The role of customer personality in satisfaction, attitude-to-brand and loyalty in mobile services

La personalidad del cliente en la satisfacción, actitud hacia la marca y lealtad en servicios móviles

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Abstract

Purpose – The purpose of this study is two-fold. First is to explore the role of some customer personality traits in explaining customer satisfaction in mobile services. Second is to explore the relationship between satisfaction and loyalty of mobile services customers, mediated by attitude-to-brand considering the fierce competition and the fast industry growth.

Design/methodology/approach – The study used a cross-sectional design and a survey of mobile service customers. For the empirical analysis, the structural equation models were applied (partial least squares).

Findings – The results suggest that customers who are agreeable, neurotic and open to new experience are more likely to be satisfied with mobile services than other personality types. In addition, the satisfaction-loyalty link is fully mediated by attitude-to-brand. Hence, satisfaction is not a direct driver of loyalty in the mobile services business and loyalty is achieved when service providers simultaneously focussed on the customers' satisfaction and their attitudes towards brands.

Practical implications – The study identified the personality trait drivers of customer satisfaction and the path to customer loyalty in the mobile services sector. With this information, mobile service providers should be better able to target and retain customers.

Originality/value – The study offers new insights into customer behaviour by using personality traits to identify requirements for achieving customer satisfaction, customer loyalty and attitude-to-brand.

Keywords Customer personality, Customer satisfaction, Attitude-to-brand, Customer loyalty, Mobile services, Attitude to brand

Paper type Research paper

Resumen

Propósito – El propósito de este estudio es doble. Primero, explorar el papel de algunos rasgos de personalidad del cliente para explicar su satisfacción en los servicios móviles. Segundo, explorar la relación entre la satisfacción y la lealtad de los clientes de servicios móviles, mediada por la actitud hacia la marca considerando la feroz competencia y el rápido crecimiento de la industria.

Diseño/metodología/enfoque – El estudio utilizó un diseño transversal y una encuesta de clientes de servicios móviles. Para el análisis empírico se utilizaron modelos de ecuaciones estructurales (PLS).

Hallazgos – Los resultados sugieren que los clientes agradables, neuróticos y abiertos a nuevas experiencias tienen más probabilidades de estar satisfechos con los servicios móviles que otros tipos de clientes. Además, el vínculo satisfacción-lealtad está mediado por la actitud hacia la marca. Por lo tanto, la satisfacción no es un precursor directo de la lealtad en servicios móviles. La lealtad se logra cuando el proveedor de servicios se centra simultáneamente en la satisfacción del cliente y cuida la actitud hacia la marca.

Implicaciones prácticas – El estudio identificó los rasgos de personalidad de los clientes que llevan a la satisfacción y el camino hacia la lealtad del cliente en el sector de los servicios móviles. Con esta información, los proveedores de servicios de telefonía móvil deberían estar mejor capacitados para dirigirse a los clientes y retenerlos.

Originalidad/valor – El estudio ofrece nuevas perspectivas sobre el comportamiento del cliente al utilizar los rasgos de la personalidad para identificar los requisitos que permiten lograr la satisfacción del cliente, su lealtad y mejorar la actitud hacia la marca.

Palabras clave Personalidad del cliente, Satisfacción del cliente, Actitud hacia la marca, Fidelidad del cliente, Servicios móviles

Tipo de artículo Trabajo de Investigación

1. Introduction

The mobile phone has become the personal computer and communication medium for the everyday man. This is because the devices are now smart and equipped with cameras, microphones, global position system and a host of mobile applications. These smartphones have also revolutionized business through the online channel with e-commerce being a large portfolio of many industry sectors such as mobile phone services. As such, mobile phone services have become a very large sector with over 50% of the world's population having a mobile phone (Hsu *et al.*, 2019). The business in this sector is comprised of telecommunications and information services and includes such services as voice calls, short message service, internet access and other data services. In addition, the mobile industry is rapidly becoming saturated and with increasing competition, the mobile phone services providers are forced to keep customers satisfied and loyal to their brands.

Customer satisfaction and loyalty continue to be increasingly important to the firm and the financial benefits to be derived from improving these two outcomes are well documented (Hill and Alexander, 2017). Further, there is a long stream of research that validates the direct relationship between customer satisfaction and loyalty (Akbar and Parvez, 2009; Deng *et al.*, 2010; Hallowell, 1996; Kim *et al.*, 2004), but this relationship can still be complex because of the presence of intervening variables (Bodet, 2008). As such, the satisfaction-loyalty link was moderated by income in the general service industry (Walsh *et al.*, 2008) and by switching cost in the mobile phone services business (Lee *et al.*, 2001). There is also evidence that the satisfaction-loyalty relationship may be mediated by online relative to offline transactions in the service industry (Shankar *et al.*, 2003) and by the attitude towards the brand in the household goods and cosmetics business (Suh and Yi, 2006). However, "the questions of how and when brand attitudes affect the customer satisfaction-loyalty relation remain unanswered" (p. 145). This relationship gets even more complex as the satisfied

customer is not always loyal in some industries (Skogland and Siguaw, 2004). It is, therefore, necessary to examine this relationship, particularly in industry sectors such as mobile phone services, where the technology is rapidly changing, making customer loyalty even more elusive (Bahri-Ammari and Bilgihan, 2019).

Satisfaction is a known antecedent of loyalty across most business types. Moreover, studies pertaining to satisfaction and other antecedents of loyalty such as customer engagement, have generated recent interest because of the critical role that loyalty continues to play in a fiercely competitive retail industry (Monferrer *et al.*, 2019). Further, research in the general retail industry is still deficient in identifying key drivers of customer satisfaction and loyalty despite common knowledge that the dissatisfied customer is likely to have a negative impact on the firm's bottom-line (Hult *et al.*, 2019). Thus, the path to customer loyalty does not begin with satisfaction, but rather with the drivers of satisfaction such as the customer personality – a key driver of buying behaviour (Mowen, 2000). That said, personality is broadly defined as the psychological characteristics of the individual that explains enduring and distinctive patterns of feeling, thinking and behaviours (Pervin and Cervone, 2010). These characteristics account for much of the variance in consumer behaviour (Mowen, 2000) and have been known to be more effective than demographic type variables for predicting buying behaviours (Schul and Crompton, 1983). This is because personality traits are quite stable and not transient as other types of individual attributes such as moods, attitudes and income. Moreover, personality traits have become mainstream, as the development of the Big Five typology – openness to experience, conscientiousness, extroversion, agreeableness and neuroticism (John and Srivastava, 1999). This typology represents the five basic structures that underlies human personality traits. As such, researchers are now better able to conceptualize and operationalize personality traits for explaining consumer behaviours and actions (Mowen, 2000).

The role of personality in consumer behaviour was further explored by Mowen (2000), who, through a meta-theoretic synthesis of prior research indicated that personality traits can be represented on a four-level hierarchy, namely, elemental, compound, situational and surface traits and that lower-level trait, in combination with traits along the hierarchy, are effective in predicting the higher-order surface traits where the surface traits are representative of tangible consumer behaviours. Taken together, personality type attributes are, perhaps, the most fundamental drivers of buying behaviour when considering alternative such as moods, attitudes and product attributes (Mowen, 2000).

The purpose of this study is two-fold. Firstly, to explore the role of the lower-level customer personality traits in predicting the satisfaction of the customers of mobile phone services. This was decided upon in light of the recent gap presented by Hult *et al.* (2019) for better predictors of customer satisfaction. Secondly, to explore the relationship between satisfaction and loyalty of mobile phone service customers, mediated by the attitude towards the brand. This complex question on the gap between satisfaction and loyalty is still unanswered (Suh and Yi, 2006) and attitude to the brand, as an intervening variable, provides a good path to continue the discourse (Suh and Yi, 2006), particularly in mobile phone services where the technology is rapidly changing and customer loyalty is elusive (Bahri-Ammari and Bilgihan, 2019).

The remainder of this article is arranged as follows: firstly, the theoretical foundation is presented through the Meta-Theoretic Model of Motivation and Personality. This is followed by an illustrative review of the literature on customer satisfaction and loyalty. Next, the research model and related hypotheses are

discussed and followed by the discourse on research method, data analysis and results. The paper then progresses through the discussion of the findings, study implications, limitations and conclusion.

2. Literature review
2.1 Meta-theoretic model of motivation and personality (3 M theory)
The meta-theoretic model of motivation and personality provides a framework of personality traits for guiding consumer behaviours and actions (Mowen, 2000). This framework is arranged through a hierarchal model of integrated personality traits where the lower order traits are known to predict trait-like behaviours that are located at a higher order in the hierarchy (Mowen and Spears, 1999). This hierarchy consists of four levels and is arranged from the lower order *elemental traits* through *the compound and situational traits* to the higher-order *surface traits* (Fang and Mowen, 2009).

Elemental traits such as agreeableness and conscientiousness are base-level predispositions that arise from genetics and early learning history (Mowen, 2000). The traits of agreeableness ("warm" and "sympathetic") and conscientiousness ("efficient" and "organized"), for example, provide a reference point for predicting that these characteristics could lead an individual to stop to buy phone cards for his neighbour, at short notice, even when he has a time constraint.

Compound traits such as the need for activity and task orientation are second-level predispositions that result from the combination of multiple elemental traits, a person's learning history and culture (Mowen, 2000). These two traits, for example, could influence the likelihood of an individual, so predisposed, to upload files to his phone, one at a time, over an extended period and seemingly enjoy the tedium.

Situational traits such as value consciousness are third-level traits that are triggered by the situational context; and result from the joint effects of elemental and compound traits (Mowen, 2000). The situational trait of value consciousness, for example, could explain why the individual, so predisposed, is only likely to buy phone accessories in situations where there are discounts or good value for money.

Surface traits such as brand loyalty are the most tangible traits of the hierarchy and emerged from the interplay of elemental, compound and situational traits and occur through product-category interactions (Mowen, 2000). For example, the elemental trait of agreeableness could trigger the compound trait of need for recognition, which could further interact with the situational trait of propensity to be peer-pressured, which could encourage an individual to be brand loyalty to the latest model of the i-Phone even when the phone that is currently owned by that individual is still fairly new and up-to-date.

This Theory is no doubt very complex and suggests that the higher the order of the trait, the more concrete – with higher-order traits including surface-type behaviours such as the tendency to be satisfied, attitude towards brands and propensity to be loyal. These surface type traits are triggered through interactions with product categories (Mowen, 2000). The theory further argues that lower-order traits are antecedents of higher-order traits and higher-order traits are often antecedents of other higher-order traits.

The model proposed by this study, therefore, provides a good fit for the Theory as it seeks to network the Big Five elemental traits (openness to experience, conscientiousness, extroversion, agreeableness and neuroticism) to the surface trait of customer satisfaction and intern links satisfaction to the surface trait of customer loyalty through both direct and indirect paths facilitated by the surface trait of attitude towards the brand.

2.2 Customer satisfaction

The concept of customer satisfaction occupies a central position in marketing theory and practise as:

> [...] satisfaction is a major outcome of marketing activity and serves to link processes culminating in purchase and consumption with post purchase phenomena such as attitude change, repeat purchase, and brand loyalty (Churchill and Surprenant, 1982, p. 491).

Churchill and Surprenant (1982, p. 493) provide working definitions of customer satisfaction:

> Conceptually, satisfaction is an outcome of purchase and use resulting from buyer's comparison of the rewards and costs of purchase in relation to anticipated consequences. Operationally, satisfaction is similar to attitude in that it can be assessed as the sum of satisfactions with various attributes of the product or service.

Many firms will target customers who they are likely to satisfy as the practise of customer satisfaction provides a clear path to the future profitability of the firm (Kotler *et al.*, 2014). As such, there is a prevailing view among managers that customer satisfaction must be integral to the business model of the firm. Customer satisfaction is also viewed as a key indicator and a necessary condition for sustained profitability. However, satisfaction is not a sufficient marketing goal for driving this profitability and so the firm pursues customer loyalty, a consequence of satisfaction, as yet another step towards this end. In the mobile services business, customer satisfaction is necessary for retaining customers and getting them to take part in referrals (Jahan *et al.*, 2019).

2.3 Customer loyalty

Customer loyalty can simply be defined as the attachment of the customer to the products or services of the firm. This concept is known for several marketing advantages such as favourable word-of-mouth reactions, intention to buy, intention to support and customer satisfaction (Kang and Hustvedt, 2014). Customer loyalty in the e-mobile market, despite the development of internet technologies, is not dissimilar to customer loyalty in the traditional markets and boils down to the mindset of the customer to develop a favourable attitude and commitment to repurchase and to recommend the services provided to others (Lee and Wong, 2016). Thus, customer loyalty is seen as a key driver for the firm's profitability (Hallowell, 1996). With fierce competition in mobile services and indications that the market may have reached maturity, customer loyalty has become an important area of research in the mobile service sector (Bahri-Ammari and Bilgihan, 2019). Moreover, customer loyalty continues to be a topic of considerable import to marketing scholars because of its role in sustaining competitive advantage and driving financial outcomes (Tartaglione *et al.*, 2019). The next section will present the research model and related hypotheses.

3. Research model and hypotheses

This study seeks to determine the elemental personality traits for driving the surface trait of customer satisfaction and determines the mediating effect of attitude towards the brand in the relationship between the surface traits of customer satisfaction and customer loyalty. Attitude towards the brand was theorized to be the missing link in the satisfaction-loyalty relationship, based on Suh and Yi (2006), who indicated that a better understanding of customer attitudes in more industries is required as attitudes could interfere with the satisfaction-loyalty dynamics in some industries. Thus, nine hypotheses were developed for this undertaking.

3.1 Openness to experience and consumer satisfaction

Openness to experience suggests that the individual is curious, imaginative, unconventional and has a wide interest. Lounsbury *et al.* (2007) found that the personality trait of openness to experience was positively associated with both job satisfaction and career satisfaction among information technology professionals. Similarly, Stephan (2009) found that this trait was also positively related to life satisfaction among retirees. This link between the openness and life satisfaction was supported by Ali (2019) who found a positive influence of the trait on students' satisfaction with their lives. Lin (2010) also found that the openness personality trait had a significantly positive influence on affective loyalty – a consequence of satisfaction. It appears, therefore, that the openness personality trait may be causal to satisfaction in various situations and contexts.

H1. Openness to experience is positively associated with consumer satisfaction.

3.2 Conscientiousness and consumer satisfaction

Conscientiousness is displayed by the individual who is organized, thorough and not impulsive or lazy. Hence, conscientiousness is a constructive human trait that is expected to have a positive influence on buying outcomes, i.e. higher levels of conscientiousness among customers are expected to lead to *a better buy* and *a better buy* is expected to drive higher levels of satisfaction. However, Organ and Lingl (1995) indicated that the connection between conscientiousness and satisfaction is not always obvious as they found that conscientiousness was a negative predictor of co-worker satisfaction. In the context of leader-follower relationships, Harris *et al.* (2019) found that conscientious leaders are usually more rigid, i.e. less adaptable, which, in turn, elicits less satisfaction from followers. Boyce *et al.* (2010) concluded that there is a dark side to conscientiousness and though it is expected to be positive for wellbeing, this trait may lead to a decline in life satisfaction where the more conscientious individuals are less satisfied.

H2. Conscientiousness is negatively associated with consumer satisfaction.

3.3 Extroversion and consumer satisfaction

The extroverted personality is said to be outgoing, sociable, enthusiastic and energetic. Extroversion among guests was found to be positively associated with guest satisfaction in hotel services (Jani and Han, 2014). More recently, the extroversion trait was found to be positively related to job satisfaction among service professionals (Mroz and Kaleta, 2016) and positively associated with satisfaction with life among hospital patients (Proctor and Best, 2019). It appears, therefore, that this outgoing, enthusiastic and energetic personality trait may be influential in positive buying behavioural outcomes.

H3. Extroversion is positively associated with consumer satisfaction.

3.4 Agreeableness and consumer satisfaction

The agreeable individual is one who is warm, sympathetic and forgiving and tends not to be demanding or stubborn. This trait is influential on positive consumption type behaviours (Jani and Han, 2014; Matzler and Renzl, 2007; Siddiqui, 2012; Tan *et al.*, 2004) and on satisfaction with life (Szcześniak *et al.*, 2019). Tan *et al.* (2004) found that customer agreeableness was significantly related to the display of positive emotions and that these

emotions created a positive influence on satisfaction with service providers. Further, a study of utility companies found that the agreeableness personality trait was a positive driver of employee satisfaction (Matzler and Renzl, 2007). Similarly, Jani and Han (2014) found that in the hotel industry, the guests who were agreeable were generally satisfied with the services. In the context of mobile phone services, Siddiqui (2012) found that the agreeableness personality factor emerged as the single predictor of customer satisfaction among the five-factor personality model.

H4. Agreeableness is positively associated with consumer satisfaction.

3.5 Neuroticism and consumer satisfaction
Neuroticism characterizes the individual who is irritable, tense, moody and lacks self-confidence. This emotionally unstable behaviour is generally thought of in the context of its negative influence on consumption type behaviours (Jani and Han, 2014; Matzler and Renzl, 2007; Matzler *et al.*, 2005; Volodina *et al.*, 2019). As such, neuroticism was found to be negatively associated with employee satisfaction (Matzler and Renzl, 2007) and negatively correlated with satisfaction with vocational education and training (Volodina *et al.*, 2019). Similarly, neuroticism among Mountain Bikers was found to have a highly significant impact on their negative emotions and these emotions impacted negatively on the Biker's satisfaction with their own performance (Matzler *et al.*, 2005). Further, neuroticism among guests was found to have a negative influence on guest satisfaction in the hotel industry (Jani and Han, 2014).

H5. Neuroticism is negatively associated with consumer satisfaction.

3.6 Customer satisfaction and loyalty
Satisfaction is expected to have a positive influence on loyalty in most business types. This has become common knowledge even though research is suggesting that a satisfied customer may not always be loyal (Skogland and Siguaw, 2004).

H6. Customer satisfaction is positively associated with consumer loyalty.

3.7 Customer satisfaction and attitude-to-brand
Customer satisfaction is expected to influence both the customers' attitude towards brands and their positive repurchase behaviour (Wong *et al.*, 2019). In the case of mobile phone users, Garga *et al.* (2019) concluded that customer satisfaction was directly associated with the customers' attitudes to switching providers where the more satisfied customers were less likely to switch providers than the less satisfied ones.

H7. Customer satisfaction is positively associated with attitude-to-brand.

3.8 Attitude-to-brand and customer loyalty
Positive customer attitudes towards companies and brands have long been associated with business outcomes such as increased revenues and brand loyalty (Trang *et al.*, 2019). As such, many businesses will seek to improve the customers' favourable attitude towards their brands in an effort to drive customer loyalty (Kim *et al.*, 2016). Moreover, McLean *et al.*

(2020) found that positive customer attitudes towards mobile applications, over time, were associated with increased purchase frequency and customer loyalty towards brands.

H8. Attitude-to-brand is positively associated with customer loyalty.

3.9 Customer satisfaction, customer loyalty and intervening variables
The "literature on marketing has recognised customer satisfaction as a significant antecedent to customer loyalty"; however, the intervening variables between satisfaction and loyalty are less understood (Bodet, 2008, pg. 156). Most studies in this stream of work have shown that satisfaction has a direct effect on brand loyalty (Akbar and Parvez, 2009; Deng *et al.*, 2010; Hallowell, 1996; Kim *et al.*, 2004), while others such as Akbar and Parvez (2009) and Mosahab *et al.* (2010), have demonstrated that satisfaction may even act as a mediator between service quality variables and loyalty. Still, Shankar *et al.* (2003) found that customer satisfaction was at similar levels when the service chosen was either online or offline, but the loyalty to the service provider was higher when the service chosen was online than offline. Other studies within the service industry have also demonstrated that income has a moderating effect on the satisfaction-loyalty relationship (Walsh *et al.*, 2008). In the context of mobile phone services, there is evidence of switching cost having a moderating effect on the satisfaction-loyalty relationship where dissatisfied customers may not defect because of high switching cost (Lee *et al.*, 2001). This moderating effect of switching cost in the mobile industry has been met with mixed findings as Hadi *et al.* (2019) found that satisfied customer will remain loyal even if the switching cost is low. There is also evidence that tweens (8–12-year-old) are far more satisfied with mobile phones than adults yet brands are not able to turn these youngsters into loyal customers to recommend the product to friends (Martensen, 2007). Notably, satisfied customers are not always loyal (Skogland and Siguaw, 2004), thus, confounding the link between satisfaction and loyalty.

The mediating effect of attitude towards the brand. The attitude towards the brand refers to the opinions that the customers formulate about the brand. Suh and Yi (2006) tested the satisfaction-loyalty link using one category of consumer goods containing cosmetics and household products and found that "customer satisfaction had a direct effect on brand loyalty [...] and [also] an indirect effect [...] through brand attitudes" (p. 151). Thus, suggesting that the satisfaction-loyalty relationship is partially mediated by the attitude towards the brand. These researchers, however, cautioned that further studies should test this mediation effect with other consumer categories as their findings may be category-specific. The relationship between satisfaction and customer loyalty is, therefore, very complex and calls for a better understanding of intervening variables and indirect paths between these two constructs (Mosahab *et al.*, 2010; Suh and Yi, 2006).

The relationship between satisfaction and loyalty has been tested extensively in extant literature. However, this association remains complex *vis-à-vis* intervening variables (Bodet, 2008; more so in sectors such as mobile services where technology is rapidly changing, making customer loyalty even more elusive (Bahri-Ammari and Bilgihan, 2019). In a bid to address this complexity, it is being hypothesized that:

H9. The relationship between consumer satisfaction and customer loyalty is mediated by the attitude towards the brand. This relationship is being tested for the category of mobile phone services.

Baron and Kenny (1986) proposed three classical conditions that must be met in determining a mediation effect. However, these conditions are better fitted to regression models with manifest variables than to structural equation modelling (SEM), which uses latent constructs and associated indicators (Holbert and Stephenson, 2003). In adopting these conditions to SEM models, Hair *et al.* (2017) presented three questions (Qs) and answers (As) for concluding that a variable is a mediator in partial least squares (PLS) path modelling:

Q1. Is the direct effect significant when the mediator variable is excluded from the PLS path model; A. Desirable for a direct path to be significant.

Q2. Is the indirect effect via the mediator variable significant after the mediator variable is included in the path model, i.e. is each of the two paths significant; A. each path must be significant.

Q3. In the model, including the mediator variable, how much of the direct effect does the indirect effect absorb; A. direct effect not significant → full mediation, direct effect significant → partial mediation.

In modelling *H9* using SEM, therefore and similarly to Rivera *et al.* (2016), who modelled attitude-to-brand as a mediating variable, this study used the Baron and Kenny (1986) conditions adopted by Hair *et al.* (2017) for addressing the mediation effect postulated in *H9*.

These nine hypothesized paths are summarized in Figure 1 below.

4. Method
The study used a paper-based survey for collecting data through self-administered questionnaires. The survey method was chosen as it is the most cost-effective means of collecting data from a large number of participants and the most suitable way of capturing personality trait constructs that are measured with scales.
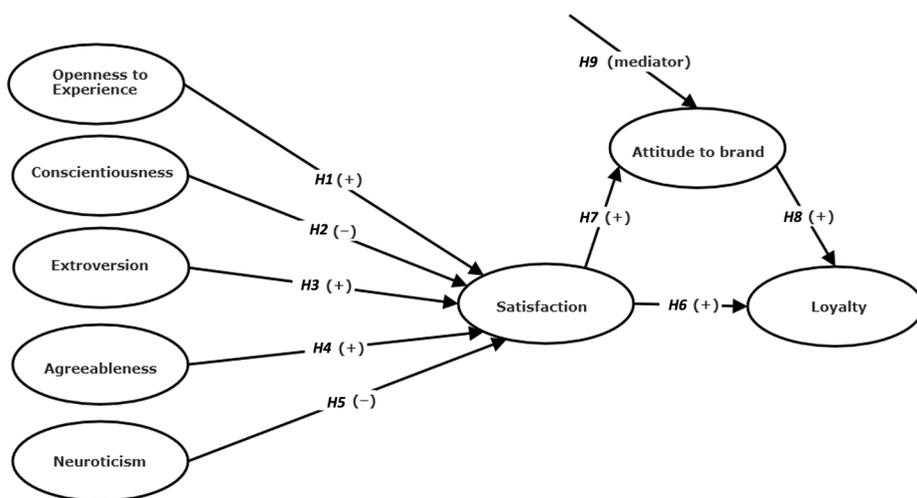

Figure 1.
Research model

Author(s)/year	Scale	Items
John and Srivastava (1999)	Openness to experience	Ideas (curious) Fantasy (imaginative) Aesthetics (artistic) Actions (wide interests) Feelings (excitable) Values (unconventional)
	Conscientiousness	Competence (efficient) Order (organized) Dutifulness (not careless) Achievement striving (thorough) Self-discipline (not lazy) Deliberation (not impulsive)
	Extroversion	Gregariousness (sociable) Assertiveness (forceful) Activity (energetic) Excitement-seeking (adventurous) Positive emotions (enthusiastic) Warmth (outgoing)
	Agreeableness	Trust (forgiving) Straightforwardness (not demanding) Altruism (warm) Compliance (not stubborn) Modesty (not show-off) Tender-mindedness (sympathetic)
	Neuroticism	Anxiety (tense) Angry hostility (irritable) Depression (not contented) Self-consciousness (shy) Impulsiveness (moody) Vulnerability (not self-confident)
Westbrook and Oliver (1981)	Consumer satisfaction	My company is the best mobile phone service provider I could have bought from The service received is exactly what I need The service has not worked out and I thought it would (R) I am satisfied with my decision to buy this mobile plan Sometimes I have mixed feelings about keeping the service (R) My choice to buy this service was a wise one If I lose this phone and were to buy over again, I would buy from a different service provider (R) I have truly enjoyed this service I feel bad about my decision to purchase this service (R) I am not happy that I bought this service (R) Having this service has been a good experience I'm sure it was the right thing to buy this service
Putrevu and Lord (1994)	Attitude-to-brand	The decision to use my company as my mobile service provider is foolish (R) Purchasing mobile service through my company is a good decision I think my company is a satisfactory brand I think my company provides lots of benefits to consumers I have a favourable opinion of my company
Smith (2012)	Customer Loyalty	I will recommend others to my company I have forged ties with my company and will continue to purchase and use it My company is my first choice among mobile service providers

Table 1.
Scales and items for constructs

4.1 Instrument and measures
The survey instrument developed comprised the Big Five Personality Traits Scales that were used by John and Srivastava (1999), a Customer Satisfaction Scale that was originally developed by Westbrook and Oliver (1981), an attitude-to-brand scale, which seems to have its origin with Putrevu and Lord (1994) and a customer loyalty scale that was developed by Smith (2012). Demographic variables for describing the sample were also added to the instrument. The measurement (outer) model comprised eight first-order latent constructs with each being measured using seven-point Likert-scales anchored from strongly disagree through strongly agree (Table 1).

All observed items of each of the eight constructs were modelled using multiple reflective indicators. This type of indicator was decided upon as each construct was deemed to cause its related items. Notably, when this type of indicator is used "any single item can generally be left out without changing the meaning of the construct" (Hair *et al.*, 2014, p. 43). Alternatively, if these items were modelled as formative indicators, then omitting a single indicator could potentially alter the nature of the construct (p. 43). Thus, reflective indicators are being used as they provide a good theoretical fit for the constructs and allow for the omission of items, where necessary, to ensure for the robustness of the model.

4.2 Sample
The paper-based survey was administered during the summer of 2019 in the Kingston Metropolitan Area of Jamaica to a convenience sample of mobile phone service customers. The convenience sample was used as it provides the most cost-effective way of collecting data from a wide cross-section of respondents. Moreover, the cost of a probability sampling alternative would far outweigh the benefits of representativeness, as even with the convenience sample all mobile services customers would naturally possess all the personality type dispositions that were captured to varying degrees hence naturally providing some level of representativeness of sample albeit not statistical random.

A filter question was applied to determine if the potential respondents were users of mobile phone services and only those who answered in the affirmative were surveyed. This resulted in a usable sample of 152 participants. The minimum size required for running the research model of five exogenous, two endogenous and one mediating variable is 147 for attaining statistical power of 80%, with a minimum R^2 of 0.10 at 5% significance. See Hair *et al.* (2014, p. 21) for Cohen's recommended sample size in PLS-SEM models. Hence, the final sample of 152 was deemed to be adequate.

On analysis, the sample was comprised of 53% men and 47% women. In total, 73% of these participants were employed and 27% unemployed. The ages of these respondents were: 18–21, 28%, 22–25, 33%, 26–30, 12%, 31–40, 17% and over 40, 11%. In total, 62% of these informants reported that the tertiary level was their last level of educational attainment and 37% reported the secondary level as the last level of study. Managers and Professionals accounted for over 30% of the participants, Clerical, Sales, Service and Support Workers, 29%, Technicians and Associate Professionals, 17% and Armed Force Occupations, 15% (Table 2).

5. Data analysis and results
SEM with SmartPLS 3 was the technique used for data analysis and modelling. This technique was chosen because of its no distributional assumptions, ease of handling complex models, ease of handling reflective indicators, ability to deal with small samples and test relationships between unobserved latent constructs through both direct and indirect paths (Hair *et al.*, 2014). As such, SEM was endorsed for this study as the model

Variables	Frequency	(%)	Cumulative (%)
Gender			
Male	81	53.3	53.3
Female	71	46.7	*100.0*
Total	*152*	*100.0*	
Employment status			
Employed	98	72.6	72.6
Unemployed	37	27.4	*100.0*
Total	*135*	*100.0*	
Age			
18–21	42	27.8	27.8
22–25	49	32.5	60.3
26–30	18	11.9	72.2
31–40	26	17.2	89.4
41–50	11	7.3	96.7
Over 50	5	3.3	*100.0*
Total	*151*	*100.0*	
Last level of educational attainment			
Primary	2	1.4	1.4
Secondary	52	36.6	38.0
Tertiary	88	62.0	*100.0*
Total	*142*	*100.0*	
Occupation			
Managerial	12	20.3	20.3
Professional	6	10.2	30.5
Technicians and associate professionals	10	16.9	47.4
Clerical, sales, service and support worker	17	28.8	76.2
Armed force occupation	9	15.3	91.5
Other	5	8.5	*100.0*
Total	*59*	*100.0*	

Table 2.
Descriptive statistics
on the survey sample

presents a complex link between satisfaction and customer loyalty that is theorized to be partially or fully mediated by attitude-to-brand. Notably, a regression alternative to SEM may not be as efficient due to the complexity of the multiple paths being tested.

The outer model was first assessed for robustness and all items with loadings that fell below the acceptable threshold of 0.5 were dropped (Chin, 1998; Hair *et al.*, 2014). This resulted in an outer model with item loadings that ranged between 0.517 and 0.971 (Table 3). Descriptive statistics, composite reliability (CR), Cronbach's Alpha and average variance extracted (AVE) were generated for each construct within the model. The results indicated that CR (ranging between 0.714 and 0.924), α (ranging between 0.701 and 0.897) and AVE (ranging between 0.511 and 0.711) were all above the acceptable thresholds of 0.7, 0.7 and 0.5, respectively (Chin, 1998; Hair *et al.*, 2014). Convergent validity was, therefore, established based on the acceptable levels of item loadings (Table 3) and AVEs (Table 4). Construct reliability was also established on the acceptable levels of reliability measures (Table 4).

In an additional testing of the strength of the outer model, the square root of each of the construct's AVE and the correlations between the constructs were generated in accordance with the Fornell-Larcker criterion on reflective constructs. The results indicated that the square root of each construct's AVE was larger than its correlation with the other constructs, except for the correlation between satisfaction and attitude (0.752), which is

Constructs	Item loadings
Agreeableness	
Altruism (warm)	0.706
Modesty (not show-off)	0.775
Tender-mindedness (sympathetic)	0.844
Attitude towards brand	
Purchasing mobile service through my company is a good decision	0.866
I think my company is a satisfactory brand	0.787
I think my company provides lots of benefits to consumers	0.806
I have a favourable opinion of my company	0.868
Conscientiousness	
Competence (efficient)	0.903
Order (organized)	0.780
Achievement striving (thorough)	0.767
Extroversion	
Gregariousness (sociable)	0.971
Activity (energetic)	0.517
Customer loyalty	
I will recommend others to my company	0.874
I have forged ties with my company and will continue to purchase and use it	0.876
My company is my first choice among mobile service providers	0.776
Neuroticism	
Self-consciousness (shy)	0.727
Vulnerability (not self-confident)	0.746
Openness to experience	
Aesthetics (artistic)	0.903
Values (unconventional)	0.591
Customer satisfaction	
My company is the best mobile phone service provider I could have bought from	0.719
The service received is exactly what I need	0.754
I am satisfied with my decision to buy this mobile plan	0.791
My choice to buy this service was a wise one	0.794
If I lose this phone and were to buy over again, I would buy from a different service provider (R)	0.708
I have truly enjoyed this service	0.849
I feel bad about my decision to purchase this service (R)	0.677
I am not happy that I bought this service (R)	0.651
Having this service has been a good experience	0.732
I'm sure it was the right thing to buy this service	0.721

Table 3.
Item loading for
resulting outer model

Constructs	Mean	SD	CR	α	AVE
Agreeableness (AGR)	5.432	1.273	0.820	0.730	0.604
Attitude to brand (ATT)	4.671	1.482	0.900	0.852	0.693
Conscientiousness (CON)	5.750	1.143	0.859	0.839	0.671
Extroversion (EXT)	5.326	1.230	0.737	0.710	0.605
Customer loyalty (LOY)	4.399	1.712	0.880	0.796	0.711
Neuroticism (NEU)	3.461	1.503	0.715	0.701	0.511
Openness to experience (OPE)	4.819	1.385	0.726	0.702	0.580
Customer satisfaction (SAT)	4.238	1.415	0.924	0.897	0.550

Table 4.
Descriptive statistics,
CR, and AVE

slightly greater than the square root of the satisfaction AVE (Table 5). However, as discriminant validity examines the level of correlations among the measures of independent constructs (Davcik, 2014), some researchers suggest that correlations below 0.8 are a sign of discriminant validity (Hair *et al.*, 2019; Henseler *et al.*, 2015), as it is in the present case. Therefore, discriminant validity, at a minimum, was established; again, attesting to another level of robustness of the outer model".

In the relationship model, each of the five elemental traits were mapped to the surface trait of customer satisfaction. The customer satisfaction trait was then mapped through a direct path to the surface trait of customer loyalty. Satisfaction was also linked to customer loyalty via an indirect path through the surface trait of attitude-to-brand.

The results from this model (Figure 2) showed that the lower-order personality traits explained 19% of the variances observed in customer satisfaction. This level of R^2 is acceptable as "values of 0.20 are considered high in disciplines such as consumer behaviour" (Hair *et al.*, 2014, p. 175). Further, customer satisfaction explained 56% of the variance in attitude-to-brand;

Constructs	AGR	ATT	CON	EXT	LOY	NEU	OPE	SAT
Agreeableness (AGR)	*0.777*							
Attitude to brand (ATT)	0.212	*0.833*						
Conscientiousness (CON)	0.505	−0.071	*0.819*					
Extroversion (EXT)	0.388	0.140	0.399	*0.778*				
Customer loyalty (LOY)	0.162	0.829	−0.085	0.124	*0.843*			
Neuroticism (NEU)	0.129	0.242	−0.029	0.098	0.225	*0.677*		
Openness to experience (OPE)	0.095	0.147	0.187	0.070	0.179	0.002	*0.761*	
Customer satisfaction (SAT)	0.251	0.752	−0.050	0.099	0.715	0.240	0.202	*0.742*

Table 5.
Inter-construct correlations and discriminant validity

Notes: On-diagonal elements represent the square-root of each construct's AVE; off-diagonal elements are the correlations between the constructs
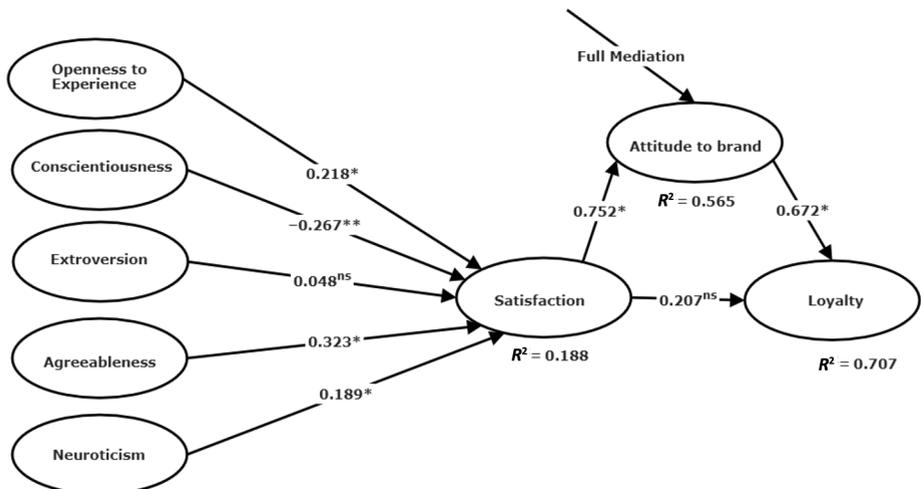

Figure 2.
Relationship model

Notes: **$p \leq 0.01$; *$p \leq 0.05$; ns → not significant

and attitude-to-brand and customer satisfaction, combined, explained 71% of the variance observed in customer loyalty. Six hypotheses were supported and three were not supported. Hence, openness to experience ($\beta = 0.218$; $p \leq 0.01$), agreeableness ($\beta = 0.323$; $p \leq 0.01$) and neuroticism ($\beta = 0.189$; $p \leq 0.01$) were positively associated with customer satisfaction; thus, *H1* and *H4* were supported, but *H5*, although significant, was not supported as neuroticism was theorized to be negatively associated. On the other hand, the hypothesis between conscientiousness and customer satisfaction (*H2*) was significantly and negatively associated ($\beta = -0.267$; $p \leq 0.05$); thus, *H2* was also supported. Further, customer satisfaction ($\beta = 0.752$; $p \leq 0.01$) was positively associated with attitude-to-brand, attitude-to-brand ($\beta = 0.672$; $p \leq 0.01$) was positively associated with customer loyalty and the relationship between customer satisfaction and customer loyalty was fully mediated by attitude-to-brand {customer satisfaction → customer loyalty – without attitude-to-brand in model ($\beta = 0.715$; $p \leq 0.01$) i.e. condition for mediation was confirmed; customer satisfaction →attitude-to-brand ($\beta = 0.752$; $p \leq 0.01$); attitude-to-brand → customer loyalty ($\beta = 0.672$; $p \leq 0.01$) i.e. condition for mediation was confirmed; customer satisfaction → customer loyalty – with attitude-to-brand in model ($\beta = 0.207$; not significant) i.e. condition for full mediation was confirmed}, thus, *H7, H8* and *H9* were also supported. No relationships were found between extroversion and customer satisfaction or between customer satisfaction and customer loyalty, hence *H3* and *H6* were not supported. Taken together, *H1, H2, H4, H7, H8* and *H9* were supported while *H3, H5* and *H6* were not (Figure 2).

6. Discussion and implications
This study advances a model that represents consumer behaviours and actions with an integrated and hierarchical set of personality traits. This conceptualization is based on a meta-theoretic model of Motivation and Personality (3 M Theory) developed by Mowen (2000). The model was deemed to be a good fit for the 3 M Theory with the study's findings supporting the Theory on the lower order personality traits being effective in driving higher-order traits, which, in turn, are operative in predicting other higher-order traits.

The results from the relationship model showed that four of the big five traits, namely, openness to experience, conscientiousness, agreeableness and neuroticism, had a significant impact on customer satisfaction. Openness to experience and agreeableness were positively associated and conscientiousness and neuroticism were negatively related. Three of the four significant drivers accorded with expectations except for neuroticism, which was theorized to be negatively related to customer satisfaction but was found to be positively associated. Notably, extroversion was not associated with customer satisfaction. In addition, and in accordance with expectation, customer satisfaction was found to be positively associated with attitude-to-brand and attitude-to-brand found to be positively associated with customer loyalty while the satisfaction-loyalty link was found to be fully mediated by attitude-to-brand.

The results on the link between the big five and customer satisfaction suggest that not all aspects of the personality influence customer satisfaction with mobile services providers. In addition, while the agreeable and people who are open to experience are likely to be satisfied, the conscientious type is unlikely to be so satisfied. The conscientious personality types are those individuals who are organized, thorough and not impulsive or lazy (John and Srivastava, 1999). As such, these people are very nuanced and will *go to all ends* to improve their mobile phone services. This trait is known to have a negative influence on co-worker satisfaction (Organ and Lingl, 1995) and may even have a *dark side* that leads to a decline in life's satisfaction (Boyce *et al.*, 2010). The neurotic type personality, on the other hand, is moody, shy and not contented (John and Srivastava, 1999) and so, expectations are usually

tempered in dealing with this unpredictable type of person. These people are, therefore, not expected to be satisfied with consumption outcomes (Jani and Han, 2014; Matzler and Renzl, 2007; Matzler *et al.*, 2005). Thus, the positive findings on satisfaction with this type of personality is simply unclear and any explanation on this is merely a subject of speculation. Similarly, the extroverted person, who is said to be outgoing, sociable, enthusiastic and energetic (John and Srivastava, 1999) was expected to be satisfied with the mobile services as these services are congruent with the frequent and enduring social intersections that depict extroversion (Dormann and Kaiser, 2002). However, and like neuroticism, this personality type did not conform with expectations, thus leading the research to conclude that the extroverted person is always *seeking for more*, and therefore, the mobile service provider is challenged to deliver to a level of delight and excitement.

A most revealing finding in this undertaking is that the satisfied customer may not be loyal to mobile service providers except in situations where the customer develops a positive attitude towards the mobile brand. This finding accords with the notion that the relationship between satisfaction and loyalty is complex (Bodet, 2008), particularly in some industries such as mobile phone services, where the technology is rapidly changing, making customer loyalty even more elusive (Bahri-Ammari and Bilgihan, 2019). Technology anxiety (Hsu *et al.*, 2019) may also be responsible for the problem with loyalty, given the speed with which the technology changes.

The study's results have several implications for the management of mobile services. Firstly, in pursuit of customer satisfaction, mobile services providers should first ascertain the personality types that are likely to be satisfied and those that are not. This will allow the firm to be more targeted in its allocation of limited marketing resources. For example, the firm can focus on customers such as the agreeable and those open to new experience as these personality types are more likely to be satisfied. These characteristics can reasonably be captured through attitudinal scales in customer surveys (John and Srivastava, 1999). As such, the firm should develop its offering around customer personality as personality traits are integrated in the buying process (Mowen, 2000), from the *thought of buying* through *purchase* through *post-purchase behaviours*.

Secondly, research in marketing is suggesting that a satisfied customer will generally be loyal, but this study shows that satisfaction may not be a direct contributor to loyalty even when the mobile services customer develops a good attitude to the brand. However, these providers can ill afford to ignore the customer's satisfaction as satisfaction with the brand is a positive driver of attitude towards the brand, which, in turn, is a positive driver of customer loyalty to that brand (Suh and Yi, 2006). This finding of Suh and Yi also accords with the finding of this study. Moreover, for customers to develop a positive attitude towards the brand, mobile services providers must also keep the customers reminded of how they can benefit from the offering to help them to develop a favourable opinion (Putrevu and Lord, 1994). Indeed, the favourable customer attitude towards the brand combined with a customer satisfaction focus, on the part of the firm, will strongly contribute to customer loyalty (R^2 = 71%) in the mobile services sector. This contribution to loyalty is highly significant as "R^2 values of 0.20 are considered high in disciplines on consumer behaviour" [. . .] when [. . .] "explaining customer satisfaction or loyalty" (Hair *et al.*, 2014, p. 175).

This study offers useful insights into the dynamic nature of pre and post-purchase behaviours *vis-à-vis* elemental, satisfaction, attitude and loyalty traits. However, there are a few limitations that are worth mentioning. For example, while personality traits are salient to consumer behaviours and actions, other drivers such as moods and expectations are also integral to customer satisfaction, attitudes and loyalty. These behaviours are confounded with personality traits in the buying process (Mowen, 2000). As such, it is always going to

be difficult to isolate the effect of customer personality to buying outcomes because of the cognitive and complex nature of consumer behaviour. This challenge can be addressed through further research, which could use these behavioural imperatives, with other confounding variables and in other industries and sectors, for better understanding of the personality-satisfaction-loyalty dynamics.

Finally, this study used a paper-based survey research, which is subject to the possibility of response bias where participants may under-report on traits such as neuroticism and over-report on other traits such as agreeableness and conscientiousness. This is expected as the voluntary survey respondent usually wants to be viewed in a good light. Other tools of data capture such as biofeedback technologies could help to minimize this effect but may be limited in access because of cost.

7. Conclusion
Many studies in the marketing literature have addressed the relationship between personality traits and consumer behaviours and actions. However, only a few such as Mowen (2000) and the present study have attempted to provide a holistic and empirical explanation of the cognitive buying behavioural process using the Meta-theoretic Model of Motivation and Personality. This study demonstrated that personality traits are integral to pre- and post-purchase behaviours *vis-à-vis* satisfaction, attitudes and loyalty.

Many firms have continued to invest heavily in customer satisfaction programmes only to find that the customers are demonstrating mixed loyal to their brands. This appears to be the case in some industries such as mobile services where the competition is rife and the technology is so fast-moving and engaging that customers will switch providers on price, service quality and high-tech features. The lowering of switching costs, where the same smartphone can be used across different providers, has also contributed to declining loyalty in the mobile services business.

This problem of loyalty has been popularly addressed in the marketing literature with studies on the satisfaction-loyalty link in various industries and contexts. However, with the explosion of mobile technologies, the satisfaction-loyalty dynamics have taken on renewed significance with the findings of this study indicating that satisfaction is not a direct driver of loyalty in the mobile services business and that loyalty is achieved when service providers focus simultaneously on the customer's satisfaction and attitudes towards their brands. These insights should, therefore, be taken into consideration by mobile services providers in the implementation of loyalty programmes in which personality trait data should be captured through surveys and analysed and studied for better advancing the customer's satisfaction, attitudes and loyalty to the firm.

These findings also suggest a couple of opportunities for further work. Firstly, further research could improve this model by adding three additional elemental traits (materialism, need for arousal and body focus) that were proposed by Mowen and Spears (1999) for enhancement the Big Five. This could provide yet another set of cognitive indicators for driving customer satisfaction to mobile services providers. Secondly, other studies should seek to use the Meta-theoretic Model of Motivation and Personality advanced by Mowen (2000) for a more fulsome explanation of consumer buying behaviours and patterns. This would allow for more exploration of the Theory and provide other conceptualizations of buying behaviours through personality trait representations. Afterall, the personality trait is the most enduring of human psychological dispositions and should naturally play a more prominent role in studies of consumer behaviour.

This study must highlight at least two important contributions in response to the gaps in the marketing literature. Firstly, three key marketing imperatives (satisfaction, attitude-to-

brand and loyalty) were modelled through personality-type predispositions in answering to the call by Mowen (2000) on the need to model consumer personality traits as proxies of buying behaviour. Secondly, a new claim is made that satisfaction is not a direct driver of loyalty in mobile services and that satisfaction is a necessary but not a sufficient condition for loyalty in this fast-paced industry. This second contribution is a response to Suh and Yi (2006, p. 145) on the unanswered question of the role of attitude-to-brand in the satisfaction-loyalty relationship.

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