JURNAL CITA HUKUM (Indonesian Law Journal)
FSH UIN Syarif Hidayatullah Jakarta
Vol. 10 No. 1 (2022), pp. 91-116 DOI: 10.15408/jch.v10i1.25810

Factors Encouraging Passengers to Prefer Rail Transportation in Iran Based on Law and Rights of Passengers*

Ashkan Razmfarsa*,[1] Arian Amidi,[2] Ehsan Darvishmoghaddam,[3] Tayebeh Khademi[4]

[1]Azman Hashim International Business School (AHIBS), Universiti Teknologi Malaysia, Johor, Malaysia

10.15408/jch.v10i1.25810

Abstract

Platforms are critical components of every rail travel. At the train station, passengers can take benefit of a variety of platform-based amenities whose satisfaction is prioritized. Rail services play a critical role in carrying people and products from point of origin to point of destination. People's mobility has accelerated in recent years, with the ultimate goal of earning a living. Numerous forms of transportation are available to promote accessible modes of transportation to people in diverse parts of the world, including road, rail, air, and sea. Rail transport has developed into one of the most important modes of transport in recent decades in Iran, which is experiencing an increase in demand for rail services. The objective of this research is to identify and rank the elements that influence people's willingness to travel by train. The statistical population is comprised of all passengers who travel by rail on a daily basis, which amounts to approximately 75,000 persons. The statistical sample size was determined using the Morgan table, which yielded 382 passengers. Four factors can be examined when determining whether to increase people's desires: economy, station conditions, journey time, and train conditions, with economy and train conditions being the most essential. The study's conclusions can assist commercial and public railway businesses in providing the required infrastructure and circumstances to boost passenger appeal.

Keywords: Economics; Passenger's Law; Rail Transportation; Station circumstances.

---

* Received: February 21, 2022, revised: March 21, 2022, accepted: April 10, 2022, Published: April 30, 2022.

[1] **Ashkan Razmfarsa** is researcher at Azman Hashim International Business School (AHIBS), Universiti Teknologi Malaysia, 81310, Skudai, Johor, Malaysia. Email: ashkan.razmfarsa@gmail.com

[2] **Arian Amidi** is researcher at Azman Hashim International Business School (AHIBS), Universiti Teknologi Malaysia, 81310, Skudai, Johor, Malaysia.

[3] **Ehsan Darvishmoghaddam** is researcher at Azman Hashim International Business School (AHIBS), Universiti Teknologi Malaysia, 81310, Skudai, Johor, Malaysia.

[4] **Tayebeh Khademi** is researcher at Azman Hashim International Business School (AHIBS), Universiti Teknologi Malaysia, 81310, Skudai, Johor, Malaysia. Email: tayyebeh_khademi@yahoo.com

***Corresponding authors:** ashkan.razmfarsa@gmail.com

Faktor Pendorong Penumpang Untuk Memilih Transportasi Kereta Api di Iran Berdasarkan Hukum dan Hak Penumpang

Abstrak

Platform adalah komponen penting dari setiap perjalanan kereta api. Di stasiun kereta, penumpang dapat memanfaatkan berbagai fasilitas berbasis peron yang mengutamakan kepuasan. Layanan kereta api memainkan peran penting dalam membawa orang dan produk dari titik asal ke titik tujuan. Mobilitas orang telah meningkat dalam beberapa tahun terakhir, dengan tujuan akhir mencari nafkah. Berbagai bentuk transportasi tersedia untuk mempromosikan moda transportasi yang dapat diakses oleh orang-orang di berbagai belahan dunia, termasuk jalan raya, kereta api, udara, dan laut. Transportasi kereta api telah berkembang menjadi salah satu moda transportasi terpenting dalam beberapa dekade terakhir di Iran, yang mengalami peningkatan permintaan akan layanan kereta api. Tujuan dari penelitian ini adalah untuk mengidentifikasi dan mengurutkan elemen-elemen yang mempengaruhi keinginan masyarakat untuk bepergian dengan kereta api. Populasi statistik terdiri dari semua penumpang yang melakukan perjalanan dengan kereta api setiap hari, yang berjumlah sekitar 75.000 orang. Ukuran sampel statistik ditentukan dengan menggunakan tabel Morgan, yang menghasilkan 382 penumpang. Empat faktor dapat diperiksa ketika menentukan apakah akan meningkatkan keinginan masyarakat: ekonomi, kondisi stasiun, waktu perjalanan, dan kondisi kereta api, dengan ekonomi dan kondisi kereta menjadi yang paling penting. Kesimpulan studi dapat membantu bisnis perkeretaapian komersial dan umum dalam menyediakan infrastruktur dan keadaan yang diperlukan guna meningkatkan daya tarik penumpang.

Kata Kunci: Ekonomi; Hukum Penumpang; Transportasi Kereta Api; Keadaan stasiun

Факторы, побуждающие пассажиров предпочитать железнодорожные перевозки в Иране на основании закона и прав пассажиров

Аннотация

Платформы являются важными компонентами любого железнодорожного путешествия. На вокзале пассажиры могут воспользоваться различными удобствами на платформе, удовлетворение которых является приоритетом. Железнодорожные услуги играют решающую роль в перевозке людей и товаров из пункта отправления в пункт назначения. Мобильность людей ускорилась в последние годы с конечной целью зарабатывать на жизнь. Существуют различные виды транспорта для продвижения доступных видов перевозок для людей в разных частях мира, включая автомобильный, железнодорожный, воздушный и морской транспорт. За последние десятилетия железнодорожный транспорт превратился в один из важнейших видов транспорта в Иране, где наблюдается рост спроса на железнодорожные услуги. Целью данного исследования является выявление и ранжирование элементов, влияющих на готовность людей путешествовать на поезде. Статистическая совокупность состоит из всех пассажиров, которые ежедневно путешествуют по железной дороге, что составляет примерно 75.000 человек. Размер статистической выборки определялся с помощью таблицы Моргана, которая составила 382 пассажира. При определении того, следует ли увеличивать желания людей, можно изучить четыре фактора: экономика, условия станции, время в пути и условия проезда в поездах, причем экономика и условия проезда в поездах являются наиболее важными. Выводы исследования могут помочь коммерческим и общественным железнодорожным предприятиям в обеспечении необходимой инфраструктуры и условий для увеличения числа пассажиров.

Ключевые слова: Экономика; Закон о пассажирах; Железнодорожные перевозки; Инфраструктура станции

A. INTRODUCTION

Transportation has become more mobile in recent years, with significant increases all over the world. As cars have become a more popular method of transportation, concerns about an ever-increasing number of cars being utilized on a daily basis, resulting in considerable increases in pollution and overcrowding, have grown. The existing and, most likely, future character of civilization, as well as human routine patterns, which generate a range of transportation needs, are among the other key elements to consider when making transportation selections (Beirão and Cabral, 2007). In the current society, public transportation plays an important role. Its impact can be seen in both urban and rural locations, directly or indirectly affecting the majority of people's lives; railway service availability and public access can influence how much one can gain from people life. As previously stated, the increasing influx of cars into daily traffic has raised many concerns, so most countries have prioritized railway services as a means of reducing reliance on automobiles. Cars are now a major source of concern around the world, with their negative effects such as traffic congestion, emissions, fuel consumption, noise, accidents, and air pollution seeming to outweigh their benefits in the long run (Masoumi et al., 2019).

As it has been, the railway system is an essential component of the economies of most countries. The ability to transport millions of passengers per day, as well as million-dollar cargo, from point A to point B. According to many experimental works and articles, the pass it produces has very low carbon dioxide emissions, is one of the safest, and one of the most environmentally friendly modes of transportation. Furthermore, it is praised for its high energy efficiency. In a comparison of larger city railway systems around the world, Tehran's railway system is the cheapest, despite its pricing policy being based on distance travelled (Azhdar and Nazemi, 2020).

Rail transport is a type of land transport industry that transports both passengers and goods. There are numerous advantages to using a rail transportation system, the most important of which is increased security. The number of accidents in the rail transport industry is much lower than in the road transport industry (Forkenbrock, 2001). Many people have prioritized the use of trains for travel and cargo transportation as a result of this, as well as its in agreement with passengers law (Karsten, 2016). Since 2015, the global rail transportation market has grown at a compound annual growth rate (CAGR) of 1.5 %, reaching nearly $ 468.6 billion in 2020. This market is expected to grow from $468.6 billion in 2020 to $658.4 billion by 2025. In 2025, this equates to 7.0%

of the growth rate. Furthermore, starting in 2025, the market is expected to grow at a CAGR of 5.1 %, reaching $ 845.7 billion by 2030 (Wei, S. 2020).

The first major railway lines in Iran were established in 1916, during the reign of Reza Shah. Following the revolution, the construction and development of railway lines in Iran continued under the name of the Railway of the Islamic Republic of Iran. Iran currently has more than 13,000 kilometers of rail lines running throughout the country. The Islamic Republic Railway has added a large number of stations and railways to their internal and external lines in recent years (Lemańczyk, S. 2013).

Fortunately, passenger numbers in this zone have climbed considerably in recent years as the country's rail system has enhanced its facilities and services. It should be noted that more than 24 million people used the Islamic Republic of Iran's rail services in 2018. This rate of passenger traffic growth has been unprecedented in recent years, and with a 6.5 % increase, it indicates a greater proclivity for people to use railways. According to previous research, a variety of factors can increase people's desire to use the rail system for travel (Azhdar and Nazemi, 2020). As a result, this article recognizes the significance of the railway and how beneficial it can be economically and environmentally, as well as how capable it is of providing safety to its passengers when compared to travelling by personal vehicle. It is necessary to pay more attention to this industry, which has unfortunately declined in Iran. In this study, an attempt was made to thoroughly investigate the influential factors in this industry in order to provide a useful solution. However, there have been studies that focus on time-related factors of encouragement. Thorhauge et al. (2016), investigated how three behavioral intentions play a role in further motivating passengers to tailor their departure time, which included arriving on time, spending the least amount of time travelling, and paying the least amount of money. Unsurprisingly, for passengers with fixed work hours, arriving on time was more desirable, so arriving on time had the greatest impact on them. Similarly, for passengers with flexible working hours, options that required less time to travel were much more appealing. Yushimito et al. (2018) attempted to determine the effectiveness of monetary and non-monetary inducements in encouraging businesses to implement flexible time policies. "Monetary enticements" and "other firms' flexibility" were discovered to be effective (Azhdar and Nazemi. 2020).

Bhat and Sardesai (2006) discovered that improving train station facilities, combined with higher travel time trustworthiness, can be relatively effective in how much commuters are motivated to tailor and modify their

travel times through an examination of service incentives. Furthermore, users have reported waiting to be longer than usual during rush hours, in bad weather, and at night. As a result, high-quality facilities and appropriate settings in public transportation stations have significant positive and encouraging effects on both improving the waiting experience and attracting more passengers. Similarly, some studies in this field have shown that the levels of improvement made to public transportation have the greatest influence on passengers' behaviour and choices. Longer waiting times at stations and in vehicles, as a result of increased demand for public transportation, have harmed passengers' level of comfortability, leading to passenger dissatisfaction with railway services (Azhdar and Nazemi, 2020).

The subject of passenger behaviour and sustainability has attracted the attention of researchers in Western countries, but there appear to be few studies on the subject in the Middle East (Al-Atawi and Saleh, 2014). It is serious to comprehend passenger behaviour and the reasons why they prefer one mode of transportation over another. However, passengers' behaviour can be complicated because, during each journey, people have different choices between various modes of transportation, each with unique characteristics that distinguish them in terms of advantages and disadvantages. Furthermore, the mode of transportation chosen may change over time and depend on the type of travel. As a result, many people use both public transportation and private automobiles. To reduce the use of private vehicles, it is necessary to understand the underlying patterns of travel behaviour. Some factors have yet to be investigated in Iran's railway system, but this study will look into them. Based on the results of previous surveys, we separated the factors that affect passengers. The purpose of this manuscript is to identify the factors that influence passengers' preference for rail transportation, as well as to priorities one of the most important factors influencing Iran's increased willingness to use trains. The loyalty model is described in this study, and its application in transportation is demonstrated through a case study of selected railroads in Iran.

Literature Review

1. Economy

Socio-economy

In terms of train fare satisfaction, Passengers' socioeconomic status is a key determinant in how satisfied they are with railway fares, according to

Paramita et al. (2018). Key socioeconomic factors are further subdivided in the paper into two subgroups: a). Gender: it was shown that female respondents were more likely to be dissatisfied than male ones; b). City of origin: the average travel distance per person and an average cost of travel were further identified as influencers on this parameter.

Pricing

It's worth noting that automobile owners believe that public transportation is less expensive than driving. Positive pricing policies and incentives have proven to be an effective strategy for increasing the potential number of travelers who choose to travel by train rather than driving. Trains are one of the main modes of public transportation available for commuting between home and work in major cities such as Tokyo, Beijing, Sydney, and Hong Kong. As urbanization progresses, train operations continue to expand into the suburbs, attracting more commuters to the Central Business District (CBD), where job opportunities abound (Wang et al., 2018). According to Jarocka and Ryciuk (2016), "pricing has the positional of transforming customer behaviour while attracting new business potentials; therefore, it is necessary to recognize it as an enhancing factor of passenger satisfaction. Henn et al. (2011) described a stated preference experiment that examined the effects of fare changes and faster trips as incentives. A study from China looked at the effects of price discrimination on passenger satisfaction. To address the issue, a real dataset was used, and differences in passenger decision-making were analyzed and categorized. The findings confirm that pricing is an important factor in increasing passenger satisfaction (Qin et al., 2019).

2. Station conditions

Reservation Facilities

In their article titled a study on train passengers satisfaction and the challenges of ticket reservation in the eroded district, Premsanthi and Sivakami (2016) emphasise the numerous ways in which ticket reservation affects passengers' satisfaction levels and experiences. Furthermore, ticket reservation was positively identified as an enhancer of passenger satisfaction in Ranjan's (2020) study titled Assessing the Service Quality Attributes Affecting the Satisfaction of Northern Railway Passengers: An Empirical Study, and improvements in reservation facilities were in positive correlation with how likely passengers were to purchase their ticket for that particular company.

Facilities at station

Saw et al. (2020) identify three-station facility-related factors that influence passenger satisfaction: The first parameter includes (Safety, Security and Comfort): Levels of personal safety on the train, personal safety on the station, graffiti and damages done to the station, seat availability, standing room size and space, station lighting, cleanliness on the train. Factor 2 (Quality of the infrastructure): Cleanliness of both the trains and the metro stations, and the façade and its impression on commuters, the level of quality or work order based on the importance of the aspects associated with the station. Factor 3 (ticket vending machine): Consists of two aspects about the ticket machine, such as the usefulness and availability of the information.

Train passengers desire not only to go from one location to another but also to have a nice and easy journey. One factor is how physically comfortable they are at the station, which includes protected waiting and sitting places, food and refreshment services, and comfy seats. The use of visual aesthetics such as architectural design, as well as less tangible environmental variables such as (day)light, smell, and music, can help to make this trip even more enjoyable. The presence of amenities such as shops and cafés will also increase the satisfaction of passengers (Hagen et al., 2014).

Access to the railway station

As the population grows and develops, people lose a lot of time in traffic, so the right location and quick access to the train station based on the expected volume of passengers can be a key factor in increasing people's willingness to consider using the train as their primary mode of transportation (Brons et al., 2009).

Station Safety

Safety, whether onboard or at stations, is a critical determinant of overall satisfaction levels. However, there is more to safety than meets the eye; one example is the comfortable feeling that comes from being away from road accidents and crimes; this, of course, has a huge effect on rail-based public transit passengers' satisfaction levels. The importance of safety in determining how satisfied passengers are with their whole experience with railway businesses has been established. Passenger pleasure is also influenced by the absence of traffic accidents and criminal activity.

3. Total Travel Time

Punctuality and Satisfactory

A service provider's ability to identify the most significant characteristics of service quality as viewed by present and potential customers is critical. On the other hand, the complexity of the relevant characteristics described for railway user satisfaction is great. As a result, it is critical to understand the relative importance of priorities in terms of user satisfaction (Prioni and Hensher, 2000). For example, studies show that reliability (timeliness) is a determinant factor in consumers' decisions about whether or not to use railway services (Bates et al., 2001). The issue posed by untimeliness is more about the uncertainty of public transportation's arrival time, rather than having to wait (König, 2002). The majority of the literature defines punctuality as "the capability of arriving safely at a designated destination on a pre-established schedule" or "the characteristic of which an agreed-upon vehicle arrives, departs, or goes beyond an expected point at a fixed time." As a primary interpretation of how travel time affects reliability and, consequently, customer satisfaction, "Maximum Expected Utility" theory is used to create a theoretical analysis framework in which travel time (un-)reliability is an agent capable of maximizing utility. Noland and Small (1995) explained that in the theoretical framework, a person's choice has a positive correlation with the travel option that provides the highest value of expected utility while accounting for the expected consequences and probabilities of various outcomes. The additional travel time variability term appears as the second interpretation, which consists of adding an option to provide different mean travel times to passengers, in accordance with the previous theoretical framework that passengers' choice is positively correlated with the option providing the highest utility (Bhat and Sardesai, 2006).

As a result, the overall delay should be calculated by subtracting the scheduled time from the actual time. According to Grechi et al. (2018), time adherence as a digital measurement is frequently an important part of the managerial duties of getting the train to the station on time (Olsson and Nils. 2020). Allen et al (2020), declared that the most influential factor influencing passenger satisfaction in general for public rail transportation services is punctuality or on-time performance. Das et al. (2013) navigate through numerous studies that have reported punctuality of a public rail transportation service as an enhancer of passenger satisfaction levels and continue to report how punctuality satisfaction affects the overall levels of satisfaction experienced by passengers. Security and safety have been highlighted as major elements in

passenger satisfaction in various earlier studies, including those of Mouwen (2015) and Ibrahim et al (2020). Safety issues, whether with trains or stations, have gotten a lot of attention since they were identified as a key element in customer happiness. Theft, pickpocketing, and sexual harassment are just a few of the concerns. According to Ibrahim et al. (2020), among the available studies on railway customer satisfaction, there are those that have focused on time-related incentives. Thorhauge et al. (2016) discovered that three behavioural intentions have an undeniable effect on motivating passengers to change their departure times: on-time arrival, short travel times, and low travel costs. Arriving on time was a stronger motivator for passengers with fixed working hours, in line with our previous expectations. Similarly, passengers with more flexible work schedules were much more likely to prefer shorter travel times. Through the use of a travel demand management tool, arriving times flexibility reduces social pressures on employees with fixed working hours. According to Yushimito et al. (2018), financial and non-financial incentives influenced companies' willingness to implement flexibility in their scheduling policies. The most effective is "financial incentives" and "flexibility of other firms."

Speed

The consistency of findings in various qualitative and attitudinal studies demonstrates how important and vital travel time reliability is in the decision-making process of commuters (Bates et al., 2001). Speed is defined as the rate at which an object changes position in relation to time. Train services place an inherent value on the certainty provided by a dependable transportation system, regardless of the trip's origin or destination, and regardless of the outcome (Wilson and Bidwell, 1901).

Speed is frequently equated with travel time or the amount of time required to complete a journey route. Berry and Belmont (1951) defined Spot speed as the speed, in miles per hour, at which a vehicle passes a specific given location on a place, be it a street, highway, or otherwise, travel time as the total required time to traverse a given distance, including all traffic stops and delays, and running time as the total time required to traverse a given distance, excluding the stopped time. Several authors have emphasised the significance of total travel time as a factor influencing passenger satisfaction (Mouwen, 2015; dell'Olio et al., 2011; Susilo and Cats. 2014). Furthermore, speed is frequently a deciding factor in choosing public transportation over another mode of transportation (Şimşekoğlu et al., 2015). Alternatively, the uncertainty imposed by an unreliable transportation system can cause stress, anxiety, or simply dissatisfaction with the current travel situation.

4. Train's Conditions and passenger rights

Comfort and cleanliness

To provide a comfortable train journey, one must provide passengers with pleasant, enjoyable, and hygienic seats, as well as optimal and enjoyable temperature. It is also preferable to have air conditioning and to avoid overcrowding on the train. This characteristic can be evaluated differently in different groups. Despite the fact that those characteristics are typically regarded as the most important, other characteristics may have a different yet positive effect on passenger satisfaction, implying that there are limitless opportunities to improve consumers' perceptions of railway services and public transportation in general. For example, the clarity and simplicity of information disseminated by service providers to consumers can help improve travellers' perceptions of trains (Friman and Gärling, 2001). Ibrahim et al (2020) identify comfort and cleanliness as factors influencing hygiene, user sense of ease and wellbeing, spaciousness, vehicle quality, air pollution, temperature, and waiting conditions. He goes on to explain that the user's sense of ease and wellbeing, followed by hygiene, is the most important influencing variable in passenger happiness. According to Ghosh and Ojha (2017), the most important factors in cleanliness and comfort are train hygiene, user comfort and wellbeing, and train air pollution level. Several types of research, as implied by Ibrahim et al (2020), demonstrate the importance of these factors in determining passenger satisfaction levels.

Luggage Compartments

Wonglakorn et al. (2021) investigate important factors relating to passenger satisfaction and loyalty in their paper titled Exploring Passenger Loyalty and Related Factors for Urban Railways in Thailand. While numerous factors were considered, he listed "Luggage compartments are large, available, and sufficient" as a deciding factor after vehicle comfort and cleanliness.

Food & Beverage and Technology

It is critical to understand that different user segments evaluate the same service quality area differently, and that different service attributes influence their satisfaction. Improved use of technology will result in improved managerial tasks such as fare collection and management, which are more prone to errors and time consuming if done manually. Smartphones, which are now widely available to the majority of people, are capable of making it easier for passengers to obtain tickets, which increases the likelihood of increased passenger satisfaction with railways (Oliveira et al., 2019).

Conceptual framework

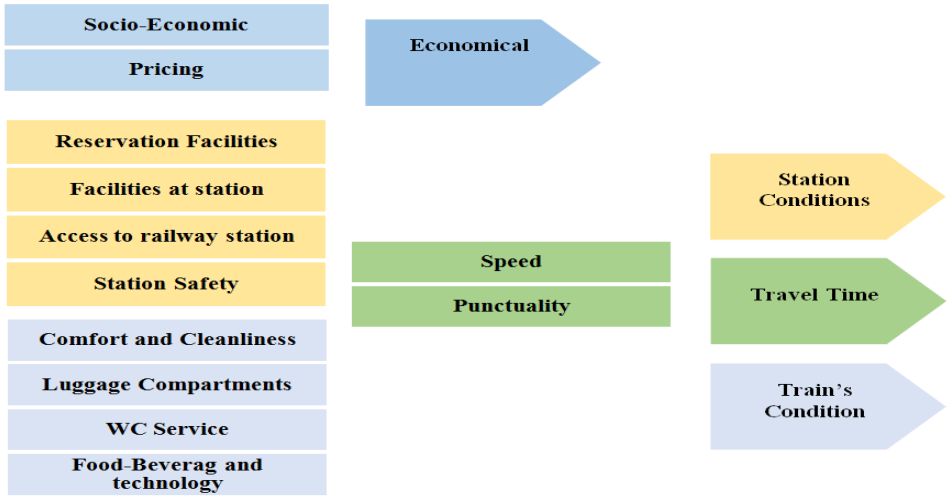

Fig. 1. Conceptual Framework

B. METHODS

Study Area and Data Collection

The primary data for the survey was gathered for this study. During the process, the required primary data was gathered by interviewing Iranian train passengers using a survey method that used pre-tested, well-structured, and undisguised interviews.

Types of sampling

Simple random sampling: Each part of the society or target has an equal chance of being chosen in simple random sampling. In this method, the required persons or objects from the statistical community's list that have been numbered and prepared for this purpose are chosen at random. According to the law, if a person is elected, he must possess the characteristics of the society from which he is elected. On average, 75,000 people travel by train every day, which, according to the Morgan table, corresponds to 382 people for sample size.

Statistical analysis

The data were analyzed by one-way analysis of variance (ANOVA) using the SPSS statistical software (version 25.0). A p-value of less than 0.05 ($p < 0.05$) was considered to indicate a statistically significant difference.

Hypothesis

Hxa – Null Hypothesis

H1a: There exists no significant relation between Economical and passenger prefer

H2a: There exists no significant relationship between station settings and passengers prefer

H3a: There exists no significant relationship between travel time and passengers prefer

H4a: There exists no significant relation between train's condition and passenger prefer

Hxb – Alternative Hypothesis

H1b: There exists no significant relation between Economical and passenger prefer

H2b: There exists no significant relationship between station settings and passengers prefer

H3b: There exists no significant relationship between travel time and passengers prefer

H4b: There exists no significant relation between train's condition and passenger prefer

The statistical tools used in this regression analysis study aid in the analysis of four different factors. From March to June 2020, 382 people participated in the survey, which was conducted across the country. The questioners were distributed at random to commuters as part of the sampling. A standardized questionnaire was used to collect data. In addition, the survey was divided into three sections. The first section reveals the respondents' demographic profiles, while the second and third sections are intended to assess the factors influencing rail transportation preferences. The statements were rated on a 5-point Likert scale from 1 to 5. The questionnaire for the statistical tool is shown in Table 1.

Table.1. Statistical tool questionnaire

Measures	Variables	Scale
Economical	Socio-Economic	5 Point Likert scale
	Pricing	
Station Conditions	Reservation Facilities	5 Point Likert scale
	Facilities at station	
	Access to the railway station	
	Station Safety	
Travel Time	Speed	5 Point Likert
	Punctuality	

		scale
Train's Condition	Comfort and Cleanliness	5 Point Likert scale
	Luggage Compartment	
	WC service	
	Food-Beverage and technology	

C. DESCRIPTIVE STATISTICS

Gender:

382 response

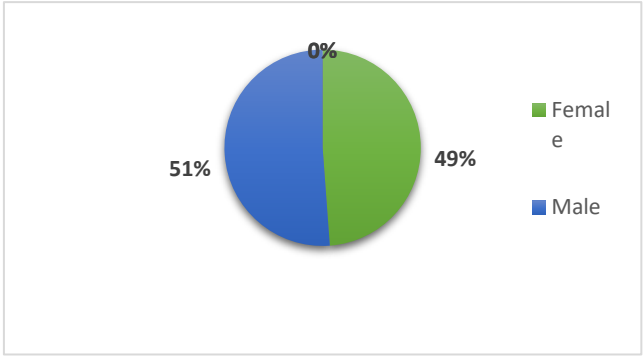

Fig.2. Gender chart

Table. 2. Gender

		Frequency	Percent (%)	Valid Percent	Cumulative Percent
Valid	Male	197	51	51	51
	Female	185	49	49	100
	Total	382	100	100	

The gender sample from which data was gathered is shown in Table 2. The survey had 185 females and 197 males participate.

Age in years:

Table.3 Age in Years

	Frequency	Percent	Valid Percent	Cumulative

			(%)		Percent
Valid	18-24	100	26	26	26
	25-35	113	29	29	55
	36-45	79	21	21	76
	46-55	60	16	16	92
	More than 55	30	8	8	100
	Total	382	100	100	

382 Response

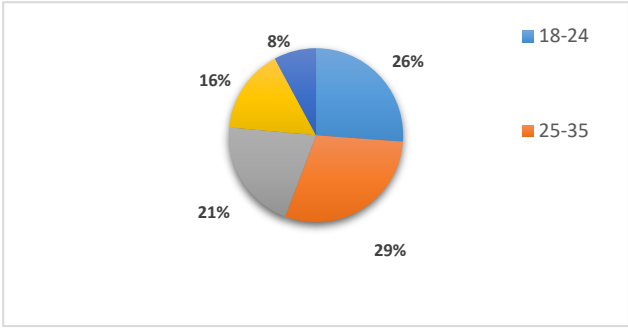

Fig.3 Age in year chart

Table 3 shows the age samples for which data were collected: 100 people between the ages of 18 and 24, 113 people between the ages of 25 and 35, 79 people between the ages of 36 and 45, and 60 people between the ages of 36 and 45. The 30 people in the 46-55 age range and 30 people in the 55+ age range.

Occupational Status

382 response

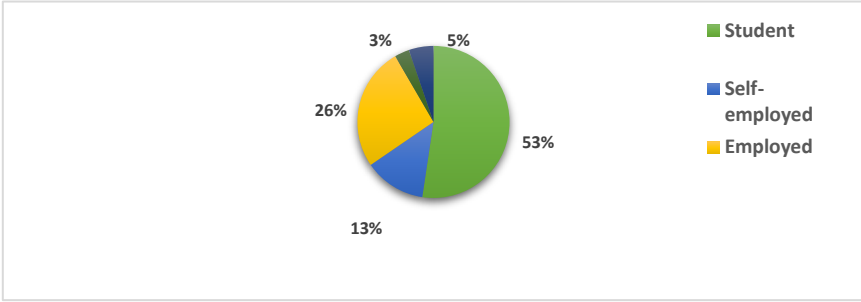

Fig.4. Occupational Status chart

Table.4 Occupational Status

		Frequency	Percent (%)	Valid Percent	Cumulative Percent
Valid	Student	200	53	53	53
	Self-Employed	50	13	13	66
	Employed	100	26	26	92
	Not-Employed	12	3	3	95
	Home Maker	20	5	5	100
	Total	382	100	100	

Because of the low cost of train travel, students and low-income people make up the majority of passengers. Table 4 shows that 200 people are students, 50 and 100 people are self-employed and employed in a row, 12 people are unemployed, and 20 people are housewives.

Educational Qualification:

382 response

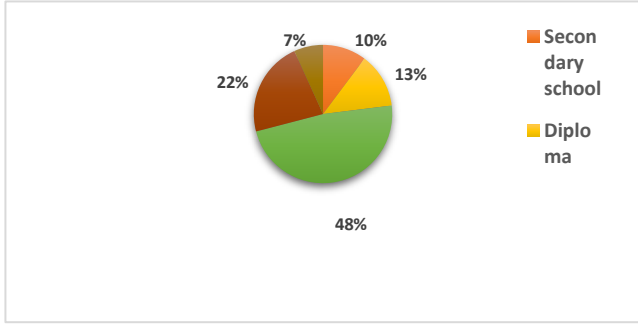

Fig. 5. Educational Qualification chart

Table. 5 Educational

Qualification

		Frequency	Percent (%)	Valid Percent	Cumulative Percent
Valid	Secondary School	39	10	10	10
	Diploma	49	13	13	23
	Graduation	183	48	48	71
	Post-Graduation	85	22	22	93
	Doctorate	26	7	7	100
	Total	382	100	100	

As shown in Table 5, the majority of those who took part in the poll had completed their education, followed by post-Graduation, Diploma, Doctorate, and Secondary School.

The highest scores and qualifications in Table 5 show that the majority of those who took part in the study completed graduation, followed by post-Graduation, Diploma, doctorate, and secondary school.

Purpose of travel:

Response 382

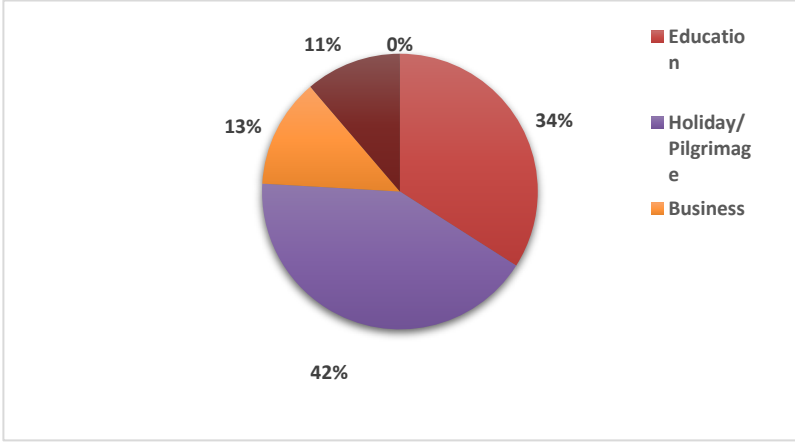

Fig. 6. Purpose of travel chart

Table.6. Purpose of travel

		Frequency	Percent (%)	Valid Percent	Cumulative Percent
Valid	Education	130	34	34	34
	Holiday/Pilgrimage	160	42	42	76
	Business	49	13	13	89
	Others	43	11	11	100
	Total	382	100	100	

Table.6 depicts the purpose of the 382 participating respondents' travels, with 160 travelling for a holiday/pilgrimage, 130 travelling for educational purposes, 49 travelling for business-related matters, and 43 travelling for other reasons.

Average monthly income:

Response 382

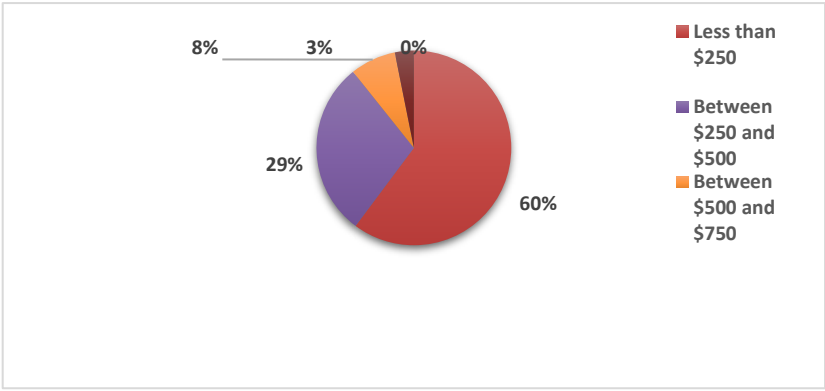

Fig.7. Average monthly income chart

Table.7. Average monthly income

		Frequency	Percent (%)	Valid Percent	Cumulative Percent
Valid	Less than $250	230	60	60	60
	Between $250 and $500	111	29	29	89
	Between $500 and $750	29	8	8	97
	More than $750	12	3	3	100
	Total	382	100	100	

The average monthly income of the 382 respondents is shown in Table 7, with 230 earning less than $ 230 per month, 111 earning between $ 250 and $ 500, 29 earning between $ 500 and $ 750, and 12 earning more than $ 750.

Table.8. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		671
Bartlett's Test of Sphericity	Approx. Chi-Square	2080.721
	Df.	151
	Sig.	0.000

The KMO and Bartlett tests in Table 8 show that the 0.671 KMO statistic is great (more than 0.5). Therefore, considering regression is a good technique for a more detailed analysis of the data.

Table.9. Reliability statistics

Cronbach's Alpha	N of Items
0.843	25

Reliability statistics show that a total of 25 items of Cronbach's alpha (a) are measured at 0.843. This shows that the measurements are consistent internally.

Communalities

The community table indicates which part of the variance should be considered (that is, the commonality value that must be greater than 0.5 should be considered in the analysis; if it is less than 0.5, the variables from the subsequent steps of the factor analysis. Do not consider.) In the variable, it is considered by the extracted factors.

Table.10. Communalities

	Initial	Extraction
Ratio the influencing factors on the succeeding economic conditions, the socio-economic.	1.00	0.809
Ratio the influencing factors on the succeeding economic conditions, pricing.	1.00	0.811
Ratio the influencing factors on the succeeding station conditions,	1.00	0.658

reservation facilities.		
Ratio the influencing factors on the succeeding station conditions, facility at the station.	1.00	0.624
Ratio the influencing factors on the succeeding station conditions, access to the railway station.	1.00	0.710
Ratio the influencing factors on the succeeding station conditions, station safety.	1.00	0.648
Ratio the influencing factors on the succeeding, travel time speed.	1.00	0.756
Ratio the influencing factors on the succeeding, travel time punctuality.	1.00	0.750
Ratio the influencing factors on the succeeding, train's condition comfort and cleanliness.	1.00	0.689
Ratio the influencing factors on the succeeding, train's condition luggage compartment.	1.00	0.669
Ratio the influencing factors on the succeeding, train's condition WC service.	1.00	0.798
Ratio the influencing factors on the succeeding, train's condition the food-beverage and technology.	1.00	0.804
Extraction method: a principal component analysis.		

Table 10 Communalities shows the Initial and Extracted values.

6.1. Regression examination

Table.11. Summary of Model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.718[a]	0.515	0.505	1.21322	1.868

a. Predictors: (Constant), Economical, Station Conditions, Travel time, Train's Condition

b. b. Dependent Variable: INFLUENCING FACTORS

Table.12. ANOVA.[a]

Model	Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	45.715	4	11.428	9.941	.000[b]
	Residual	225.261	142	1.586		
	Total	270.976	146			
a. Dependent Variable: Influencing Factors.						

Table.13. Coefficient.[a]

Model	Coefficients Unstandardized	Coefficients Standardized	t	sig.		
1	B	Std. Error	Beta			
	(Persistent)	1.120	0.516		2.287	0.024
	Economical,	0.130	0.216	0.049	0.539	0.038
	Station Conditions,	0.213	0.222	0.109	0.909	0.362
	Travel time,	0.431	0.186	0.259	2.265	0.032
	Train's Condition	0.350	0.251	0.212	2.286	0.024
a. Dependent Variable: Influencing Factors.						

Influencing factor: dependent variables. Economy, station status, travel time, and train status are all independent variables. The model and data are summarized in Table 11. The null hypothesis can be investigated using the ANOVA table shown in Table 12. That is, the said independent variable has no effect on the dependent variable of the alternative hypothesis. In other words, the influential factors are influenced by factors such as the economy, station conditions, travel time, and train conditions. In the ANOVA table, the p-value was 0.00, which was less than 5% of the implication. The null hypothesis is rejected, and it is demonstrated that the independent variable had a significant effect on the dependent variable. 0.505 is the adjusted coefficient of determination. As a result, regression analysis can account for 50.5 % of the

data. The summary of the model shows a Durbin-Watson value of 1.868. This is a very close value to 2. This is useful for determining whether the residuals are linked. In this case, the residuals are unrelated. The coefficients are shown in Table 13.

D. CONCLUSION

Findings of this paper highlight the actual condition of railway platforms and the satisfaction-importance paradigm regarding platform-based amenities, drawn on the basis of passenger responses at Iran rail way station. According to the findings of this study, railway executives should take a variety of approaches to increase people's desire to travel by train. To provide better services to passengers, the rail transportation system must focus more on factors such as travel economy, food and beverage technology, comfort and cleanliness, reservation facilities, luggage compartments and a free pass, security, and train type. Results of service quality performance and user satisfaction index direct us to conclude that most of the amenities need to be improved because satisfaction passengers perceive is well below their perception of importance. The study also discovered that access to the railway station, punctuality, and transportation speeds all play a significant role in passenger choice, which rail companies should take into account.

Limitations and research ideas for the future

There were some limitations to this study, as there are to all studies. To begin gathering information for this study, questions were distributed among passengers at Tehran's train station. Although the passengers are from all over Iran, many conditions, such as economics, station conditions, access to the station, and so on, differ between cities. For future studies, it is preferable to consider a larger statistical community and spread the questions across different stations.

Second, only people who have travelled by train are considered in this study, but many people have never used a train because many cities in Iran do not yet have train stations, forcing people to travel in other ways. For future research, it is preferable to examine which cities will soon have stations and to consider the opinions of residents in those areas.

Third, the information for this article was gathered prior to the Covid-19 pandemic, and it is certain that the world before and after Corona will be very different. Because the transportation industry is changing, the information

obtained in future studies may differ significantly from the information obtained now. Furthermore, in future studies, travel health safety will be one of the most important factors to consider.

Implications

Because the majority of train passengers are educated and young people who spend a lot of time on the Internet and are constantly observing different travel conditions and different companies, railway companies must consider the factors prioritized in this study in order to maintain their brand and increase passenger attraction. The study of the collected data shows that factors such as economic and train conditions may have a greater impact on a customer's satisfaction than station conditions and travel time. Based on the survey results, railway companies can focus more on the ticket pricing factor and train conditions, while also keeping a close eye on station conditions and travel time.

REFERENCES

Al-Atawi, A., Saleh, W. (2014). Travel behaviour in Saudi Arabia and the role of social factors. Transport, 29(3), 269-277. https://doi.org/10.3846/16484142.2014.913199.

Allen, J., Eboli, L., Mazzulla, G., de Dios Ortúzar, J. (2020). Effect of critical incidents on public transport satisfaction and loyalty: an Ordinal Probit SEM-MIMIC approach. Transportation, 47(2), 827-863. https://doi.org/10.1007/s11116-018-9921-4.

Azhdar, R., Nazemi, A. (2020). Modeling of incentive-based policies for demand management for the Tehran subway. Travel Behaviour and Society, 20, 174-180. https://doi.org/10.1016/j.tbs.2020.03.014.

Bates, J., Polak, J., Jones, P., Cook, A. (2001). The valuation of reliability for personal travel. Transportation Research Part E: Logistics and Transportation Review, 37(2-3), 191-229. https://doi.org/10.1016/S1366-5545(00)00011-9.

Beirão, G., Cabral, J. S. (2007). Understanding attitudes towards public transport and private car: A qualitative study. Transport policy, 14(6), 478-489. https://doi.org/10.1016/j.tranpol.2007.04.009.

Berry Donald S, Daniel M Belmont. Distribution of vehicle speeds and travel times. Proceedings of the Second Berkeley Symposium on Mathematical

Statistics and Probability. The Regents of the University of California, 1951.

Bhat, C. R., Sardesai, R. (2006). The impact of stop-making and travel time reliability on commute mode choice. Transportation Research Part B: Methodological, 40(9), 709-730. https://doi.org/10.1016/j.trb.2005.09.008.

Brons, M., Givoni, M., Rietveld, P. (2009). Access to railway stations and its potential in increasing rail use. Transportation Research Part A: Policy and Practice, 43(2), 136-149. https://doi.org/10.1016/j.tra.2008.08.002.

Das, A. M., Ladin, M. A., Ismail, A., Rahmat, R. O. (2013). Consumers satisfaction of public transport monorail user in Kuala Lumpur. Journal of Engineering Science and Technology, 8(3), 272-283.

dell'Olio, L., Ibeas, A., Cecín, P. (2011). The quality of service desired by public transport users. Transport Policy, 18(1), 217-227. https://doi.org/10.1016/j.tranpol.2010.08.005.

Forkenbrock, D. J. (2001). Comparison of external costs of rail and truck freight transportation. Transportation Research Part A: Policy and Practice, 35(4), 321-337.

Friman, M., Gärling, T. (2001). Frequency of negative critical incidents and satisfaction with public transport services. II. Journal of Retailing and Consumer Services, 8(2), 105-114. https://doi.org/10.1016/S0969-6989(00)00004-7.

Ghosh, P., Ojha, M. K. (2017). Determining passenger satisfaction out of platform-based amenities: A study of Kanpur Central Railway Station. Transport Policy, 60, 108-118. https://doi.org/10.1016/j.tranpol.2017.09.007.

Grechi, Daniele Maggi, Elena. (2018). The importance of punctuality in rail transport investigation on the delay determinants. European Transport\Trasporti Europei. (2018) Issue 70, Paper n° 2, ISSN 1825-3997. https://doi.org/10.1016/j.trb.2005.09.008.

Hagen, Mark Bron, Pauline. (2014). Enhancing the Experience of the Train Journey: Changing the Focus from Satisfaction to Emotional Experience of Customers. Transportation Research Procedia. https://doi.org/10.1016/j.trpro.2014.07.025.

Henn, L., Douglas, N., Sloan, K. (2011). Surveying Sydney rail commuters' willingness to change travel time.

Ibrahim, A. N. H., Borhan, M. N., Ismail, A. (2020). Rail-based Public Transport Service Quality and User Satisfaction–A Literature Review. Promet-Traffic & Transportation, 32(3), 423-435.

Jarocka, Marta Ryciuk, Urszula. (2016). PRICING IN THE RAILWAY TRANSPORT. 10.3846/bm.2016.76. https://depot.ceon.pl/handle/123456789/14091.

Karsten, J. (2016). EC Passenger Law Running on Track–The Regulation on Rail Passengers' Rights and Obligations. In The Yearbook of Consumer Law 2009 (pp. 345-356). Routledge.

König, A., Axhausen, K. W. (2002, March). The reliability of the transportation system and its influence on the choice behaviour. In Proceedings of the 2nd Swiss Transportation Research Conference.

Lemańczyk, S. (2013). The Transiranian Railway–History, Context and Consequences. Middle Eastern Studies, 49(2), 237-245.

Masoumi, H. E. (2019). A discrete choice analysis of transport mode choice causality and perceived barriers of sustainable mobility in the MENA region. Transport Policy, 79, 37-53. https://doi.org/10.1016/j.tranpol.2019.04.005.

Mouwen, A. (2015). Drivers of customer satisfaction with public transport services. Transportation Research Part A: Policy and Practice, 78, 1-20. https://doi.org/10.1016/j.tra.2015.05.005.

Noland, R. B., Small, K. A. (1995). Travel-time uncertainty, departure time choice, and the cost of morning commutes. Transportation research record, (1493), 150-158.

Oliveira, Luis Bruen, Claudia Birrell, Stewart & Cain, Rebecca. (2019). What passengers really want: Assessing the value of rail innovation to improve experiences. Transportation Research Interdisciplinary Perspectives. 1. 10.1016/j.trip.2019.100014.

Olsson, Nils. (2020). Train punctuality analysis in a rolling stock perspective. Transportation Research Procedia. 47. 641-647. 10.1016/j.trpro.2020.03.142. https://doi.org/10.1016/j.trpro.2020.03.142.

ParamitaP, ZhengZ, HaqueM.M,Washington S, HylandP (2018)User satisfactionwith train fares:A comparative analysisin fiveAustraliancities.PLoSONE

13(6):e0199449.https://doi.org/10.1371/journal.pone.0199449. https://doi.org/10.1371/journal.pone.0199449.

Premsanthi P., M.Sivakami (2016) A Study On Train Passengers Satisfaction And Problems Of Ticket Reservation In Erode District International Journal of Innovative Research in Management Studies (IJIRMS) Volume 1, Issue 10, November 2016. pp.72-78.

Prioni, P., Hensher, D. A. (2000). Measuring service quality in scheduled bus services. Journal of Public transportation, 3(2), 4. https://doi.org/10.5038/2375-0901.3.2.4.

Qin, Jin Qu, Wenxuan Wu, Xuanke Zeng, Yijia. (2019). Differential Pricing Strategies of High Speed Railway Based on Prospect Theory: An Empirical Study from China. Sustainability. 11. 3804. 10.3390/su11143804. https://doi.org/10.3390/su11143804.

Ranjan, Rajeev Thapar, Nitin Siddiqui, Shoaib & Painoli, Arun. (2020). Assessing the Service Quality Attributes Affecting the Satisfaction of the Northern Railway Passengers: An Empirical Study. 10.1177/2632962X20961052. https://doi.org/10.1177/2632962X20961052.

Saw, Yong Dissanayake, Dilum Ali, Fazilatulaili Bentotage, Thusal. (2020). Passenger satisfaction towards metro infrastructures, facilities and services. Transportation Research Procedia. 48. 3980–3995. 10.1016/j.trpro.2020.08.290. https://doi.org/10.1016/j.trpro.2020.08.290.

Şimşekoğlu, Ö., Nordfjærn, T., Rundmo, T. (2015). The role of attitudes, transport priorities, and car use habit for travel mode use and intentions to use public transportation in an urban Norwegian public. Transport Policy, 42, 113-120. https://doi.org/10.1016/j.tranpol.2015.05.019.

Susilo, Y., Cats, O. (2014). Exploring key determinants of travel satisfaction for multi-modal trips by different traveler groups. Transportation Research Part A: Policy and Practice, 67, 366-380. https://doi.org/10.1016/j.tra.2014.08.002.

Thorhauge, M., Haustein, S., Cherchi, E. (2016). Accounting for the Theory of Planned Behaviour in departure time choice. Transportation Research Part F: Traffic Psychology and Behaviour, 38, 94-105. https://doi.org/10.1016/j.trf.2016.01.009.

Wang, S., Zhang, W., Qu, X. (2018). Trial-and-error train fare design scheme for addressing boarding/alighting congestion at CBD stations. Transportation Research Part B: Methodological, 118, 318-335. https://doi.org/10.1016/j.trb.2018.11.003.

Wei, S. (2020). Conceptualizing the Regulatory Thicket: China's Financial Markets After the Global Financial Crisis. Routledge.

Wilson, Edwin Bidwell (1901). Vector analysis: a text-book for the use of students of mathematics and physics, founded upon the lectures of J. Willard Gibbs. p. 125. hdl:2027/mdp.39015000962285.

Wonglakorn, N., Ratanavaraha, V., Karoonsoontawong, A., & Jomnonkwao, S. (2021). Exploring Passenger Loyalty and Related Factors for Urban Railways in Thailand. Sustainability, 13(10), 5517. https://doi.org/10.3390/su13105517.

Yushimito, W. F., Holguín-Veras, J., Gellona, T. (2018). Firm's efficiency and the feasibility of incentives for flextime adoption: a preliminary analysis of Chilean employer's response. Transportation Letters, 10(4), 202-214. https://doi.org/10.1080/19427867.2016.1243297.