RAIL PASSENGER SATISFACTION FACTORS: THE MEDIATING EFFECT OF WORD-OF-MOUTH

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ABSTRACT

This article provides empirical evidence of the circumstances in which the relationship between passenger satisfaction and word-of-mouth regarding rail service gets stronger or weaker. A study on the variables affecting rail passengers' satisfaction with word-of-mouth as an aspect of the model has progressed to a point that demands further analysis. A limited study shows that moderators' effects on factors affecting either passengers or travel, as well as word-of-mouth in the context of rail services, have not been fully assessed. The authors evaluate the mediating effect of WOM variables on rail passengers using variables from the modified RAILQAUL model and a sample size of 321 passengers. This study employed structural equation modeling (SEM). Findings show that there is little published about the influence of WOM on passengers' plans to engage in positive WOM in rail sector settings. It also demonstrates that if rail passengers feel confident in the service, they will be more inclined to share their opinions with friends and acquaintances about how well the service is run and their experiences using it. As a result, WOM and PS are crucial parts of helping passengers create demand for RS based on word-of-mouth reviews while also increasing information and SQ as a result. Retaining this information from the passengers is crucial, and at the same time, the information provided must be improved to account for any negative features.

Keywords: Passenger, Public, Rail, Service Quality, Transportation, Word of Mouth

1. Introduction

Effective transportation services can fulfill the needs of the entire population. According to a 2015 study by the African Development Bank, rail transportation is expected to play an increasingly important role in the delivery of services over long distances. When compared to other modes of transportation, railroads are extremely effective in public transport networks for both inter-city and metropolitan contexts. Because it is less expensive, more convenient, and able to meet demand, a well-developed rail transport system must be able to satisfy both its primary goal and the needs of passengers, because of its reduced greenhouse gas emissions, higher energy efficiency, and lower cost per tonne mile. On the other hand, word-of-mouth is particularly vital in the context of social media, where people regularly share direct information on sizable digital networks.

As a result, one of the key objectives of the train system is to boost WOM and foster...
customer loyalty. Passengers' degree of satisfaction has a big impact on whether they are prepared to spread good word of mouth (Berger and Milkman, 2013; Kang et al., 2020). When there is an affective connection to the content, passengers are more likely to speak about it. Soderlund and Rosengren (2007) claim that emotions that are both good and negative—such as affection, enjoyment, and comfort WOM. The "feeling-as-information" theory contends that people's attitudes and behavior toward a product or a company are influenced by their feelings. In other words, the spread of WOM is controlled by emotional information or situations. Advertising can use emotive messaging, visuals, music, and celebrity endorsements to evoke emotions.

WOM has been proposed as one of the most reliable ways for travelers to get information about services and decide whether to use them (Ameri et al., 2019; Paley et al., 2019). As it links to brand awareness and customer purchasing behavior, WOM should be addressed as a significant component of the marketing communication mix by earlier studies (Chen and Xie, 2008; Nguyen et al., 2020). Train managers must therefore be aware of the factors affecting WOM. Despite the significance of information sharing in modern activities, most of the existing research on WOM has focused on the psychological causes of passengers' WOM. It is yet unknown how knowledge-sharing programmers' determinant affects passengers' WOM. Potential carriers will be extremely mindful of the passenger experience since customers now have a powerful voice on social media that they can use to demand better service. By drawing on their individual experiences, both settings may learn more about their passengers and keep creating engaging passenger experiences. Considering this, the passenger, who is now a part of two universes, is an important part of the entire procedure. In the same way that our previous study (Siqueira et al., 2019) looked at how an in-store experience influenced online customer behavior in the form of social media word of mouth, it would be interesting to see future research examine how people behave in the physical world in terms of word-of-mouth intention and interactions with peers. Numerous studies have discovered that these actions boost customer satisfaction or loyalty as well as the number of people using public transit (Lierop and El-Geneidy, 2016; Ratanavaraha et al., 2016). Similar to this, several factors will affect passenger satisfaction. Before using the service, users will form their own opinions on it. The quality of the service has an instant effect on how satisfied the passengers are. The delight of passengers is the goal of excellent service. Additionally, when a passenger makes a comparison, overall satisfaction reduces. There are other forms of transportation other than train service that require passengers to make decisions quickly. The swap will make it less enjoyable for passengers.). The focus of this study will be the variables affecting rail passenger satisfaction. Understanding the WOM mediator is particularly important for management, according to Bieger and Laesser (2004); Murphy, Mascardo, and Benckendorff (2007), because travel and destination decisions are frequently based on information disseminated through WOM.

2. Literature Review

According to previous studies (Duan et al., 2008; Liu et al., 2017), WOM has an impact on how customers make decisions. Public transportation, particularly the rail service, has attempted to sway passengers' inclination to recommend the service due to word-of-mouth (Park et al., 2020). This can
be done by using a variety of communication channels, like advertisements and digital content (Bu et al., 2020). Both Sara and her coworkers (2021). The effectiveness and efficiency of the service can be measured objectively by service providers, while passenger opinions and expectations can be used to measure the subjective quality of rail service. Surveys of passenger satisfaction can be used to achieve the latter objective. The subjective measure of satisfaction at any given time is based on performance evaluations and market expectations. The service is also evaluated or compared to prior satisfaction based on consumer responses from time to time. For public transport to be successful, passenger satisfaction must be a crucial intermediate goal in service operations as a performance assessment (De Ona et al., 2016). Wieseke et al., (2017) conducted an empirical investigation on the role of service and how it affects customer satisfaction. According to a study, customers who are treated well are more inclined to visit and are more willing to overlook any mistakes that may arise. Additionally, Irfan et al., (2017) conducted research to assess how satisfied rail customers were with the service by incorporating five service quality factors that were explicitly highlighted in the survey.

Similar to a prior study that looked at how a physical experience affects customer behaviour through social media word-of-mouth, it would be interesting to see future research analyse the circumstances in the physical world in terms of word-of-mouth intention and interactions with peers (Siqueira et al., 2019). Therefore, word-of-mouth (WOM) is a type of informal interpersonal communication that is not driven by profit and can happen as a result of their experience with the service (Berger, 2014; Godes and Mayzlin, 2004; Lin et al., 2021; Paley et al., 2019). Studies have been keen to create and maintain a positive WOM for their expectations because the success of their service is inextricably linked to WOM. Babic Rosario et al., (2016), Nisar et al., (2020), Asmagilova et al., (2010), Gauri et al., (2008), Awad and Ragowsky (2008), Gauri et al., (2008), Chevalier and Mayzlin (2006), (2008). Prior studies have already helped to identify several causes of WOM. From the consumer's perspective, self-enhancement, self-efficacy, compassion, need for social interaction, social support, and identity signaling are some of the psychological precursors of WOM (Angelis et al., 2012; Berger, 2014; Hennig-Thurau et al., 2004; King et al., 2014). WOM is thought to be fueled by consumer trust, contentment, self-connection, loyalty, commitment, perceived quality, and perceived value (Borah et al., 2020; Brown et al., 2005; Gill-Simmen et al., 2018; Matos and Rossi, 2008).

Researchers in the service sector have discovered a variety of strategies for boosting positive WOM for a business. For instance, Berger and Schwartz (2011) examined how product attributes affect WOM. According to Thomas et al., (2020), companies may use celebrities to increase WOM. Lu et al., (2020) investigated how piracy affects word-of-mouth (WOM). Other strategies for producing WOM include using quick nudges or suggestions, interacting with customers in communities, and letting clients showcase themselves to others (Rosario et al., 2020). However, very few studies have examined how factors related to rail services, such as sharing and passengers, can improve positive WOM. This study will add rail passenger satisfaction to the WOM literature. Building on the body of literature already available, The Mediating Role of Word of Mouth.
<table>
<thead>
<tr>
<th>Authors</th>
<th>Title</th>
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<tr>
<td>Veronique, et al 2021</td>
<td>Effort is where satisfaction is found. Is Gandhi’s adage applicable to satisfaction with commuting as well?</td>
<td>Transportation Research Part A</td>
<td>Volume 151, September 2021, Pages 214-227</td>
</tr>
<tr>
<td>Juan de Ona˜et et al 2021</td>
<td>How do users of private vehicles view the caliber of public transportation services in major cities? Using a European example</td>
<td>Transport Policy</td>
<td><a href="https://doi.org/10.1016/j.tranpol.2021.08.005">https://doi.org/10.1016/j.tranpol.2021.08.005</a></td>
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<td>Kaspan Eka, et al 2021</td>
<td>The impact of public transportation on Medan City’s quality of life</td>
<td>Procedia - Social and Behavioral Sciences</td>
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### 2.1 Research hypothesis

**H1:** Accessibility to rail services positively mediates Word of Mouth

**H2:** Commitment to rail services mediates Word of Mouth

**H3:** Rail convenience has an effective mediating effect on word-of-mouth

**H4:** The cost of the train has a mediating effect on word-of-mouth

**H5:** Word of mouth is mediated with rail tangible.

**H6:** Word of mouth influences passenger satisfaction in a way that acts as a mediator

### 3. Research Methodology

This study employs a quantitative method based on the creation of a structured self-administered questionnaire to examine the conceptual model and test the proposed hypotheses. A group of statistical methods for data analysis make up the SEM approach. The series includes path analysis, confirmatory factor analysis (CFA), structural regression models, and late change models. The structural model shows the direction and intensity of the relationships between the latent variables. The study was carried out using a standardised questionnaire, and data from

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321 respondents was gathered using the survey approach. The average score of the items as aggregate measures and Cronbach's alphas are used in the report to illustrate the characteristics of the data. Consistency is measured by Cronbach's alpha. On average, a credible indication is one with an Alpha value greater than 0.7. (Hair et al., 2019; Shmueli et al., 2019).

3.1 Structural equation modeling

Before evaluating the structural link between constructs, a two-step SEM technique, measurement model and structure model, was used to establish the reliability and validity of the measures. The maximum likelihood estimation method was utilized in this work because it gives a consistent approach to parameter estimation issues that may be created for a wide range of estimate scenarios.

3.2 Measurement model

To evaluate the measurement model, the concept measures' reliability, convergent validity, and discriminant validity were examined.

3.3 Reliability analysis

When compared to the predicted components, Cronbach's alpha, and composite reliability values for all factors, as shown in Table 4, are greater than 0.50, indicating stronger indication reliability.

3.4 Convergent validity

The standardised loading elements in Table 4 were deemed significant because they were more than the cut-off value of 0.50. (Hair et al., 2010). Indicating that their theoretical constructs accounted for more than half of the variances in the items, the average variance extracted (AVE) of latent constructs was greater than the indicated threshold value of 0.50 (Hair et al., 2010), ranging from 0.468 to 0.763. The resulting high level of convergent validity is established by the data available.

3.5 Discriminant validity

By contrasting the shared variances of components with the square root of AVE for each construct, the discriminant validity of the square root of AVE was evaluated. The discriminant validity was satisfactory, as shown in Table 3 by the
The fact that all shared variances of one construct with other constructs were less than the square root of the AVE of the individual variables. As a result, each construct differed statistically from the others. To investigate the relationship between variables, Pearson correlation coefficients were calculated. Because a single construct in the questionnaire consists of many items, the multi-items for each construct were first calculated to obtain a composite score.

Table 2: HTMT and $R^2$ Output

<table>
<thead>
<tr>
<th></th>
<th>PS</th>
<th>RA</th>
<th>RComit</th>
<th>RCon</th>
<th>RP</th>
<th>RT</th>
<th>WOM</th>
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<tbody>
<tr>
<td>PS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RA</td>
<td>0.412</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>RComit</td>
<td>0.722</td>
<td>0.416</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>RCon</td>
<td>0.706</td>
<td>0.43</td>
<td>0.868</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RP</td>
<td>0.404</td>
<td>0.159</td>
<td>0.408</td>
<td>0.412</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RT</td>
<td>0.52</td>
<td>0.317</td>
<td>0.717</td>
<td>0.571</td>
<td>0.214</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WOM</td>
<td>0.805</td>
<td>0.289</td>
<td>0.703</td>
<td>0.668</td>
<td>0.4</td>
<td>0.407</td>
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Table 3: Loading

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<th>Loading</th>
<th>CA</th>
<th>CR</th>
<th>AVE</th>
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<tr>
<td>Passenger Sat</td>
<td>0.857</td>
<td>0.892</td>
<td>0.895</td>
<td>0.85</td>
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<tr>
<td></td>
<td>0.892</td>
<td>0.895</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rail accessibility</td>
<td>0.792</td>
<td>0.863</td>
<td>0.857</td>
<td>0.895</td>
</tr>
<tr>
<td></td>
<td>0.863</td>
<td>0.857</td>
<td>0.895</td>
<td>0.681</td>
</tr>
<tr>
<td>Rail Commitment</td>
<td>0.653</td>
<td>0.743</td>
<td>0.811</td>
<td>0.859</td>
</tr>
<tr>
<td></td>
<td>0.68</td>
<td>0.743</td>
<td>0.811</td>
<td>0.859</td>
</tr>
<tr>
<td>Rail Connivance</td>
<td>0.824</td>
<td>0.841</td>
<td>0.843</td>
<td>0.894</td>
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<td></td>
<td>0.841</td>
<td>0.843</td>
<td>0.894</td>
<td>0.68</td>
</tr>
<tr>
<td>Rail Price</td>
<td>0.788</td>
<td>0.861</td>
<td>0.897</td>
<td>0.922</td>
</tr>
<tr>
<td></td>
<td>0.861</td>
<td>0.897</td>
<td>0.922</td>
<td>0.705</td>
</tr>
<tr>
<td>Rail Tangible</td>
<td>0.595</td>
<td>0.559</td>
<td>0.692</td>
<td>0.813</td>
</tr>
<tr>
<td></td>
<td>0.559</td>
<td>0.692</td>
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<td>0.53</td>
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Studies on the influence of WOM on passengers’ intentions to engage in positive WOM are scarce in rail sector contexts. In this study, we propose that if rail passengers have confidence in the service, they will be more open to discussing the quality of the service and their experiences using it with their friends and acquaintances. Raffaele, (2015) In fact, a passenger is more likely to enhance their decision-making if they follow the advice of other passengers. For instance, by studying passenger evaluations, travelers may experience lodging, dining, or off-the-beaten-path activities. As a result, the passenger may be inspired to spread the word to others about the advice they obtained from train excursions. Because there is very little danger and a high degree of reliability, passengers who have more confidence in RS’s reliability are more inclined to inform their friends and acquaintances where the advice originated from (Tab. 3). This is why we make a hypothesis.

Table 4: Results

<table>
<thead>
<tr>
<th></th>
<th>Original Sample (O)</th>
<th>SE</th>
<th>T Statistics (O/STDEV)</th>
<th>P Values</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>RA -&gt; WOM</td>
<td>0.024</td>
<td>0.036</td>
<td>0.675</td>
<td>0.25</td>
<td>Unconfirmed</td>
</tr>
<tr>
<td>RComit -&gt; WOM</td>
<td>0.378</td>
<td>0.073</td>
<td>5.175</td>
<td>0</td>
<td>Confirmed</td>
</tr>
<tr>
<td>RCon -&gt; WOM</td>
<td>0.25</td>
<td>0.063</td>
<td>3.972</td>
<td>0</td>
<td>Confirmed</td>
</tr>
<tr>
<td>RP -&gt; WOM</td>
<td>0.145</td>
<td>0.049</td>
<td>2.944</td>
<td>0.002</td>
<td>Confirmed</td>
</tr>
<tr>
<td>RT -&gt; WOM</td>
<td>0.002</td>
<td>0.05</td>
<td>0.044</td>
<td>0.483</td>
<td>Unconfirmed</td>
</tr>
<tr>
<td>WOM -&gt; PS</td>
<td>0.731</td>
<td>0.029</td>
<td>25.383</td>
<td>0</td>
<td>Confirmed</td>
</tr>
</tbody>
</table>

4. Theoretical Contribution

For the first time, five second-order formative notions are considered as drivers of WOM and passenger satisfaction in this study. The study also adds a second-order construct (Rail commitment) to the RAILQUAL model and restructures the inter-relationships between variables. The results show that WOM and PS are pattern drivers, that those who consider WOM based on passenger experience were also satisfied with the RS, that RS advocate the service to other WOM, and that satisfaction led to reinforcing recommendation to others.
4.1 Practical Contribution

The project aims to provide empirical validation of a model that uses the second additional formative factor to enable rail service operators to understand how WOM and PS expectations are intertwined. As a result, WOM and PS are important components in assisting passengers' activities in generating demand for RS based on word-of-mouth recommendations while also enhancing information and SQ. It is critical to retain this information from passengers while also refining the information offered as a feedback check on the unfavorable aspects. Passengers' satisfaction with the WOM offered and their experience with the service is insufficient to persuade them to recommend it to others. Rail managers should be aware that passenger satisfaction and word-of-mouth are critical factors in generating loyalty. Passengers must have faith in the rail service for management to decrease and detect fraudulent reviews on the WOM information by some of the disgruntled passengers.

Moreover, our findings are consistent with those of Ameri et al., 2019, Paley et al., 2019, Nguyen et al., 2020, and Siqueira et al., 2019. According to the study, rail operations might benefit from targeting certain passenger categories to boost the positive WOM benefits of their passenger efforts. For example, varieties may target inexperienced consumers who are unfamiliar with a service. Passengers that are socially engaged and eager to share information with others in their everyday lives might be a target for customer education initiatives from businesses. Furthermore, traditional passenger WOM-building initiatives have mostly focused on short-term incentives. WOM, on the other hand, may be thought of as a long-term strategy with continuous benefits. We also looked at the mechanism and boundary conditions of such WOM impacts, giving us a more detailed picture of how public transportation might achieve good WOM.

4.2 Conclusion/Recommendations

In various respects, our findings add to the notion of satisfaction. First, our study presents and investigates a new and significant potential advantage of WOM for public transportation, particularly rail service, namely increasing positive WOM among passengers. Second, whereas earlier research on WOM has focused on the mental histories of WOM, our study adds to this body of knowledge by demonstrating the use of passenger awareness as a unique technique for generating good WOM for an RS.

According to the study, rail operations might benefit from targeting certain passenger categories to boost the positive WOM benefits of their passenger efforts. For example, varieties may target inexperienced consumers who are unfamiliar with a service. Passengers that are socially engaged and eager to share information with others in their everyday lives might be a target for customer education initiatives from businesses. Furthermore, traditional passenger WOM-building initiatives have mostly focused on short-term incentives. WOM, on the other hand, may be thought of as a long-term strategy with continuous benefits. We also looked at the mechanism and boundary conditions of such WOM impacts, giving us a more detailed picture of how public transportation might achieve good WOM.

4.3 Limitations and ideas for additional research

Even though the study was thoroughly done, there are a few limitations that should be mentioned, as well as some suggestions for future research. To begin, the questionnaire might be expanded to include additional nations, with the results compared to appropriately extend the findings. Second, the model could be examined using several modes of public transportation, which were grouped by mode of transportation. Nonetheless, we endorse the model, which shows three to five constructs that make up the respective mediator of WOM constructs. Third, long-term research would be interesting to do to establish causation.
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