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Customer Satisfaction Towards M-Shopping and The Significance Of Relational Values And Co-Presence

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ABSTRACT

Customer satisfaction literature largely ignores the environmental perspective of relational values as the motivational force behind m-shopping. This study investigates utilitarian, hedonic, and relational values as motivating forces of customer satisfaction towards m-shopping during the covid-19 pandemic, and how co-presence impacts these forces. Four hundred and eighty questionnaire surveys were collected from Taiwan and Malaysia. The survey data were subjected to two-step structural equation modeling procedures. The results indicated that utilitarian, hedonic, and relational values are significant motivators of consumer satisfaction toward m-shopping. Among the post covid-19 occurrence data group, there is a more significant impact of co-presence on the hypothesized path of hedonic value-customer satisfaction than among the pre covid-19 group. The covid-19 outbreak manifested the influence of relational values in m-shopping.

Keywords: Relational values, utilitarian value, hedonic value, co-presence, m-shopping, customer satisfaction

1. INTRODUCTION

The 21st century is marked by ecological crises, health pandemics (SARS, COVID-19), the sudden proliferation of mobile internet, and the movement towards green consumerism. Green consumerism is when a consumer demands or chooses products that are less harmful to the environment [1]. It is a social behavior that promotes the use of eco-friendly (or green) products. In recent environmental research, relational values have emerged as a new group of values to explain 'green' behavior [2]. Customer satisfaction is an important concept in retail, both in-store and online. This is because customer satisfaction drives customer loyalty, enables premium pricing, and reduces marketing costs [3]. The mobile channel is generally seen as a searching channel rather than a purchasing channel because consumers exhibit skepticism about the security and reliability aspects of online shopping [4]. However, the COVID-19 pandemic forces many consumers to shop online and to increase their time spent online [5]. In such a forced situation, existing assumptions on customer satisfaction with m-shopping might not be relevant. Moreover, marketing literature primarily studies consumption from the perspective of utilitarian (functional), hedonic (affective), and social values [3]. A

comprehensive review of recent m-shopping literature reveals research gaps related to co-presence and relational values as motivating forces behind m-shopping satisfaction (Table 1). Co-presence is the sense of being in the same space as another human, virtual or otherwise, as well as the perception of mutual awareness or attention from others [6], and is deemed capable of shaping one's behavior [7]. Most studies on co-presence are centered within the context of promoting social network usage [7], information sharing [8], or community building within the e-environment for customer support [9]. The impacts of co-presence on satisfaction via motivating values are yet to be thoroughly studied in m-shopping.

Further, most studies on m-shopping/m-commerce are primarily centered on the pre-adoption stage [4], using the Diffusion of Innovation Theory [10], Theory of Planned Behavior [11], Technology Acceptance Model [12], and Unified Theory of Acceptance and Use of Technology or UTAUT [13]. Out of these behavioral-based theories, commonly cited determinants of behavioral intention to adopt m-shopping/m-commerce begin to appear: perceived ease of use, perceived usefulness, convenience, relative advantage, trust, perceived risks, and social influence. Web page quality is deemed to influence perceived ease of use and perceived usefulness [13].

Few studies on m-shopping/m-commerce have investigated the post-adoption stage [4], and hence there exists a research gap in the study of customer satisfaction and repurchase intention decisions within the m-commerce context [14]. While the UTAUT [13] postulates perceived enjoyment as a motivational factor in technology adoption, there are inconsistencies in affirming that enjoyment positively influences customer attitudes during the initial adoption of retailer mobile apps or that perceived usefulness and ease of use are antecedents of hedonic motivation in m-shopping intention [14]. Thus, there remain questions surrounding the role of enjoyment in the usage phase of m-shopping and future intentions. Moreover, studies from the motivational perspective of m-shopping are mainly centered on utilitarian-hedonic values [4, 14], and exclude the possibility of a third motivating value in shaping m-shopping satisfaction. M-shopping literature largely neglects environmental-friendly relational values as a motivating force in m-shopping. Relational values are values associated with living a 'good life', as well as reflection about how personal preferences and societal choices relate to notions of justice, reciprocity, care, and virtue; and responsibilities to human-nature relationships [2]. This is important given the intractability of human society with nature, the increasing influence of the 'Green movement' [1], and the increasing focus of technology on businesses.

From the above, it is clear that a deeper understanding of the motivating forces behind m-shopping satisfaction is needed for today's m-vendors to be successful. To fill the research gaps and provide comprehensive insight, this study investigates the following:

i) Whether relational values (environmentalist perspective) impact customer satisfaction towards m-shopping?

ii) Antecedents of utilitarian and hedonic values in m-shopping satisfaction and m-shopping continuance.

iii)Whether COVID-19 and co-presence have an impact on the motivational values of m-shopping?

M-shopping in this study refers to shopping for consumer goods via mobile phone/tablet from e-stores worldwide. The results of this study would provide insights into customer satisfaction as post-experience responses from their participation in m-shopping activities, in which utilitarian value, hedonic value, and relational values are motivating factors.

Table 1. Literature in m-shopping satisfaction, values, and co-presence

Author	Study type	Key concepts or findings
Chan et al [2]	Conceptual	Relational values are values associated with living a 'good life', as well as reflection about how personal preferences and societal choices relate to notions of justice, reciprocity, care, virtue, and responsibilities to human-nature relationships.
Zhao [6]	Conceptual	Co-presence is the sense of being in the same space as another human, virtual, or otherwise, as well as the perception of mutual awareness or attention from others. Co-presence is possible in the text-based online chat program.
Al-Ghaith [7]	SEM analysis of 657 surveys in Saudi Arabia	Co-presence, intimacy, immediacy, perceived enjoyment, and perceived ease of use formed individuals' attitudes towards "behavioral intention" to use social networking sites.
Campos-Castillo & Hitlin [8]	Laboratory research in Spain	Co-presence is the degree to which an actor perceives mutual entrainment (synchronization of attention, emotion, and behavior) with another actor in a physical and technology-mediated environment. Emotional involvement is heightened by co-presence bodies sharing a limited space.
Wei et al. [52]	Simulation studies involving 234 consumers on Mechanical Turk	Users who perceived a greater psychological presence of another shopper were significantly more engaged in the e-shopping activity. Co-presence in co-browsing fostered a more rewarding experience than in the chat-only condition.
Kim et al. [53]	Experiment (47 students) involving websites that used text and voice chat	Co-presence influences consumers' intention to use collaborative online shopping sites. Expressing oneself helps to strengthen perceived co-presence with other participants, which gives rise to heightened enjoyment in collaborative online shopping

Table 1. Literature in m-shopping satisfaction, values, and co-presence

Author	Study type	Key concepts or findings
McLean et al. [14]	A longitudinal online survey of 474 consumers over 12 months in the UK	Inconsistencies in affirming that enjoyment positively influences customer attitudes during the initial adoption of retailer mobile apps. Inconsistencies in affirming perceived usefulness and ease of use as antecedents of hedonic motivation in m-shopping intention.
Babin et al. [15]	SEM analysis of 276 surveys collected from S. Korea	Utilitarian and hedonic values influence customer satisfaction in services, whereby positive customer satisfaction leads to word-of-mouth. Service quality positively impacts both perceived utilitarian and hedonic values, as well as influencing customer satisfaction.
Agrebi & Jallais [19]	Survey of 400 French purchasers and non-purchasers	Perceived enjoyment positively influences the intention of purchasers to use mobile channels only. Non-purchasers' actions are based on utilitarian factors because they are more task-oriented.
Evelina et al. [20]	SEM analysis of 270 online surveys in Indonesia	Utilitarian value, hedonic value, social value, and perceived risk impacted customer satisfaction in e-commerce. Utilitarian value has a greater significance than hedonic value on customer satisfaction.
Lee & Wu [21]	SEM analysis of 363 surveys in Taiwan	The effect of utilitarian value on satisfaction is greater than that of hedonic value on customer satisfaction in an online shopping environment.
Marinkovic & Kalinic [23]	224 questionnaire surveys in Serbia	Antecedents of customer satisfaction in mobile commerce are related to trust, perceived usefulness, mobility, and perceived enjoyment.
Anand et al. [24]	Questionnaire survey of 150 Malaysians	Hedonic motivation drives customer satisfaction in online shopping via desktop and mobile devices.
Hung et al. [30]	244 surveys in Taiwan	Perceived usefulness is not a significant variable of mobile shopping continuance, but trust and satisfaction are the most important factors.
Chong [31]	SEM analysis of 400 surveys from Chinese consumers	Satisfaction, trust, perceived cost, perceived usefulness, perceived ease of use, and perceived enjoyment impacted m-commerce continuance intentions.

2. LITERATURE REVIEW AND CONCEPTUAL MODEL

2.1 Theoretical background

As per the confirmation/disconfirmation paradigm, customers often compare their perceived product performance against their pre-experience expectations, resulting in either satisfaction or dissatisfaction [3, 16]. Satisfaction creates a positive attitude and may positively influence repurchase intentions [16]. However, values are better comparative standards than expectations in explaining customer satisfaction/ dissatisfaction [15]. This is because what is expected from a product/service may or may not correspond to what is desired or valued in a product/service by the consumer. Values are the desired goals that serve as guiding principles in human lives and the foundation of one's attitudes, norms, and behavioral intentions [3]. The theory of consumption values [17] postulates five consumption values in choice decisions:

i) Functional value: The utility derived from the possession of products' salient (most visible or important) physical attributes such as reliability, durability, and price.
ii) Emotional value: The utility derived from the feelings or affective states that a product generates.
iii) Social value: The utility derived from the product's ability to enhance social self-concept.
iv) Conditional value: The perceived utility derived from an alternative as the result of the specific situation or set of circumstances facing the choice maker.
v) Epistemic value: The feeling of novelty and satisfaction from desired knowledge.

The above five consumption values have been extensively applied to study decision-making in product choice [3]. However, functional and emotional values dominate marketing literature, resulting in the popular terms "utilitarian and hedonic products" [15]. This is because consumption activities are generally assumed to be associated with utilitarian and hedonic values [3, 16]. This bi-dimensional assumption is a step beyond conceptualizing value simply as a tradeoff between quality and price in customer satisfaction [16]. Utilitarian products are effective, helpful, functional, necessary, and practical, whereas hedonic products are fun, exciting, and delightful [3]. Consumers derive value from a product or service in various stages: in searching for them, in acquiring, consuming, and relishing them post-consumption [16]. Compared to information, experiences with products and brands are a more important determinant of future choice [3, 15, 16]. Consumer behavior literature postulates that satisfied consumers tend to revisit and repurchase from stores where they know they have had a positive experience before, as their recollection of the experience serves as evidence that they are likely to experience a similar situation again [3, 15, 17]. A retail study [18] shows that both utilitarian and hedonic values influence customer satisfaction; but the utilitarian value is related to product availability, while the hedonic value is influenced by store atmosphere, relations with employees, crowding, and other peripheral services.

A popular behavioral theory to explain technology adoption (including m-commerce) is the Technology Acceptance Model or TAM [12]. TAM states that perceived

usefulness and perceived ease of use are two factors that affect attitudes and behavioral intention to use information technology. As such, TAM incorporates utilitarian value via perceived usefulness and perceived ease of use. TAM is been criticized for its simplistic view. Another popular behavioral perspective of technology adoption is the Diffusion of Innovation Theory or DOI [10]. The DOI conceptualizes the spread of innovation as dependent on four key elements: the innovation itself, communication channels, time, and a social system. DOI recognizes the influence of psychological factors (beliefs, attitudes, and personality traits), context, and culture on adoption decisions. The stages by which an individual adopts an innovation and whereby diffusion is accomplished include awareness of the need for the innovation, the decision to adopt or reject the innovation, the initial use of the innovation to test it, and continued use of the innovation. The DOI suggests that five perceived characteristics of innovation help form a favorable/unfavorable attitude toward the innovation: Observability, compatibility, complexity, trialability, and relative advantage. Studies adopting the DOI are inconsistent in proving that all innovation characteristics are predictors of technology [4, 13].

The UTAUT [13] suggests four predictors of behavioral intention toward technology adoption: effort expectancy, performance expectancy, facilitating conditions, and social influence. The precursors of performance expectancy are perceived usefulness, extrinsic motivation, and job outcome expectations. The multitude of measurement variables in UTAUT is criticized for being chaotic, problematic, and less parsimonious than TAM [14]. Both TAM and UTAUT are pre-adoption or pre-experience-based. Despite their popularity, both TAM and UTAUT are not suitable for this study because this study is about post-experience responses: Customer satisfaction and m-shopping continuance.

Within the context of services, the Model of Service Satisfaction and Motivation Desire [15] suggests that both utilitarian and hedonic values influence customer satisfaction, whereby positive customer satisfaction leads to future patronage intention and word-of-mouth. Utilitarian value is the functional qualities (the state of being useful, beneficial, or accomplished) that a customer receives based on task-related consumption, while hedonic value is the affective qualities (enjoyable, fun) that a customer receives from the service environment. Word-of-mouth refers to interpersonal, informal communication about products, which can take the form of goods or services. Service quality is postulated to positively impact both perceived utilitarian and hedonic values, as well as customer satisfaction. Satisfaction is thus conceived as a fulfillment response employed to understand and evaluate the consumer experience of the service (excellent, superior, or high standard). This indicates that customer satisfaction is a form of post-experience responses. As the Model of Service Satisfaction and Motivation Desire are post-experienced and value-based, they are suitable for framing the conceptual model of this study. Further, m-shopping is a form of service consumption.

To fill the research gaps and provide comprehensive insight, this study extends the Model of Service Satisfaction and Motivation Desire [15] to include relational values and antecedents of utilitarian and hedonic values within the m-shopping context. The development of hypotheses in the following sections is based on the logical association between the service model [15], consumer behavior theory, and the body of previous empirical work in m-commerce.

2.2 Utilitarian value and customer satisfaction towards m-shopping

This study undertakes customer satisfaction as customers' post-experience responses from their participation in m-shopping activities, in which utilitarian value, hedonic value, and relational values are motivating factors. As per [15], utilitarian value is the state of being useful, beneficial, or accomplished that a customer receives based on task-related consumption. It implies that utilitarian value is synonymous with deliberate and rational behavior. Utilitarian value is associated with ease of use, convenience, and customization, directly affecting the consumer experience within the m-commerce platforms [14]. There is empirical evidence that convenience, ease of use, and usefulness influence customer satisfaction toward m-shopping [19]. Based on the beneficial aspect of task-related consumption, several more studies have positively associated utilitarian values with customer satisfaction within the e-shopping environment [4, 20, 21]. For instance, an empirical study among 270 Indonesian online shoppers reveals that utilitarian value has a greater impact on customer satisfaction than hedonic value [20]. A quantitative study involving 363 participants in Taiwan reveals a similar conclusion [21]. The utility of m-shopping is its virtual nature, which allows users to avoid crowded spaces yet affords user possession utility [39], a characteristic that was beneficial and appealing during the covid-19 pandemic. Thus:

***H1a**: Utilitarian value has a positive influence on customer satisfaction towards m-shopping.*

2.3 Hedonic value and customer satisfaction towards m-shopping

As per [15], hedonic value is the value a customer receives based on the experience of fun and enjoyment. Unlike utilitarian value, hedonic value is not always stimulated by the actual purchase needed, but rather by the entertainment or emotional worth that is created through the shopping flow experience [21, 22]. The study by Lee and Wu [21] in Taiwan indicates that the effect of utilitarian value on satisfaction is greater than that of hedonic value in an online shopping environment. Like physical stores, m-commerce platforms provide entertainment opportunities. Although m-shoppers may initially aim for the utilitarian scope, they may still experience fun and enjoyment when browsing hedonic products [4]. The study by Marinkovic and Kalinic [23] indicates that perceived enjoyment is a significant driver of customer satisfaction in m-shopping. An empirical study in Malaysia involving 150 online shoppers (via desktops or mobile) shows that hedonic motivation drives customer satisfaction [24]. Thus:

***H1b**: Hedonic value has a positive influence on customer satisfaction towards m-shopping.*

2.4 Relational values and customer satisfaction towards m-shopping

In recent environmental research, relational values have emerged as a new group of values to explain 'green' behavior. Extant literature primarily neglects relational values (which encompass eudaimonic happiness) as the motivating force in m-shopping. Eudaimonic happiness or well-being endears aspects such as relatedness, purposeful-driven life, care and virtue, and meaning and flourishing [25]. To flourish is to find fulfillment in our lives, accomplish meaningful and worthwhile tasks, have healthy lives, and connect with others at a deeper level—in essence, living the 'good life' [26]. A 'good life' in a consumerist society means integrating material and experiential consumption for consumer pleasure and meaningful consumption [25]. Compared to pleasure-focused consumption, consumers expect the benefits of meaningful consumption to pay off over a longer period [27] and feel more satisfied [28]. Relational values are values associated with living a 'good life', as well as reflection about how personal preferences and societal choices relate to notions of justice, reciprocity, care, and virtue; and responsibilities to human-nature relationships [2]. It is also suggested that relational values link people and ecosystems via tangible and intangible connections to nature, as well as the principles, virtues, and notions of a good life that may accompany these [29]. Consumers are increasingly factoring eco-friendly products into their consumption, and are willing to change their consumption habits to reduce their adverse environmental impact [1].

Motivated by the above, this study undertakes relational values as the preferential choice of meaningful consumption characterized by virtues (moral), well-being (state of being comfortable, healthy, and happy), and self-responsibility to the environment. The latter is relevant given the intractability of present and future human societies with the natural systems. Meaningful consumption means that the consumer is comfortable, committed, and happy to buy from: sources that donate their profits for philanthropic purposes/promote the welfare of others; sources that produce without violating animal rights/human rights (forced labor, child labor); or sources that are conscious of general public health safety. Relational values may also involve preferential choices of environmentally friendly products (biodegradable/organic products) or healthy living (physical, mental, and emotional health). Thus, this study proposes:

***H1c**: Relational values have a positive influence on customer satisfaction towards m-shopping.*

2.5 M-shopping continuance

As per [15], positive customer satisfaction via utilitarian and hedonic values would lead to future patronage intentions and word-of-mouth. It implies future patronage intention as a post-experience and post-purchase phenomenon. This is synchronized with the

observation that satisfied consumers tend to revisit and repurchase from stores where they know they have had a positive experience before, as their recollection of the experience serves as evidence that they are likely to experience a similar situation again [3]. Thus, this study defines m-shopping continuance as a post-purchase phenomenon resulting from customer satisfaction whereby m-shoppers' intent to re-engage in future purchase activities with the m-vendors or m-shopping platforms.

There is empirical evidence of positive relationships between satisfaction and continued intention towards m-shopping [30, 31]. Using the expectancy confirmation model, Hung et al. [30] indicate that continued intention toward m-shopping can be directly predicted by satisfaction and trust. A similar study by Chong [31] among Chinese consumers indicates that satisfaction, trust, perceived cost, perceived usefulness, perceived ease of use, and perceived enjoyment impacted m-commerce continuance intentions. Consumers tend to stick with a mobile platform when they perceive it as more convenient for shopping than a physical store [32]. In uncompetitive markets or a restricted situation, customers may remain loyal no matter their dissatisfaction [33]. In a forced situation like a pandemic lockdown, an unsatisfied customer may continue with m-shopping if they obtain utilitarian value from m-shopping activity. As such, utilitarian value [30, 31, 32, 33] and hedonic value [31] are relevant within the context of m-shopping continuance. Prior empirical study [34] suggests that both utilitarian value (product offerings, product information, monetary savings, convenience), and hedonic value influence consumers' continuance intentions in a B2C online shopping environment. Thus:

***H2a**: Utilitarian value has a positive influence on m-shopping continuance.*

***H2b**: Hedonic value has a positive influence on m-shopping continuance.*

***H3**: Satisfaction towards m-shopping has a positive influence on m-shopping continuance.*

2.6 Service and product quality as antecedents of utilitarian and hedonic values of m-shopping

Service quality is commonly measured by performance indicators (SERVQUAL instruments) such as reliability, assurance, tangibles, empathy, and responsiveness [3, 35]. Lately, the M-S-QUAL scale (efficiency, fulfillment, responsiveness, and contact) has been developed to measure m-service quality for product shopping [36]. As per [15], the quality of service performance (excellent, superior, or high standard) is the antecedent of utilitarian and hedonic values in service satisfaction. From the utilitarian perspective, e-shoppers' motives may include desires like time savings, selection dimensions [37], convenience-seeking, and price-saving products [38]. A study in Taiwan indicates that m-shoppers are dissatisfied with service quality when there are slow responses to their complaints, and when there are difficulties initiating contact with sellers about product warranties or returns [39]. An m-shopping platform with a contact point that is responsive to queries and complaints would save customers time in their purchase decisions or product returns. Indeed, an m-commerce study in Britain

reveals that service quality (contact, efficiency, and responsiveness) has a significant impact on customer satisfaction, which in turn impacts loyalty in the purchase of fashion clothing [40]. As such, service quality in this study refers to the availability of physical service centers for convenient access to e-vendors, product warranties, and prompt return services (goods return or email reply). Product quality refers to how well a product satisfies customer needs, serves its purpose, and meets industry standards [3, 17]. Prior research in Taiwan [39] indicates that the perceived quality of a product is affected by the availability of product information on an m-shopping platform. Further, a product's price can be a cue for its quality [3]. This reflects the paradox of the complex product quality-price relationship [16]. This may be true in a virtual environment where there is an absence of touch, smell, and hearing. If a product sourced through m-shopping serves its intended purpose (whether the motive is for money saving or convenience) or satisfies the needs of enjoyment, then it would contribute to the utilitarian and hedonic value of m-shopping. Thus:

***H4a**: Service quality has a positive influence on the utilitarian value of m-shopping.*

***H4b**: Service quality has a positive influence on the hedonic value of m-shopping.*

***H5a**: Product quality has a positive influence on the utilitarian value of m-shopping.*

***H5b**: Product quality has a positive influence on the hedonic value of m-shopping.*

From the consumer behavior perspective (offline and online), product quality impacts a customer's behavioral intention and, eventually, their repurchase decision [3, 35]. However, m-shoppers don't have a guarantee of the product's quality. Reviews can be unreliable, and there may be fraudulent sellers who intentionally mislead customers. Insufficient inspection of third-party e-commerce platforms, irregularities in green product certification standards, and counterfeit products are creating trust problems for consumers and e-vendors [41]. Any negative experience due to unsatisfactory product quality would have negative consequences for one's repurchase decision [3, 15]. Thus:

***H5c**: Product quality has a significant direct influence on m-shopping continuance.*

2.7 Order fulfillment as the antecedent of utilitarian and hedonic values of m-shopping

Order fulfillment is defined as an accurate representation of the product, order, and on-time delivery [39, 42]. Order fulfillment is vital to achieving functional and possession utility [39]. Order fulfillment is one of the significant factors that affect m-shopping intentions in Kazakhstan, Uzbekistan, and Kyrgyzstan [42]. Customers of e-transactions in Singapore want their goods to be delivered rapidly and at their convenience [43]. There is also an indication that consumer concerns about the wrong delivery of ordered items and return services affect online shopping satisfaction in

China and Taiwan [44]. However, a meta-analysis study of past literature indicates that customer satisfaction explains less than 25% of the variance in repeat purchasing [45]. A satisfied customer may still switch their loyalty to other competitors [3]. Within the context of m-shopping, a quick and correct delivery of orders would avoid delays in anticipated hedonic gratifications [39]. Likewise, this study reasonably assumes that frequent breakdowns in order fulfillment in m-shopping would result in users switching to a more secure mode of achieving possession utility via the brick-and-mortar store. Consequently, this study proposes:

***H6a**: Order fulfillment has a positive influence on the utilitarian value of m-shopping.*

***H6b**: Order fulfillment has a positive influence on the hedonic value of m-shopping.*

***H6c**: Order fulfillment has a significant direct influence on m-shopping continuance.*

2.8 Web design quality

Web design is one of the essential dimensions of mobile marketing [46]. When one obtains hedonic value via web browsing, they are motivated to increase the time spent on an m-shopping site and make repeat visits [47]. Further, higher website quality (system and information) leads to higher hedonic and utilitarian outcomes in a service environment, affecting user loyalty [48]. A user-friendly webpage that provides useful information is more likely to induce fun and enjoyment, leading to the behavioral intention to repurchase online [49]. Complex or messy websites (with irrelevant links) affect the ease of browsing, while frequent pop-ups and inconsistent pricing annoy users, leading to customer dissatisfaction with m-commerce [39]. As per Chong [31], perceived usefulness and perceived ease of use of m-commerce platforms impacted m-commerce's continued intentions. Too many pop-up advertisements make purchases difficult via the mobile phone [39], potentially discouraging future use. Defining Web design quality as user-friendly (easy to navigate and checkout), not messy with irrelevant information, and consistent pricing within the same m-shopping platform, this study proposes the following:

***H7a**: Web design quality has a positive influence on the utilitarian value of m-shopping.*

***H7b**: Web design quality has a positive influence on the hedonic value of m-shopping.*

***H7c**: Web design quality has a significant direct influence on m-shopping continuance.*

2.9 Co-presence

Co-presence is characterized by a sense of being in the same space as another human, virtual, or otherwise, as well as the perception of mutual awareness, interconnectedness,

and attention from others [6]. Co-presence, in the form of instant two-way human interactions or feedback-based communication, can shape individual behavior [7, 8]. Feedback-based communication may be through online chat programs like WhatsApp, Twitter, or Facebook Messenger. When consumers can freely participate in commending, giving feedback, and sharing favorable news about products/sellers within a purposely created Web community, co-presence could result in greater consumer confidence [50]. Web community allows customers to share opinions, post-product reviews, and discover what others are purchasing [46]. Besides serving as informational support, co-presence serves as emotional support for consumers and as a utility for a consumer to obtain advice based on other experiences [51]. Collaborative online shopping via co-browsing stimulates more purchases than solo shopping because co-presence in co-browsing fosters a more rewarding shopping experience [52]. In addition, co-presence is found to have a positive correlation with shopping enjoyment and consumers' intention to use collaborative shopping sites. [53]. As per Kim et al. [53], expressing oneself helps to strengthen perceived co-presence with other participants, which gives rise to heightened enjoyment in collaborative online shopping. A study in Taiwan suggests that e-chats and product reviews can help indecisive m-shoppers in Taiwan achieve gratification and possession utility [39]. Thus, co-presence within the m-shopping platform with chats, postings of product reviews, and experience would help project the utilitarian and hedonic dimensions of m-shopping. Consequently:

***H8a**: Co-presence has a positive influence on the utilitarian value of m-shopping.*

***H8b**: Co-presence has a positive influence on the hedonic value of m-shopping.*

The above hypotheses are summarized in Figure 1.

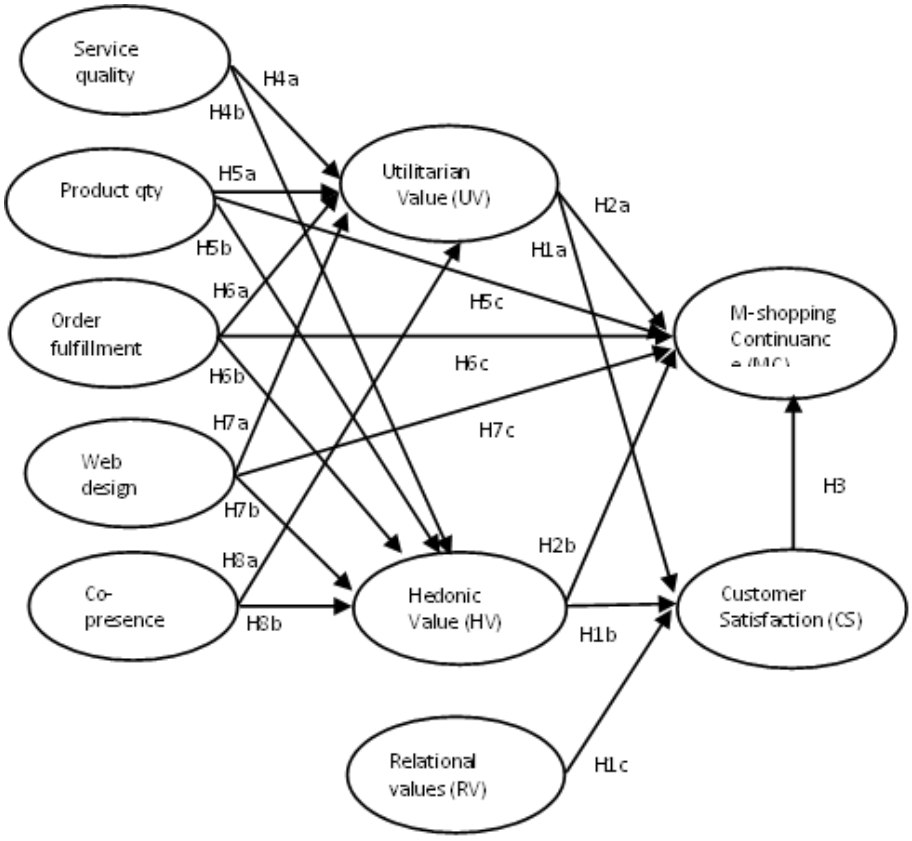


Figure 1. Hypothesized research model of customer satisfaction towards m-shopping.

3. METHODOLOGY

This study utilized intercept surveys of experienced m-shoppers. Intercept surveys are helpful in cases where respondents need to view or handle materials, and the method is cost-effective [54]. The survey data were subjected to two-step structural equation modeling procedures [55] via SPSS AMOS v24 (maximum likelihood estimation). These two-step procedures use Confirmatory Factor Analysis to test the measurement model before estimating the full structural model (data fit). It was to ensure the convergent validity of measurement models and the predictive validity of structural models before hypothesis testing.

3.1 Measurements

This study investigated 10 constructs of interest. Except for one measurement, all others were adapted from extant research. All measurements utilized a seven-point Likert-type scale (1-Disagree strongly; 7-Agree strongly). As this survey involved Taiwanese and Malaysian, an English-Mandarin language questionnaire was generated. A pre-test was conducted among 60 participants (university students and housewives) to assess the face validity and reliability of the initially developed scales. The modified/finalized questionnaire comprised the following scales:

i) Utilitarian value (UV), five items adapted from [15]
ii) Hedonic value (HV), three items adapted from [15]
iii) Customer satisfaction (CS), four items adapted from [15]

iv) Co-presence (CP), five items adapted from [52]
v) Order fulfillment (OR), three items adapted from [42]
vi) M-shopping continuance (MC), four items adapted from [34]
vii) Service quality (SQ), three items adapted from [39]
viii) Product quality (PQ), three items adapted from [39]
ix) Web design quality (WQ), four items adapted from [39]
x) Relational values (RV), three items (developed in this study)

3.2 Sample and data collection

The study randomly distributed 720 questionnaires in four cities (180 questionnaires in each city): Kaohsiung and Taipei in Taiwan; Kuching and Kuala Lumpur in Malaysia via intercept surveys at malls and university campuses. The data were collected from 3rd December 2020 to 15th June 2021. Before filling out the questionnaire, respondents were conveyed the meaning of m-shopping and were introduced to an e-shopping site (www.shopee.com.my or www.shopee.tw) via mobile phone. Among the returned questionnaires, only respondents with prior m-shopping experience were considered. Overall, 480 usable questionnaires were collected: 153 from Kaohsiung, 103 from Taipei, 107 from Kuala Lumpur, and 117 from Kuching. All Likert-scale measures showed normal distributions (bell-shaped histograms). There were a few outliers.

3.3 Comparative descriptive statistics

As shown in Table 2, the overall sample consisted of 48.5 % males and 51.5% females, and about 62.5% of the sample was related to the pre covid-19 outbreak (collected between 3rd December 2019 and 31st January 2020). The overall sample was predominantly young adults, with 69.6% between 18-30 years old, 19.6% between 31-45 years old; and 10.8% above 45 years old. The sample population comprised 42.3% students, 40.6% office/industrial workers, 13.3% housewives, and 3.8% retirees. About 60.4% of respondents indicated that they spent more than 30 minutes per m-shopping session. Regarding m-shopping from local e-stores/local-based foreign entities like Carrefour/Ikea: 19.8% of respondents have bought electronic products, 10.8% household goods, 5.8% clothing, 4.8% groceries, and 4.7% cooked food. In terms of international purchases (involving overseas shipping): 16.7% of respondents have bought electronic products (including computer software), 16.0% novelty and gifts, 12.3% environment-friendly household goods, 10.8% magazines, 10.2% fashions, and 9.6% hygiene products (including sanitizers).

Within the Malaysian sample, the post-January 2020 group saw more local purchases of groceries (Δ13%) and cooked food (Δ17%), while international purchases for electronic products, fashions, and environmentally-friendly household products were lesser by at least 5% than the pre COVID-19 group. This may be because Malaysian society is in total lockdown from February 2020 until the end of June 2021. However, there are higher purchases of hygienic products (Δ4%) among the Malaysian post-January 2020 group compared to the pre-COVID-19 group. The post-January 2020 group within the Taiwanese sample did not indicate significant differences in m-shopping patterns from the pre-COVID outbreak group except for increased purchases of environment-friendly household goods (Δ8%).

Table 2. Sample profiles (*n*=480) and popular purchases via m-shopping

Item	Category	Frequency n=480	Percentage
Data period	Pre COVID-19 (before 31st Jan 2020)	300	62.5%
	Post Jan 2020	180	37.5%
Gender	Male	233	48.5%
	Female	247	51.5%
Age	18-30 years old	334	69.6%
	31-45 years old	94	19.6%
	> 45 years old	52	10.8%
Occupation	- Students	203	42.3%
	- Office/industrial workers	195	40.6%
	- Housewives	64	13.3%
	- Retirees	18	3.8%
Time spent per session	< 30 minutes	149	31.0%
	>30 minutes	290	60.4%
	- Not sure	41	8.6%

Table 2. Sample profiles (*n*=480) and popular purchases via m-shopping

Item	Category	Frequency n=480	Percentage
Local purchase	- Electronic products		19.8%
	- Household products		10.8%
	- Clothing		5.8%
	- Groceries		4.8%
	- Cooked food		4.7%
International purchase	- Electronic products (incl. comp. software)		16.7%
	- Novelty & gifts		16.0%
	-Household products (env. friendly)		12.3%
	- Fashions		10.2%
	- Magazines		10.8%
	-Hygienic products (incl. Sanitizer)		9.6%

3.4 Measurement model

Six model-fit measures were used to assess the model's overall goodness of fit with the collected data: the normed chi-square χ^2/df or CMIN/DF, Comparative Fit Index (CFI), Goodness of Fit Index (GFI), Normalized Fit Index (NFI), Tucker-Lewis index (TLI) and Root Mean Square Error of Approximation (RMSEA). The Confirmatory Factor Analysis procedures (maximum likelihood) revealed that all measurement models have respective fit indexes that exceeded the recommended minimum thresholds ($\chi^2/df < 3.0$; CFI, GFI, NFI & TLI > 0.9; RMSEA<0.05 [54]). However, one item's loading value for the utilitarian value (UV) is less than 0.5, so this item (UV3) was removed to increase reliability and decrease measurement error. After UV3 was removed, the fit indexes improved ($\chi^2=203.23, df=69, p<0.001,$ RMSEA=0.047, CFI=0.96, GFI=0.98, NFI=0.97). The improvement was significant because the chi-square difference between the initial UV and modified UV was significant ($\Delta\chi^2=33, \Delta df=11, p<0.001$).

The Composite Reliability (CR) for all measurement constructs exceeded the minimum threshold value of 0.6 for internal consistency [54]. Similarly, the Average Variance Extracted (AVE) for all constructs exceeded the threshold value of 0.5 for convergent validity [56]. The convergent validity of each construct was further observed since its CR is higher than its respective AVE as suggested by [54]. Discriminant validity of all constructs was demonstrated since the square roots of the AVE for each construct were greater than the construct's correlations with other constructs in the conceptual model [55]. The study then proceeded to the structural test.

3.5 Structural model

The structural test revealed sufficient goodness of fit statistics (χ^2/df =2.99, CFI=.901, GFI=.902, NFI=.900, TLI=.902, RMSEA=0.052). However, an ideal situation would be if these fit statistics (CFI, GFI, NFI & TLI) are higher, while the χ^2/df and RMSEA

are lower. This meant the conceptual model was acceptable but may need some adjustments to improve the fit between the sample data and the conceptual model. Analysis of the modification indices of the full model indicated covariance errors between two measurement items: CS3 and WQ4. Deletion of WQ4 from the full model produced better-fit statistics (χ^2/df=2.50, CFI=.922, GFI=.923, NFI=9.21, TLI=9.24, RMSEA=0.049). The improvement in model fit appeared significant ($\Delta\chi^2_{(1)}$=101.52, *p=.000*). The lower expected cross-validation index (ECVI=1.222) compared to the unmodified model (ECVI=1.509) signaled that the overall model represented the best fit to the data sample. Further, the AVE and CR of the WQ scale (minus WQ4) improved tremendously. Thus, all measurement models have adequate convergent validity, discriminant validity, and reliability.

The AVE, CR, standardized item loadings, communalities (R^2), and discriminant validity of all measurement models are summarized in Table 3. Subsequent hypothesis testing was done by examining the path coefficients of the structural model, and its results (including SEM statistics) are shown in Figure 2.

Table 3. AVE, reliability, standardized CFA factor loading estimates, and construct correlations.

Note: Bold text in the discriminant validity test represents square roots of AVE

Construct	AVE	CR	Item (with code)	S.loading	R^2
Utilitarian value	.548	.828	UV1: I accomplished just what I wanted from m-shopping	.787	.690
			UV2: The efforts I put in m-shopping are beneficial to me	.817	.733
			UV4: The time I spend on m-shopping is worth to me	.668	.649
			UV5: M-shopping is convenient to me	.678	.599
Hedonic value	.504	.753	HV1: The time I spend on m-shopping is truly enjoyable to me	.765	.684
			HV2: I always look forward to m-shopping with excitement	.713	.708
			HV3: While m-shopping, I feel a sense of adventure	.648	.677
Co-presence	.598	.881	CP1: I regularly log on to Facebook/LINE or in my special web group	.776	.747
			CP2: I am at ease to comment on Facebook/LINE or in my special web group	.813	.710
			CP3: I enjoy viewing comments about products in my special web group	.799	.748
			CP4: I felt present and connected with others in my special web group	.747	.754
			CP5: Feedback/comments from web groups are helpful for my m-shopping exp.	.729	.663
Order fulfillment	.560	.792	OR1: I expect correct delivery of ordered items in m-shopping	.697	.697
			OR2: I expect on-delivery time in m-shopping	.738	.698
			OR3: I expect fast delivery in m-shopping (within 2 days)	.806	.711

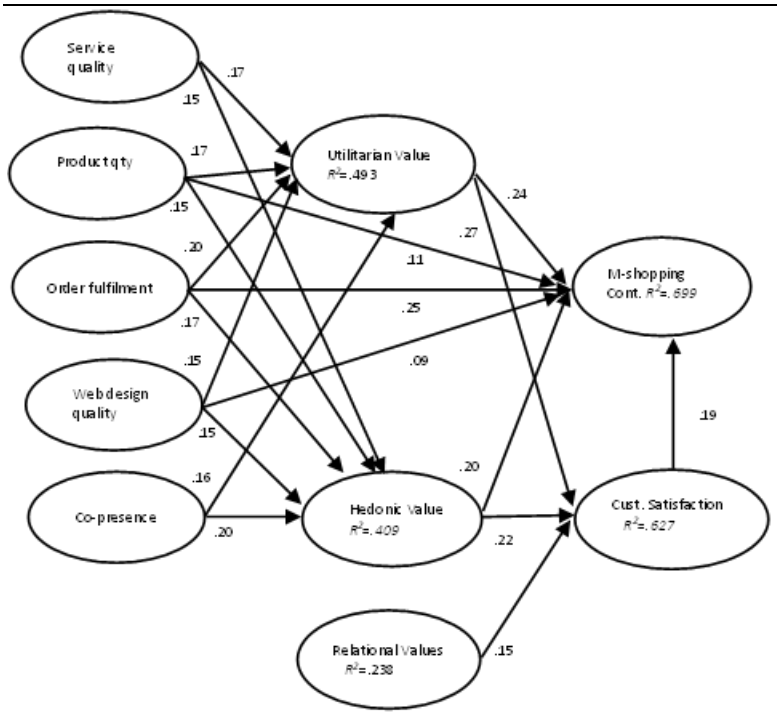
Table 3. AVE, reliability, standardized CFA factor loading estimates, and construct correlations.

Note: Bold text in the discriminant validity test represents square roots of AVE

Construct	AVE	CR	Item (with code)	S.loading	R^2
Product quality	.676	.846	PQ1: Product quality (performance must be acceptable)	.784	.682
			PQ2: Availability of product information/descriptions	.822	.708
			PQ3: Competitive pricing (not too expensive) compares to local stores	.859	.798
Service quality	.653	.847	SQ1: Availability of product warranty	.871	.799
			SQ2: Prompt return services (reply to email/calls & returning goods)	.873	.806
			SQ3: Availability of physical service center for convenient access to e-vendors	.661	.501
Web design quality	.615	.826	WQ1: M-shopping sites should be user friendly (easy to navigate & checkout)	.803	.762
			WQ2: M-shopping sites should not be messy with irrelevant information	.836	.775
			WQ3: M-shopping sites should have consistent pricing in the same platform	.707	.652
C. satisfaction	.535	.820	CS1: Generally, my m-shopping experience is positive	.768	.717
			CS2: My m-shopping experience met my minimal expectations	.812	.736
			CS3: I am pleased with my m-shopping experience	.597	.688
			CS4: Overall, I felt satisfied with the m-shopping experience	.731	.655
M-shop cont.	.546	.827	MC1: I will continue to buy things through the mobile phone	.788	.791
			MC2: I will continue to view or browse for products through the mobile phone	.733	.784
			MC3: I will continue to join the special web group to improve my m-shop exp.	.760	.709
			MC4: I look forward to viewing sales advertisements on my mobile phone	.668	.644
Relational value	.508	.756	RV1: I am comfortable with buying that benefits the under-privilege group	.686	.695
			RV2: Buying healthy-living/eco-friendly products makes me happy	.752	.790
			RV3: Buying ethically produced is meaningful to me	.699	.611

Construct correlations (discriminant validity test)

	UV	HV	CP	OR	PQ	SQ	WQ	CS	MC	RV
UV	**.740**									
HV	.507	**.710**								
CP	.201	.344	**.773**							
OR	.506	.365	-.314	**.748**						
PQ	.555	.511	.278	.307	**.822**					
SQ	.513	.603	.492	.343	.552	**.808**				
WQ	.314	.399	.454	.442	.221	.471	**.725**			
CS	.519	.442	.272	.456	.506	.444	.381	**.731**		
MC	.411	.395	.343	.555	.494	.333	.566	.466	**.739**	
RV	.117	.319	-.201	.333	.189	.207	.242	.115	.200	**.713**



Model Fit Summary

χ^2/df = 2.50
CFI= 0.922
GFI= 0.923
NFI= 0.921
TLI= 0.924
RMSEA= 0.049

Hypothesized path	Std. est.	t-value	Testing result
H1a: Utilitarian value → Customer satisfaction	.27	6.83**	Supported
H1b: Hedonic value → Customer satisfaction	.22	4.16**	Supported
H1c: Relational values → Customer satisfaction	.15	2.40**	Supported
H2a: Utilitarian value → M-shopping continuance	.24	4.03**	Supported
H2b: Hedonic value → M-shopping continuance	.20	4.79**	Supported
H3: Customer Satisfaction → M-shopping continuance	.19	3.87**	Supported
H4a: Service quality → Utilitarian value	.17	2.44**	Supported
H4b: Service quality → Hedonic value	.15	3.59**	Supported
H5a: Product quality → Utilitarian value	.17	3.44**	Supported
H5b: Product quality → Hedonic value	.15	3.89**	Supported
H5c: Product quality → M-shopping continuance	.11	2.33**	Supported
H6a: Order fulfillment → Utilitarian value	.20	5.10**	Supported
H6b: Order fulfillment → Hedonic value	.17	3.15**	Supported
H6c: Order fulfilment → M-shopping continuance	.25	9.01**	Supported
H7a: Web design quality → Utilitarian value	.15	2.34**	Supported
H7b: Web design quality→ Hedonic value	.15	2.67**	Supported
H7c: Web design quality→ M-shopping continuance	.09	1.99**	Supported
H8a: Co-presence → Utilitarian value	.16	3.88**	Supported
H8b: Co-presence→ Hedonic value	.20	8.53**	Supported

Figure 2. Results of the structural model test

Note: ***p<0.01, R^2=Variance explained*

4. RESULTS

As shown in Figure 2, all hypothesized paths in the conceptual model were found to be statistically significant (with all t-values >1.96, acceptable results as per [54]) at the 5% level. Specifically, the relationship between utilitarian and customer satisfaction was significant (std. est. =.27, *t*=6.83, *p=.000*), and the relationship between hedonic value and customer satisfaction was also significant (std. est. =.22, *t*=4.16, *p=.000*), supporting *H1a* and *H1b*. Relational values also significantly influenced customer satisfaction (std. est. =.15, *t*=2.40, *p=.000*), supporting *H1c*. Similarly, the hypothesized utilitarian value→m-shopping continuance path (std. est. =.24, *t*=4.03, *p=.000*) and hedonic value→m-shopping continuance path (std. est. =.20, *t*=4.79, *p=.000*) were also significant, supporting *H2a* and *H2b*. The hypothesized customer satisfaction→m-shopping continuance path (std. est. =.19, *t*=3.87, *p=.000*) was also significant, supporting *H3*. Thus, this study supported the hypotheses that utilitarian, hedonic, and relational values have significant positive influences on customer satisfaction within the m-shopping context.

This study also revealed the positive influence of service quality (std. est. =.17, *t*=2.44, *p=.000*), product quality (std. est. =.17, *t*=3.44, *p=.000*), and order fulfillment (std. est. =.20, *t*=5.10, *p=.000*) on the utilitarian value of m-shopping, supporting hypotheses *H4a, H5a,* and *H6a*. Similarly, service quality (std. est. =.15, *t*=3.59, *p=.000*), product quality (std. coefficient=.15, *t*=3.89, *p=.000*), and order fulfillment (std. est. =.17, *t*=3.15, *p=.000*) have positive influences on the hedonic value of m-shopping, supporting hypotheses *H4b, H5b* and *H6b*. The results above suggested that service quality, product quality, and order fulfillment have a greater impact on utilitarian value than on the hedonic value of m-shopping. Product quality directly influenced m-shopping continuance (std. est. =.11, *t*=2.33, *p=.000*), supporting *H5c.* Similarly, the proposed direct relationship between order fulfillment and m-shopping continuance was also significant (std. est. =.25, *t*=9.01, *p=.000*), supporting *H6c*. Order fulfillment has a greater impact on m-shopping continuance (std. est. =.25) than the motivational forces of utilitarian (std. est. =.24) and hedonic value (std. est. =.20).

Empirical evidence also supported hypotheses *H7a: Web design quality* (std. est. =.15, *t*=2.34, *p=.000*), and *H8a: co-presence* (std. est. =.16, *t*=3.88, *p=.000*) as having positive influences on the utilitarian outcome of m-shopping at the 5% alpha level. Statistical evidence also suggested the positive impact of web design quality (std. est. =.15, *t*=2.67, *p=.000*) and co-presence (std. est. =.20, *t*=8.53, *p=.000*). Thus, hypotheses *H7b* and *H8b* were also supported in this study. These indicate that the proposed five antecedents of utilitarian value and hedonic value of m-shopping were statistically supported in the dataset. There is also a significant relationship between web design quality and m-shopping continuance (std. est. =.09, *t*=1.99, *p=.000*). Thus, there is statistical evidence in this study to support hypothesis *H7c*. The explained variance of utilitarian value, hedonic value, relational values, customer satisfaction, and m-shopping continuance was 49.3%, 40.9%, 23.8%, 62.7%, and 67.4% respectively.

4.1 Groups differences and indirect effects

To enhance the generalizability of the proposed conceptual model, this study compared the results of the hypothesized relationships across gender, nationality (Taiwanese vs Malaysian), and data period (pre-COVID vs post-January 2020 group) using between-group analysis.

The between-group analyses revealed that the measurements and structural weights are invariant among gender and nationality at the 5% significant level. However, significant differences in the strength of four hypothesized paths were found between the pre-COVID-19 and post-January 2020 groups (GFI=0.88, CFI=0.901, TLI=0.900). As shown in Table 4, the CO→HV path coefficient within the post-January 2020 group (std est. =0.231, $\Delta\chi^2_{(1)}$= 4.992, p=0.000) is higher than among the pre-COVID-19 group (std est. =0.190) at the 5% alpha level. Correspondingly, the HV-CS path coefficient within the post-January 2020 group (std est. =0.240, $\Delta\chi^2_{(1)}$= 5.070, p=0.000) is also higher than among the pre-COVID-19 group (std est. =0.182). Finally, the CS-MC path coefficient within the post-January 2020 group (std est. =0.243, $\Delta\chi^2_{(1)}$= 6.011, p=0.009) is higher than among the pre-COVID-19 group (std est. =0.174) at the 5% significant level. The above implies that COVID-19 has a greater effect on the hypothesized paths of CO→HV→CS→MC. The RV-CS path coefficient within the post-January 2020 group (std est. =0.162) is also higher than the pre-COVID-19 (std est. =0.101) at the 5% significant level ($\Delta\chi^2_{(1)}$= 4.637, p=0.000).

Overall, order fulfillment is a significant predictor of m-shopping continuance, both within the pre-COVID-19 (std est. =0.259) and post-January 2020 groups (std est. =0.262). Meanwhile, the bootstrapping procedure indicated the indirect effect of co-presence (std est. =0.130) on customer satisfaction within the post-January 2020 group at the 1% significant level (p<0.01). Thus, the COVID-19 outbreak manifested the impact of co-presence on the motivational forces of customer satisfaction towards m-shopping.

Table 4. Between-group comparisons (pre COVID-19 vs post-January 2020 group)
*Note: **p*-value<*.01. Only significant path differences between groups are shown*

	Pre-COVID Grp		**Post Jan 2020 Grp**		**Invariance**	
Hypothesized path	Std. est.	t-value	Std. est.	t-value	$\Delta\chi^2_{(1)}$	*p*-value
H1c: Relational value → CS	.101	2.40*	.162	2.827**	4.637	0.000
H3: Customer Satisfaction → MC	.174	3.25*	.243	4.412**	6.011	0.009
H6b: HV → CS	.182	3.95*	.240	4.970**	5.070	0.000
H8b: Co-presence→ HV	.190	5.43**	.231	5.901**	4.992	0.000

5. DISCUSSIONS AND IMPLICATIONS

In recent environmental research, relational values have emerged as a new group of values to explain 'green' behavior. Relational values are values associated with living a 'good life' as well as reflection on how preferences and societal choices relate to notions of justice, reciprocity, care, and virtue; and responsibilities to human-nature relationships [2]. As per [25], a 'good life' in a consumerist society means integrating material and experiential consumption, whose effects on consumer happiness come in the form of pleasure and the meaning of consumption. So far, marketing literature has overly focused on utilitarian benefits and hedonic value (momentary pleasure and enjoyment) to improve customer satisfaction, while m-commerce/m-shopping literature lacked interest in the environmentalist viewpoint of relational values. In this aspect, this study contributes the following to the body of knowledge about m-shopping. First, the validated conceptual model revealed that the motivational forces of consumer satisfaction towards m-shopping can be attributed to utilitarian, hedonic (pleasure and fun), and relational values (pursuit of purposeful and meaningful consumption). There was a greater consumption of environment-friendly household goods (Δ8%) among the post-January 2020 group than within the pre-Covid-19 group. This suggests that relational values have a greater impact on customer satisfaction after the COVID-19 pandemic outbreak. These findings implied that marketers/m-vendors need to understand how consumption related to customer satisfaction is impacted by their sense of self (image of a meaningful life, long-term happiness, morality, and care for society) and their connectedness to the environment. By doing so, this study enables m-vendors to have a clearer understanding of how consumption in the 21st century is related to pleasure, fun, and the pursuit of purposeful and meaningful consumption. This suggests that green consumerism is becoming relevant and impacting businesses.

This study makes its second contribution to the body of knowledge by providing empirical evidence of the significant influence of co-presence on the hypothesized paths of hedonic value→Customer Satisfaction→M-shopping continuance. In particular, the influence of co-presence on hedonic value is significantly higher among the post-January 2020 group than the pre-Covid-19 group. Correspondingly, the impact of hedonic value on customer satisfaction is higher among the post-January 2020 group than within the pre-COVID-19 group. Subsequently, the impact of customer satisfaction on m-shopping continuance is higher among the post-January 2020 group than among the pre-COVID-19 group. The above implies that businesses should establish online customer communities or chat facilities in their m-shopping platform for like-minded consumers to review or share their brand experience, and to improve customer satisfaction and m-shopping continuance. Further, online chats and review platforms provide the perfect space for open and consistent two-way communication between companies and their customers. It can help companies address or ease customers' concerns or grievances promptly so as not to affect customer satisfaction with its products/brand. For instance, a petty negative review on social media might provoke undue consumer distrust of the sellers. Open communication within the chat

facility/special group community on the m-shopping platform would help clear up any miscommunication or bad publicity generated by negative reviews on social media. Additionally, this communication method creates valuable data sets that might help m-vendors reach consumers in the future.

Third, this study revealed that m-shopping continuance could be better predicted by satisfactory order fulfillment than the motivated utilitarian and hedonic outcomes of m-shopping (among both the pre-COVID-19 and post-January 2020 groups). Order fulfillment has a significant direct impact on M-shopping continuance. This suggested that marketers should not overtly focus on utilitarian value but also on order fulfillment (accurate representation of the product, order, and on-time delivery). M-vendors have to improve their delivery; or invest in high-tech warehouses capable of quick and accurate handling of orders rather than manual pick-up of items from retail shelves and packaging them for delivery. This is especially true if the current trend of online purchases/m-shopping continues after the pandemic outbreak. In places with difficult access or poor logistics, m-vendors can arrange 'click and collect' whereby shoppers could pick up their orders from any stores/local post office/drop-off points. This can help reduce delays in deliveries. Customers can email, file complaints, and register warranties or service requests through the m-vendors website. Further, the traditional focus on fair pricing and prompt services is very relevant within the m-shopping context. Quick replies to emails, service requests, and returning goods are mandatory, as these are among the most highlighted variables in the study.

The significant impact of the complexity of m-shopping sites on m-shopping satisfaction in this study highlighted the necessity of a well-designed interface. Further, web design quality directly impacts m-shopping continuance. To reduce complexity in the m-shopping platform: Frequent pop-up advertisements should be avoided, and a separation of private sellers (selling used products) from retailers selling new products should be practiced. This can help reduce confusion and prevent unintentional purchases of used/counterfeit goods. Ideally, m-vendors should communicate their value-added offers on their chat facility/web community. Likewise, m-vendors can increase the relational value of their offerings by focusing on environmentally friendly products (organic, green-labeled), recycling of waste materials, corporate social responsibility, and ethical production. Lately, Taiwan has seen the spring up of ethical production shops and heightened awareness of 'Green Mark' products to promote green consumerism among consumers to use recyclable, low-polluting, and resource-saving products. M-shopping can be very much part of this movement by having a specialized category of 'Green Mark products' on its m-shopping/e-commerce platform. This would help m-shoppers with espoused relational values shop with convenience and speed.

6. LIMITATIONS OF RESEARCH

The first limitation of this study is the relatively small sample size compared to the post- covid-19 occurrence group. Second, this study delimited itself to measuring

relational values as the preferential choice of meaningful consumption characterized by virtues (moral), well-being (state of being comfortable, healthy, and happy), and self-responsibility to the environment via purchases of healthy living, environmentally friendly, and ethically produced products; and patronizing of businesses that promoted the welfare of the underprivileged group. Meaningful and purposeful consumption within the context of relational value may need further exploration.

7. CONCLUSION

All proposed hypotheses in this study were supported. By doing so, it implied that there is evidence to suggest that m-shopping satisfaction could be attributed to utilitarian, hedonic, and relational values. In addition, this study revealed that m-shopping continuance could be better predicted by satisfactory order fulfillment than the motivational forces of utilitarian and hedonic values. The motivational/perceived values of m-shopping are invariant to gender and nationality. The COVID-19 outbreak manifested the impact of co-presence on the motivational forces of customer satisfaction towards m-shopping. The COVID-19 outbreak also manifested the influence of relational values in m-shopping, as reflected by the increasing consumption of environmentally-friendly products after the outbreak. Businesses are advised to understand that consumption and customer satisfaction with m-shopping post-covid-19 are related to consumers' sense of self and their interconnectedness to the environment. It implies that green consumerism is becoming relevant and impacting businesses. By exploring how co-presence and other variables interact with the motivational forces of m-shopping, this study provides insight into how businesses can provide more satisfying customer experiences within the m-shopping platform.

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