

## How customers select online transportation platforms: An ISM based model

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**Abstract** Identifying the factors affecting the selection of online transportation platforms and their ranking is a topic that has received much attention in the field of urban transportation and information technology, especially in the last decade. By identifying and ranking these factors, the quality and performance of online transportation platform services can be improved. The purpose of this research is to identify the factors affecting the selection of online transportation platforms and their ranking. In this study, a Interpretive - Structural approach has been used to classify factors. This research is applied in terms of purpose and descriptive-survey in terms of study and data collection. The study population is experts, managers, and specialists of online transportation platforms, with a sample size of 16 people. The sampling method is available sampling. First, by studying previous research, the indicators and criteria affecting the selection of online transportation platforms were identified, and then a questionnaire of factors affecting the selection of online transportation platforms was designed. This questionnaire was distributed among experts, managers and specialists active in the field of online transportation platforms. This questionnaire was distributed among experts, managers and specialists active in the field of online transportation platforms. They were then leveled using interpretive structural modeling. Based on the results, the factors of the level of security perception and commitment and responsibility of the company were placed at the first level. User satisfaction, time saving, innovation and up-to-dateness are the second level and accessibility is the third level. Also, based on the analysis of the influence-dependency of the variables of user-friendliness, time-saving as an independent variable; the variables of sense of security and commitment and responsibility of the company as dependent variables; also the variable of ease of access as an independent variable and also the variable of innovation and being up-to-date as a linked variable. The results showed that the factors of ease of access to the platform, control, innovation, and platform up-to-dateness are keys in the selection of online transportation platforms by customers in Iran and should be prioritized.

**Keyword:** Platform, Online transport, Influencing factors, Leveling, Customer.

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## 1 Introduction

One of the factors influencing the choice of an online transportation platform is the technical features of their applications. These features include speed, ease of use, user-friendly design, and navigation capabilities. Customers tend to use apps that are fast. Their user interface should also be simple and understandable and they can easily navigate and view their trip details. They can also easily navigate and view trip details. Economic factors also play a significant role in choosing an online taxi. Price, discounts, payment methods, and additional costs are factors that influence customer decision-making. Customers often seek a service with a reasonable price and acceptable added value. One of the reasons that has encouraged the emergence of this service has been the long waiting times for taxis in cities like San Francisco. Today, businesses are moving towards becoming electronic [1].

Online transportation platforms were one of the innovations that could influence the lives of today's societies. Lack of time and the distance from taxi stations were the main reasons for the emergence of such innovations. One of the most important issues being studied in cities around the world is how to use modern public transportation systems and their research and development. One of the important innovations in urban transportation systems is the use of online transportation platforms and the improvement of online ordering systems [2].

Online platforms with dynamism and change, which are the main components of productivity and taking advantage of the fleeting opportunities of the present era, have been able to improve the quantity and quality of urban transportation services, leading to an increase in the level of satisfaction of their customers and users [3].

Intelligent Transportation System is an integrated system that integrates extensive coordination in the field of communications, control of various types of vehicles, and electronic technologies to help reduce traffic congestion and provide an optimal network, reduce costs, and protect the lives of citizens [4].

Traveling with transportation applications has the advantage of informing passengers of the time the driver will arrive at the origin, the approximate time of arrival at the destination, the quietest route, and the amount of traffic through the map. In addition to the passenger being informed of the cost of the trip at the beginning, the announcement of the driver's name, car type and model, its license plate, and even the driver's mobile number to the passenger ensures a safe and worry-free trip for the passenger. Users of transportation applications are able to access the car of their choice conveniently and in the shortest possible time, pay their fares online. The ability to give drivers points from users allows these companies to deactivate drivers with low points or call them for explanation or training. One of the problems with online platforms is that the company is not responsible for the actions and behavior of the driver, and if something happens, you should complain to the person, not the company that sent the driver to you. There have been many reports of harassment of female passengers by online taxi drivers and similar problems. This is because these companies are not very strict in selecting their drivers and cannot guarantee the safety of passengers. Another problem with online taxis is that the fare is calculated based on supply and demand, the number of cars, and the number of passengers. This is a problem for some passengers. Because sometimes the fare can be double or triple due to increased demand during rainy and cold weather or during peak traffic. Another problem with online transportation platforms is driver cancellations, which makes it difficult for passengers to plan their trips. Another problem with online transportation platforms is trip cancellation by the driver which makes it difficult for passengers to plan their trips. This poses a problem for passenger planning. Misrepresenting the location of a passenger or destination is another problem that drivers and

passengers face. Failure to complete the journey to destinations within the traffic plan has increased tension between passengers and drivers of online transportation. There is a dispute between drivers and passengers over the fare at the end of the route in Iran. There have also been cases that have led to disputes. According to some managers of traditional transportation in Tehran, the number of drivers abandoning them and joining online transportation is increasing. Perhaps one of the most important reasons why drivers are eager to join online transportation, despite the lower fares, is the possibility of self-employment and relieving others of work. Drivers are informed about the areas with the highest demand for passengers. Of course, the low prices of online taxis in Iran have not led to a significant reduction in the prices of taxis and agencies [5].

In Iran in general and in Tehran in particular, considering the inadequacy of mass public transportation (metro and bus) and the lack of sufficient parking, online transportation is of particular importance. With the growth of communication technology, we are witnessing a significant increase in demand for online transportation compared to traditional transportation. With the growth of communication technology, we are witnessing a significant increase in demand for online transportation compared to traditional transportation. They are in fierce competition with each other to gain more profit. One of the most important aspects of this competition is attracting customer satisfaction. Considering the above, the question arises: what factors can influence the selection of online transportation platforms? How are these factors Leveled? Therefore, considering the existing problem in this field, in this research, these factors were first identified and then Leveling. The organization of this article to answer the research questions is as follows: First, the factors affecting customer satisfaction in choosing transportation platforms were identified based on previous studies. The validity of these identified factors was confirmed by designing a questionnaire based on content validity and distributing it among experts, as well as determining the initial screening factors and appropriate factors. In the final stage, the factors were ranked using interpretive structural modeling.

## 2 Literature and research background

In the online transportation industry, as in many other industries, understanding demand patterns can lead to identifying general factors affecting demand. Online transportation services are expanding day by day due to their flexibility in travel schedules and providing access to transportation without the cost of owning a vehicle. In the past few years, the popularity of online transportation services has increased significantly in the United States [6].

Gender effects have different effects on the use of online transportation services in developing and developed countries. Unlike developed countries, in developing countries, women are more likely to use online transportation services. While technology-based taxi services in developed and European countries comprise a small part of the transportation system, the situation in developing countries such as Iran is different, as many people choose these services every day.

Pereira and Samarasingh (2021) conducted a study to investigate "Factors Affecting Customer Satisfaction in Mobile Application-Based Taxi Services". The results showed that price, trust, and coupon redemption had a significant impact on customer satisfaction in mobile app-based taxi services [7].

Haider (2021) in a study investigated "Factors Affecting Customer Satisfaction with Online Taxi Services in Dhaka City. The results showed that the taxi service company should develop or expand its facilities to attract customer satisfaction [8].

Tamizi and Nahavandi (2023) in a study titled "Factors Affecting Customer Satisfaction with Snap Online Taxi Services (Case Study: Tabriz Metropolitan City)" showed that the security variable with a coefficient of 0.13, quality 0.14, driver behavior 0.29, application user preference 0.14, price 0.16, and availability with a coefficient of 0.31, affect customer satisfaction with these services [9].

Khoshhal et al (2022) in a study titled "Investigating Factors Affecting Intention to Use Online Taxi Service Platforms" showed that the effect of the tendency to use Snap on behavioral intention towards Snap has been confirmed. Also, trust indirectly affects behavioral intention towards Snap through the mediation of the tendency to use Snap, attitude and value of price directly [10].

Taqipour et al (2022) in a study titled "Identifying Factors Affecting Citizens' Satisfaction with Internet Taxis, Study of Damghan City" showed that four factors are effective in citizens' satisfaction with online public transportation. These four factors are: access and economic well-being, welfare opportunities, legality, and the possibility of moving goods. Measuring these factors in Damghan city shows that citizens' satisfaction with the factor of access and economic well-being and legality in the level is medium. Also, the lack of sufficient supervision of drivers and the presence of a wide range of cars in the fleets have caused citizens' satisfaction with the factor of amenities to be assessed at a medium level [11].

Kaymanesh et al (2024) in a study titled "Investigating Factors Affecting Customer Satisfaction with Snap Internet Taxi Services (Case Study: Tabriz Metropolis)", they concluded that seven mental images were presented by passengers regarding factors affecting road transportation in the country. Based on the most important mental image, factors such as multiple increase in fare rates during peak travel hours, long distance between the driver and the origin after accepting the passenger, sudden increase in prices, and large difference in night and day prices had the greatest impact on online transportation, and factors such as lack of supervision over drivers' receipts for stopping time, lack of use of disinfectant solutions, and lack of easy application of discount codes had the least impact on online transportation in the country. In general, from the passengers' perspective, factors such as drivers driving in nervous and difficult conditions have the greatest impact on service delivery, and in the following stages, the location for the driver and passenger is not the same, drivers misuse the number of passengers, smoking in the presence of passengers, multiple increase in fare rates during peak travel hours, inability to find a car on short routes or at low prices, long distance between the driver and the origin after accepting the passenger, sudden increase in Prices and the large difference in day and night prices were recognized as important in the country's online transportation [12].

Khairy et al (2023) in a study titled "Modeling the factors affecting the change in the tendency to use online taxis under the conditions of Covid-19" They concluded that the spread of the coronavirus had a negative impact on the use of online taxis. The increase in gasoline prices and the lack of parking at the destination had a positive impact on the use of online taxis. Also, people with private cars used online taxis less than people without private cars, and after the coronavirus, they reduced their use even more [13].

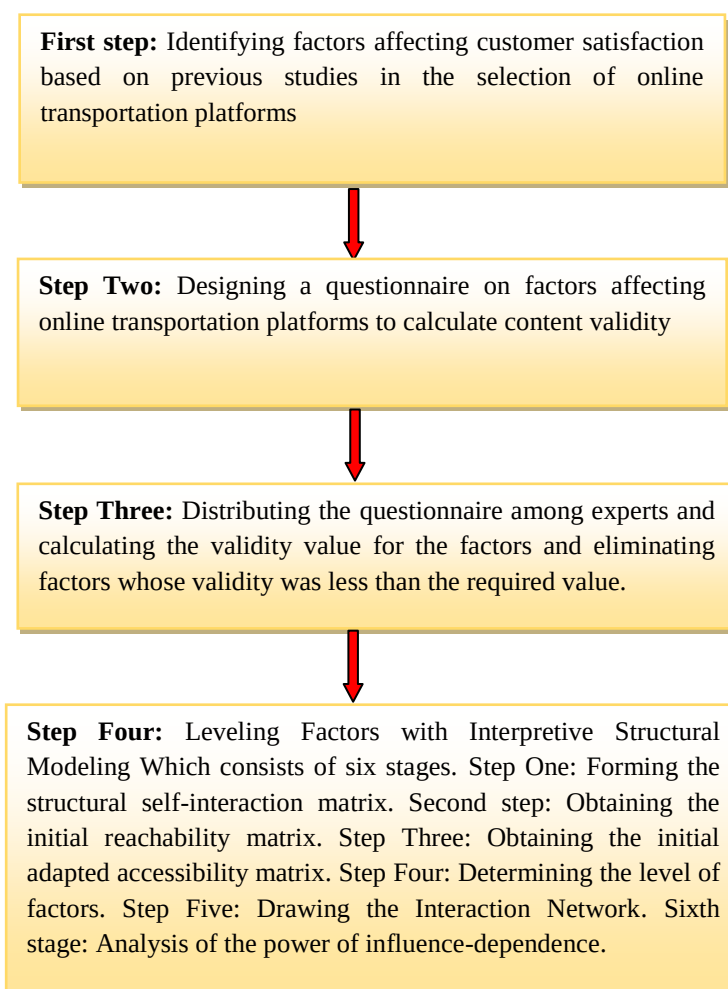
In previous research, only the factors affecting customer satisfaction of an online taxi were specifically identified. While in this research, the factors affecting the choice of online transportation platforms were examined in general and for this reason, the results of this research have greater generalizability. Also, unlike previous research, in this research, the identified factors were leveled and ranked in the next stage using the interpretive structural modeling method. The above points are from the gap between the present research and previous research and are also innovations of the present research.

### 3 Research method

This research is applied in terms of purpose and descriptive-analytical in terms of study and data collection. In this study, the target population is experts, managers and specialists of online transportation platforms. The sample size is 16 people. Sampling Method In this study, the sampling method is available. This research was conducted in two parts: library and field. Part of the research was conducted in a library setting using sources, books, theses, articles, research, and databases. The other part of this research was conducted in the field using researcher-designed questionnaires. By studying previous research, the indicators and criteria that affect the choice of an online taxi were identified. After that, considering the obtained Indicators, a questionnaire on the factors that affect the choice of an online taxi was designed. This questionnaire was distributed among experts, managers, and specialists active in the field of online taxis, and the results obtained were collected, analyzed, and analyzed. By studying previous research, the Indicators and criteria that affect the choice of an online taxi were identified. After that, considering the obtained Indicators, a questionnaire on the factors that affect the choice of online transportation platforms was designed. This questionnaire was distributed among experts, managers, and specialists active in the field of online transportation platforms, and the results obtained were collected and analyzed.

### 4. Discussion of research findings

To answer the research questions, data collection and analysis were carried out in four steps. The fourth step was carried out in six stages. The steps of conducting this research (four steps and the fourth step in six steps) are shown in the algorithm below.



**Fig. 1** Research steps algorithm

First step: The types of indicators affecting customer satisfaction were identified and categorized based on previous studies on the factors affecting the selection of Online transportation platforms, which include:

- Cost-effective: Affordable and competitive compared to other shipping options. Users are looking for lower costs and special discounts that will save them money.
- Reliability: The assurance of receiving quality and predictable service. Users want to be sure that the online taxi service will arrive on time and provide reliable service.
- Ease of Access: Providing quick and easy access to online taxi services. Users should be able to access the service conveniently and in the shortest possible time.
- Appropriate behavior: Respectful and friendly behavior of drivers towards passengers. Good driver behavior increases passenger satisfaction and a positive travel experience.
- Support and responsiveness: Access to support services to resolve issues and answer questions. Having a strong support team gives travelers the confidence that their problems will be resolved quickly.
- Security: Maintaining the safety of passengers during their journey. Users are looking for services that guarantee their physical and financial security.
- Respect for privacy: Safeguarding passengers' personal information and preventing its misuse. Users should be assured that their information is safe.

- Sales incentives (reuse): Offering discounts and rewards for reusing the service. Incentives encourage users to use the service repeatedly.
- Commitment: Keeping promises and providing quality services. The company's commitment to providing quality services creates trust among users.
- Variety of services: Providing a variety of services such as taxis, motorbikes, vans, etc. Users are looking for different options for their different needs.
- Time savings: Reducing waiting time and travel time. Users are looking for services that can provide service in the fastest possible time.
- User-friendliness and ease of use of the platform: Simple design and usability of the Internet transportation platform. The platform should be easy and uncomplicated so that all users can use it comfortably.
- Habit: The repeated and consistent use of a service. Users are more loyal to services they are accustomed to.
- Driving and Safety: Safe driving and compliance with traffic and driving laws. Passengers are looking for safe and secure journeys.
- Organizational reputation: The reputation and brand name of the internet platform. Users trust services that have a good reputation more and feel more comfortable when using them.
- Driver Rating System: Allows passengers to evaluate and rate drivers. This system helps improve service quality and motivate drivers.
- Driver information: Providing complete and accurate information from the driver to the passenger. Driver information increases passenger confidence.
- Service Coverage: Broad geographic coverage and provision of services in different regions. Users are looking for services that are conveniently available in different regions and at any time.
- Innovation and staying up to date: Using new technologies and constantly updating services. Innovation attracts more users and improves the user experience.
- Accurate fare calculation by the driver: Accurate and fair determination of the fare for the trip. Users should be assured that the costs are calculated correctly and that no additional charges are taken from them.
- Cleanliness and hygiene: Vehicle cleanliness and hygiene and compliance with health standards. Passengers are looking for clean and hygienic vehicles for their trips.
- Punctuality: Providing service at the scheduled time and respecting the passenger's time. Users expect services to be provided on time and without delay.

Step Two: Questionnaire Design Based on the Obtained and Approved Components. In this section, all the proposed components were designed in the form of a questionnaire of factors affecting the selection of online platforms. The main question is, to what extent does each of the factors (obtained components) affect your choice when choosing an online transportation platform? The scoring of this questionnaire was also in the form of a Likert scale, from one to five. Given that we used an expert-based sampling method in this study, there is no need to examine the reliability of the questionnaire.

Step Three: The questionnaire designed in the second Step was distributed and the information obtained was ordered and analyzed. Next, based on the content validity of the questionnaire questions, appropriate indicators were determined and these indicators were used in the fourth step analysis. Content validity ratio is a method of measuring the validity of a questionnaire. This ratio was designed by Lawshe. To calculate this ratio, the opinions of experts specialized in the content of the test in question were used. First, the objectives of the

test were explained to the experts and operational definitions related to the content of the questions were provided. Then they were asked to classify each question based on a three-point Likert scale (Habibi, 2018).

- It is necessary
- Important but not necessary
- Not necessary

After collecting expert opinions, CVR was calculated using the following relationship:

$$CVR = \frac{n_E - \frac{N}{2}}{\frac{N}{2}}$$

In the above relationship,  $n_E$  is the number of experts who answered the option "necessary" and  $N$  is the total number of experts. The results of the content validity analysis are given in the table below.

Step Four: Leveling Factors with Interpretive Structural Modeling: To level factors with the interpretive structural method, the following steps must be completed; Step One: Forming the structural self-interaction matrix; The first step in structural-interpretive modeling is to calculate the internal relationships of the indicators. The resulting matrix is obtained by transforming the structural self-interaction matrix into a two-valued matrix of zero and one. In the resulting matrix, the original diagonal lines are equal to one.

Second step: Obtaining the initial reachability matrix; In the second step, the initial reachability matrix must be formed by converting the structural self-interaction matrix into the numbers zero and one, so that, considering the previous table, we give the numbers 1 and 2 the value 1 and we give the values 0 and -1 the value 0. So, considering the previous table, we give the numbers 1 and 2 the value 1, and we give the values 0 and -1 the value 0.

Step Three: Obtaining the initial adapted accessibility matrix; That is, if index A is related to index B and index B is also related to index C, then index A must also be related to C. After the initial accessibility matrix is obtained, the final accessibility matrix is obtained by introducing commutativity in the variable relations. This is a square matrix whose entries are one if the element has access to the element of any length and zero otherwise. The method of obtaining the access matrix is by using Euler's theorem, in which we add the adjacency matrix to the identity matrix. Then we raise this matrix to the  $n$ th power without changing the matrix entries.

Step Four: Determining the level of factors; To determine the relationships and leveling of the index, the set of outputs and the set of inputs for each index must be extracted from the received matrix.

Access set (row elements, outputs, or effects): The variables that can be accessed through this variable.

Prerequisite set (column elements, inputs, or effects): The variables through which this variable can be reached.

The set of outputs includes the index itself and the indicators that are affected by it. The set of inputs includes the index itself and the indicators that affect it. Then the set of two-way relations of the index is specified.

Step Five: Drawing the Interaction Network; in this step, an interaction network is drawn considering the levels of Indicators in ISM and the relationships between them. Level one is selected as the most influential level and level three is also selected as the most influential level.



Step Six: Analysis of the power of influence-dependence; Based on the power of dependence and the influence of variables, a coordinate system can be defined and divided into four equal parts. In this study, a group of variables were placed in the driving subgroup; these variables have high influence and low dependence. The next groups are dependent variables, which are the results of the product development process and are less likely to be the basis for other variables. In this analysis, variables are divided into four groups: autonomous, dependent, linkage (related), and independent. Autonomous: Autonomous variables have low levels of dependency and guiding power. These criteria are generally separated from the system because they have weak connections with the system. A change in these variables does not cause any significant change in the system. Dependent: Dependent variables have strong dependence and weak direction. These variables generally have high influence and low influence on the system. Independent: Independent variables have low dependence and high directionality, in other words, high impact and low susceptibility are the characteristics of these variables. The accessibility variable has the highest level of impact. Linkage: Linkage variables have high dependency and high guiding power, in other words, the impact and influence of these criteria is very high and any small change in these variables causes fundamental changes in the system.

Table 1 shows the results of the content validity analysis.

**Table 1** Results of content validity analysis (source: research findings)

| Question | Index                                                       | Validity value | Result       |
|----------|-------------------------------------------------------------|----------------|--------------|
| 1        | To be frugal                                                | 0.375          | Reject       |
| 2        | Accessibility                                               | 1              | Confirmation |
| 3        | Time saving                                                 | 0.875          | Confirmation |
| 4        | Knowledge of driver specifications                          | 0.25           | Reject       |
| 5        | Appropriate driver behavior                                 | 0.375          | Reject       |
| 6        | Trustworthiness and peace of mind                           | 0.375          | Reject       |
| 7        | Driving and safety                                          | 0.375          | Reject       |
| 8        | Cleanliness and hygiene                                     | 0.25           | Reject       |
| 9        | To be on time                                               | 0.375          | Reject       |
| 10       | Feeling safe (during and after travel)                      | 0.75           | Confirmation |
| 11       | Correct fare calculation by the driver                      | 0.25           | Reject       |
| 12       | Respect for privacy by the driver and the company           | 0.375          | Reject       |
| 13       | Commitment and responsibility of the driver and the company | 0.625          | Confirmation |
| 14       | Driver rating system                                        | 0              | Reject       |
| 15       | Support and Responsiveness                                  | 0.375          | Reject       |
| 16       | Organizational reputation of the Online platform            | 0.125          | Reject       |
| 17       | Sales incentives and discount codes                         | 0.25           | Reject       |
| 18       | Using zinc habitually                                       | 0.25           | Reject       |
| 19       | Variety of services required in its application             | 0.125          | Reject       |
| 20       | User-friendliness and ease of use of the application        | 0.875          | Confirmation |
| 21       | Innovation and up-to- dateness                              | 0.5            | Confirmation |
| 22       | Extensive service delivery                                  | 0.25           | Reject       |

Based on Table 1, the following indicators were confirmed: accessibility, time savings, sense of security (during and after the travel), commitment and responsibility of the driver and the company, user-friendliness and ease of use of the application, and innovation and up-to-dateness because they had the necessary validity.

After consulting with experts, the final structural self-interaction matrix was obtained. In Table 2, the structural self-interaction matrix is shown.

**Table 2** Structural self-interaction matrix (source: research findings)

| Self-interaction matrix               | Accessibility | User-friendly | Time saving | Feeling of security | Innovation and up-to-dateness | Company commitment and responsibility |
|---------------------------------------|---------------|---------------|-------------|---------------------|-------------------------------|---------------------------------------|
| Accessibility                         |               | 2             | 2           | 0                   | 2                             | 0                                     |
| User-friendly                         | 2             |               | 0           | 0                   | 2                             | 0                                     |
| Time saving                           | 2             | 0             |             | 0                   | -1                            | 1                                     |
| Feeling of security                   | 0             | 0             | 0           |                     | 2                             | 2                                     |
| Innovation and up-to-dateness         | 2             | 2             | 1           | 2                   |                               | 0                                     |
| Company commitment and responsibility | 0             | 0             | -1          | 2                   | 0                             |                                       |

In the first step, we formed the Self-interaction matrix of the study using the respondents' opinions (the above matrix). In this table, if variable A affects B, it gets the value 1, and if variable B affects variable A, it gets the value -1, if both affect each other, it gets the number 2, and if neither affects each other, it gets the number zero. The initial access matrix was obtained as described above for the structural self-interaction matrix of the previous stage. In Table 3, the initial reachability matrix is shown.

**Table 3** initial reachability matrix (source: research findings)

| initial reachability matrix           | Accessibility | User-friendly | Time saving | Feeling of security | Innovation and up-to-dateness | Company commitment and responsibility |
|---------------------------------------|---------------|---------------|-------------|---------------------|-------------------------------|---------------------------------------|
| Accessibility                         |               | 1             | 1           | 0                   | 1                             | 0                                     |
| User-friendly                         | 1             |               | 0           | 0                   | 1                             | 0                                     |
| Time saving                           | 1             | 0             |             | 0                   | 0                             | 1                                     |
| Feeling of security                   | 0             | 0             | 0           |                     | 1                             | 1                                     |
| Innovation and up-to-dateness         | 1             | 1             | 1           | 1                   |                               | 0                                     |
| Company commitment and responsibility | 0             | 0             | 0           | 1                   | 0                             |                                       |

After the initial access matrix is formed by including the transferability in the relationships of the variables, the final access matrix is formed. To be sure, the secondary relationships must be controlled. Transferability means that if variable A leads to B (affects B) and B leads to C (affects C), then A must lead to C (A also affects C). That is, if direct

effects should have been included based on the secondary relationships, but in practice this has not happened, the table must be corrected and the secondary relationship must also be shown. In Table, the adjusted initial availability matrix is shown.

**Table 4** Adjusted initial availability matrix (source: research findings)

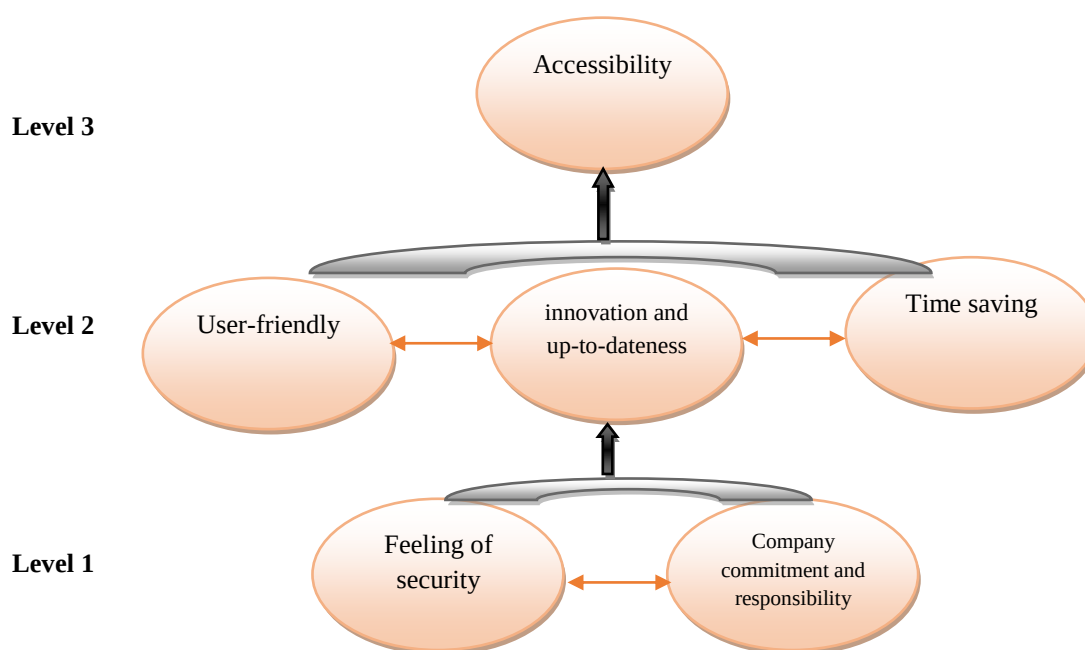
| Adjusted initial availability matrix  | Accessibility | User-friendly | Time saving | Feeling of security | Innovation and up-to-dateness | Company commitment and responsibility |
|---------------------------------------|---------------|---------------|-------------|---------------------|-------------------------------|---------------------------------------|
| Accessibility                         |               | 1             | 1           | 0                   | 1                             | 0                                     |
| User-friendly                         | 1             |               | 0           | 0                   | 1                             | 0                                     |
| Time saving                           | 1             | 0             |             | 0                   | 0                             | 1                                     |
| Feeling of security                   | 0             | 0             | 0           |                     | 0                             | 1                                     |
| Innovation and up-to-dateness         | 1             | 1             | 1           | 1                   |                               | 0                                     |
| Company commitment and responsibility | 0             | 1             | 0           | 1                   | 0                             |                                       |

To determine the relationships and ranking of criteria, the set of outputs and the set of inputs for each criterion must be extracted from the received matrix. in Table 5, the levels of factors are determined and shown.

**Table 5** Determining the level of factors (source: research findings)

| factor                                | Level |
|---------------------------------------|-------|
| Accessibility                         | 3     |
| User-friendly                         | 2     |
| Time saving                           | 2     |
| Feeling of security                   | 1     |
| innovation and up-to-dateness         | 2     |
| Company commitment and responsibility | 1     |

According to the table above, the company's sense of security, commitment, and responsibility are at level one, user-friendliness, time-saving, innovation, and up-to-dateness are at level two, and ease of access is at level three. Drawing the Interaction Network is shown in the following diagram:



**Fig. 2** interaction network (source: research findings)

The model obtained in this study consists of three levels. Factors at higher levels have less influence and are more influenced by other factors. Factors at lower levels have more influence.

Based on the Meek Mack model, the independent variable in this model is user satisfaction, which is saving time. In this study, the variables of sense of security and commitment and responsibility of the company are the dependent variables. In this analysis based on the Meek Mack model, the innovation and up-to-dateness variable is the linkage variable. Variables that have high influence are called key variables. Therefore, the factors of accessibility, innovation, and up-to-dateness should be key in the selection of online transportation platforms and should be prioritized by companies active in the online transportation sector.

## 5 Management insights

Managers of companies active in the field of online transportation should realize that in order to succeed in today's competitive world, they must understand the factors that influence customers' choice of online platforms. In other words, they should use the results of this study to ensure the profitability and survival of their business in today's competitive environment. According to the results of the study, in addition to paying attention to all six factors obtained according to the results of this study, they should pay special attention to and prioritize the factors of accessibility, innovation, and up-to-dateness, which are keys in the selection of online transportation platforms. Attention to innovation and being up-to-date is very vital because of its key role in this field. Company managers should constantly seek to upgrade and improve their technologies and services. Emphasis on security factors and corporate responsibility can lead to increased customer trust and satisfaction. Improving accessibility

and continuous innovations can improve customer user experience and encourage them to use services repeatedly.

## 6 Results

### 6.1 Conclusions and suggestions

Feeling of security and commitment and responsibility of the company are known as first-level variables. This means that these two factors are most influenced by other factors and are less influential themselves. These factors indicate the importance of trust and safety for customers when choosing an online transportation platform. These factors indicate the importance of trust and safety for customers when choosing an online transportation platform. User-friendliness, time-saving, innovation, and up-to-dateness are at the second level. These variables are influenced by other factors on the one hand. These variables are influenced by other factors on the one hand. This shows that technological factors and the Usability of Online transportation services play a key role in attracting and retaining customers. Ease of access is known as the most influential factor. This factor has a great influence on other factors but is less affected by other factors. This factor has a great influence on other factors but is less affected by other factors. Also, based on the analysis of influence-dependence, the variables of user-friendliness and time saving are autonomous variables; while the variables of feeling of security and commitment and responsibility of the company are dependent variables; also the variable of ease of access is an independent variable, and the variable of innovation and up-to-dateness is a Linkage variable.

As a result, online transportation platforms should pay special attention to creating and strengthening a sense of security and responsibility in customers, because these factors are the most influential variables and can easily attract customer trust. Also, increasing easy access to Online platform services can be used as a pivotal strategy in attracting and retaining customers. On the other hand, attention to innovation and being up-to-date is very vital due to its key role in the system. Companies should constantly seek to upgrade and improve their technologies and services. Emphasis on security and corporate responsibility can lead to increased customer trust and satisfaction. Improving accessibility and continuous innovation can improve the customer experience and encourage them to use the service repeatedly. The results show that online transportation platforms that can perform better in terms of security, innovation, and ease of access will gain a significant competitive advantage. Attention to innovation and staying up-to-date can cause fundamental changes in the market and lead to a transformation in service delivery methods and business models in the online transportation industry. It is recommended that companies active in the online transportation industry conduct regular training courses for drivers to increase commitment and responsibility, especially in the field of professional behavior and respect for customer rights. Also, provide an in-app feedback system that allows customers to quickly register their comments and complaints and have them immediately reviewed by the support team. They should also work on launching new and innovative services, such as special services for specific groups (e.g., students, seniors) or introducing ride-sharing services to reduce costs. These companies should take steps to improve the user interface design of their applications so that users can register their transportation request with minimal effort and time.

## 6.2 Suggestions for future researchers

It is suggested that future research should compare the factors affecting the choice of an online transportation platform in small, medium, large and metropolitan cities. Also, research should be conducted on designing a model of factors affecting the choice of an online transportation platform using a structural equation model in different cities from different provinces. In addition, research should be conducted to compare the factors affecting the choice of online transportation platforms from the perspectives of customers and managers of these platforms. It is also suggested for future research to prioritize the factors affecting the selection of internet transportation platforms with other techniques such as TOPSIS, Dimetal, Importance-Performance analysis, Prometheus, best-worst, etc. Also, research should be conducted to compare the factors affecting the selection of internet taxis from the perspective of customers and internet taxi managers. Also, research should be conducted to rank the factors affecting the satisfaction of internet taxi customers. It is also suggested that future research should use qualitative methods such as content analysis and meta-synthesis to identify factors affecting the choice of online transportation platforms. Also, separate research should be conducted to identify and rank the factors affecting the selection of online transportation platforms active in the field of passenger and freight transportation, and their results should be compared.

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