Predictors of passengers’ satisfaction with long-distance coach liners in South Africa

Background: Long-distance coach liner bus transportation forms an important economic sector in South Africa as it contributes to the gross domestic product (GDP) and employment, and significantly impacts the daily life activities of many people. While this is commendable, there have been reports relating to inefficiency, reliability (late arrivals and departure times) and safety concerns. These concerns have the potential to negatively impact on passengers’ satisfaction.

Aim: No South African investigative research study could be found on the predictors of passengers’ satisfaction with long-distance coach liners. This study was conducted to identify predictors of passengers’ satisfaction with long-distance coach liners in South Africa.

Setting: The target respondents were passengers who recently travelled on a long-distance coach liner in South Africa. The potential respondent had to be at least 18 years of age.

Methods: Primary data were collected using an online survey, and respondents recruited through convenience and snowball sampling. Of the 409 questionnaires received, 399 useful questionnaires were included in the data analysis.

Results: The results of the study indicate that peace of mind ($\beta = 0.552, p = 0.000$) and efficiency ($\beta = 0.455, p = 0.000$) have a predictive power on passengers’ satisfaction.

Conclusion: The findings suggest that when there is an improvement in peace of mind and/or efficiency, passengers’ satisfaction will also improve. It is thus recommended that operators/managers of long-distance coach liners prioritise the elements that contribute to peace of mind at all touchpoints (e.g. safety, security, privacy, professionalism of drivers) and efficiency in delivering services to passengers (e.g. reliability and punctuality).

Keywords: bus transportation; efficiency; long-distance coaches; passenger satisfaction; peace of mind.

Introduction

The transport industry is an emerging global economic sector that supports national and international commerce by facilitating the movement of freight and people (Lubbe & Vermooten 2021). The transport industry also supports other economic sectors, such as manufacturing, agriculture (Govender 2014; Potgieter 2016; Shange 2017) and tourism (Lubbe & Vermooten 2021). In South Africa, the transport industry is a major investment sector that contributes significantly to the country’s gross domestic product (GDP) and to employment through job creation (Aidoo et al. 2013; Dube & Anno-Frempong 2016).

In the first quarter of 2021, the transport industry was among the top 10 South African industries that registered growth in the economy, together with the finance, mining, storage and manufacturing industries (Stats SA 2021). According to Stats SA (2021), the transport, storage and communication industry grew by 4.8%, with the land transport sub-sector contributing significantly to that growth. The land transport sub-sector consists of various modes of transport, such as bicycles, mini-buses, buses, taxis, cars and trucks (Competition Commission of South Africa 2021; Thomas 2016). The mode of transport selected for this study is buses, specifically long-distance coach liners. The latter was selected, as long-distance passenger transport service developed an extensive route network since 1979, connecting major cities in seven southern African countries (Intercape 2018).

As the bus transportation system developed, so have passenger expectations of the service. Instead of just mobility from one point to the next (Dash & Samanataray 2018), passengers are increasingly in pursuit of personal, memorable, meaningful and unique experiences during their
journeys (Mao & Lyu 2017). Satisfaction is attained when the passenger experience exceeds passenger expectations (Van Lierop, Badami & El-Geneidy 2018). Delivering passenger satisfaction will eventually improve the competitiveness of the industry, as passenger satisfaction will enhance the chances of the passenger boarding the same mode of transport in the future, referring the mode of transport to friends and family and resisting the influence of competitive offers from other modes of transport (Kastenholz et al. 2018; Prayag et al. 2017).

Regardless of the established importance of passenger satisfaction, the road passenger transport sector in South Africa has been criticised for its inefficiencies and lack of customer-focus, reliability, comfort and safety (Mamabolo & Sebola 2018; Vilakazi 2013). Similar to other modes of road transportation, several of these challenges (e.g. late arrivals of buses at points of departure and destination, uncomfortable seats, non-functional entertainment facilities, non-functional toilet facilities in the buses and dysfunctional air conditioning) have also been reported within the long-distance coach liner sector (Intercape 2018). These challenges have the potential to increase passenger dissatisfaction within the industry, while an understanding of passengers’ satisfaction with particular reference to long-distance coach liners in South Africa could assist operators of long-distance coach liners in improving their services and sustain the growth and development of the sector in line with changing passenger expectations. However, there is currently no research on the predictors of passengers’ satisfaction with long-distance coach liners in South Africa. This study was conducted with the aim of filling this particular knowledge gap by investigating the predictors of passengers’ satisfaction with long distance coach liners in South Africa. In order to achieve the above-stated aim, the objective of the study was to identify predictors of passengers’ satisfaction with long-distance coach liners in South Africa.

Literature review

Theoretical and empirical contexts of the study are discussed below. Firstly, the South African transportation industry is described. This is followed by a discussion of the main concept underlying the study, namely passengers’ satisfaction and a proposed hypothetical framework.

Transportation industry in South Africa

Transportation involves the provision of passenger or freight transport by rail, road, water or air (Dube & Anno-Frempong 2016). The transportation industry consists of several sectors, such as freight, logistics, airlines, marine, road and rail transportation and infrastructure (Dube & Anno-Frempong 2016). The industry also includes associated activities such as terminal and parking facilities and cargo handling (Dube & Anno-Frempong 2016). Within the transportation industry, the bus transportation sector is the oldest and most prevalent mode of transportation that facilitates the movement of people within and between cities (Conserve Energy Future 2019; Vuchic 2017). A bus is commonly viewed as a road-based rubber-tyred vehicle, they come in different sizes and capacities and/or body types, operating on a number of routes, with the ability of transporting at least 18 passengers (Govender 2014; Vuchic 2017). Sirajudeen and Senthilkumar (2019) define a bus as a large motor vehicle with a long body, fitted with seats or benches, usually operated as part of a scheduled service.

Bus transportation has been in existence in South Africa since the 1930s (Davis 2021), and in 1980, the Southern African Bus Operators’ Association (SABOA) was established and registered as a non-profit organisation with the aim of creating a transformative and sustainable bus (including coach) industry in South Africa (Walters 2018). As South Africans become more mobile and more dependent on transport, buses have become an important mode of transportation (Litman 2021). The development of bus transportation among public and private providers may generate a competitive environment, while passengers could benefit from competitive pricing and improved services (Suwan & Saosaovaphak 2012).

Bus services expanded into the new townships emerging since 1994 (Ehrenreich 2018). Stats SA (2014); this confirms that 20% of households in South Africa have at least one member who uses bus services. This suggests that bus patronage is on a steady rise and affects the daily life activities of people. While acknowledging the importance of buses for the daily commuting of passengers to and from work and education establishments, this study focuses on long-distance coach liners. Long-distance coach liners are buses that travel long distances which include daily or overnight trips to predetermined destinations, or trips to foreign countries (Holz-Rau, Scheiner & Sicks 2014; Van de Velde 2009). Most long-distance coach liners have onboard facilities such as a toilet, entertainment (sound system and video) and Wi-Fi, and occasionally offer snacks.

Passenger satisfaction

Customer satisfaction is founded on different theories with the expectancy-disconfirmation, transaction, and cumulative satisfaction theories widely cited (Fornell 1992; Oliver 1981; Zeithaml, Berry & Parasuraman 1993). The expectancy-disconfirmation theory measures customer satisfaction based on how customers’ expectations and the performance of a product or service are conceived (Almsalam 2014). The customer would be satisfied when perceived performance exceeds expectations (Gebremichael & Singh 2019). On the contrary, when perceived performance is below expectation, the customer would be dissatisfied (Almsalam 2014; Gebremichael & Singh 2019). Customer satisfaction can also be determined after a one-time experience (transaction satisfaction) or after several encounters/use (cumulative satisfaction) of a product or service (Fornell 1992; Zeithaml et al. 1993). The current study relied on the cumulative satisfaction theory developed by Fornell (1992). The cumulative evidence of satisfaction may provide insight into
the entire experience of the passenger, reflecting pre-
consumption, during and post-consumption experience of
travelling with a long-distance coach liner.

Customer satisfaction in the context of this study is
operationalised as the extent to which the entire travelling
experience in a long-distance coach liner passenger is
perceived as pleasant (Fornell 1992; Islam et al. 2014; Khan &
Kadir 2011). Satisfied customers are likely to be loyal to a
product, or service, and are less sensitive to high prices, or
price changes, and tend to be less sensitive to competitive
offers. While satisfied customers have the potential to uplift
the business to higher levels by influencing others to buy the
product or services through positive word of mouth,
dissatisfied customers are likely to switch to competitors
(Liu, Huang & Li 2018; Prayag et al. 2017).

Several studies concluded that customers desire a holistic
‘personal experience that dazzles their senses, touches their
hearts, and stimulates their minds, while indulging in
fantasies, feelings and fun’ (Ali, Hussain & Omar 2016;
Hosany & Witham 2010). Therefore, it is the memory of an
experience that determines whether the consumer is satisfied,
repeats, recommends or talks positively about a brand,
product or service (Flacandji & Krey 2020).

Proposed hypothetical framework

Currently, consensus has not been established on the
dimensions of customer satisfaction based on the cumulative
theory of satisfaction. Therefore, this study provides ground-
breaking findings to assist future studies with established
dimensions. Thus, in order to measure passengers’
satisfaction in this study, five dimensions, namely aesthetics,
entertainment, peace of mind, emotional value and efficiency
have been selected from literature (Amoah, Radder & Van
Eyck 2016; Carins, Rundle-Thiele & Ong 2020; Khan, Garg &
Rahman 2015; Klaus & Maklan 2013) due to their influence
on customer satisfaction in various fields.

Aesthetics refers to consumers’ perception or interpretation of
the physical environment (Carins et al. 2020; Hosany &
Witham 2010), which is made up of a functional spatial layout
(Hosany & Witham 2010) which stimulates emotions
associated with pleasure (feeling good/happy), arousal (e.g.,
excitement or action) and dominance (control/importance)
(Kastenholz et al. 2018). The physical environment (outside,
inside and with comfortable seats) at a destination plays an
important role in determining attitudes, intentions regarding
future patronage and willingness to revisit, or purchase, and
may change both emotions and customers’ behaviour (Carins
et al. 2020; Wahyuddin et al. 2020). Thus, the well maintained
interior and exterior condition of a long-distance coach liner;
the cleanliness of the coach liner and its staff; the physical
environment inside the coach, which includes colour, lights,
design and interior decorations, may influence the perceived
aesthetics of the long-distance coach liner. While several
studies (Carteni & Henke 2017; Hosany & Witham 2010)
recognise the role of aesthetics in influencing consumer
behaviour, decision-making and services evaluations, Carins
et al. (2020) established that aesthetics predictively impacts
satisfaction within an ‘institutional food service setting’.
Within the transportation industry, Wahyuddin et al. (2020)
found that aesthetics has a significant effect on satisfaction.
Kastenholz et al. (2018), however, concluded that aesthetics
has an indirect effect on satisfaction. Based on these divergent
findings from different studies, this study hypothesises that:

H₃: Aesthetics directly and significantly predict passengers’
satisfaction with long-distance coach liners.

Entertainment typically occurs when people actively or
passively observe others’ activities and/or performances
(Radder & Han 2015). A functional sound system and video
equipment, attractive movies and music played on board, as
well as the provision of Wi-Fi facilities provided on board a
long-distance coach liner may contribute to entertainment
and significantly affect passengers’ satisfaction. For example,
music influences and stimulates emotions, moods, behaviour,
consumption, involvement, patronage, pleasure and a sense
that the provision of Information and Communication
Technology (ICT) and in-vehicle e-activities which form a
vital component of entertainment have a significant effect on
passengers’ travel satisfaction. Davras and Caber (2019)
initiated a study to analyse the effect of hotel services on
customer satisfaction. The findings from their study show
that entertainment has a considerable impact on passengers’
satisfaction. Similarly, Giao et al. (2021) found that
entertainment services significantly impact domestic tourist
satisfaction. These findings, from a variety of studies, suggest
that if long-distance coach liner operators provide
entertainment programmes that are differentiated and not
easily imitated, passengers are more likely to be satisfied. It
is, therefore, hypothesised that:

H₄: Entertainment directly and significantly predicts passengers’
satisfaction with long-distance coach liners.

Peace of mind reflects a mental state of being in peace and
harmony without experiencing any disruptions (Ahmadpour
et al. 2014). Amoah et al. (2016) define peace of mind as physical
and psychological safety, security and privacy. Klaus and
Maklan (2013) assert that peace of mind is linked to emotions
and involves how the customer assesses the entire service
provider before, during and after the service encounter. In a
study conducted by Govender (2014), safety was researched
from three angles, namely (1) safety of passengers, (2) safety of
drivers and (3) safety of buses. In the context of this study, safety
of passengers refers to the passengers’ fears that they are likely
to be involved in an accident as a result of using a particular
transportation mode; the condition of the vehicles; and driving
behaviour as the driver may, for instance, not be obeying the
road rules and signs (Govender 2014). Security is described as
protection of an individual, location or reputation from harm
that is caused by a person or an object (Ahokas 2017). It is
important that passengers feel secure at the waiting environment,
during the trip and when arriving at the destination (Govender 2014). Privacy is the state when an individual is free from public interruption and intrusion (Surbhi 2018). Although ensuring privacy in the transport industry may be difficult, it is important that management of long-distance coach liner companies should strive to ensure that the privacy of each individual traveller is respected. For instance, providing a wide space between seats for the passenger to pass without disturbing others allows passengers to enjoy some privacy (Ahmadpour et al. 2014). Passengers’ peace of mind could be ensured when their seats have small compartments for the storage of personal belongings, hence creating a sense of being protected (Ahmadpour et al. 2014). A study by Khan et al. (2015), which focused on customer service experience and its effect on satisfaction in hotel operations, identified that peace of mind has the most dominant predictive effect on customer satisfaction. It is, therefore, hypothesised that:

\[ H_2: \text{Peace of mind directly and significantly predicts passengers' satisfaction with long-distance coach liners.} \]

Based on prior studies, economic value was identified as a relevant dimension in measuring passenger satisfaction. Economic value represents the value that a customer assigns to goods or services based on the benefits derived (Banton 2020). According to Khan and Kadir (2011), value can be described in terms of benefits received and sacrifices made by passengers. Sacrifices of passengers may include time, effort and money paid in exchange for the benefits received. Benefits include value for money (Amoah et al. 2016). Both these factors, namely benefits and sacrifices, may influence the passengers’ satisfaction. Price, which is the amount of money that customers give up in order to obtain products or services (Kotler & Armstrong 2015), could influence the attainment of economic value and is, therefore, an important element considered by customers when they formulate their perceptions of a service. A general perception by customers is that higher prices represent better quality, while a lower price might indicate a substandard service (Amoah et al. 2016). In the context of this study, providing information relatively quickly regarding bus timetables, travelling routes, a simplified ticketing process for travelling costs, bus fares, and any other costs encountered, may influence economic value. Furthermore, passengers might appreciate a reasonably priced long-distance coach liner fare that offers good value for money. A study by Shoki et al. (2012) on perceived value, satisfaction and loyalty among mobile phone users found that economic value has a predictive power on customer satisfaction. It is, therefore, hypothesised that:

\[ H_3: \text{Economic value directly and significantly predicts passengers' satisfaction with long-distance coach liners.} \]

Efficiency constitutes the final dimension of passenger satisfaction, which is defined by Amoah et al. (2016) as the process of completing a task quickly, without wasting time, energy and resources. Efficiency also implies the ability to perform the services adequately (Sidjabat 2019). Efficiency embodies reliability and effectiveness of operations and services (Passenger Focus 2013). Reliability is influenced by customer expectations which involve services being accomplished on time, in the same manner, without defects, every time (Dhillon 2011). Effectiveness in relation to bus transportation is linked to service punctuality (prompt arrivals and departing times) (Sidjabat 2019). It is important for long-distance coach liners to operate efficiently (Van Jaarsveld 2012) and inform passengers about adjustments in travel times in the event of emergencies as bus delays may have a negative impact on passengers’ satisfaction (Passenger Focus 2013). Sidjabat (2019) found, in a study which focused on the impact of effectiveness and efficiency on transit passenger satisfaction in an airport context, that efficiency has a predictive effect on passenger satisfaction. It is, therefore, hypothesised that:

\[ H_4: \text{Efficiency directly and significantly predicts passengers' satisfaction with long-distance coach liners.} \]

From the foregoing discussions, the hypothetical framework in Figure 1 below was formulated to guide the study.

**Research methodology**

This study followed a positivist research paradigm which allowed for the application of statistics in the data analysis (Ling & Ling 2017). In order to achieve the aim of the study, predictors of passengers’ satisfaction with long-distance coach liners in South Africa needed to be identified and described. Consequently, the study was descriptive in its design. Descriptive studies are concerned with existing conditions or relationships, prevailing practices, views, attitudes and developing trends about a topic (Ling & Ling 2017). A complete sample frame of the passengers of long-distance coach liners in South Africa did not exist. In such instances, where the sample frame is unknown, but is expected to exceed 5000 people, based on the population, a sample size of 400 as recommended by Gay, Mills and Airasian (2012) was adopted for the study.
Primary data was collected through an online questionnaire that was accessible through a link. The link was distributed to the target population through emails and social media platforms, such as Facebook, WhatsApp and Twitter. The inclusion criteria were both male and female passengers of long-distance coach liners in South Africa. Two screening questions were employed to ensure that only respondents, forming part of the target population, were recruited for the study. Firstly, the potential respondents should have travelled on a long-distance coach liner in South Africa within the previous 12 months. Secondly, the potential respondent had to be at least 18 years of age. Only respondents who met these two criteria were allowed to proceed with the completion of the questionnaire. The online survey tool selected for this study was SurveyMonkey, an internet-based platform for researchers onto which surveys may be launched (Ainsworth 2019; CompareCom 2020; Waclawski 2012). Which was selected for use in this study. The advantage of using an online questionnaire is that it is flexible in collecting data, which allows the researcher to organise the questions and receive replies from respondents without talking to them separately (Kilani & Kobziej 2016). Both convenience and snowball sampling were used to recruit the target respondents. Convenience sampling helped to recruit respondents who were easily and readily available to take part in the study (Etikan, Musa & Alkassim 2016). Snowball sampling enabled the researchers to request potential respondents for additional contacts, or forward the link of the questionnaire to other potential participants (Gogtay & Thatte 2016).

The questionnaire for this study consisted of the following three sections. Section A contained the cover letter accompanying the questionnaire. Section B comprised several statements relating to the five dimensions of satisfaction. A 5-point Likert scale was used to capture the passengers’ level of agreement with the statements relating to their satisfaction with long-distance coach liners, ranging from strongly disagree (1) to strongly agree (5). All the scale items employed in the questionnaire were adapted from previously validated studies. The items measuring aesthetics were adapted from Carreira, Patricio and Jorge (2014), Carins et al. (2020) and Aidoo et al. (2013). The entertainment items were adapted from Carreira et al. (2014), Schiefebusch (2015) and De Aquino et al. (2018). The items measuring peace of mind were adapted from Schiefebusch (2015), De Aquino et al. (2018) and Carreira et al. (2014) while the items measuring economic value were adapted from Karim and De Aquino et al. (2020). The items measuring efficiency were adapted from Carreira et al. (2014), Schiefebusch (2015) and Levinson (2016). The items measuring satisfaction were adapted from Ratanavaraha et al. (2016), De Aquino et al. (2018), De Meyer and Mostert (2011) and Palawatta (2015).

Section C of the questionnaire collected details about characteristics of respondents such as gender, age, country of permanent residence, current occupation and purpose of travel. Dichotomous type questioning was used in Section C. Ethical clearance was obtained prior to data collection and data analysis was performed using International Business Machines (IBM), Statistical Packages for the Social Sciences, (SPSS) version 26.

### Ethical considerations

Ethical clearance was obtained from the Faculty Ethics Committee of the Faculty of Business and Economic Sciences, Nelson Mandela University (H20-BES-MRK-071. 12 June 2020).

### Results

#### Profile of respondents

A total of 409 questionnaires were received of which 10 were excluded from the study because they had not been correctly completed. The remaining 399 valid questionnaires were used for data analysis. As displayed in Table 1, of the 399 respondents, 44.6% were male and 55.4% were female. The age group 18–25 years was best represented in the study (48.9%), followed by those respondents between 26 and 35 years of age (38.1%). Only a small proportion of the respondents were older than 45 years (3.0%). The results indicate that 96.5% of the respondents who completed the questionnaire were South African residents. The largest proportion of respondents was students (42.6%), followed by 34.1% of respondents being full-time employed. Only one respondent was retired. According to the results, slightly less than half of the respondents (48.9%) had travelled on a long-distance coach liner once in the six months prior to data collection, followed by those who had travelled once in the year (28.3%) prior to data collection.

#### Exploratory factor analysis

Prior to commencing with the Exploratory factor analysis (EFA), Kaiser-Meyer-Olkin (KMO) measure of sample

### Table 1: Respondents’ profile.

<table>
<thead>
<tr>
<th>Profile of respondents</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>178</td>
<td>44.6</td>
</tr>
<tr>
<td>Female</td>
<td>221</td>
<td>55.4</td>
</tr>
<tr>
<td>Age (in years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18–25</td>
<td>215</td>
<td>53.9</td>
</tr>
<tr>
<td>26–35</td>
<td>152</td>
<td>38.1</td>
</tr>
<tr>
<td>36–45</td>
<td>20</td>
<td>5.0</td>
</tr>
<tr>
<td>&gt; 45</td>
<td>12</td>
<td>3.0</td>
</tr>
<tr>
<td>Country of permanent residence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>South Africa</td>
<td>385</td>
<td>96.5</td>
</tr>
<tr>
<td>Not South African</td>
<td>14</td>
<td>3.5</td>
</tr>
<tr>
<td>Current occupation of respondents</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full-time employed</td>
<td>136</td>
<td>34.1</td>
</tr>
<tr>
<td>Part-time employed</td>
<td>39</td>
<td>9.8</td>
</tr>
<tr>
<td>Retired</td>
<td>1</td>
<td>0.3</td>
</tr>
<tr>
<td>Student</td>
<td>170</td>
<td>42.6</td>
</tr>
<tr>
<td>Unemployed</td>
<td>53</td>
<td>13.3</td>
</tr>
<tr>
<td>Frequency of travel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiple times per month</td>
<td>19</td>
<td>4.8</td>
</tr>
<tr>
<td>Once a month</td>
<td>34</td>
<td>8.5</td>
</tr>
<tr>
<td>Less than once a month</td>
<td>38</td>
<td>9.5</td>
</tr>
<tr>
<td>Once in 6 months</td>
<td>195</td>
<td>48.9</td>
</tr>
<tr>
<td>Once a year</td>
<td>113</td>
<td>28.3</td>
</tr>
</tbody>
</table>

http://www.sajems.org

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Original Research
adequacy of 0.937 and Bartlett’s Test of Sphericity ($\chi^2 = 7874.204; Df = 630; p = 0.000$) were attained for the proposed independent factors. As with regard to the items measuring the proposed dependent variable, the KMO measure of sampling adequacy of 0.92 and Bartlett’s Test of Sphericity ($\chi^2 = 2537.996; Df = 28; p = 0.000$) were obtained. Based on the $p$-value, these statistics suggest that the data for both the intended independent and dependent factors were suitable for factor extraction. The results of the KMO and Bartlett’s tests enabled all 44 items to be subjected to principal factor analysis with Kaiser rotation. Next, the Principal Axis Factoring (PAF) extraction method was used to determine the number of factors that could be extracted from the dataset. The Kaiser’s criterion of selecting factors with eigenvalue more than 1 was used for factor extraction (Hair et al. 1995). Five factors with eigenvalues more than 1 could be extracted from the items measuring the proposed independent variables. The resulting five factors cumulatively explain 64.915% of the observed variability. The results also identified the existence of one factor with an eigenvalue more than 1 and explained 64.915% of the variability in the proposed items measuring the dependent factor.

### Reliability of the measuring instrument
A reliability coefficient (Cronbach’s alpha) was calculated for each factor to estimate the internal consistency of each of the items (Hair et al. 1995) and the following results were obtained (Table 2). The Cronbach’s alpha values for all factors were above 0.70, which satisfies the minimum threshold of 0.70 and confirms the reliability of the measuring instrument (Salkind 2018).

To determine discriminant validity, the square root of the average variance extracted (AVE) was determined for each factor obtained in the EFA. To determine whether there was sufficient divergent validity between factors, the square root of the AVE should be more than the correlation coefficient between the pairs of factors. Therefore, these values were compared to the inter-factor correlations with the results shown in Table 3 below.

### Correlation analysis
Pearson product moment correlation factors (Table 4) were computed to assess the relationship between the independent and dependent factors. The results show that all correlation factors were statistically significant at $p < 0.01$ (Zhu 2016). The largest correlations were found between peace of mind and satisfaction ($r = 0.815$) and efficiency and satisfaction ($r = 0.803$). This implies that peace of mind has the strongest relationship with satisfaction. The smallest correlation was found between entertainment and economic value ($r = 0.336$).

### Regression analysis
The $R^2$ of 0.761 demonstrates that 76.1% of the total variance in satisfaction is explained by the independent factors of the model. The adjusted $R^2$ of 0.758 (75.8%), $F$ value = 250.225, $p = 0.000$, indicate that the model is significant. The coefficients of the model are presented in Table 5. The results show that entertainment ($\beta = 0.027$, $p = 0.366$), aesthetics ($\beta = 0.035$, $p = 0.413$) and economic value ($\beta = 0.002$, $p = 0.958$) were not statistically significant predictors of passengers’ satisfaction. Only two factors, namely efficiency ($\beta = 0.455$, $p = 0.000$) and peace of mind ($\beta = 0.552$, $p = 0.000$), were found to be significant direct predictors of passengers’ satisfaction. Based on the results $H_4$ and $H_5$ were supported, whereas $H_3$, $H_6$ and $H_7$ were not supported. To ensure that multicollinearity was not a cause for concern, the variance inflation factor (VIF) values were obtained for each predictor. A VIF of 10 or higher indicates a serious multicollinearity issue. As the VIF values of each predictor were below 3, there does not appear to be cause for concern within this model (the final model is presented in Figure 2).

### Conclusion
Several findings were made during the study. Aesthetics was found to be significantly related to satisfaction ($r = 0.615$). However, aesthetics lacked a significant predictive effect on passengers’ satisfaction ($\beta = 0.035$, $p = 0.413$). This implies

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**TABLE 2: Reliability test.**

<table>
<thead>
<tr>
<th>Factors</th>
<th>Cronbach’s alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peace of mind</td>
<td>0.923</td>
</tr>
<tr>
<td>Efficiency</td>
<td>0.858</td>
</tr>
<tr>
<td>Economic value</td>
<td>0.840</td>
</tr>
<tr>
<td>Aesthetics</td>
<td>0.819</td>
</tr>
<tr>
<td>Entertainment</td>
<td>0.788</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>0.934</td>
</tr>
</tbody>
</table>

**TABLE 3: Discriminant validity.**

<table>
<thead>
<tr>
<th>Factor</th>
<th>SQRT(AVE)</th>
<th>Peace of mind</th>
<th>Efficiency</th>
<th>Economic</th>
<th>Aesthetics</th>
<th>Entertainment</th>
<th>Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peace of mind</td>
<td>0.655</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efficiency</td>
<td>0.572</td>
<td>0.732</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economic value</td>
<td>0.692</td>
<td>0.51</td>
<td>0.483</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aesthetics</td>
<td>0.563</td>
<td>0.614</td>
<td>0.526</td>
<td>0.344</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entertainment</td>
<td>0.579</td>
<td>0.469</td>
<td>0.545</td>
<td>0.305</td>
<td>0.396</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

SQRT: square root; AVE, average variance extracted.

**TABLE 4: Correlations between factor scores.**

<table>
<thead>
<tr>
<th>Factors</th>
<th>Entertainment</th>
<th>Aesthetics</th>
<th>Economic value</th>
<th>Efficiency</th>
<th>Peace of mind</th>
<th>Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entertainment</td>
<td>1</td>
<td>0.494**</td>
<td>0.336**</td>
<td>0.584**</td>
<td>0.532**</td>
<td>0.543**</td>
</tr>
<tr>
<td>Aesthetics</td>
<td>1</td>
<td>0.352**</td>
<td>0.606**</td>
<td>0.664**</td>
<td>0.615**</td>
<td></td>
</tr>
<tr>
<td>Economic value</td>
<td>1</td>
<td>0.513**</td>
<td>0.522**</td>
<td>0.486**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efficiency</td>
<td>0.724**</td>
<td>1</td>
<td>0.803**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peace of mind</td>
<td>0.815**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**p < 0.01; *p < 0.05.**

Based on the results observed, factors such as entertainment and economic value indicated full divergent validity, while Efficiency and Peace of Mind indicated partial divergent validity, as the square root of AVE was greater than two of the remaining four factors. Given that the factors identified during the EFA had sufficient reliability and the factors indicated divergent validity to some extent, the factors were deemed adequate for further analysis.
that increasing aesthetics will not significantly improve passengers’ satisfaction. Thus, $H_3$, stating that aesthetics directly and significantly predicts passengers’ satisfaction with long-distance coach liners is not supported. The findings contradict previous results by Wahyuddin et al. (2020). Entertainment was found to be significantly related to satisfaction ($r = 0.543$) but lacked a significant predictive effect on passengers’ satisfaction ($\beta = 0.027, p = 0.366$). This implies that increasing entertainment will not significantly improve passengers’ satisfaction. The findings do not support $H_4$ of the study which hypothesised that entertainment directly and significantly predicts passengers’ satisfaction with long-distance coach liners. The results also contradict previous findings by Giao et al. (2021).

Peace of mind was found to be most strongly correlated with passengers’ satisfaction ($r = 0.815$), and has a significant direct predictive effect on passengers’ satisfaction ($\beta = 0.552, p = 0.000$). The results of this study are in alignment with those of the study by Khan et al. (2015) which concluded that peace of mind significantly predicts passengers’ satisfaction. Thus, $H_5$ of this study is supported. Economic value was found to be significantly related to satisfaction ($r = 0.803, p < 0.01$) and demonstrated a significant direct predictive effect on passengers’ satisfaction ($\beta = 0.455, p = 0.000$). This implies that when efficiency is improved passengers’ satisfaction will be increased. The results from this study support the findings by Sidjabat (2019) which concluded that efficiency has a predictive power on passengers’ satisfaction. Based on this result, $H_6$ of this study is thus supported.

Overall, the findings indicate that peace of mind and efficiency are the only factors with direct predictive capability of passengers’ satisfaction with long-distance coach liners in South Africa. The study identified specific dimensions that have predictive effect on customer satisfaction. The findings thus contribute to the cumulative theory of satisfaction in which this study was grounded.

**Recommendations increasing peace of mind**

Long-distance travel operator managers are advised to strengthen security systems on board the coach to ensure that passengers always feel safe. Closed-Circuit Television (CCTV) cameras can be installed in the bus to monitor and alert drivers of passengers’ behaviour in the bus. Furthermore, private security personnel may be contracted to ensure that safety measures in the bus and at embarkation and disembarkation points are in place. There should be regular training for drivers on professional driving techniques (e.g. how to maintain an average speed, how to detect faults in the bus movements).

**Recommendations increasing efficiency**

Based on the above findings, it is recommended that small booklets/pamphlets be provided on each seat of the coach...
that will provide information with clear instructions on how to use/operate vital equipment in the coach. Prior to departure, the driver or assistant driver needs to educate passengers on the use of key equipment/facilities in the coach. Customers do not like to wait for the service; thus, employees of long-distance coach liners need to be well-trained to be punctual and consistent with bus departure and arrival times. Managers of long-distance coach liners are advised to provide reliable services. Travel time and waiting time are to be noted by long-distance coach liner management as a factor that influences travel decisions. To improve bus services, for example, reduce bus delays; and bus operators should adjust driver schedules by redeploying drivers to meet an original bus timetable as often as possible (Kang, Meng & Zhou 2020).

Limitations of the study and recommendations for future research

The first limitation of the study relates to the data collection method. Based on COVID-19 regulations in 2020, data were collected through an online survey, with the questionnaire distributed to respondents via email and social media, such as Facebook and WhatsApp. Due to the data collection method, not all people included in the target population had internet access and so some potential respondents could not participate due to internet access limitations. Due to this, the results should be generalised with caution, and it is advised that future studies should strive to use a data collection technique, such as an intercept interview to reach different types of respondents. The 18–25 years age group was best represented in the study (53.9%). Future studies should strive to obtain the perception of a more equal distribution of age groups. Moreover, due to COVID-19 national regulations, inter-provincial travel was prohibited during the period of data collection. Consequently, there was a low response rate among respondents who travel multiple times per month. Most respondents travelled only once in the previous 6 months. For this reason, it was difficult to determine the recent service offered by long-distance coach liners in South Africa.

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Competing interests

The authors declare that no competing interest exists in this manuscript.

Authors’ contributions

F.A. is a Senior Lecturer (Department of Marketing Management) at the Nelson Mandela University, Gqeberha, South Africa. Dr. F.A. was the main supervisor of the study and prepared the article. Prof M.v.E. is an Associate Professor in the Department of Marketing Management at the Nelson Mandela University, Gqeberha, South Africa. Prof M.v.E. was the co-supervisor of the study and prepared the article with Dr Amoah.

Miss Y.M. is an MCom candidate (Marketing Management) at the Nelson Mandela University, Gqeberha, South Africa. Miss Y.M. conceptualised the research idea, collected the data, interpreted the results and performed the final write-up of the study.

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Data availability

The authors confirm that the data supporting the findings of this study are available within the article. Supplementary data may be obtained from the corresponding author upon reasonable request.

Disclaimer

Any opinions, findings, conclusions and recommendations in this article are those of the authors and not necessarily the official position of the University or the funding institution.

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Zhu, W., 2016, ‘P<0.05, <0.01, <0.001, <0.0001, <0.00001, <0.000001…’ Journal of Sport and Health Science 5(1), 77–79. https://doi.org/10.1016/j.jshs.2016.01.019