**Value Co-Creation and Co-Destruction Behaviour: Relationship with Basic Human Values and Personality Traits**

**Abstract**

Service systems create value when actors exhibit behaviours expected to facilitate resource integration and could destroy value when actors do not exhibit the expected set of behaviours. This study seeks to determine which groups of values and individual traits facilitate consumer co-creation and co-destruction behaviours. A data set of 390 online survey responses from consumers in the United States was analysed using multiple regression. The analysis suggests that values which express self-enhancement and openness-to-change are most likely to facilitate co-destruction behaviour, while values which express self-transcendence and conservation are most likely to facilitate co-creation behaviour. With regards to traits, we find that neurotic traits are most likely to facilitate co-destruction behaviour and least likely to facilitate co-creation behaviours. Conscientious and agreeable traits are least likely to facilitate co-destruction behaviours, while extraversion and openness traits are most likely to facilitate co-creation behaviours. This study contributes to the literature by providing a better understanding of the consumer values and traits which facilitate co-destruction and co-creation behaviour. This study also shows that the basic human values circumplex structure can be divided to reflect co-destruction and co-creation values. The polar opposites of the big five personality traits can be classified based on their tendencies to co-destroy or co-create value.

***Keywords****: co-creation, co-destruction, values, traits, value, service systems*

1. **Introduction**

The service-dominant logic (SD logic) introduced services as the fundamental unit of exchange, as opposed to goods under the goods dominant logic (GD logic) (Vargo & Lusch, 2004). The SD logic ushered in the practice of conceiving consumers not as passive, but rather as active, players who co-create value with firms (Prahalad & Ramaswamy, 2004). Following the introduction of the SD logic and observing the changing role of the firm and the increasing importance of the consumers in the creation of service outcomes (Jo Bitner et al., 1997; Ramírez, 1999), Prahalad and Ramaswamy (2004) introduced co-creation as a process during which parties join forces to interact, learn and share information to create value. This led to a surge in publications on interactive value formation between firms and consumers (Roberts et al., 2014; Säwe & Thelander, 2015; Sthapit & Jiménez-Barreto, 2019), interactive value formation between firms (Becker et al., 2015; Vafeas et al., 2016) and consumer behaviour during interactions with firms (Paulssen et al., 2019; Yi & Gong, 2013). These publications have focused on interactions with positive outcomes, during which value is created. There are, however, other types of interactions that could have neutral outcomes or negative outcomes. Such interactions have received less attention in the literature. Interactions between firms and consumers where value is neither created nor destroyed result in value no-creation (Makkonen & Olkkonen, 2017; Sthapit & Björk, 2020). Where value is destroyed for both or either party, this leads to value co-destruction (Plé & Chumpitaz Cáceres, 2010). Value co-destruction, defined as “*an interactional process between service systems that results in a decline in at least one of the system’s well-being*” (Plé & Chumpitaz Cáceres, 2010), denotes all forms of interactions between firms and consumers with negative outcomes.

Anticipating potential consumer behaviours during interaction without understanding the determinants of behaviour is not possible. Values and traits have been identified as important determinants of behaviour (Bardi & Schwartz, 2003; Myszkowski & Storme, 2012; Parks-Leduc et al., 2014).

Both have been used to explain consumer behaviour in relationships (Leikas et al., 2018), entrepreneurial intention (Espíritu-Olmos & Sastre-Castillo, 2015), political choice (Caprara et al., 2006) and prosociality (Caprara et al., 2012), to name a few. Understanding values and traits and their relation to behaviour is therefore crucial if firms are to understand consumer co-destruction behaviours. On one hand, traits are descriptions of people in terms of relatively stable patterns of behaviour, thoughts, and emotions (McCrae & Costa Jr, 1990). Traits describe what people are and serve as standards for judging the behaviour of oneself and others (Roccas et al., 2002). Traits are likely to determine behaviours as consumers interact with firms across various touchpoints. Values, on the other hand, are motivational constructs. Values influence behaviour and can be grouped based on conflicts and congruities (Schwartz, 1992). Although the expression of values is stronger in some domains than in others, consumers typically behave in ways that express their values (Bardi & Schwartz, 2003). Values will therefore influence consumer behaviours when they interact with firms. Although people may explain behaviour by referring to values and traits, most behaviours can express multiple values (Bardi & Schwartz, 2003), while each trait is seen as an observed pattern of behaviour (Bilsky & Schwartz, 1994). This paper, therefore, focuses on identifying ‘which groups of values will facilitate value co-destruction behaviour and which groups of values will facilitate value co-creation behaviour’. For traits, however, the focus is on determining ‘which individual traits will facilitate value co-destruction and which individual traits will facilitate value co-creation’. This work also focuses on value co-creation and co-destruction between the dyad of the firm and consumer. Whilst in practice, value co-creation and co-destruction occur in complex interactions involving multiple actors (Ekman et al., 2016; Luo et al., 2019), this work adopts the dyadic perspective, which represents interactions in their most primitive linear form.

Using a quantitative approach, this study seeks to determine the relationship between values, traits and co-creation and co-destruction dimensions. Data were collected online via questionnaires and analysed using multiple regression. The findings from this study will shed more light on which values and traits facilitate co-creation and which facilitate co-destruction during and beyond interactions between firms and consumers. This study also contributes conceptually by grouping both values and traits into two groups related to co-creation and co-destruction beyond the original classification by Schwartz (1992).

The paper is structured as follows. First, we review the existing literature on value co-destruction, co-creation, basic human values and personality traits and develop the hypotheses for the study. This is followed by a section that outlines the methodology utilised during this research. The findings are then presented and subsequently discussed.

1. **Literature Review and Hypothesis Development** 
   1. Service Systems, Value Co-creation and Co-destruction

Service systems are a collection of resources, such as people, information and technology (operant resources) with the primary purpose of creating value (Vargo & Lusch, 2008). Service systems vary in size, with every system being both a provider and beneficiary of a service, connected by value propositions (Normann, 2001). Value is an elusive term and several authors have described value as one of the most ill-defined concepts in management (Grönroos, 2011; Plé & Chumpitaz Cáceres, 2010; Vargo & Lusch, 2008). Value is multi-faceted and complex and has been discussed and debated for decades, with various authors taking different views on the concept (Holbrook, 2006; Woodall, 2003; Zeithaml, 1988). Within the marketing literature, a distinction can be made between value conceived from a philosophical perspective and value conceived from an economic perspective. Value from a philosophical perspective tries to address factors that influence and determine human inclinations (Woodall, 2003). Value when used in this way expresses a set of guidelines that individuals use in making decisions. Value from an economic perspective conceives value using the ‘exchange/use’ dichotomy (Woodall, 2003). This type of value relates to value as an outcome of resource integration and interactions. This work addresses both types of value and seeks to determine how the factors which influence and determine human inclinations (philosophical value) influence the outcome of resource integration and interactions (economic value). This work makes a distinction between the two types of value by referring to philosophical value as ‘values’ and economic value as ‘value’.

The literature shows a plethora of definitions for value (Holbrook, 2006; Woodall, 2003; Zeithaml, 1988). For a service system, however, value is defined as ‘‘*an improvement in a system’s well-being’ which can be measured in terms of the system’s ability to adapt or fit into its environment*” (Vargo et al., 2008, p. 149). Whilst the primary purpose of a service system is to create value (Vargo & Lusch, 2008), service systems can not only create value but also destroy value (Plé & Chumpitaz Cáceres, 2010). Whether value will be co-created or co-destroyed during interactions within a service system depends on the congruent integration or mis-integration of resources by actors (Plé & Chumpitaz Cáceres, 2010).

In a service system, interactions between providers and beneficiaries occur across multiple touchpoints (Vargo & Lusch, 2004). On one hand, value co-creation occurs when both providers and beneficiaries have congruent expectations of how resources should be integrated during interactions (Plé & Chumpitaz Cáceres, 2010). Both parties, therefore, exhibit behaviours expected to facilitate resource integration. On the other hand, value co-destruction occurs when there are incongruences or discrepancies in the way resources are integrated during interactions (Plé & Chumpitaz Cáceres, 2010). In this case, one or the other party exhibits the expected set of behaviours or they exhibit adverse behaviours. It is also important to note that co-creation and co-destruction are not necessarily opposites (Stieler et al., 2014): there are instances where value is neither created nor destroyed. Value no-creation (Makkonen & Olkkonen, 2017; Sthapit & Björk, 2020) indicates a third outcome other than the dual outcomes of co-creation and co-destruction. Here, value is neither co-created nor co-destroyed and refers to a neutral outcome during interactions.

* 1. Value Co-Creation and Co-Destruction Dimensions

Within the marketing literature, consumer behaviours expected to facilitate the co-creation of value have been identified and their dimensions defined. Yi and Gong (2013) explored the nature of customer value co-creation and conceptualised co-creation as a construct consisting of customer participation (information seeking, information sharing, personal interaction and responsible behaviour) and customer citizenship (feedback, advocacy, helping and tolerance) dimensions. Ranjan and Read (2016) reviewed 149 publications, also concluding that co-creation is a construct with two dimensions: co-production (knowledge, equity and interaction) and value-in-use (experience, personalisation and relationship). Finally, just like previous conceptualisations, Merz et al. (2018) defined co-creation as a construct with two dimensions, namely customer motivation (trustworthiness, commitment and passion) and customer-owned resources (knowledge, skills, creativity and connectedness).

Whilst the dimensions of co-creation have been studied within the literature, the dimensions of co-destruction have not yet been identified. As a starting position, one could consider the dimensions of co-creation which could shed light on possible dimensions of co-destruction. Yi and Gong’s in-role participation and extra-role citizenship behaviours list a set of practices that could be both positive and negative. Consumers can choose to exhibit those behaviours during and beyond interactions, leading to value co-creation, or choose to exhibit adverse behaviours, leading to value co-destruction. Consumer motivation and consumer-owned resources, highlighted by Merz et al. (2018), are dimensions that also have a negative polarity. Just as consumers could be motivated to act positively, they could be motivated to act negatively. Likewise, resources are bipolar and only acquire the status of resources in the function of the context of their use (Plé, 2016). Resources can be utilised adversely, resulting in the co-destruction of value (M. Smith, 2013; Williams et al., 2016).

Since the focus of this work is on consumer behaviour during interactions with firms, this work utilises Yi and Gong’s conceptualisation due to its behavioural approach to co-creation. Their conceptualisation of co-creation embodies the different aspects of behaviour required for value co-creation between the firm and the consumer. These behaviours include practices identified in the literature, such as informing, greeting, helping, connecting, etc., which, when enacted during interactions, could result in value co-creation or co-destruction, depending on how they are interpreted (Carù & Cova, 2015; Echeverri & Salomonson, 2017; Echeverri & Skålén, 2011; Skålén et al., 2015). The Yi and Gong behaviours, therefore, offer insights into possible behaviours which could lead to co-destruction. Both participation and citizenship behaviours facilitate co-creation. Just like co-creation, consumers can exhibit customer co-destruction defiance behaviour and customer co-destruction subversion behaviours (Table 1). Yi and Gong’s conceptualisation is, therefore, better suited to studying values, traits and behaviour in comparison to the production approach to co-creation (Ranjan & Read, 2016) or the brand value approach to co-creation (Merz et al., 2018). The next subsection details both customer participation and citizenship behaviours. This is followed by a subsection highlighting how consumers can destroy value by choosing not to demonstrate these behaviours or by exhibiting co-destruction defiance or subversion behaviours.

**Insert Table 1**

### Customer Participation and Citizenship Behaviour

Both participation and citizenship behaviours facilitate customer-related outcomes, such as customer satisfaction, service quality and firm related performance (Ennew & Binks, 1999; Skaggs & Youndt, 2004). Whilst the concept of co-creation is relatively new, both participation and citizenship behaviours have been studied in the literature, given their importance in the delivery of service, the provision of firms with extraordinary value and competitive advantage (Kelley et al., 1990; Mustak et al., 2013; Revilla-Camacho et al., 2015; Yi et al., 2011). Yet citizenship and participation have different antecedents and exhibit different patterns of behaviour, which contribute independently to the overall firm performance (Motowidlo & Van Scotter, 1994; Mustak et al., 2016).

Customer participation behaviour refers to behaviour that is necessary for successful service creation. Participation consists of four elements, namely information sharing, information seeking, personal interaction and responsible behaviour. Firstly, information shared by consumers is available in the form of resources for employees and other co-creators to perform their duties. By sharing information, customers can make sure employees and other actors provide the necessary service, which facilitates co-creation (Ennew & Binks, 1999). Secondly, besides sharing information, customers also seek information. Customers need an understanding of the service requirements and as such seek information to clarify these requirements. (Kellogg et al., 1997). Thirdly, in addition to sharing and seeking information, there is a need for personal interaction between actors for value to be created. Each interaction is usually based on relationships and the quality of this relationship is crucial for successful value co-creation (Ennew & Binks, 1999). Finally, during interactions, customers exhibit different behaviours. The behaviour exhibited by customers when they recognise their duties and responsibilities is classified as responsible behaviour.

Whilst customer participation behaviour refers to the required in-role behaviour, customer citizenship behaviour involves voluntary, non-mandatory behaviours which provide extraordinary value to the firm and the consumer (Akman et al., 2019; Yi et al., 2011). Like participation behaviour, customer citizenship behaviour has four elements, namely feedback, advocacy, helping and tolerance. Firstly, customer feedback includes all forms of required or unrequired information which customers provide to the service provider, helping to improve the service (Groth et al., 2004). Provision of this information is at the customer’s discretion and firms can benefit greatly from this information. Secondly, advocacy relates to situations where customers recommend the organisation or firm to other consumers as a result of their loyalty to the firm to promote the firm (Groth et al., 2004). Thirdly, in addition to giving feedback and advocating for the firm, customers can also voluntarily aid other customers. This is known as helping and consists of all forms of customer behaviours that result in sharing resources with other customers in a service co-creation environment (Yi & Gong, 2013). Lastly, when service failures occur, this could warrant negative responses from the customer. The customer has the choice to either voice or act out their frustrations. The decision to exhibit patience and the amount of patience exhibited in situations where service delays occur is known as tolerance (Lengnick‐Hall et al., 2000).

### Co-destruction Defiance and Subversion Behaviours

Whilst co-creation participation and citizenship represent behaviours that facilitate in-role and extra-role co-creation of value, consumers can choose to exhibit adverse behaviours during and beyond interactions. These behaviours can lead to the co-destruction of value in role (defiance behaviour) and extra-role (subversion behaviour). Co-destruction defiance behaviour consists of four elements: ignoring information, withholding information, irresponsible behaviour and impersonal interaction. Firstly, where information can be sought to co-create value, there are situations where firms have invested resources in making information available, but this information is ignored by consumers. Secondly, there are other situations where consumers have information that could facilitate service delivery, but choose not to divulge this information. Situations where consumers either ignore information or withhold information can lead to non-integration and mis-integration of resources during interactions. Resource mis-integration can lead to value co-destruction (Plé, 2016). Thirdly, just as consumers acting responsibly during interactions co-create value, consumers can act irresponsibly and co-destroy value. Finally, whilst there is a need for quality personal interactions to facilitate co-creation, consumer interactions with firm personnel can be impersonal. Both irresponsible behaviour and impersonal interaction can lead to interactions which do not live up to the expectations of either party. Ultimately, unmet expectations could lead to the co-destruction of value (Plé & Chumpitaz Cáceres, 2010).

Beyond interactions, consumers could also destroy value by exhibiting negative extra-role subversion behaviours. Co-destruction subversion behaviours consist of four elements: negative feedback, opposition, neglecting and intolerance. Firstly, as opposed to giving positive feedback, which results in co-creating value, consumers could complain or avoid giving any feedback to the firm. Consumer complaints in public forums could deter other consumers from transacting business with firms. Secondly, consumers could deliberately oppose the firm by speaking out against the firm to deter other consumers (Nam et al., 2020). Both opposition and negative feedback, when demonstrated by consumers, can cause a substantial loss of value for the firm. Thirdly, consumers could neglect other customers in need of help and be intolerant during service encounters. Helping others provides a way to share resources. Resource integration is crucial to ensure value is co-created (Vargo et al., 2008). When consumers choose to share their resources, they are facilitating the integration of resources for other consumers. Choosing not to share resources could result in non-integration or mis-integration for other customers, which ultimately results in less than ideal value propositions. Lastly, in situations where consumers experience delays, as opposed to being tolerant, consumers might not be willing to demonstrate patience. This lack of willingness to be patient or intolerant could lead to the extra-role destruction of value for the firm.

* 1. Relationship Between Values and Co-Creation and Co-Destruction Behaviours

Values are desirable intermediate goals, which vary in importance and serve as guiding principles in people’s lives (Schwartz, 2007). Values influence the selection or evaluation of policies, actions and events. As such, values influence consumer decisions. People and actions in pursuit of any value have psychological, practical and social effects, which could be congruent or in conflict with the pursuit of other values. Consequently, during interactions, individuals are likely to act based on their values in value-creating or destroying encounters. Ten sets of basic values were proposed by Schwartz (2007), with the conflicts and congruities among them yielding an integrated structure of values (Table 2).

**Insert Table 2**

The conflicts and congruities between the values yielded four subdimensions of values, which form two basic, bipolar, conceptual dimensions (Schwartz, 1992). The first basic subdimension pitches openness to change values against conservation values. This basic subdimension contrasts values based on the extent to which they motivate people to follow their intellectual and emotional interests in unpredictable situations, against preserving the status quo and its associated certainty in relationships (Schwartz, 1992). The second subdimension pitches self-enhancement against self-transcendence values. This subdimension contrasts values based on the extent to which they motivate people to enhance their interests (even at the expense of others) against the extent to which they motivate people to transcend selfish concerns and promote the welfare of others, close and distant, and of nature (Schwartz, 1992). The motivational nature of these values and conflicts indicates that grouping both self-enhancement and openness to change values together mirrors co-destruction behaviour, and grouping self-transcendence and conservation together mirrors co-creation behaviour. A divide can thus be drawn on the Schwartz (1992) circumplex model to reflect values more likely to serve co-creation and values opposite them which are likely to serve co-destruction (Figure 1).

**Insert Figure 1**

Self-enhancement and openness to change are values that motivate people to follow their intellectual and emotional interests and enhance their interests (Schwartz, 1992). People who exhibit self-enhancement values tend to focus more on themselves and their well-being as opposed to those of others around them. People who exhibit openness-to-change values are willing to try new things out and are usually in need of constant stimulation (Parks & Guay, 2009; Schwartz, 1992). Self-enhancement includes power, achievement and hedonism, while openness to change includes stimulation and self-direction. These values are likely to facilitate mis-integration of resources during interactions between firms and consumers. Customers who exhibit these values are therefore more likely to co-destroy value considering that the motivational goals served by these values relate more to behaviours expected during co-destruction. Self-enhancement and openness to change (SE+OC), when combined, could be expected to show a stronger correlation and prediction of co-destruction defiance and subversion dimensions in comparison to self-transcendence and conservation values (ST+C). We, therefore, propose that:

***H1.1:*** *For interactions that result in the co-destruction of value, self-enhancement and openness to change values (SE+OC) will show a stronger positive relationship and effect on co-destruction defiance and subversion dimensions in comparison to self-transcendence and conservation values (ST+C).*

The self-transcendence and conservation values subdimensions are values that motivate people to preserve the status quo and promote the welfare of others (Schwartz, 1992). Self-transcendence values are values that emphasise the acceptance of others and the concern for their welfare before one’s self, while conservation values are values that emphasise the preservation of traditional practices, self-restriction and the protection of stability (Schwartz, 1992). Self-transcendence values include both universalism and benevolence, while conservation values include security, conformity and tradition. These value types are likely to facilitate the integration of resources during firm/consumer interactions. Customers who subscribe to these values are therefore more likely to co-create value, considering that the motivational goals served by these values relate more to behaviours expected during co-creation. Self-transcendence and conservation (ST+C), when combined, are likely to show stronger relationships with co-creation participation and citizenship dimensions in comparison to self-enhancement and openness to change values (SE+OC). We therefore posit:

***H1.2****: For interactions that result in the co-creation of value, self-transcendence and conservation values (ST+C) will show a stronger positive relationship and effect on co-creation participation and citizenship dimensions in comparison to self-enhancement and openness to change values (SE+OC).*

* 1. Relationship Between Personality Traits and Co-Creation and Co-Destruction Behaviour

Personality traits are dimensions of individual differences in inclinations to show consistent patterns of feelings, thoughts and actions (McCrae & Costa Jr, 1990). Traits describe what people are like, as opposed to the motives behind their intentions (Roccas et al., 2002). The five-factor model aggregates personality into five broad categories and provides an objective, consensual and quantifiable description of the main surface tendencies of personality (Capara et al., 1999) (Table 3). These five factors describe the extent to which individuals tend to exhibit the associated traits. These factors can be simultaneously expressed. The differing levels of expressions of these traits between individuals contribute to differences in behaviour (Roccas et al., 2002). Thus, during interactions with firms, consumers can be expected to express co-destruction and co-creation behaviours based on the level to which they express different traits.

**Insert Table 3**

The Big Five traits represent the extent to which consumers express a polar dimension of each trait at the expense of its opposite dimension. These polar dimensions also reflect extremes of behaviour, which could facilitate co-destruction or facilitate co-creation. For instance, the level of expression of conscientious traits by any consumer falls between the polar extremes of being totally conscientious or lacking direction. Conscientiousness traits (orderly, responsible, dependable, etc) mirror behaviours that could facilitate co-creation participation and citizenship behaviours (Table 1). Its polar opposite dimension's lack of direction traits (lazy, disorganised, careless) reflects behaviours that could facilitate co-destruction defiance and subversion behaviours. This can also be said for other trait dimensions when considered in the context of the co-destruction and co-creation of value. Both openness and extraversion traits, however, aggregate a mixture of traits that could facilitate both co-destruction and co-creation. Based on the likelihood of facilitating co-destruction and co-creation, trait dimensions can be grouped as shown in Figure 2.

**Insert Figure 2**

Agreeableness contrasts a prosocial and communal orientation toward others with antagonism (John & Srivastava, 1999). People who score high on agreeableness tend to be gentle, cooperative, collaborative and moderate, contrary to antagonistic people, who may be rude, selfish, hostile, uncooperative, and unkind. Agreeable people have an orientation towards helping others and cooperating with them. The communal orientation fostered by agreeableness makes agreeableness a weak predictor of co-destruction behaviour. Agreeable individuals are more likely to be gentle, collaborative and cooperative and we therefore suggest that individuals high on this value are more likely to co-create value during interactions with firms.

***H2.1a:*** *Agreeableness will be negatively correlated with co-destruction behaviour*

***H2.1b:*** *Agreeableness will be positively correlated with co-creation behaviour*

Conscientiousness describes socially prescribed impulse control, which facilitates task and goal-directed behaviour (John & Srivastava, 1999). Two distinct aspects of conscientiousness have been identified: a proactive aspect that appeals to achievement and an inhibitive aspect expressed through such behaviours as delayed gratification and thinking before acting. Conscientious people are often described as efficient, organised, planful, reliable and thorough (McCrae & John, 1992). On the opposite side of conscientiousness are traits showing a lack of direction. Consumers high on lack of direction traits tend to be disorganised, lazy, irresponsible and sloppy. Individuals high on conscientiousness can be careful, thorough and responsible (Roccas et al., 2002). We therefore expect a preference towards value co-creation for individuals high on conscientiousness and expect to see positive relationships and effects between conscientiousness and co-creation behaviour. Conscientious consumers behave ethically and are not self-indulgent. Given the above, we hypothesise:

***H2.2a:*** *Conscientiousness will be negatively correlated with co-destruction behaviour.*

***H2.2b*** *Conscientiousness will be positively correlated with co-creation behaviour.*

People high on neuroticism traits tend to be anxious, nervous, sad and tense while people low on neuroticism traits tend to be even-tempered and demonstrate emotional stability (John & Srivastava, 1999; Roccas et al., 2002). Neurotic consumers are irrational, pessimistic and touchy, while emotionally stable consumers are calm, self-confident, stable, resilient, and well-adjusted. Based on the temperamental and unstable nature of neuroticism traits, we hypothesise that individuals with a high level of neuroticism traits are most likely to co-destroy value.

***H2.3a:*** *Neuroticism will be positively correlated with co-destruction behaviour.*

***H2.3b:*** *Neuroticism will be negatively correlated with co-creation behaviour.*

Extraversion implies an energetic approach to the social and material world (John & Srivastava, 1999). People who are extraverted show a tendency to be sociable, active and constantly stimulated versus being introverted: shy, reserved, and unadventurous. Extraversion’s characteristic social skills result in numerous friendships. Hence, extraverts are seen as building better relationships during interactions. People who score low on extraversion tend to exhibit humility. They are more passive and less energetic. Extraversion’s compatibility with sociability, challenge and novelty coupled with its active nature makes extraversion a strong predictor of co-creation. Extraverts also tend to be talkative and extraversion traits and their energy also encourage the pursuit of pleasurable experiences and expressiveness. Whilst this could facilitate co-creation, it could also facilitate co-destruction. In addition, extraversion has been shown to have negative correlations with being logical (Dollinger et al., 1996). We therefore posit:

***H2.4a:*** *Extraversion will be positively correlated with co-destruction behaviour.*

***H2.4b:*** *Extraversion will be positively correlated with co-creation behaviour.*

People who exhibit openness to experience traits are more intellectual, imaginative, open-minded and sensitive (Roccas et al., 2002). On the opposite side of openness to experience is closedness to experience. Closedness to experience describes individuals who are closed-minded, shallow, and simple. On one hand, the extent to which a consumer is open could determine an individual’s willingness to share experiences, which could increase their propensity to co-create value. On the other hand, the need for novelty, variety and change could reduce a consumer's tendencies to conform to expected behaviours, hence leading to co-destruction. Openness negatively correlates with values such as self-control, obedience and being responsible (Dollinger et al., 1996). This suggests a rebellious side to people high on openness traits. We therefore posit that individuals high on openness to experience traits are as likely to co-destroy value as they are to co-create value:

***H2.5a:*** *Openness will be positively correlated with co-destruction behaviour.*

***H2.5b:*** *Openness will be positively correlated with co-creation behaviour.*

1. **Methodology**

Data were collected using online self-administered questionnaires. The questionnaires were administered online. A demographically balanced sample of respondents was recruited by a consumer panel company targeting consumers in the United States. All respondents were given a small financial incentive for completion. A total of 390 respondents answered the questionnaire anonymously (Table 4). The questionnaire included demographic questions and scales measuring co-creation, co-destruction, values and traits.

**Insert Table 4**

* 1. Questionnaire

**Co-destruction and Co-creation.** To measure co-destruction, participants were asked to think of a time when they had a negative experience with a firm’s product, service or employee and felt justified in taking negative actions towards the firm. Similarly, for co-creation, they were asked to think of a time when they had a positive experience with a firm’s product, service or employee and felt justified in taking positive actions towards the firm. The respondents were then asked questions with regards to these instances. Co-creation and co-destruction were measured with items adapted from Yi and Gong’s co-creation scale. This scale conceptualises co-creation as a construct with both consumer participation and citizenship dimensions. Co-creation items were adapted to co-destruction by reflecting the intentional destruction of value under its subdimension. Since co-destruction and co-creation are not necessarily opposites (Stieler et al., 2014), not co-creating value does not mean one is co-destroying value and vice versa. The co-destruction items (Table 5) were therefore developed to measure consumer intentional negative behaviours to firms to capture actions that are deliberately destroying value for the firm. For example, items such as “*I have asked others for information on what this service offers*” and “*I said positive things about this firm and the employee to others*” on the Yi and Gong (2013) co-creation scale were adapted to “*I intentionally withheld information from others on what this service offers*” and “*I intentionally said negative things about this firm and the employee to others*” on the co-destruction scale, respectively. Subdimensions of co-creation participation (information sharing, information seeking, responsible behaviour and personal interaction) were labelled respectively (ignoring information, withholding information, irresponsible behaviour and impersonal interaction). These subdimensions were called co-destruction defiance to reflect consumers' decisions to participate in value destruction. Similarly, subdimensions of co-creation citizenship (feedback, advocacy, helping and tolerance) were labelled (negative feedback, opposition, neglecting and intolerance) accordingly. These subdimensions were termed co-destruction subversion to reflect consumers' decisions to participate in value destruction beyond direct interaction with firms. Participants evaluated the items based on how likely they were to perform such actions following a negative (in the case of co-destruction) or positive (in the case of co-creation) encounter with a firm. Participants rated their degree of agreement with the issues on a 7-point Likert scale, with responses ranging from “extremely unlikely” to “extremely likely.”

**Insert Table 5**

Co-destruction and co-creation dimension scores were calculated by taking the average of items measuring each dimension. For example, the information-seeking dimension was measured using 3 items on the Yi and Gong (2013) scale. The dimension score for information seeking was computed by taking the average of these items. This was done for all the co-creation citizenship and participation subdimensions and the co-destruction subversion and defiance subdimensions.

Co-destruction and co-creation scores were computed by taking the average of all 8 co-destruction and co-creation subdimensions respectively.

**Value Dimensions.** Basic human values were measured using the Short Schwartz’s Value Survey (SSVS) (Lindeman & Verkasalo, 2005). SSVS was developed as an alternative to the 57-item Schwartz’s Value Survey (SVS) (Schwartz, 1992). In the SVS, respondents were asked to rate the importance they would give to the 57 value items as life-guiding principles on a 9-point scale which ranges from -1, (opposed to my principles) to 7 (of supreme importance). Scores of each of the 10 value scales were calculated by averaging the scores on items belonging to each value. Unlike the SVS, which requires rating 57 value items, the SSVS requires individuals to rate the importance of the 10 values directly on a similar 9 point scale. Scores for the 4 value subdimensions were calculated by averaging the scores of their respective value types. Self-enhancement was calculated by averaging the scores for achievement, power and hedonism, while self-transcendence was calculated by averaging the scores for universalism and benevolence. Similarly, for openness to change and conservation, scores were calculated by averaging the scores for value types self-direction and stimulation and conformity, tradition and security respectively.

Following calculation of the values scores and their reliabilities, we proceeded to calculate scores for ST+C and SE+OC values. In a similar manner to the calculation of values scores, the scores were computed by averaging the scores of self-transcendence and conservation values subdimensions and by averaging the scores of the self-enhancement and openness to change values subdimensions.

**Personality Traits.** We measured the five personality factors with the English language big five inventory (BFI) (Donahue et al., 1991). BFI is a 44-item scale used to assess the traits associated with each of the big five dimensions. These 44 items are short and easy to understand (Soto et al., 2011). Despite its concise nature, the BFI does not sacrifice content coverage or psychometric properties (Benet-Martínez & John, 1998). Participants were asked to rate each item on a 5-point agreement scale. Its suitability for this current research stems from its prior demonstration of internal consistency, reliability and convergence in line with other longer models (Benet-Martínez & John, 1998; Soto et al., 2008). Scores for each dimension were computed by calculating the participants' mean item response.

We computed Cronbach’s alpha coefficients for the co-creation and co-destruction subdimensions and scores, values subdimensions and dimensions and traits (Table 6)

**Insert Table 6**

* 1. Analysis

Following the data collection and calculation of the variables, we evaluated each of the 8 co-destruction subdimensions using exploratory factor analysis (EFA) (principal factor analysis with varimax rotation). For each dimension, all items had factor loadings above 0.6 and loaded onto one factor respectively. The 8 Eigenvalues all exceeded 1.0 and explained 67.44 – 91.77% of the total variance across the dimensions. All Kaiser–Meyer Olkin (KMO) values were above 0.6 and Bartlett's test of sphericity was significant in all cases. Factors were not rotated, because only one factor loaded for each dimension. We examined the validity of the constructs using Harman’s single factor test (Podsakoff & Organ, 1986). An unrotated factor solution of a principal component analysis revealed that the first factor accounted for only 24.9%. This indicates that a single factor does not account for the majority of the variance. 24.9% is less than the 50% threshold level (Chaubey et al., 2019), indicating the absence of CMV.

**Values and co-creation and co-destruction.** We computed the correlations between the value scores and the co-creation and co-destruction subdimensions. We also performed a series of regression analyses. SE+OC values score and also the ST+C values score were the independent variables, while the co-creation and co-destruction subdimensions were the dependent variables. Regression analysis was used instead of SEM to evaluate the effects, due to the way the basic values were measured. SEM requires the use of multiple items per variable, and the SSVS requires individuals to rate the importance of the 10 values directly. Therefore only one item was used to measure each basic value.

**Traits and co-creation and co-destruction:** We computed the correlations between the traits and the co-destruction and co-creation participation and citizenship dimensions. We also computed the correlations between co-destruction and co-creation scores. Finally, we performed a series of regression analyses. The 5 personality traits were the independent variables, while the co-creation and co-destruction scores were the dependent variables.

1. **Findings**
   1. Basic Human Values and Co-destruction and Co-creation Behaviour

For interactions that result in value co-destruction, we hypothesised stronger positive relationships and effects between SE+OC values and co-destruction subversion and co-destruction defiance subdimensions in comparison to ST+C values (H1.1). The results support H1.1. This can be seen in Tables 7-8 (Co-destruction) below, where all subdimensions of value co-destruction defiance and subversion showed stronger positive correlations with and effects on SE+OC values in comparison to ST+C values. We also hypothesised that the relationship and effect between ST+C values and co-creation citizenship and co-creation participation subdimensions would be positive and stronger in comparison to SE+OC values for interactions that result in the co-creation of value (H1.2). The results support H1.2, as can be seen in Tables 7-8 (Co-creation) below, where all subdimensions of value co-creation participation and citizenship, except information seeking, helping and tolerance, showed stronger positive correlations with and effects on ST+C values in comparison to SE+OC values.

**Insert Table 7**

**Insert Table 8**

* 1. Personality Traits and Co-destruction and Co-creation Behaviour

Results for the correlations between co-destruction subdimensions and the five personality traits are shown in Table 9. The results support H2.1a and H2.2a: agreeableness and conscientiousness showed negative relationships with co-destruction subdimensions, as hypothesised (Table 9).

We also hypothesised positive relationships between co-destruction and neuroticism, extraversion, and openness traits (H2.3a, H2.4a, H2.5a). Our results show that neuroticism had significant positive relationships with all co-destruction subdimensions and scores. The results, therefore, support H2.3a. H2.4a, however, is not supported, with extraversion showing positive and weak correlations with all co-destruction subdimensions and scores. None of the extraversion relationships with co-destruction were significant. Openness showed only three positive relationships with co-destruction subdimensions (ignoring information, opposition and intolerance), of which only 2 were significant (opposition and intolerance). H2.5a is therefore not supported.

**Insert Table 9**

Table 10 shows the results of the correlations between co-creation subdimensions and the big five personality traits. The results support H2.1b and H2.2b, with agreeableness and conscientiousness both exhibiting positive relationships with all the co-creation scores and subdimensions, except for the information-seeking dimension, which had a negative relationship with conscientiousness. Agreeableness and conscientiousness also showed significant relationships with all co-creation subdimensions and scores, except the information seeking and tolerance subdimensions (agreeableness) and the information seeking, helping and tolerance subdimensions (conscientiousness). The results also support H2.3b: neuroticism displayed relationships in the hypothesised direction except in the case of the information seeking and tolerance subdimensions. The relationships between the information seeking, tolerance and helping subdimensions, co-creation citizenship scores and neuroticism were not significant. Finally, the results support H2.4b and H2.5b: extraversion and openness showed positive relationships with all co-creation subdimensions and scores. These relationships were all significant.

**Insert Table 10**

Table 11 shows the effects of each of the five traits on the co-destruction and co-creation scores. The effect of all traits on co-destruction was in the hypothesised directions and significant. Except for neuroticism, the effects of all traits on the co-creation scores were in the hypothesised directions. Except for conscientiousness, the result of the five traits on all the co-creation scores was significant.

**Insert Table 11**

1. **Discussion** 
   1. Basic Human Values and Co-destruction and Co-creation Behaviour

This study sought to contribute to the literature by identifying groups of values that are likely to facilitate value co-destruction and how these values compare to those which facilitate co-creation. The results offer evidence of relationships between value co-destruction/co-creation behaviour and groups of values.

**Co-destruction Facilitating Values.** SE+OC values subdimensions, when combined, better correlate and show a greater effect on the subversion and defiance dimensions of co-destruction in comparison to ST+C values subdimensions. The higher correlation and effect of co-destruction subversion and defiance dimensions show that these values, when exhibited, are more likely to facilitate value co-destruction. Individuals with these values are less likely to share information or act responsibly during interactions, ultimately leading to weaker personal interactions with firms (Vafeas et al., 2016; Yi et al., 2011). SE+OC values were also highlighted by Schwartz et al. (2012) as values with a personal focus and lack of concern for the wellbeing of others. Consequently, SE+OC values are better at predicting co-destruction behaviour. These values also showed a higher relationship with and effect on co-destruction subversion dimensions, reflecting the higher likelihood that these individuals will not always go the extra mile in co-creating value with the firm.

**Co-creation Facilitating Values.** The results also show that ST+C values subdimensions, when combined, better correlate and show a greater effect on the citizenship and participation dimensions of co-creation in comparison to SE+OC values subdimensions. The higher correlation and effect of co-creation citizenship and participation dimensions show that these values, when exhibited, are more likely to facilitate value co-creation. Individuals with these values are more likely to demonstrate co-creative practices such as informing, connecting and recommending (Camilleri & Neuhofer, 2017; Carù & Cova, 2015; Echeverri & Skålén, 2011), ultimately leading to better interactions with firms. The results also show a higher effect and correlation with the feedback and advocacy subdimensions of citizenship behaviour. Individuals who express ST+C values are therefore more likely to co-create value with firms by demonstrating more extra-role citizenship behaviours.

**Possible Effect of Norms on Expression of Co-destruction Facilitating Values.** The direction of the effect and relationship between SE+OC values and ST+C values differ when value is being co-destroyed and when it is being co-created. When value is being co-created, both SE+OC values and ST+C values showed positive effects and relationships with co-creation subdimensions. The positive relationship to and effect of SE+OC values on the co-creation subdimensions show that consumers with these values will still co-create value, but this is not as likely as those with ST+C values. This could be due to social influence. Values are prone to social influence (Bardi & Schwartz, 2003) and consumers may conform with norms even when the normative behaviour opposes their own values. During interactions with firms, consumers are expected to exhibit behaviours that co-create value. Whilst these behaviours may conflict with the consumer's values, consumers may conform to these behaviours due to the influence of friends, society and significant others. Consumers with SE+OC values will therefore co-create value, but not to the extent to which consumers with ST+C values will co-create value.

When value is being co-destroyed, SE+OC values showed positive effects and relationships with co-destruction subdimensions while ST+C values showed negative effects and relationships with co-destruction subdimensions. The negative relationship to and effect of ST+C values on co-destruction subdimensions suggests that consumers with these values are not likely to destroy value during interactions. Society typically does not expect consumers to co-destroy value. As such, consumers with ST+C values are not under any pressure to conform. These individuals are therefore not likely to destroy value even when their expectations are not met by the firm.

* 1. Personality Traits and Co-destruction and Co-creation Behaviour

This study sought to extend current knowledge on personality traits, shedding more light on the role traits play in influencing consumer behaviour and how this can determine if interactions will be value-destroying/creating. The results offer evidence of relationships between personality traits and co-destruction and co-creation behaviour, as discussed below.

**Extraversion.** Typically associated with gregariousness (McCrae & Costa Jr, 1999), being active, outgoing, talkative and energetic, extraversion showed stronger and positive relationships with co-creation subdimensions in comparison to its weak and positive relationships with co-destruction. Relatively higher relationships with information seeking, information sharing, feedback and advocacy subdimensions are reflective of extraverted behaviours. Individuals high on this trait are therefore more likely to co-create value for the firm, by ensuring they are aware of the information available to facilitate co-creation and by making information available to facilitate interactions. Extraverted consumers, with their assertive and talkative nature (McCrae & John, 1992; Parks-Leduc et al., 2014), will engage the firm (Itani et al., 2020) and co-create value by giving feedback and by providing support for the firm by promoting its services and products beyond in-role interactions.

**Openness to Experience.** Like extraversion, openness to experience traits displayed stronger positive relationships with co-creation in comparison to its weaker relationship with co-destruction. Openness to experience, associated with being curious, intellectual, imaginative, open-minded and sensitive (Roccas et al., 2002), had significant positive relationships with the opposition and intolerance subdimensions of co-destruction. Consequently, whilst interacting with firms, the curious nature of open consumers will deter them from tolerating service failures. They are also likely to speak out against the firm and indulge in negative word of mouth or demonstrate aggressive behaviours (Barlett & Anderson, 2012) following a negative encounter with the firm. Interestingly, consumers high on openness traits will also indulge in positive word of mouth following a positive encounter with the firm. The results show openness traits have the highest correlations with co-creation subdimensions across all five traits. This makes consumers high on this trait the most likely consumers to co-create value during interactions. This does not mean, though, that they will not co-destroy value. Co-creation and co-destruction are not necessarily opposites (Stieler et al., 2014). Our results also show a positive relationship between responsible behaviour and openness traits. This contrasts with the results presented by Dollinger et al. (1996), who found negative correlations between openness traits and being responsible.

**Agreeableness.** Agreeableness and conscientiousness are the two traits that are the least likely to facilitate the co-destruction of value, as shown in the results. This does not mean, however, that they are the most likely to co-create value. Agreeableness traits, characterised by their compliance, forgiving attitudes, belief in cooperation and inoffensive language reputation (McCrae & Costa Jr, 1999), had a strong negative relationship with co-destruction subdimensions. Agreeableness traits also had moderate to high positive relationships with co-creation subdimensions. Whilst interacting with firms, the forgiving nature of agreeable individuals deters them from co-destroying value. Agreeable consumers are therefore not likely to co-destroy value online by ignoring or withholding information, acting irresponsibly and giving negative feedback.

**Conscientiousness.** Conscientious consumers, characterised by their reliable, responsible, planful and efficient nature (McCrae & John, 1992), showed strong negative relationships with co-destruction subdimensions and moderate positive relationships with co-creation subdimensions. Consumers high on conscientiousness traits are also not likely to co-destroy value. Specifically, individuals low on this trait are the individuals least likely to co-destroy value when interacting with firms. With regards to co-creation, both agreeableness and conscientiousness traits show moderate to high relationships with advocacy, personal interaction and responsible behaviour subdimensions. Conscientious consumers are the most likely to build good relationships to ensure good personal interaction, followed by agreeable individuals. Agreeable consumers show higher relations to the responsible behaviour dimension and, as a result, are more likely to act responsibly at some point during interactions.

**Neuroticism.** Neurotic consumers are characterised by their anxious, nervous, sad and tense nature (John & Srivastava, 1999; Roccas et al., 2002). They often express various moods and are typically unstable (McCrae & John, 1992). Neurotic traits show the highest positive relationship with value co-destruction and are the most likely to co-destroy value across all touchpoints when interacting with firms. They show moderate to high levels of irresponsible behaviour, withholding information and impersonal interactions. When their expectations are not met or when they feel let down by the firm, they are very likely to indulge in negative word of mouth and they are not likely to share their resources to help others. The more neurotic a consumer is, the lower their likelihood of co-creating value. Thus, when neurotic consumer expectations are met, they are still not likely to indulge in positive word of mouth. They are also the most likely to act irresponsibly and not to build good personal interactions.

Whilst neuroticism was the only trait showing a negative relationship with co-creation, neuroticism like all the other five traits shows a positive effect on co-creation. The positive effect neuroticism had on co-creation was contrary to our hypothesised direction. When compared to the effects of the 5 traits on co-destruction, all traits showed effects in the hypothesised direction. Conscientiousness and agreeableness both show negative effects with co-destruction while neuroticism, extraversion and openness all show positive effects on co-destruction. This suggests that neurotic consumers will co-create value to a large extent during interactions. This is possibly due to norms and behaviours expected by them within society. Conscientiousness and agreeableness still show negative effects on co-destruction, however, because co-destructive behaviour is not expected within the society and during interactions. Norms (societal, subjective or group) could be a moderating factor when it comes to the co-creation and co-destruction of value. The expression of certain traits may be moderated due to the expectations of society, their peers or significant others.

Overall, the findings from the study are visualised in Figure 3. Both values and traits are arranged in order of increasing likelihood to co-destroy or co-create.

**Insert Figure 3**

1. **Conclusion**

This study sought to extend the current understanding of consumer co-destruction/co-creation behaviour by shedding more light on the determinants of consumer behaviour during interactions with firms. Co-destruction and co-creation of value are both likely outcomes of interactions between firms and consumers. Whilst firms have behaviours expected of consumers during and beyond face-to-face interactions to ensure the successful co-creation of value (Yi & Gong, 2013), consumers could exhibit adverse behaviours which result in value co-destruction. This study has provided evidence of relationships between basic human values and personality traits and the expression of behaviours that co-create/co-destroy value.

* 1. Theoretical Contributions

Based on conflicts and congruities, Schwartz (1992) grouped the basic human values into four subdimensions, which yielded two basic, bipolar, conceptual dimensions. Schwartz et al. (2012) further grouped the values into those that focus on personal versus social outcomes and those that express growth and self-expansion versus those that express self-protection. The first theoretical contribution of this paper is the division of the circumplex structure of the basic human values based on their likelihood to facilitate co-destruction or co-creation. Co-destruction behaviour can be predicted by any combination of self-direction, stimulation, hedonism, achievement and power value types, while co-creation behaviour can be anticipated where any combination of security, tradition, benevolence and universalism value types are expressed. Whilst it is not likely that all co-destruction expressing values will be found in any individual, the higher the number of SE+OC values someone has, the more likely the individual is to co-destroy value. This can also be said for the number of co-creation expressing values found in an individual. Since individuals naturally act in line with their values (Bardi & Schwartz, 2003), individuals expressing their co-destruction or co-creation predicting values during interactions will unwittingly co-destroy or co-create value respectively during interactions.

A second theoretical contribution of this paper is the categorization of the Big Five traits based on their tendencies to co-destroy and co-create value. Traits represent the extent to which consumers express a polar dimension of each of the five traits at the expense of its opposite dimension. Traits, unlike values, can be simultaneously expressed. Therefore, the extent to which a consumer will co-destroy or co-create value will depend on the level of expression of each of the traits within the individual. Whilst individual traits have been shown by authors to facilitate various behaviours (Barlett & Anderson, 2012; Bertoni et al., 2019; Caprara et al., 2006), this work shows that co-destruction behaviour is better predicted by neuroticism, extraversion and openness, while conscientiousness and agreeableness are the traits least likely to predict co-destruction behaviour. In contrast, all five traits predict co-creation to differing levels, which suggests that traits could have salient effects, moderated by societal norms. This will require further testing.

* 1. Practical Contributions

With value co-destruction being intentional or unintentional (Plé & Chumpitaz Cáceres, 2010), firms can therefore anticipate consumer actions/reactions before making business decisions, when designing processes and when developing communications to determine the likelihood of consumers co-destroying value. If such decisions, processes and communications rely on the acceptance/actions of consumers for the successful co-creation of value dimensions, taking positions that conflict with the values of their consumers or the general population could spur negative actions/reactions by consumers. Firm actions and interactions should be considered to see which values they reflect and if they conflict with any of the basic values. The higher the conflicts with ST+C values, the higher the likelihood of value co-destruction during interactions.

Traits describe what people are like as opposed to the motives behind their intentions (Roccas et al., 2002). Therefore, individuals high on extraversion, neuroticism and openness are more likely to destroy value in comparison to individuals high on conscientiousness and agreeableness traits. Since co-creation and co-destruction are not necessarily opposites (Stieler et al., 2014), individuals high on extraversion and openness are also the most likely to co-create value. Whilst individuals high on conscientiousness and agreeableness are the least likely to destroy value, they are also the least likely to co-create value. Whether extraverted, open or neurotic people co-destroy value will depend on whether their expectations are being met by the firm. This makes the delivery of service promises crucial to ensuring that value is not co-destroyed. Firms should therefore focus on ensuring that the expectations of consumers are met to ensure value co-creation. Firms can determine consumer actions at various touchpoints by considering what individuals with specific traits will do in different scenarios. Thus, when designing touchpoints, the likelihood of consumers co-destroying value can be determined if interactions at those touchpoints rely on the actions of consumers for the successful co-creation of value dimensions.

During interactions, firms should realise that consumers will not always demonstrate the expected behaviours and value will not always be co-created. With the knowledge that some consumers will intentionally ignore and withhold information, firms should work to minimise the amount of information consumers have to seek and share where possible. Firm employees should be prepared and trained adequately to respond to such less than ideal situations. Where consumers are likely to act impersonally and irresponsibly, firms should provide alternative experiences which capture the dimensions of the offered service but require minimal personal interactions. Extra-role, where consumers give negative feedback, oppose the firm or exhibit high levels of intolerance, such as on virtual platforms, firm employees should understand that consumers could be acting naturally, in line with their values/traits and could feel justified in their actions. Firm employees should therefore take extra care to identify the origins of such actions (e.g. a less than ideal value proposition by the firm) before offering solutions.

* 1. Limitations and Future Research

In conducting this research, this work has utilised the Short Schwartz’s Value Survey Scale (SVSS) (Lindeman & Verkasalo, 2005) to measure basic human values. The SSVS is a 10-item scale developed as an alternative to the 57-item Schwartz’s Value Survey (SVS) (Schwartz, 1992). Future research should focus on testing with the 57-item SVS scale. Similarly, this work has measured co-destruction by adapting items from the Yi and Gong (2013) co-creation scale. Future research could focus on identifying the dimensions and subdimensions of value co-destruction and developing a scale that measures value co-destruction and differentiates it from value no-creation (Makkonen & Olkkonen, 2017; Sthapit & Björk, 2020). Whilst this work groups values into types that are more likely to co-destroy and those more likely to co-create value, it makes no claims on individual values and their direct relationships with co-destruction/ co-creation behaviour. Behaviour typically expresses more than one value (Bardi & Schwartz, 2003). As such, further testing will be needed to identify which specific values or group of values predict specific co-destruction/ co-creation behaviours. It is also important to note that this study focused on interactions between the dyad of the firm and consumer. This represents interaction in its most primitive form. In reality, co-creation and co-destruction occur in complex interactions involving multiple actors (Ekman et al., 2016, Luo et al., 2019). Future studies should consider how consumer values and traits influence value co-creation and co-destruction interactions involving multiple actors . Finally, this work identified the possible effect of norms (societal, group, significant others) on the expression of values and traits. Future studies should seek to empirically determine the effects of norms (societal, group, significant others) on the expression of the values and traits which facilitate negative behaviours.

1. **References**

Akman, H., Plewa, C., & Conduit, J. (2019). Co-creating value in online innovation communities. *European Journal of Marketing*, *53*(6), 1205-1233. <https://doi.org/10.1108/EJM-12-2016-0780>

Bardi, A., & Schwartz, S. H. (2003). Values and Behavior: Strength and Structure of Relations. *Personality and Social Psychology Bulletin*, *29*(10), 1207-1220. <https://doi.org/10.1177/0146167203254602>

Barlett, C. P., & Anderson, C. A. (2012). Direct and indirect relations between the Big 5 personality traits and aggressive and violent behavior. *Personality and Individual Differences*, *52*(8), 870-875. <https://doi.org/https://doi.org/10.1016/j.paid.2012.01.029>

Becker, S. V., Aromaa, E., & Eriksson, P. (2015). Client-consultant interaction: the dynamics of and conflicts in value co-creation and co-destruction. *International Journal of Services Technology and Management*, *21*(1-3), 40-54. <https://doi.org/10.1504/IJSTM.2015.071103>

Benet-Martínez, V., & John, O. P. (1998). Los Cinco Grandes across cultures and ethnic groups: Multitrait-multimethod analyses of the Big Five in Spanish and English. *Journal of personality and social psychology*, *75*(3), 729-750. <https://doi.org/10.1037/0022-3514.75.3.729>

Bertoni, M., Bonfatti, A., Celidoni, M., Crema, A., & Dal Bianco, C. (2019). 4. Personality traits and financial behaviour. In *Health and socio-economic status over the life course* (pp. 49-56). De Gruyter Oldenbourg.

Bilsky, W., & Schwartz, S. H. (1994). Values and personality [<https://doi.org/10.1002/per.2410080303>]. *European Journal of Personality*, *8*(3), 163-181. <https://doi.org/https://doi.org/10.1002/per.2410080303>

Camilleri, J., & Neuhofer, B. (2017). Value co-creation and co-destruction in the Airbnb sharing economy. *International Journal of Contemporary Hospitality Management*, *29*(9), 2322-2340. <https://doi.org/10.1108/IJCHM-09-2016-0492>

Capara, G. V., Barbaranelli, C., & Zimbardo, P. G. (1999). Personality Profiles and Political Parties [<https://doi.org/10.1111/0162-895X.00141>]. *Political Psychology*, *20*(1), 175-197. <https://doi.org/https://doi.org/10.1111/0162-895X.00141>

Caprara, G. V., Alessandri, G., & Eisenberg, N. (2012). Prosociality: The contribution of traits, values, and self-efficacy beliefs. *Journal of personality and social psychology*, *102*(6), 1289-1303. <https://doi.org/10.1037/a0025626>

Caprara, G. V., Schwartz, S., Capanna, C., Vecchione, M., & Barbaranelli, C. (2006). Personality and Politics: Values, Traits, and Political Choice [<https://doi.org/10.1111/j.1467-9221.2006.00447.x>]. *Political Psychology*, *27*(1), 1-28. <https://doi.org/https://doi.org/10.1111/j.1467-9221.2006.00447.x>

Carù, A., & Cova, B. (2015). Co-creating the collective service experience. *Journal of Service Management*, *26*(2), 276-294. <https://doi.org/10.1108/JOSM-07-2014-0170>

Chaubey, A., Sahoo, C. K., & Khatri, N. (2019). Relationship of transformational leadership with employee creativity and organizational innovation. *Journal of Strategy and Management*, *12*(1), 61-82. <https://doi.org/10.1108/JSMA-07-2018-0075>

Dollinger, S. J., Leong, F. T. L., & Ulicni, S. K. (1996). On Traits and Values: With Special Reference to Openness to Experience. *Journal of Research in Personality*, *30*(1), 23-41. <https://doi.org/https://doi.org/10.1006/jrpe.1996.0002>

Donahue, E., John, O., & Kentle, R. (1991). The Big Five Inventory-Versions 4a and 54. Berkeley. *CA: University of California, Berkeley, Institute of Personality and Social Research*.

Echeverri, P., & Salomonson, N. (2017). Bi-directional and Stratified Demeanour in Value Forming Service Encounter Interactions [article]. *Journal of Retailing and Consumer Services*, *36*, 93-102. <https://doi.org/10.1016/j.jretconser.2017.01.007>

Echeverri, P., & Skålén, P. (2011). Co-creation and co-destruction: A practice-theory based study of interactive value formation. *Marketing Theory*, *11*(3), 351-373. <https://doi.org/10.1177/1470593111408181>

Ekman, P., Raggio, R. D., & Thompson, S. M. (2016). Service network value co-creation: Defining the roles of the generic actor. *Industrial Marketing Management*, *56*, 51-62. <https://doi.org/https://doi.org/10.1016/j.indmarman.2016.03.002>

Ennew, C. T., & Binks, M. R. (1999). Impact of Participative Service Relationships on Quality, Satisfaction and Retention: An Exploratory Study. *Journal of Business Research*, *46*(2), 121-132. <https://doi.org/https://doi.org/10.1016/S0148-2963(98)00016-2>

Espíritu-Olmos, R., & Sastre-Castillo, M. A. (2015). Personality traits versus work values: Comparing psychological theories on entrepreneurial intention. *Journal of Business Research*, *68*(7), 1595-1598. <https://doi.org/https://doi.org/10.1016/j.jbusres.2015.02.001>

Grönroos, C. (2011). Value co-creation in service logic: A critical analysis. *Marketing Theory*, *11*(3), 279-301. <https://doi.org/10.1177/1470593111408177>

Groth, M., Mertens, D. P., & Murphy, R. O. (2004). Customers as good soldiers: Extending organizational citizenship behavior research to the customer domain. *Handbook of organizational citizenship behavior*, 411-430.

Holbrook, M. B. (2006). Consumption experience, customer value, and subjective personal introspection: An illustrative photographic essay. *Journal of Business Research*, *59*(6), 714-725. <https://doi.org/https://doi.org/10.1016/j.jbusres.2006.01.008>

Itani, O. S., El Haddad, R., & Kalra, A. (2020). Exploring the role of extrovert-introvert customers’ personality prototype as a driver of customer engagement: Does relationship duration matter? *Journal of Retailing and Consumer Services*, *53*, 101980. <https://doi.org/https://doi.org/10.1016/j.jretconser.2019.101980>

Jo Bitner, M., Faranda, W. T., Hubbert, A. R., & Zeithaml, V. A. (1997). Customer contributions and roles in service delivery. *International Journal of Service Industry Management*, *8*(3), 193-205. <https://doi.org/10.1108/09564239710185398>

John, O. P., & Srivastava, S. (1999). *The Big-Five trait taxonomy: History, measurement, and theoretical perspectives* (Vol. 2). University of California Berkeley.

Kelley, S. W., Donnelly, J. H., & Skinner, S. J. (1990). Customer participation in service production and delivery. *Journal of Retailing*, *66*(3), 315-335.

Kellogg, D. L., Youngdahl, W. E., & Bowen, D. E. (1997). On the relationship between customer participation and satisfaction: two frameworks. *International Journal of Service Industry Management*, *8*(3), 206-219. <https://doi.org/10.1108/09564239710185406>

Leikas, S., Ilmarinen, V.-J., Verkasalo, M., Vartiainen, H.-L., & Lönnqvist, J.-E. (2018). Relationship satisfaction and similarity of personality traits, personal values, and attitudes. *Personality and Individual Differences*, *123*, 191-198. <https://doi.org/https://doi.org/10.1016/j.paid.2017.11.024>

Lengnick‐Hall, C. A., Claycomb, V., & Inks, L. W. (2000). From recipient to contributor: examining customer roles and experienced outcomes. *European Journal of Marketing*, *34*(3/4), 359-383. <https://doi.org/10.1108/03090560010311902>

Lindeman, M., & Verkasalo, M. (2005). Measuring Values With the Short Schwartz's Value Survey. *Journal of Personality Assessment*, *85*(2), 170-178. <https://doi.org/10.1207/s15327752jpa8502_09>

Luo, J., Wong, I. A., King, B., Liu, M. T., & Huang, G. (2019). Co-creation and co-destruction of service quality through customer-to-customer interactions. *International Journal of Contemporary Hospitality Management*, *31*(3), 1309-1329. <https://doi.org/10.1108/IJCHM-12-2017-0792>

M. Smith, A. (2013). The value co-destruction process: a customer resource perspective. *European Journal of Marketing*, *47*(11/12), 1889-1909. <https://doi.org/10.1108/EJM-08-2011-0420>

Makkonen, H., & Olkkonen, R. (2017). Interactive value formation in interorganizational relationships: Dynamic interchange between value co-creation, no-creation, and co-destruction. *Marketing Theory*, *17*(4), 517-535. <https://doi.org/10.1177/1470593117699661>

McCrae, R. R., & Costa Jr, P. T. (1990). *Personality in adulthood*. Guilford Press.

McCrae, R. R., & Costa Jr, P. T. (1999). A Five-Factor theory of personality. In *Handbook of personality: Theory and research, 2nd ed.* (pp. 139-153). Guilford Press.

McCrae, R. R., & John, O. P. (1992). An Introduction to the Five-Factor Model and Its Applications [<https://doi.org/10.1111/j.1467-6494.1992.tb00970.x>]. *Journal of Personality*, *60*(2), 175-215. <https://doi.org/https://doi.org/10.1111/j.1467-6494.1992.tb00970.x>

Merz, M. A., Zarantonello, L., & Grappi, S. (2018). How valuable are your customers in the brand value co-creation process? The development of a Customer Co-Creation Value (CCCV) scale. *Journal of Business Research*, *82*, 79-89. <https://doi.org/https://doi.org/10.1016/j.jbusres.2017.08.018>

Motowidlo, S. J., & Van Scotter, J. R. (1994). Evidence that task performance should be distinguished from contextual performance. *Journal of Applied Psychology*, *79*(4), 475-480. <https://doi.org/10.1037/0021-9010.79.4.475>

Mustak, M., Jaakkola, E., & Halinen, A. (2013). Customer participation and value creation: a systematic review and research implications. *Managing Service Quality: An International Journal*, *23*(4), 341-359. <https://doi.org/10.1108/MSQ-03-2013-0046>

Mustak, M., Jaakkola, E., Halinen, A., & Kaartemo, V. (2016). Customer participation management. *Journal of Service Management*, *27*(3), 250-275. <https://doi.org/10.1108/JOSM-01-2015-0014>

Myszkowski, N., & Storme, M. (2012). How Personality Traits Predict Design-Driven Consumer Choices. *Europe’s Journal of Psychology*, *8*(4), 641-650. <https://doi.org/10.5964/ejop.v8i4.523>

Nam, K., Baker, J., Ahmad, N., & Goo, J. (2020). Dissatisfaction, Disconfirmation, and Distrust: an Empirical Examination of Value Co-Destruction through Negative Electronic Word-of-Mouth (eWOM). *Information Systems Frontiers*, *22*(1), 113-130. <https://doi.org/10.1007/s10796-018-9849-4>

Normann, R. (2001). *Reframing business: When the map changes the landscape*. John Wiley & Sons.

Parks-Leduc, L., Feldman, G., & Bardi, A. (2014). Personality Traits and Personal Values: A Meta-Analysis. *Personality and Social Psychology Review*, *19*(1), 3-29. <https://doi.org/10.1177/1088868314538548>

Parks, L., & Guay, R. P. (2009). Personality, values, and motivation. *Personality and Individual Differences*, *47*(7), 675-684. <https://doi.org/https://doi.org/10.1016/j.paid.2009.06.002>

Paulssen, M., Brunneder, J., & Sommerfeld, A. (2019). Customer in-role and extra-role behaviours in a retail setting. *European Journal of Marketing*, *53*(12), 2501-2529. <https://doi.org/10.1108/EJM-06-2017-0417>

Plé, L. (2016). Studying customers’ resource integration by service employees in interactional value co-creation. *Journal of Services Marketing*, *30*(2), 152-164. <https://doi.org/10.1108/JSM-02-2015-0065>

Plé, L., & Chumpitaz Cáceres, R. (2010). Not always co‐creation: introducing interactional co‐destruction of value in service‐dominant logic. *Journal of Services Marketing*, *24*(6), 430-437. <https://doi.org/10.1108/08876041011072546>

Podsakoff, P. M., & Organ, D. W. (1986). Self-Reports in Organizational Research: Problems and Prospects. *Journal of Management*, *12*(4), 531-544. <https://doi.org/10.1177/014920638601200408>

Prahalad, C. K., & Ramaswamy, V. (2004). Co‐creating unique value with customers. *Strategy & Leadership*, *32*(3), 4-9. <https://doi.org/10.1108/10878570410699249>

Ramírez, R. (1999). Value co-production: intellectual origins and implications for practice and research [<https://doi.org/10.1002/(SICI)1097-0266(199901)20:1><49::AID-SMJ20>3.0.CO;2-2]. *Strategic Management Journal*, *20*(1), 49-65. <https://doi.org/https://doi.org/10.1002/(SICI)1097-0266(199901)20:1><49::AID-SMJ20>3.0.CO;2-2

Ranjan, K. R., & Read, S. (2016). Value co-creation: concept and measurement. *Journal of the Academy of Marketing Science*, *44*(3), 290-315. <https://doi.org/10.1007/s11747-014-0397-2>

Revilla-Camacho, M. Á., Vega-Vázquez, M., & Cossío-Silva, F. J. (2015). Customer participation and citizenship behavior effects on turnover intention. *Journal of Business Research*, *68*(7), 1607-1611. <https://doi.org/https://doi.org/10.1016/j.jbusres.2015.02.004>

Roberts, D., Hughes, M., & Kertbo, K. (2014). Exploring consumers' motivations to engage in innovation through co-creation activities. *European Journal of Marketing*, *48*(1/2), 147-169. <https://doi.org/10.1108/EJM-12-2010-0637>

Roccas, S., Sagiv, L., Schwartz, S. H., & Knafo, A. (2002). The Big Five Personality Factors and Personal Values. *Personality and Social Psychology Bulletin*, *28*(6), 789-801. <https://doi.org/10.1177/0146167202289008>

Säwe, F., & Thelander, Å. (2015). The role of frames in a co-creation process. *International Journal of Quality and Service Sciences*, *7*(4), 442-457. <https://doi.org/10.1108/IJQSS-04-2014-0026>

Schwartz, S. H. (1992). Universals in the Content and Structure of Values: Theoretical Advances and Empirical Tests in 20 Countries. In M. P. Zanna (Ed.), *Advances in Experimental Social Psychology* (Vol. 25, pp. 1-65). Academic Press. <https://doi.org/https://doi.org/10.1016/S0065-2601(08)60281-6>

Schwartz, S. H. (2007). Basic Human Values : Theory, Methods, and Application. <http://digital.casalini.it/2224016>

Schwartz, S. H., Cieciuch, J., Vecchione, M., Davidov, E., Fischer, R., Beierlein, C., Ramos, A., Verkasalo, M., Lönnqvist, J.-E., Demirutku, K., Dirilen-Gumus, O., & Konty, M. (2012). Refining the theory of basic individual values. *Journal of personality and social psychology*, *103*(4), 663-688. <https://doi.org/10.1037/a0029393>

Skaggs, B. C., & Youndt, M. (2004). Strategic positioning, human capital, and performance in service organizations: a customer interaction approach [<https://doi.org/10.1002/smj.365>]. *Strategic Management Journal*, *25*(1), 85-99. <https://doi.org/https://doi.org/10.1002/smj.365>

Skålén, P., Pace, S., & Cova, B. (2015). Firm-brand community value co-creation as alignment of practices. *European Journal of Marketing*, *49*(3/4), 596-620. <https://doi.org/10.1108/EJM-08-2013-0409>

Soto, C. J., John, O. P., Gosling, S. D., & Potter, J. (2008). The developmental psychometrics of big five self-reports: Acquiescence, factor structure, coherence, and differentiation from ages 10 to 20. *Journal of personality and social psychology*, *94*(4), 718-737. <https://doi.org/10.1037/0022-3514.94.4.718>

Soto, C. J., John, O. P., Gosling, S. D., & Potter, J. (2011). Age differences in personality traits from 10 to 65: Big Five domains and facets in a large cross-sectional sample. *Journal of personality and social psychology*, *100*(2), 330-348. <https://doi.org/10.1037/a0021717>

Sthapit, E., & Björk, P. (2020). Towards a better understanding of interactive value formation: Three value outcomes perspective. *Current Issues in Tourism*, *23*(6), 693-706. <https://doi.org/10.1080/13683500.2018.1520821>

Sthapit, E., & Jiménez-Barreto, J. (2019). You never know what you will get in an Airbnb: poor communication destroys value for guests. *Current Issues in Tourism*, *22*(19), 2315-2318. <https://doi.org/10.1080/13683500.2018.1475469>

Stieler, M., Weismann, F., & Germelmann, C. C. (2014). Co-destruction of value by spectators: the case of silent protests. *European Sport Management Quarterly*, *14*(1), 72-86. <https://doi.org/10.1080/16184742.2013.865249>

Vafeas, M., Hughes, T., & Hilton, T. (2016). Antecedents to value diminution: A dyadic perspective. *Marketing Theory*, *16*(4), 469-491. <https://doi.org/10.1177/1470593116652005>

Vargo, S. L., & Lusch, R. F. (2004). Evolving to a New Dominant Logic for Marketing. *Journal of Marketing*, *68*(1), 1-17. <https://doi.org/10.1509/jmkg.68.1.1.24036>

Vargo, S. L., & Lusch, R. F. (2008). From goods to service(s): Divergences and convergences of logics. *Industrial Marketing Management*, *37*(3), 254-259. <https://doi.org/https://doi.org/10.1016/j.indmarman.2007.07.004>

Vargo, S. L., Maglio, P. P., & Akaka, M. A. (2008). On value and value co-creation: A service systems and service logic perspective. *European Management Journal*, *26*(3), 145-152. <https://doi.org/https://doi.org/10.1016/j.emj.2008.04.003>

Williams, B. N., Kang, S.-C., & Johnson, J. (2016). (Co)-Contamination as the Dark Side of Co-Production: Public value failures in co-production processes. *Public Management Review*, *18*(5), 692-717. <https://doi.org/10.1080/14719037.2015.1111660>

Woodall, T. (2003). Conceptualising ‘value for the customer’: an attributional, structural and dispositional analysis. *Academy of marketing science review*, *12*(1), 1-42.

Yi, Y., & Gong, T. (2013). Customer value co-creation behavior: Scale development and validation. *Journal of Business Research*, *66*(9), 1279-1284. <https://doi.org/https://doi.org/10.1016/j.jbusres.2012.02.026>

Yi, Y., Nataraajan, R., & Gong, T. (2011). Customer participation and citizenship behavioral influences on employee performance, satisfaction, commitment, and turnover intention. *Journal of Business Research*, *64*(1), 87-95. <https://doi.org/https://doi.org/10.1016/j.jbusres.2009.12.007>

Zeithaml, V. A. (1988). Consumer Perceptions of Price, Quality, and Value: A Means-End Model and Synthesis of Evidence. *Journal of Marketing*, *52*(3), 2-22. <https://doi.org/10.1177/002224298805200302>