffic?	0.848**	0.856
3-Does the E-Vehicle Insurance Services mobile application reduce conflicts between people?	0.847**	0.856
4-Is the E-Vehicle Insurance Services mobile application fair in Calculating the exact percentage of the at-fault driver.?	0.856**	0.849
5-Does the E-Vehicle Insurance Services mobile application help people to follow the rules correctly?	0.765**	0.878

- this measures the internal validity. ** the Correlation is significant at the 0.01 level**.**

When the Cronbach alpha values of every statement are found to be less than or equal to the total value, that reflects the internal consistency of the statement of the factor. When the correlation is significant at the 0.01 level, that reflects the item validation.

in this study a five-point Likert scale was used to find out the respondents' answers.. It is important to calculate the weighted mean of the statement response for every factor. The calculation and computation of the weighted mean is necessary to give every response a specific weight that reflects its significance. The response of every statement was given the following weights:

Table 4: Likert-Type Scale (5 Point) measurement

Response	**Weight**
Strongly Disagree	1
Disagree	2
Neutral	3
Agree	4
Strongly Agree	5

The above process determines and evaluates the class and the response of every related statement. In relation to the value of the resulted mean, one could also specify the total response. The following Table provides the criteria:

Table 5: Qualitative Interpretation of 5-Point Likert Scale Measurements

Weight Mean	Response
From 1.00 to less than 1.80	Strongly Disagree
From 1.80 to less than 2.60	Disagree
From 2.60 to less than 3.40	Neutral
From 3.40 to less than 4.20	Agree

JOURNAL OF ALGEBRAIC STATISTICS
Volume 13, No. 3, 2022, p. 4888-4909
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From 4.20 to less than 5.00	Strongly Agree

The study reflects every statement that has been classified as a response in the tables, calculates the degree of significance, and provides every statement with a rank priority related to its significance.

Factor1: Ease of use
Table 6

Frequency Distribution, Weighted Mean, Std. Deviation, Overall Response, and Priority of the Statements of Ease of Use

Statements	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Weighted Mean	Std. Deviation	Overall Response (in Mean)	Priority
	f	%	f	%	f	%	f	%	f	%				
1-I find the E-Vehicle Insurance Services mobile application easy to use.	22	18.8	39	33.3	54	46.2	1	0.9	1	0.9	2.32	0.82	**Disagree**	2
2-Learning how to use the E-Vehicle Insurance Services mobile application was easy for me.	21	17.9	45	38.5	48	41.0	1	0.9	2	1.7	2.30	0.83	**Disagree**	3
3-Using the E-Vehicle Insurance Services mobile application requires little effort	25	21.4	40	34.2	42	35.9	8	6.8	2	1.7	2.33	0.95	**Disagree**	1
Total	68	19.37	124	35.33	144	41.03	10	2.85	5	1.42	2.32	0.72	**Disagree**	

The overall response for the statements and the whole factor was “Disagree,” which means that the respondents saw the **Ease of Use** as low.

JOURNAL OF ALGEBRAIC STATISTICS
Volume 13, No. 3, 2022, p. 4888-4909
https://publishoa.com
ISSN: 1309-3452

Factor2: Usefulness

Table 7

Frequency Distribution, Weighted Mean, Std. Deviation, Overall Response, and Priority of the Statements of Usefulness

Statements	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Weighted Mean	Std. Deviation	Overall Response (in Mean)	Priority
	f	%	f	%	f	%	f	%	f	%				
1-I know a lot of other people who have successfully used the E-Vehicle Insurance Services mobile application.	32	27.4	41	35.0	34	29.1	9	7.7	1	0.9	2.20	0.96	**Disagree**	1
2-The E-Vehicle Insurance Services mobile application seems useful.	44	37.6	53	45.3	18	15.4	1	0.9	1	0.9	1.82	0.78	**Disagree**	2
3- I believe the E-Vehicle Insurance Services mobile application will help me succeed.	51	43.6	48	41.0	17	14.5	1	0.9	0	0.0	1.73	0.74	**Disagree**	3
Total	127	36.18	142	40.46	69	19.66	11	3.13	2	0.57	1.91	0.69	**Disagree**	

The overall response for the statements and the whole factor was “Disagree,” which means that the respondents saw the usefulness as low.

Factor 3: Satisfaction

Table 8

Frequency Distribution, Weighted Mean, Std. Deviation, Overall Response, and Priority of the Statements of Satisfaction

JOURNAL OF ALGEBRAIC STATISTICS
Volume 13, No. 3, 2022, p. 4888-4909
https://publishoa.com
ISSN: 1309-3452

Statements	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Weighted Mean
	f	%	f	%	f	%	f	%	f	%	
1- Is the E-Vehicle Insurance Services mobile application user friendly?	38	32.5	41	35.0	38	32.5	0	0.0	0	0.0	2.00
2- Do you find the E-Vehicle Insurance Services mobile application dependable?	44	37.6	43	36.8	28	23.9	2	1.7	0	0.0	1.90
3-Is the E-Vehicle Insurance Services mobile application efficient?	41	35.0	44	37.6	30	25.6	1	0.9	1	0.9	1.95
4-Are you satisfied with the accuracy of the E-Vehicle Insurance Services mobile application?	29	24.8	39	33.3	43	36.8	5	4.3	1	.9	2.23
Total	152	32.48	167	35.68	139	29.70	8	1.71	2	0.43	2.02

The overall response for the statements and the whole factor is “Disagree,” which indicates that the respondents saw the **Satisfaction Factor** as low.

4: Traffic

Table 9

Frequency Distribution, Weighted Mean, Std. Deviation, Overall Response, and Priority of the Statements of Crowds of Accidents

Statements	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Weighted Mean	Std. Deviation	Overall Respon (in Mea
	f	%	f	%	f	%	f	%	f	%			
1-Do you think the E-Vehicle Insurance Services mobile application reduces congestion?	27	23.1	38	32.5	43	36.8	9	7.7	0	0.0	2.29	0.91	**Disagre**
2-Do you think the E-Vehicle Insurance Services mobile application helps to organize traffic?	32	27.4	40	34.2	38	32.5	6	5.1	1	.9	2.18	0.92	**Disagre**
3-Does the E-Vehicle Insurance Services mobile application reduce conflicts between people?	37	31.6	42	35.9	32	27.4	6	5.1	0	0.0	2.06	0.89	**Disagre**
4- Is the mobile application for electronic vehicle insurance services fair in estimating the fault of the (at-fault driver)?	31	26.5	34	29.1	45	38.5	7	6.0	0	0.0	2.24	0.92	**Disagre**
5-Does the E-Vehicle Insurance Services mobile application help people to follow rules correctly?	34	29.1	45	38.5	33	28.2	3	2.6	2	1.7	2.09	0.91	**Disagre**

JOURNAL OF ALGEBRAIC STATISTICS
Volume 13, No. 3, 2022, p. 4888-4909
https://publishoa.com
ISSN: 1309-3452

Statements	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Weighted Mean	Std. Deviation	Overall Respon (in Mea
	f	%	f	%	f	%	f	%	f	%			
Total	161	27.52	199	34.02	191	32.65	31	5.30	3	0.51	2.17	0.75	**Disagr**

The overall response for the statements and the whole factor is "Disagree," which indicates that the respondents saw the role of **Crowds of accidents** as not strong.

Correlation between variables

Correlation analysis deals with the relationships between variables, which can be either positive or negative. Karl and Pearson (1985) developed a test to study correlation. If the value of the Pearson correlation is +1, then two variables are said to be positively related to each other. By contrast, if the value is -1, then the two variables are said to be negatively related to one another. In the current study, Pearson correlation analysis was used to reveal the relationships between variables.

5 - Correlation Between Factors

The following Table gives the correlations between the factors.

Table 10

Results of the Pearson Correlation (N=117)

Factors		1- Ease of use	2- Usefulness	3- Satisfaction	4- Crowds of accidents
1- Ease of use	Pearson correlation	1			
	Sig. (p-value)				
2- Usefulness	Pearson correlation	0.479**	1		
	Sig. (p-value)	0.000			
3- Satisfaction	Pearson correlation	0.546**	0.766**	1	
	Sig. (p-value)	0.000	0.000		
4- Crowds of accidents	Pearson correlation	0.472**	0.686**	0.710**	1
	Sig. (p-value)	0.000	0.000	0.000	

Note: ** Correlation is significant at p-value ≤ 0.001 level of significance is 0.001.

The results indicate that the p-value equals 0.000, which is much less than 0.01; this means that there is a positive and highly significant relationship between each pair of factors.

The Independent T-test

An independent T-test was used to find the differences among demographic variables. There was a significant difference between the responses relating to gender, as shown in the table below.

Gender: To test whether there was a significant difference between respondents' opinions on the factors due to the different classes of gender, we used an independent t–test.

Table 11

The Results of the T-test

Factors	**Gender**	**N**	**Mean**	**Std. Deviation**	***t_{115}**	**Sig.**	**Conclusion**

JOURNAL OF ALGEBRAIC STATISTICS
Volume 13, No. 3, 2022, p. 4888-4909
https://publishoa.com
ISSN: 1309-3452

						(p-value)	
1- Ease of use	Male	25	2.13	0.82	-1.438	0.153	Not Sig.
	Female	92	2.37	0.69			
2- Usefulness	Male	25	1.79	0.69	-1.046	0.298	Not Sig.
	Female	92	1.95	0.69			
3- Satisfaction	Male	25	1.85	0.73	-1.330	0.186	Not Sig.
	Female	92	2.07	0.72			
4- Crowds of accidents	Male	25	1.94	0.72	-1.729	0.086	Not Sig.
	Female	92	2.23	0.75			

Note: * $\mathbf{t}_{115}$is the value of the t- statistic at the 115 degree of freedom

The above Table shows that the p-value (the level of significance) is more than 0.05 for the four factors, which means that there is no significant difference between the means of the responses due to gender (male or female).

Having ever used the E-Vehicle Insurance Services mobile application

To test whether there was a significant difference between respondents' opinions on the factors due to different classes in relation to **Having ever used the E-Vehicle Insurance Services mobile application**, we used an independent t-test.

Table 12

The Results of the T-test

Factors	Having ever used the E-Vehicle Insurance Services mobile application	N	Mean	Std. Deviation	$*t_{115}$	Sig. (p-value)	Conclusion
1- Ease of use	Yes	31	1.91	0.70	-3.835	0.000	Sig.
	No	86	2.46	0.67			
2- Usefulness	Yes	31	1.65	0.63	-2.753	0.001	Sig.
	No	86	2.01	0.69			
3- Satisfaction	Yes	31	1.60	0.60	-4.056	0.000	Sig.
	No	86	2.17	0.70			
4- Crowds of accidents	Yes	31	1.87	0.84	-2.674	0.009	Sig.
	No	86	2.28	0.69			

* $\mathbf{t}_{115}$ is the value of the t- statistic at the 115 degree of freedom

The above Table shows that the p-value (the level of significance) is less than 0.05 for all factors, which means that there is a significant difference between the mean of the responses due to **having ever used the E-Vehicle Insurance Services Mobile Application**.

F- Test (Analysis of Variance ANOVA)

The F-Test (Analysis of variance, ANOVA test) is used to test whether there is a significant difference between means of responses for Level of Education.

2-Age

To test whether there is a significant difference between respondents' opinions about the factor due to differences in **Age**, we used the F - test (ANOVA) and obtained the results in the following Table.

JOURNAL OF ALGEBRAIC STATISTICS
Volume 13, No. 3, 2022, p. 4888-4909
https://publishoa.com
ISSN: 1309-3452

Table 13

F - Test (ANOVA)

Factors	Age	N	Mean	Std. Deviation	*$F_{4,112}$	Sig. (p-value)	Conclusion
1- Ease of use	(18-25)	31	2.32	0.75	2.284	0.035	Sig.
	(26-30)	8	2.17	0.78			
	(31-40)	32	2.46	0.61			
	(41-50)	38	2.38	0.69			
	51 and more	8	1.58	0.83			
2- Usefulness	(18-25)	31	1.67	0.67	4.729	0.001	Sig.
	(26-30)	8	1.71	0.74			
	(31-40)	32	2.05	0.60			
	(41-50)	38	2.17	0.66			
	51 and more	8	1.33	0.64			
3- Satisfaction	(18-25)	31	1.76	0.62	4.369	0.002	Sig
	(26-30)	8	1.81	0.79			
	(31-40)	32	2.21	0.68			
	(41-50)	38	2.24	0.68			
	51 and more	8	1.41	0.78			
4- Crowds of accidents	(18-25)	31	2.12	0.74	3.030	0.020	Sig
	(26-30)	8	2.23	0.91			
	(31-40)	32	2.26	0.70			
	(41-50)	38	2.31	0.71			
	51 and more	8	1.35	0.65			

* $\mathbf{F_{4,112}}$ is the value of the F- statistic at 4.112 degrees of freedom

The above Table shows that the p-value (the level of significance) is less than 0.05 for all factors, which means that there is a significant difference between the means of the responses due to the respondents' different classes of age.

JOURNAL OF ALGEBRAIC STATISTICS
Volume 13, No. 3, 2022, p. 4888-4909
https://publishoa.com
ISSN: 1309-3452

3- Educational level

To test whether there is a significant difference between respondent's opinions about the factors due to differences in their **Educational level**, we used the F - test (ANOVA) and obtained the information in the following Table.

Table 14

F - test (ANOVA**)**

Factors	Educational level	N	Mean	Std. Deviation	*$F_{2,114}$	Sig. (p-value)	Conclusion
1- Ease of use	Secondary certificate	23	2.16	0.71	1.494	0.229	Not Sig.
	Baccalaureate	78	2.31	0.72			
	Postgraduate	16	2.56	0.72			
2- Usefulness	Secondary certificate	23	1.74	0.69	3.020	0.053	Not Sig.
	Baccalaureate	78	1.89	0.68			
	Postgraduate	16	2.27	0.64			
3- Satisfaction	Secondary certificate	23	1.87	0.73	1.022	0.363	Not Sig.
	Baccalaureate	78	2.03	0.70			
	Postgraduate	16	2.20	0.78			
4- Crowds of accidents	Secondary certificate	23	1.97	0.80	1.229	0.296	Not Sig.
	Baccalaureate	78	2.21	0.74			
	Postgraduate	16	2.31	0.72			

* $\mathbf{F_{2,114}}$ is the value of the F- statistic at (2،114) degrees of freedom

The Table above shows that the p-value (the level of significance) is more than 0.05 for the four factors, which means that there is no significant difference between the means of the responses due to differences in the respondents' **Educational levels**.

Multiple Comparisons

The F-test may show that there is a difference between the means of the classes. In such a case, it is desirable to investigate which classes have caused these differences to appear when comparisons between each pair of classes has been made. In this case, multiple comparisons were conducted. There are methods for performing these multiple comparisons using t-tests. (The t-test is used to compare between any two independent groups). This study used a method known as the Scheffe method and registered only the pairs of classes which caused differences in the F-test. Therefore, to determine which **ages** were different, several t-tests between each pair of **ages were conducted**. Since the **age** includes 5 classes, there are 10 paired comparisons**.** The following Table shows only the classes with significant differences.

Table 15: Multiple comparisons between ages

Factor	Multiple Comparisons		Difference		Significance (p-value)	Conclusion
	age (I)	age (J)	Mean	Std. Error.		
1- Perceived Ease of Use	(18-25)	51 and more	0.74*	0.28	0.009	Sig
	(31-40)	51 and more	0.88*	0.28	0.002	Sig
	(41-50)	51 and more	0.79*	0.27	0.004	Sig
2-Perceived Usefulness	(31-40)	(18-25)	0.39*	0.16	0.020	Sig

JOURNAL OF ALGEBRAIC STATISTICS
Volume 13, No. 3, 2022, p. 4888-4909
https://publishoa.com
ISSN: 1309-3452

	(31-40)	51 and more	0.72*	0.26	0.006	Sig
	(41-50)	(18-25)	0.50*	0.16	0.002	Sig
	(41-50)	51 and more	0.83*	0.25	0.001	Sig
	(31-40)	(18-25)	0.45*	0.17	0.009	Sig
3- Driver Satisfaction	(31-40)	51 and more	0.80*	0.27	0.003	Sig
	(41-50)	(18-25)	0.49*	0.16	0.004	Sig
	(41-50)	51 and more	0.84*	0.26	0.002	Sig
	(18-25)	51 and more	0.77*	0.29	0.008	Sig
4- Crowds of accidents	(26-30)	51 and more	0.88*	0.36	0.018	Sig
	(31-40)	51 and more	0.91*	0.29	0.002	Sig
	(41-50)	51 and more	0.96*	0.28	0.001	Sig

* The mean difference is positive.

The above Table shows the ages with significant differences for each of the four factors as follows:

Factor (1)

☒ Age 18-25 and Age 51 and above

☒ Age 31-40 and Age 51 and above

☒ Age 41-50 and Age 51 and above

Factor (2)

☒ Age 31-40 and Age 18-25 and 51 and above

☒ Age 41-50 and Age 18-25 and 51 and above

Factor (3)

☒ Age 31-40 and Age 18-25 and 51 and above

☒ Age 41-50 and Age 18-25 and 51 and above

Factor (4)

☒ Age 18-25 and Age 51and above

☒ Age 26-30 and Age 51 and above

☒ Age 31-40 and Age 51 and above

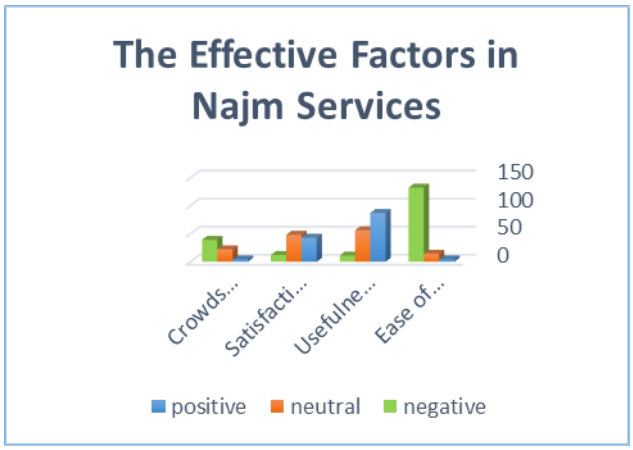
☒ Age 41-50 and Age 51 and above

Content analysis

To provide for an understanding of the survey outcomes, I combined the previous results with the outcomes of the user review application in one term, in a process known as triangulation (Wheeldon, 2010). The preview application is considered a text which includes the opinions of the beneficiaries and their experiences with E-Vehicle Insurance Mobile Application services such the Najm application. These previews are available on the Internet, a fact which facilitated the gathering of 323 comments from E-Vehicle Insurance Services mobile application (Najm) beneficiaries in or near Saudi Arabia cities. The existing and registered comments on the application were collected from 2015 to 2021.

These comments relate to the beneficiaries' experiences, their opinions on the E-Vehicle Insurance Services mobile application, and their satisfaction when using this application. They could voluntarily add comments on the preview application. The Semantria software version from 2016 is a process used to code and analyze content (for example, comments on a survey). The result of the text analysis, coded as a thematic analysis, is shown in Figure 1.

JOURNAL OF ALGEBRAIC STATISTICS
Volume 13, No. 3, 2022, p. 4888-4909
https://publishoa.com
ISSN: 1309-3452



The analysis process started with highlighting the relevant words in the comment sentences, which were distinguished and encoded; then these words were classified into three categories: positive, neutral, and negative (see "Information Technology & People | Emerald Insight," 2021).

In the statistical analysis, after analysis of the words and sentences that comprised the qualitative analysis in this study, the four factors relevant to the study that were found in the sentences were extracted from the opinions of the participants responding to the survey about the E-Vehicle Insurance Services mobile application and divided into the three categories of Positive, Negative, Neutral; each category had five rankings. The rankings were indicated by means of a five-point Likert scale comprised of (1) poor, (2) good, (3) average, (4) very good, and (5) excellent. The highest percentage obtained for each of the four factors were highlighted in the following Table.

Table 16: Content analysis coding results

Content Analysis	Positive	Neutral	Negative
1- Ease of use: "The E-Vehicle Insurance Services mobile Application is easy to use compared to the manual reporting of the accident"	**4**	**14**	**132**
2- Usefulness: "There are services and benefits from using the E-Vehicle Insurance Services mobile application"	**87**	**56**	**11**
3- Satisfaction "I am satisfied with the E-Vehicle Insurance Services mobile application and its services"	**43**	**48**	**12**
4-Respondents' experience **"Traffic"**	**4**	**22**	**39**

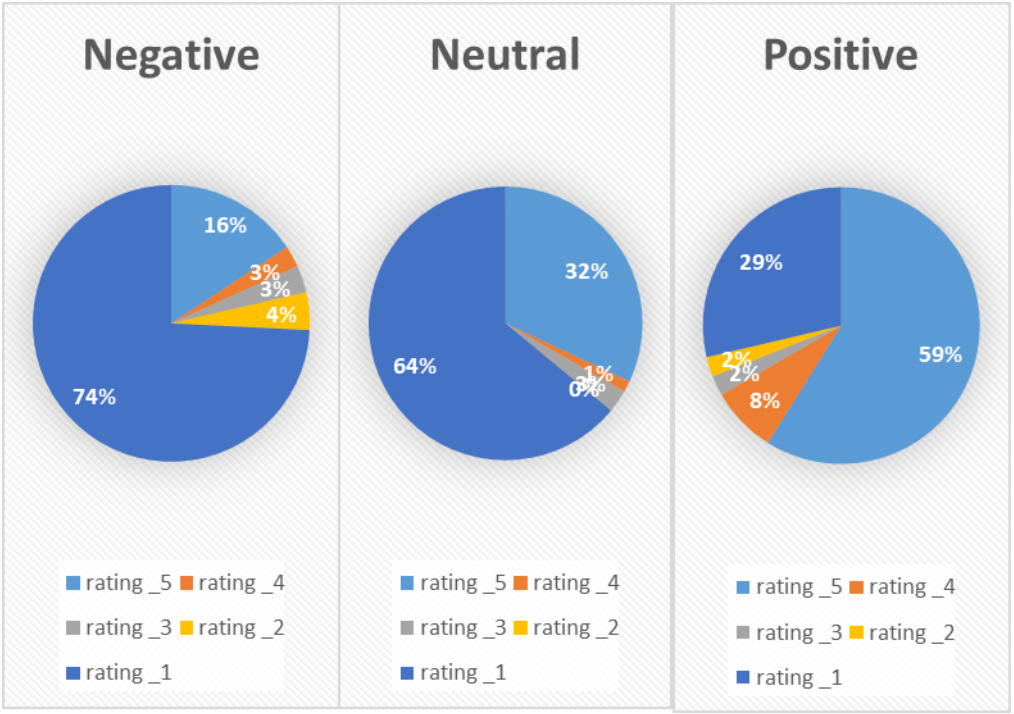
The first factor of influence in the study is presented in the first statement: "**The E-Vehicle Insurance Services mobile application is easy to use compared to the manual reporting of an accident**" received a more frequent rating as negative from the participants (88%), while it received the lowest numbers of the moderate and positive ratings with 9% and 3%, respectively.

JOURNAL OF ALGEBRAIC STATISTICS
Volume 13, No. 3, 2022, p. 4888-4909
https://publishoa.com
ISSN: 1309-3452

The statement "**There are services and benefits from using the E-Vehicle Insurance Services mobile application**" received a positive response and showed a low rating in its positive impact as indicated by the response on the five-points Likert scale, represented by 57%. Only 7% of respondents gave negative responses. 36% gave a neutral response perhaps because beneficiaries have not yet gained enough experience in the E-Vehicle Insurance Services Mobile Application to determine whether the application is beneficial to them or not. This statement represents the second factor that affects the evaluation and assessment of the E-Vehicle Insurance Services mobile application, as the participants benefited from this application in a positive way, but this benefit was insignificantly influential.

The **satisfaction** of the beneficiaries of this application showed a neutral rating at 46%, which indicates that some of the beneficiaries did not have enough experience with this application and that some of the other beneficiaries were less than moderately satisfied with this application at 12%; this point represents the third factor.

The last factor affecting the evaluation of the E-Vehicle Insurance Services mobile application is "**The Traffic.**" Respondents' experience was a negative factor as the application did not contribute to reducing the accumulation of accidents around the Kingdom, suggesting that the service still needs to be developed: the highest percentage in the evaluation of the beneficiaries of the E-Vehicle Insurance Services mobile application was negative, at 60%.



Discussion

This study focused on the application of the Technology Acceptance Model (TAM) to study e-government adoption in Saudi Arabia by studying the E-Vehicle Insurance Services mobile application. Adaptation of e-services is considered an important goal for many governmental service providers, but its adaptation is not an easy process because it requires a thorough understanding of the needs of the citizens and identification of the best policy for implementation.

The results of the questionnaire analysis and content analysis show that the respondents gave low ratings to the ease of use, usefulness, satisfaction, and the traffic. Several studies have shown that the ease of use should be beneficial for facilitating citizens' adaptation of e-services. However, our results showed that the ease of use was not beneficial for the adaptation of the e-services by citizens. This suggests adaptation of e-services is not dependent on the ease of use. This may be due to the educational level and the age range set or of the recruits for the study. About 33% participants belonged to the 41-50 age range, and about 67% had Baccalaureate. Because of having these characteristics, they did not find themselves in difficulty in using the application. The study's results indicated that they preferred to update themselves with the innovation of new technologies and saw themselves as innovative (Al-Nuaim, 2011; Anwer et al., 2016). Thus,

this study is in line with the work of Susanto and Aljoza (2015), which found that ease of use is not an important factor in the adaptation of e-government services (Susanto & Aljoza, 2015).

In the case of the Saudi government, the implementation and the adaptation of e services are in their initial sates. As most of the departments and the sectors of the government implement e-services, the procedures for their adaption from which citizens might be expected to benefit are not very useful. This may be linked with technology issues, internet issues, and response delivery issues leading to citizens' failure to be satisfied with and adopt e-services. The current study identified barriers to the adaptation of e-services by the citizens of Saudi Arabia. The study found that the citizens have no knowledge and no ability to use the technology efficiently. This may also have led to low ratings of the perceived ease of use of the governmental e-services (Alshehri et al., 2012).

Similarly, the study also found that citizens gave low ratings to the usefulness, satisfaction, and crowds of the accidents. The study's results suggest that there are social and financial barriers, relating to many organizations, that the government of Saudi Arabia is facing in implementing the e-government services. One of the major challenges that the Saudi government is facing is the implementation of services for the citizens that are preferable to those offered by the private sectors. The results of the study suggest that adaptation of the e-government services depends on the willingness of the citizens. This phenomenon may be referred to as demand size—if the attitude of the citizens is not in line with the government implementation of the e-services, then the government's intended goal is not achieved (Alzahrani et al., 2017). Thus, in the case of the Saudi government, the citizens did not find the e-government services to be a useful tool in terms of their usefulness, the users' satisfaction, and the services' usefulness for traffic accident reporting. The study revealed that the citizens of the Saudi Arabia did not find the E-Vehicle Insurance Services mobile application a useful and efficient tool for better service delivery by the government. The (2017) study by Alzahrani, et al. found that dissatisfaction with e-government technology depended on trust, particularly the trust in the government and the trust on the Internet. Another study found that the abilities of the citizens such as effective use of the application depend on the skills that make citizens confident in their ability to use the application. Without confidence, the citizens spend less effort in the use of the services (Basahel & Yamin, 2017).

The current study also focused on the strategies for e-services that should be implemented by the government to improve the use of the application by citizens. The results indicated a highly significant relationship among the ease of use, usefulness, satisfaction, and the crowds of the accidents. The results show that the ease of use has a positive effect on usefulness, which has also positive effect on the satisfaction. This means that along with the better delivery of e-government services such as the E-Vehicle Insurance Services mobile application, the citizens of the Saudi Arabia are demanding an easy way to use the E-Vehicle Insurance Services mobile application. Facilitating the learning process and ensuring that little effort is required to use the application can lead to greater usefulness of the application. When little effort is required, the citizens of Saudi Arabia can pay their bills and make use of other services with a short expenditure of time; thus, it indicated to success of these efforts.. The ease of use of the technology can lead to the satisfaction of the citizens. The study finds that satisfaction of the citizens is based on the ease in the use of public services through e-government (Alotaibi & Roussinov, 2016).

The results of the study also indicate that the citizens who have recently reached adulthood are more prone toward the use of the technology. The study found that respondents with 31-40 years of age were more likely to experience ease of use of the application in comparison with the other age groups. This stage is considered the exploration stage of adulthood in which individuals explore their surroundings in their own way and thus keep themselves updated about the current technologies that have been launched. This age is linked with greater capability to understand the procedures of using the application and experiencing benefits from the usefulness and the satisfaction from using the application (Chien et al., 2019). The current study found that the ability to use the application and the finding of no difficulty in usage have a positive impact on the perceived usefulness and on satisfaction. The opportunity to get to know the application at a younger age has positive effects later. For example, citizens can explore and identify the ease of use of the app and thus become satisfied with its usefulness in later life (Alotaibi & Roussinov, 2016). The study found no difference in the usage of the application related to demographic variables. According to the results of the contents analysis, the beneficiaries gave answers reflecting ratings between negative and average for all four factors, and qualitative analysis was used to confirm and collect more information because the questionnaire was distributed to a small portion of the Kingdom's population.

JOURNAL OF ALGEBRAIC STATISTICS
Volume 13, No. 3, 2022, p. 4888-4909
https://publishoa.com
ISSN: 1309-3452

Conclusion and Recommendations

The current study looked at an e-government application named the E-Vehicle Insurance Services mobile application and revealed the importance of using this application as well as the satisfaction level of customers after using it. For this purpose, an online survey composed of 15 questions was conducted; citizens were asked about the ease of use, the usefulness, and their satisfaction with the application. Analysis and results revealed respondents' dissatisfaction with level of ease of use, usefulness, satisfaction, and crowds of accidents; this suggests that the government should take measures to ensure better policies for implementation of the E-Vehicle Insurance Services mobile application among users. An important conclusion from the beneficiaries' responses to the questionnaire and their opinions expressed during the review of the electronic application is that the application needs further development in terms of user-friendliness and the services offered.

Future scholars should consider the following recommendations to obtain further insights:

- The study focused only on the citizens; it should also explore the opinions of other stakeholders.
- The study looked only at citizens that used the E-Vehicle Insurance Services mobile application in order to identify the impact of e-governance on their usage of the app.
- The study used an online survey; future work should use other media for data collection to improve the generalizability of the results.
- Other factors such as self-efficacy should also be studied so that scholars can better understand the role of public decision making in the adaptation of e-governance.

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