SUSTAINABILITY, HEDONIC, UTILITARIAN, AND SOCIAL BENEFITS OF CAR SHARING: EVIDENCE FROM TANZANIA

ODRŽIVOST, HEDONIČKE, UTILITARNE I DRUŠTVENE KORISTI DIJELJENJA AUTOMOBILA: DOKAZI IZ TANZANIJE

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Abstract

Purpose – Despite a boom in consumer services sharing globally, a thorough understanding of the antecedents to customer satisfaction in emerging markets is yet to be achieved. This study tested the influence of sustainability, hedonic, utilitarian, and social benefits on satisfaction derived from and behavioral intention with regard to car-sharing services in Tanzania.

Design/Methodology/Approach – A total of 614 cases was subjected to variance-based structural equation modeling based on self-administered structured questionnaires to test hypothesized relationships. A combination of FIMIX-PLS and POS-PLS was used to identify unobserved heterogeneity in the sample.

Findings and implications – Hedonic, sustainability, and utilitarian benefits were found to have a statistically significant effect on satisfaction and behavioral intention of car-sharing customers, while social benefits had no significant effect on both satisfaction and behavioral intention. Moreover, satisfaction is a partial mediator of hedonic, sustainability, and utilitarian effect on behavioral intention. The data showed signif-

Sažetak

Svrha – Usprkos globalnom rastu usluga dijeljenja, temeljito razumijevanje prethodnica zadovoljstvu korisnika na tržištima u razvoju tek treba biti potvrđeno. Istraživanje je provjeravalo utjecaj održivosti, hedonističkih, utilitarnih i društvenih koristi na zadovoljstvo i namjere ponašanja proizašle iz usluga dijeljenja automobila u Tanzaniji.

Metodološki pristup – Putem strukturiranog upitnika koji su ispitanici samostalno ispunjavali prikupljeno je ukupno 614 odgovora. Za testiranje pretpostavljenih odnosa korišteno je modeliranje strukturnih jednadžbi temeljeno na varijanci. Kombinacija FIMIX-PLS-a i POS-PLS-a korištena je za identifikaciju nezapažene heterogenosti u uzorku.

Rezultati i implikacije – Uočeno je da hedonizam, održivost i utilitarizam imaju statistički značajan učinak na zadovoljstvo i namjeru ponašanja korisnika usluge dijeljenja automobila, dok društvene koristi nisu imale značajan učinak na zadovoljstvo i na namjeru ponašanja. Nadalje, zadovoljstvo je djelomični medijator hedonističkog, održivog i utilitarnog utjecaja na namjeru

icant unobserved heterogeneity with a four-cluster solution as optimal.

Limitations – The study relied on a cross-sectional survey conducted in only one country (Tanzania), with the majority of the respondents being young people as the main embracers of the sharing economy.

Originality – The study uses multi-theoretical lenses with overarching Social Exchange Theory (SET), factoring in multiple antecedents to satisfaction and intentions of using car-sharing services in a less researched sub-Saharan African context. Thus, it affirms the utility of the Social Exchange Theory, with utilitarian, hedonic, and sustainability factors having significant effects on satisfaction and intention. Practical recommendations are offered to the owners and platforms used for managing and promoting car-sharing services in the developing country context.

Keywords – sharing, sustainability, satisfaction, Tanzania, transportation

ponašanja. Podaci su pokazali značajnu nezapaženu heterogenost, pri čemu je rješenje s četiri klastera optimalno.

Ograničenja – Istraživanje se odnosi na kros-sekcijsko istraživanje u jednoj zemlji (Tanzaniji) u kojoj su većinom mladi glavni pristalice ekonomije dijeljenja.

Doprinos – Istraživanje je koristilo podlogu sveobuhvatne Teorije društvene razmjene (SET) koja je u obzir uzimala višestruke prethodnice zadovoljstvu i namjeri korištenja usluga dijeljenja automobila u manje istraženom kontekstu Subsaharske Afrike. Istraživanje potvrđuje korisnost Teorije društvene razmjene s utilitarnim, hedonističkim i čimbenicima održivosti koji imaju značajan učinak na zadovoljstvo i namjere korisnika. Ponuđene su preporuke za praksu vlasnicima i platformama koji upravljaju i promoviraju usluge dijeljenja automobila u kontekstu zemlje u razvoju.

Ključne riječi – dijeljenje, održivost, zadovoljstvo, Tanzanija, prijevoz

1. INTRODUCTION

The emergence of a sharing economy, which focuses on the sharing of underutilized assets, monetized or not (Rinne, 2017), has in recent years revolutionized a number of service sectors. Some of these include transportation, accommodation, and entertainment. A revolution of this kind calls for innovative marketing strategies that can attract and retain users in the sharing economy. Also known as collaborative consumption (Ertz, 2019), the sharing economy has attracted growing interest from researchers (Belk, 2014). Research into the sharing economy can be categorized into research at organizational and individual levels (Benoit, Baker, Bolton, Gruber & Kandampully, 2017). While the former explores organizational issues and strategic options for using and leveraging the benefits of the shared economy, the latter focuses on the aspects on the consumer side.

Although organizational studies have dominated the research landscape, studies of the factors influencing customers of the shared economy are now on the increase. Among the customer-focused studies, two major groups can be identified. The first strand of such research is technology-focused (e.g., Lee, Chan, Balaji & Chong, 2018), capturing the perceived benefits, barriers, and beliefs associated with the technological aspects of the shared economy. The second strand of customer research of the shared economy focuses on the motivations, satisfaction, behavioral intentions, and experiential aspects of consumption (De Canio, Pellegrini & Martinelli, 2018; Arteaga-Sanchez, Belda-Ruiz, Ros-Galvez & Rosa-Garcia, 2020).

Studies focusing particularly on the motivational and experiential aspects of the customer side of the sharing economy have shown mixed results when it comes to the effects of utilitarian, hedonic, and social aspects on satisfaction and behavioral intentions of shared economy customers (Kozlenkova, Lee, Xiang & Palmatier, 2021). For instance, Bardhi and Eckhardt (2012), and Bellotti et al. (2015) found economic benefits derived from car sharing to be the main source of satisfaction when compared to other motives. Others have observed sustainability benefits (Botsman & Rogers, 2010; Arteaga-Sanchez et al., 2020), social benefits (De Canio et al., 2018), and even hedonic benefits (Hamari, Sokklint & Ukkonen, 2016; Hwang & Griffiths, 2017) to be significant predictors of satisfaction and behavioral intentions in the sharing economy context. Using meta-analysis, Kozlenkova et al. (2021) found hedonic benefits, as opposed to utilitarian, social, and sustainability factors, to be the main driver motivating individuals to engage in sharing-economy services. On the other hand, Jiang, Feng, and Li (2021) found the social-hedonic driver to have a relatively weaker impact, and sustainability to lack a significant impact, on intention in the context of the sharing economy. Such divergence in results denies managers in the sharing economy sector the appropriate strategies that can help them enhance their business by ensuring customer satisfaction. Differences in previous research might be due to a narrow theoretical lens focusing on a single theory such as the Theory of Planned Behavior (Mao & Lyu, 2017), Social Exchange Theory (Boateng, Kosiba & Okoe, 2019), Norm Activation Model (Kim, Woo & Nam, 2018), and Social Comparison (Mauri, Minazzi, Nieto-Garcia & Viglia, 2018), as opposed to integrating them to provide a comprehensive understanding of the sharing economy, or placing them into an economic, historical, or socio-cultural research context that might influence the relationships concerned. Moreover, the differences in findings might originate from the heterogeneity of sharing economy participants, as causal tests are performed without segregating possible user segments. Such diverse, mixed findings that overlook possible market segments offer no practical implications for marketers to act upon. To fill this knowledge gap, this study utilizes various theories in combination with several variables capturing a variety of factors influencing Uber and Taxify customer satisfaction and behavioral intentions in the context of a developing country in sub-Saharan Africa,

specifically urban Tanzania. Importantly, the antecedents with respect to sharing economy users are tested comparatively against possible user segments as the population of users is not assumed to be homogeneous.

2. LITERATURE REVIEW

The sharing economy uses digital platforms to give customers access to, rather than ownership of, tangible and intangible assets (Hamari et al., 2016). Defining the sharing economy has been a daunting task due to the novelty of the phenomenon, as well as its application in a variety of contexts and scopes, with a number of different models devised. Some of the terms that have been used synonymously with the sharing economy include collaborative consumption (Belk, 2014), access-based consumption (Bardhi & Eckhardt, 2012), lateral exchange market, peer-to-peer economy (Perren & Kozinets, 2018), as well as an increasing number of other related terms as the phenomenon gains impetus in both an academic and a consumption arena. This study gives preference to the term "sharing economy" due to its inclusivity compared to the other terms, which are limited in context and scope. For instance, access-based consumption (Bardhi & Eckhardt, 2012) seems to give precedence to the technological aspects of the sharing economy over the act of consumption. Furthermore, collaborative consumption (Belk, 2014) seems to focus more on the act of consumption which takes place jointly among all the participants having the same end goal. In this study, the sharing economy is defined as consumption facilitated by different organizations which connect users/renters and owners/providers of consumer-to-consumer or business-to-consumer platforms allowing rental in a more flexible and socially interactive manner (Parente, Geleilate & Rong, 2018). Such a definition truly reflects and captures the inclusivity of the sharing economy without giving prominence to the means or the context of consumption that takes place in the sharing economy.

The literature on the sharing economy is replete with theories attempting to describe and explain the phenomenon. Some of these include the Theory of Planned Behavior (Mao & Lyu, 2017), Social Exchange Theory (Boateng et al., 2019; Kozlenkova et al., 2021), Expectation-Confirmation Theory (Arteaga-Sanchez et al., 2020), Self-Determination Theory (Hamari et al., 2016), Norm Activation Model (Kim et al., 2018), Social Comparison (Mauri et al., 2018), as well as a combination of these and other theories. This study employs the Theory of Planned Behavior, Social Exchange Theory, Norm Activation Model, and Social Comparison, all of which shed light on the utility, hedonic, social, and sustainability aspects of the sharing economy in relation to the satisfaction and behavioral intentions of consumers.

Findings of previous empirical studies (Botsman & Rogers, 2010; Bardhi & Eckhardt, 2012; Hamari et al., 2016; Jiang et al., 2021; Kozlenkova et al., 2021) using diverse theoretical frameworks for the sharing economy point to different antecedents to satisfaction and behavioral intentions. Such divergence in results calls for further research, especially with regard to less developed countries, such as those in Africa in which the sharing economy has penetrated the market. The following section makes use of the selected theories, as well as previous empirical studies, in arguing for the hypotheses used to guide the study.

2.1. Research model and hypotheses

Customers are engaged in an exchange when they believe the benefits to be derived from it will be greater than or equal to the costs they have to incur in the overall process of obtaining, using, and disposing of a product or service. This cost-benefit reasoning of customers reflects the Social Exchange Theory (Boateng et al., 2019), which can be used to explain the benefits and satisfaction of exchange partners, including those in the sharing economy. As this theory explains the general concept of exchange, it is

considered to be the overarching theory in this study. Specifically, the theory is used to explain whether the benefits derived by sharing economy customers outweigh the costs, or rather result in their satisfaction with the service obtained, thus influencing their future behavioral intentions with respect to the service. Benefits that may be accrued from the sharing economy include exchange utilitarian, hedonic, social, and sustainability benefits (Tussyadiah, 2016; Benoit et al., 2017; Hwang & Griffiths, 2017; Gazzola, Vatamanecu, Andrei & Marrapodi, 2018; Boateng et al., 2019; Arteaga-Sanchez et al., 2020).

Utilitarian benefits are those related to certain tasks or functional benefits of consumption (Hwang & Griffiths, 2017). In fact, such benefits reflect the solutions that the customers are seeking through the consumption of a product or service. Utilitarian benefits pertain to rationalized benefits, including efficiency, time saving (Hwang & Griffiths, 2017), and economic benefits (Tussyadiah, 2016; Benoit et al., 2017; Arteaga-Sanchez et al., 2020). Within the emerging empirical literature on values or benefits derived from the sharing economy, utilitarian benefits can arguably be considered the main benefits customers are seeking in the exchange. The sharing economy entails a more efficient use of underutilized resources, ensuring economic benefits for both providers and consumers (Benoit et al., 2017). However, the emerging empirical evidence does not point to the same conclusion of utilitarian benefits being predominant from the customer's side. Some studies have found economic benefits to be the main predictor of customer satisfaction and intention to continue using sharing-economy services (Tussyadiah, 2016; Hwang & Griffiths, 2017; De Canio et al., 2018), while others have observed otherwise (Hamari et al., 2016; Arteaga-Sanchez et al., 2020). Such divergence in findings might reflect the context and socio-demographic characteristics of the sample used. For instance, it can implicitly be concluded that, in immature economies, young people find it pressing to make efficient use of their meager financial resources (reflecting Arteaga-Sanchez et al., 2020). In setting the research in Tanzania, as a developing country in which the majority of people presumably fall in the middle- and low-income brackets, the aim is to test the influence of utilitarian benefits of a sharing-economy service, such as car sharing, in an urban setting. Therefore, we find it logical to posit the following:

H_1: *Utilitarian benefits have significant effects on the satisfaction with a sharing-economy service.*

H_2: *Utilitarian benefits have significant effects on behavioral intention with respect to a sharing-economy service.*

Hedonic benefits relating to enjoyment and pleasurable experiences which are derived from using products and services under the sharing economy have been widely explored (Hamari et al., 2016; Tussyadiah, 2016; Hwang & Griffiths, 2017), with possible relationships indicated. But few studies examine the impact of hedonic benefits on the satisfaction and intention of sharing economy customers. Hence, more studies are needed to affirm the influence of such benefits in the consumption of sharing-economy services in comparison to other benefits, especially in developing countries. It is in developing countries that the middle class is growing and substantial portions of the population are relatively less endowed materially compared to those in developed countries. In that regard, hedonic benefits are likely to have a greater influence on satisfaction as well as intention of continued use of products and services than utilitarian benefits.

Using a product or service that cannot be afforded by the majority of the urban population in the African context in an arrangement such as the sharing economy might heighten the enjoyment and pleasurable experience of the users. Such an assertion finds support from Lawson, Gleim, Perren, and Hwang (2016), who observed that sharing-economy products provide their users with an opportunity to live a life that was previously unimaginable to them and enjoy a feeling of freedom from pressing needs. Thus, it is pertinent to test the following hypotheses:

H_3: *Hedonic benefits have significant effects on the satisfaction with a sharing-economy service.*

H_4: *Hedonic benefits have significant effects on behavioral intention with respect to a sharing-economy service.*

Social benefits and related concepts, such as reputation, need for prestige, and community belonging, have been used empirically as antecedents to customer satisfaction and behavioral intentions in the context of the shared economy (Mohlmann, 2015; Hamari et al., 2016; Gazzola et al., 2018).

Support to the potential influence of social benefits on customer satisfaction and behavioral intentions is provided through the lens of the Theory of Planned Behavior (TPB) and Social Comparison Theory (SCT). A component of note under TPB is the subjective norm, representing the perceived opinions of other, close or important people that a person values, thus influencing their attitude and intention towards a certain product (Ajzen, 1991). A person making a consumption decision by considering the costs and benefits to be derived from the consumption might factor in the aspect of other people's opinions on the consumption being considered. The Social Comparison Theory puts forward that people often evaluate their opinions, abilities, and behavior by comparing themselves with others in a similar context (Argo, White & Dahl, 2006). Based on these two theories, the possible effects of social benefits on satisfaction and behavioral intention in the sharing economy context are explicitly implied.

However, certain contradictions may be found in the empirical findings, with some researchers observing a lack of relationship (Hwang & Griffiths, 2017; Boateng et al., 2019) and others finding significant relationships (De Canio et al., 2018; Arteaga-Sanchez et al., 2020). Using the consumers' need for prestige and social connection as antecedents to Uber and Taxify riders' behavioral intentions in the sub-Saharan African context (Ghana), the two were found to be lacking in any significant effects as hypothesized. A possible explanation for the lack of relationship might lie in the operationalization of the two constructs of prestige and connection focusing on internal aspects (e.g., self-confidence and feeling loved) rather than factoring in the element of "others", in line with the TPB and Social Comparison Theory.

Another plausible explanation for the lack of effects of prestige and connection on behavioral intentions, as posited by Boateng et al. (2019), might be the presence of mediating variables between the relationships. Thus, this study operationalizes social benefits in a broad, encompassing manner reflecting the opinions of others as perceived by target customers in relation to the usage of Uber and Taxify services. Two further hypotheses are subjected to tests:

H_5: *Social benefits have significant effects on the satisfaction with a sharing-economy service.*

H_6: *Social benefits have significant effects on behavioral intention with respect to a sharing-economy service.*

All over the world, growing concerns for the environment due to over-consumption have put a spotlight on the idea of sustainable consumption (Gansky, 2010; Piscicelli, Cooper & Fisher, 2015). Although a variety of perspectives have been applied in describing it (Liu, Oosterveer & Spaargaren, 2016), sustainable consumption can be said to entail positive economic, social, and environmental effects through voluntary behavior. Such consumption relates directly to the sharing economy phenomenon as the latter serves to utilize limited resources more efficiently, which in turn leads to a decrease in production and thus in the negative environmental effects arising from both production and consumption.

A theoretical framework that may potentially be used to explain customer satisfaction and intention in the sharing economy context is the Norm Activation Model (NAM) (Schwartz, 1977). This theory describes altruistic behavior, such as the consumption of sustainable products, as being motivated by personal norms, some of

which are of altruistic nature (Schwartz, 1977). Altruistic personal motives result from a person being aware and taking responsibility while acting for the benefit of others or the community at large. In the context of the sharing economy, whose consumers have been noted as being aware of the current environmental problems resulting from overconsumption and as taking steps towards sustainable consumption behavior, it is logical to expand this notion and state that environmental concerns will have a behavioral impact, particularly on satisfaction and intention to continue using products in the sharing economy context.

The question of whether concerns for environmental sustainability have an effect on customer satisfaction and behavioral intentions in the sharing economy is still puzzling due to diverging empirical results. Mohlmann (2015), for instance, noted that environmental concerns have no impact on satisfaction in car and accommodation sharing. On the other hand, others have noted that sustainability concerns may predict satisfaction and behavioral intentions (Hamari et al., 2016; Arteaga-Sanchez et al., 2020). In order to contribute to this debate, this study aims to test the following sustainability-centered hypotheses:

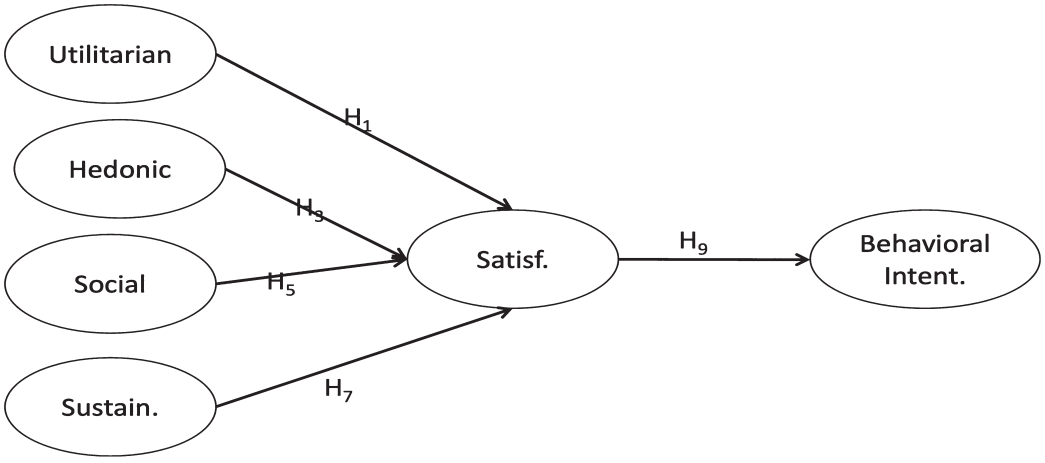
H_7: *Sustainability benefits have significant effects on the satisfaction with a sharing-economy service.*

H_8: *Sustainability benefits have significant effects on behavioral intention with respect to a sharing-economy service.*

The conceptual framework guiding the study is shown in Figure 1. In its simplified portrayal, hypotheses H_2, H_4, H_6, and H_8 testing the influence of utilitarian, hedonic, social, and sustainability benefits on behavioral intentions are not included. As a means of confirming the overly tested relationship between satisfaction and intention, H_9 is also introduced and tested:

H_9: *Satisfaction has a significant effect on behavioral intention with respect to a sharing-economy service.*

FIGURE 1: Research model



NB: H_2, H_4, H_6, and H_8 testing the influence of utilitarian, hedonic, social, and sustainability benefits on behavioral intentions are not included.

3. DATA AND METHODS

3.1. Data collection

As the focus of this study is car sharing in the context of Tanzania, the target population consisted of individuals who had previously used car-sharing services. Data was collected from a convenience and judgmental sample of Dar es Salaam residents from May to June 2019, enlisting the help of trained undergraduate students as research assistants. The research activity was part of the students' skill-building exercise in a service marketing course; it required the students to collect, enter, and preliminarily analyze the collected data for the purposes of marketing decision-making. The research assistants conveniently approached potential respondents in commercial centers of Dar es Salaam (the largest city and commercial hub of Tanzania) such as supermarkets and shopping malls. After introducing themselves by showing their student identity cards, the research assistants explained the purpose of the research to potential respondents. Only those potential respondents who had used either Uber or Taxify in the preceding 3 months were considered (judgmental sampling) and, upon agreeing to participate in the study, provided with a questionnaire. Out of a total of 650, 614 duly filled questionnaires were deemed suitable and used in the data analysis.

3.2. Research instrument

The questionnaire used consisted of two sections, the first of which served to capture demographic variables and car-sharing preferences using categorical questions. The second section contained questions regarding sustainability, hedonic, utilitarian, and social benefits derived from car sharing as well as questions on satisfaction and behavioral intentions. Those questions were adapted from previous research conducted (Hamari et al., 2016; Hwang & Griffiths, 2017) in order to ensure reliability and validity. The questions addressing the variables under consideration were framed using a 5-point Likert scale ranging between 1 for "strongly disagree" and 5 for "strongly agree".

3.3. Data analysis

The data was analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 3. As suggested by Anderson and Gerbing (1988), a two-stage approach was applied by first examining the reliability and validity of the measurement model and by subsequently assessing the structural model used for testing the hypothesized relationships. Unobserved heterogeneity in the data was assessed by a combination of Finite Mixture Partial Least Squares (FIMIX-PLS) and Prediction-Oriented Segmentation (POS-PLS) given that such heterogeneities tend to significantly distort path estimation in the data as a whole, leading to unrealistic conclusions (Hair et al., 2016).

4. RESULTS

A description of the sample is provided in Table 1. The sample is relatively balanced in terms of gender, with 49.2% male and 50.8% female respondents. With regard to occupation and age, students (66.6%) and young people (77.5%) predominated. Uber was found to be the respondents' preferred ridesharing service, which might reflect an early entry of that service provider in the Tanzanian market (2016) as compared to Taxify (2017). The fact that 56.5% of the respondents identified themselves as residents of the Kinondoni District testifies to the density of its population compared to the other two districts of Dar es Salaam.

Results concerning the measurement model are shown in Table 2. All factor loadings for the reflective items were above the cut-off point of 0.70, proving sufficient indicator reliability, with the AVE value around .50. Reliability measures (composite and Cronbach's Alpha) were greater than .70, reflecting excellent convergent validity and internal consistency, respectively (Hair, Ringle & Sarstedt, 2011).

TABLE 1: Sample profile

Variable	Frequency	%
Gender		
Male	302	49.2
Female	312	50.8
Age		
Below 20	47	7.7
21-30	476	77.5
31-40	68	11.1
41-50	18	2.9
51 and above	5	.8
Income		
Below 100,000	184	30.2
100,001-300,000	196	33.2
300,001-500,000	122	2.0
500,001-1m	68	11.2
1m and above	39	6.4

Variable	Frequency	%
Occupation		
Student	409	66.6
Government employee	52	8.5
Private sector employee	62	10.1
Businessperson	66	10.7
Other	25	4.2
Residence		
Temeke	117	19.1
Ilala	150	24.4
Kinondoni	347	56.5
Preferred ridesharing service		
Uber	394	64.2
Taxify	220	35.8

TABLE 2: Reliability and convergent validity

Construct	Item	Mean	Stdev.	Factor loadings	Cronbach's Alpha	CR	AVE	VIF
Behavioral Intention	B13	3.87	1.020	0.848	0.730	0.848	0.652	1.708
	BI1	4.04	.963	0.701				1.241
	BI2	4.11	.924	0.863				1.748
Satisfaction	CS1	3.77	.963	0.734	0.630	0.802	0.574	1.226
	CS2	3.80	.920	0.780				1.354
	CS3	3.84	.972	0.759				1.212
Hedonic	H1	4.12	.885	0.839	0.767	0.866	0.683	1.869
	H2	4.10	.884	0.864				1.951
	H3	3.88	.956	0.775				1.326
Social	S1	3.31	1.210	0.757	0.892	0.915	0.606	2.086
	S2	3.20	1.137	0.821				2.668
	S3	3.35	1.126	0.767				1.856
	S4	3.48	1.213	0.795				1.972
	S5	3.41	1.195	0.780				1.873
	S6	3.35	1.168	0.791				2.214
	S7	3.17	1.248	0.736				1.958
Sustainability	SC1	3.41	1.074	0.808	0.854	0.901	0.695	1.814
	SC2	3.24	1.140	0.848				2.145
	SC3	3.55	1.016	0.843				2.085
	SC4	3.48	1.064	0.836				1.914
Utilitarian	U3	4.00	.901	0.865	0.776	0.870	0.691	1.767
	U4	4.04	.873	0.844				1.691
	U5	4.14	.885	0.783				1.455

The Fornell-Larcker criterion was used to check the discriminant validity by comparing the AVE square root with the correlation between the constructs. In line with the criterion that the AVE square root should be greater than the correlation between the constructs (Fornell & Larcker, 1981), adequate discriminant validity was confirmed by the results shown in Table 3.

TABLE 3: Fornell-Larcker Criterion

Variable	BI	Hedonic	SAT	Social	Sustainability	Utilitarian
BI	0.808					
Hedonic	0.415	0.827				
SAT	0.560	0.441	0.758			
Social	0.275	0.428	0.302	0.779		
Sustainability	0.288	0.332	0.346	0.559	0.834	
Utilitarian	0.474	0.520	0.402	0.261	0.281	0.831

To further assess the discriminant validity and complement the Fornell-Larcker criterion, Heterotrait-Monotrait (HTMT) ratios were obtained. Henseler, Ringle, and Sarstedt (2015) found HTMT to be a superior measure in assessing the validity of constructs. Table 4 shows all the values of HTMT to be below the threshold of 0.85 (Henseleret al., 2015), indicating adequate discriminant validity.

TABLE 4: HTMT values for discriminant validity

Variable	BI	Hedonic	SAT	Social	Sustainability	Utilitarian
BI						
Hedonic	0.553					
SAT	0.814	0.633				
Social	0.342	0.511	0.397			
Sustainability	0.371	0.408	0.475	0.638		
Utilitarian	0.629	0.677	0.570	0.306	0.343	

After confirming the validity of the measurement model, the next step was to test the structural model using the bootstrapping technique with 5,000 subsamples (Hair, Hult, Ringle & Sarstedt, 2017). With the exception of two of the hypothesized relationships (H_3 and H_4), all other relationships were found to be statistically significant (Table 5). Based on recommendations given by Carrion, Nitzl, and Roldan (2017) and Hair et al. (2017), the nature of mediation was checked, calculating the Variance Accounted For (VAF) as a ratio of the indirect to the total effect that explains the extent to which the mediation process accounts for the dependent variable's variance. Using VAF, the effect of sustainability on behavioral intentions approaches the value of .80, thus suggesting full mediation, as confirmed by the lack of a significant direct effect.

TABLE 5: Structural model for hypothesized relationships

Path	Direct	Indirect	Total effect	VAF	Mediation type
Utilitarian -> SAT (H_1)	0.208***	NA	0.208***	-	-
Utilitarian -> BI (H_2)	0.253***	0.083***	0.336***	0.2470	PM
Hedonic -> SAT (H_3)	0.255***	NA	0.255***	-	-
Hedonic -> BI (H_4)	0.081*	0.102***	0.182***	0.5604	PM
Social -> SAT (H_5)	0.037	NA	0.037	-	-
Social -> BI (H_6)	0.041	0.015	0.055	0.2727	-
Sustainabil. -> SAT (H_7)	0.183***	NA	0.183***	-	-
Sustainabil. -> BI (H_8)	0.03	0.073***	0.104***	0.7019	FM
SAT -> BI (H_9)	0.4***	NA	0.4***	-	-

PM: Partial Mediation; FM: Full Mediation; BI: Behavioral Intentions; SAT: Satisfaction

*** Sig. 1%, *** Sig. 5%, * Sig. 10%

Results for the Finite Mixture Partial Least Squares (FIMIX-PLS) aimed at identifying unobserved heterogeneity in the sample are presented in Table 6. As the procedure is an iterative one performed for a series of cluster solutions (K), 5 iterations were found to suffice due to an increase in the AIC, BIC, and CAIC criterion from the fifth cluster, indicating a poor fit of the solution beyond the 4th cluster. With the four-cluster solution, the Entropy Statistics also achieved the minimum cut-off point of .50, as well as a 10% minimum size of the sub-samples to guarantee proper and sensible cluster interpretations (Hair et al., 2017).

TABLE 6: FIMIX-PLS solution

Criterion	S1	S2	S3	S4	S5
AIC (Akaike's Information Criterion)	2,997.93	2,932.92	2,895.42	2,624.97	2,586.46
AIC3 (Modified AIC with Factor 3)	3,008.93	2,955.92	2,930.42	2,671.97	2,645.46
AIC4 (Modified AIC with Factor 4)	3,019.93	2,978.92	2,965.42	2,718.97	2,704.46
BIC (Bayesian Information Criteria)	3,046.53	3,034.54	3,050.06	2,832.63	2,847.15
CAIC (Consistent AIC)	3,057.53	3,057.54	3,085.06	2,879.63	2,906.15
HQ (Hannan Quinn Criterion)	3,016.83	2,972.44	2,955.56	2,705.73	2,687.84
MDL5 (Minimum Description Length with Factor 5)	3,328.94	3,625.03	3,948.63	4,039.28	4,361.88
LnL (LogLikelihood)	-1,487.96	-1,443.46	-1,412.71	-1,265.48	-1,234.23
EN (Entropy Statistic (Normed))		0.298	0.388	0.515	0.701
NFI (Non-Fuzzy Index)		0.337	0.389	0.48	0.644
NEC (Normalized Entropy Criterion)		430.292	375.076	297.421	183.567
segment size 1 cluster	1				
segment size 2 clusters	0.561	0.439			
segment size 3 clusters	0.401	0.392	0.206		
segment size 4 clusters	0.32	0.29	0.196	0.193	
segment size 5 clusters	0.49	0.197	0.177	0.087	0.049

S: Segment

Path modeling was performed for each of the four segments, as shown in Table 7. A comparison of the path results for the pooled data and those of the four segments clearly indicates differences in the segments' behavior. Focusing on the behavioral intentions path, the four segments are labelled as *sustainers* (segment 1), *utilitarians* (segment 2), *socialites* (segment 3), and *hedonists* (segment 4), as sustainability, utilitarian, social, and hedonic benefits, respectively, were found to be the main positive significant antecedents with greater strengths. When comparing those with the results for pooled data, a change in sign is visible in some segment paths. For the segment comprising utilitarians, the hedonic, social, and sustainability effects on behavioral intentions turned into significant negative effects. For the socialites segment, the social, sustainability, and utilitarian effects on satisfaction became negative significant antecedents to satisfaction. For the hedonists and sustainers segments, two paths and one path, respectively, had a change of sign.

TABLE 7: Multi-group analysis

Paths	Direct effect				Indirect			
	Utilitarians	Sustainers	Socialites	Hedonists	1	2	3	4
Hedonic -> BI	0.071*	-0.375***	0.058	0.646***	0.171***	0.011	0.198***	0.312***
Hedonic -> SAT	0.298***	0.161***	0.302***	0.542***				
SAT -> BI	0.572***	0.066	0.654***	0.576***				
Social -> BI	-0.068	-0.181**	0.61***	0.101***	-0.164***	0.035	-0.162**	0.005
Social -> SAT	-0.287***	0.528***	-0.248***	0.009				
Sustain. -> BI	0.316***	-0.261***	-0.205	0.195***	0.485***	-0.006	-0.403***	-0.14***
Sustain. -> SAT	0.847***	-0.092	-0.615***	-0.243***				
Utilitar. -> BI	0.106***	1.009***	0.465***	-0.479***	0.02	0.024	-0.338***	0.298***
Utilitar. -> SAT	0.035	0.364***	-0.516***	0.518***				
SAT- R^2	69.5	65.1	71.0	81.1				
BI- R^2	77.6	71.3	57.1	89.5				

*** Sig. 1%, *** Sig. 5%, * Sig. 10%, SAT – Satisfaction, BI – Behavioral Intentions

5. DISCUSSION AND IMPLICATIONS

The purpose of this study was to test the influence of utilitarian, hedonic, social, and environmental sustainability benefits on satisfaction and behavioral intentions using Uber and Taxify as examples of sharing-economy services in the context of a sub-Saharan African country, specifically in Tanzania. Based on the Structural Equation Modeling technique, the results indicate utilitarian, hedonic, and sustainability benefits to generally have a significant impact on both user satisfaction and their behavioral intentions. Furthermore, satisfaction is found to partially mediate the effects of utilitarian, hedonic, and sustainability benefits on behavioral intentions. Thus, with the exception of hypotheses H_3 and H_4, all other hypotheses were supported by the results obtained. In order to avoid generalization of the results which might mask unobserved heterogeneity within the pooled data (Hair, Sarstedt, Matthews & Ringle, 2016), a combination of FIMIX and POS-PLS was employed to identify possible segments within the dataset, resulting in four segments being identified. The first segment with utilitarian benefits having the greatest impact on

satisfaction was labeled *utilitarians*. The second, third, and fourth segments were labeled *sustainers*, *socialites*, and *hedonists,* respectively, to reflect the individual benefits having the largest impact on satisfaction.

The results obtained are in line with previous findings, particularly on the effects of utilitarian factors on satisfaction (Mohlmann, 2015; Hwang & Griffiths, 2017; De Canio et al., 2018), thus lending support to the application of the Social Exchange Theory with regard to car-rental services in the context of the sharing economy. In addition to supporting the Social Exchange Theory through the direct and indirect effects of hedonic benefits on satisfaction and behavioral intentions, respectively, such a significant positive effect confirms the applicability of hedonic benefits in the developing country context. Reiterating Lawson et al. (2016), the effects of hedonic benefits on the two critical variables are logical when considering the fact that owning a car in the context of a developing country might be seen as a luxury. The stronger effects on satisfaction of hedonic benefits than of utilitarian benefits, as against hedonic benefits having a lesser effect on behavioral intentions than utilitarian benefits, imply different causal mechanisms. The stronger indirect effects of hedonic benefits on behavioral intentions through satisfaction compared to the utilitarian-satisfaction indirect path to behavioral intentions further amplify a differing causal mechanism. Compared to the study conducted by Kozlenkova et al. (2021), who found hedonic benefits to have a stronger effect on intentions in the context of the sharing economy than utilitarian benefits, the results obtained by the present research have significant theoretical value. Theoretically, such causal mechanism necessitates models with behavioral intentions as the final dependent variable needs to factor in mediating variables such as satisfaction for comprehensive pathways to be discerned.

The stronger effects of sustainability on both satisfaction and behavioral intentions uphold the application of the Norm Activation Model (Schwartz, 1977) in the context of car sharing. Such effects of sustainability on satisfaction and behavioral intentions might reflect the wider environmental concerns that have penetrated society at large, thus resulting in the likelihood of opting for environmentally-friendly services such as car sharing (Botsman & Rogers, 2010). Surprisingly, social benefits were found to have no effect on the satisfaction or behavioral intentions of car-sharing customers. Consequently, the general utility of the social comparison is diminished.

One of the major contributions of the present study consists in the segmentation of the sample, with the hypothesized relationships behaving differently within the four segments. Such an approach clarifies the conflicting results obtained from previous studies that had used a pooled sample on the assumption of no unobserved heterogeneity within that sample (e.g., Mohlmann, 2015; Hamari et al., 2016; Hwang & Griffiths, 2017; Arteaga-Sanchez et al., 2020). As the path analyses for the different segments indicate different strengths, an outright dismissal of a theory explaining the relationship is unwarranted. For instance, the general lack of effects of social benefits on both satisfaction and behavioral intentions clearly indicates the applicability of the social comparison theory to specific segments. This is so on account of their effects for the segments named as utilitarians and socialites being positive and significant, respectively.

This study also offers practical insights to platform managers and operators of service facilities in the sharing economy. The presence of the four segments of car-sharing customers, with the different effects of the antecedents to satisfaction and behavioral intentions, should illustrate the importance to marketers and operators working in the sharing economy of employing generic marketing strategies of segmenting, targeting, and positioning of their services differently to different segments. For instance, for the hedonist group, whose satisfaction and behavioral intentions were strongly influenced

by hedonic aspects such as enjoyment and a sensation of feeling good when ridesharing under the sharing economy, marketers should ensure that the platform used by the customers captures those hedonic aspects. In order for service providers to satisfy their customers and create favorable, positive behavioral intentions, they should make sure a ride is enjoyable and comfortable. With regard to the sustainer segment, marketers and operators could make use of advertisements and other marketing communication tools to further cement the idea of shared services being beneficial for the environment. Moreover, regulations for service providers stimulating the use of fuel-efficient and environmentally friendly vehicles can be imposed by regulatory bodies, thus ensuring that the services are indeed sustainable not only as perceived by the customers but also objectively.

Despite providing novel insights into sharing-economy services in a developing country context while also applying sophisticated methodological analyses, the current study has some intrinsic limitations that should be acknowledged. First, the data was collected using a cross-sectional survey which might not be able to capture the dynamic nature of customer perception and behavior. Second, with the sample predominantly accounted for by young people, reflecting the main embracers of the new electronically-based sharing economy (Hwang & Griffiths, 2017), the results should not be generalized to the whole population of shared-economy service users. Third, considering the diverse ways in which the concepts used in this study have been operationalized, a more unifying conceptualization or multi-dimensional conceptualizations of the concepts are needed. In order to expand and complement the results of this study, it might be beneficial for future studies to focus on other developing countries for the purpose of validating the obtained results. Moreover, future research can make use of longitudinal approaches to test the stability of the relationships over time from among the sample respondents.

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