

The Effect of Co-creation of Value on Service Quality- Customer Loyalty Chain and the Role of Relationship Quality in Higher Education Institutions

KAISER RASHID JANJUA and MUHAMMAD ISMAIL RAMAY

This study investigated the causal relationship of co-creation of value with service quality, attitudinal loyalty and relationship quality in a higher education context. It also investigated the relationship between service quality and relationship quality and attitudinal loyalty. The data was gathered from 818 students of public and private universities from major cities of Pakistan. A multidimensional model was tested through SEM using AMOS 24. The foremost insight is that co-creation is a powerful paradigm that shape the attitudinal disposition, permeates into the quality evaluations of services as well as influence the assessments of the quality of relationship of students with Higher Education Institutes (HEIs). Additionally, the results ratify that service quality is a strong antecedent of relationship quality and improved attitudinal makeup which manifests in positive future intentions of patronage by the students. Implications, limitations and future research are discussed.

Keywords: Co-creation of value; service quality; relationship quality; attitudinal loyalty; Higher Education Institutions (HEIs)

1. INTRODUCTION

The Higher Education sector is witnessing an unprecedented growth. It is estimated that by the end of 2019 there will be more than 16000 universities across 180 countries enrolling approximately 125 million students.¹ This number is expected to double by 2025, reaching 262 million, where most of the growth is expected in South Asia.² This increased demand is primarily owing to the proverbial “youth bulge” where more than sixty percent of the population is under the age of twenty four years mostly belonging to the middle class who is looking for a better financial future through skill based learning. This trend is more pronounced in Pakistan where the number for HEIs increased from 75 in 2004 to 192 in 2019 with a total enrolment of 1.41 million students in undergraduate and post graduate programs.³

This proliferation in the higher education sector has led to immense competition in the higher education industry where HEIs from both the public and the private sector

Kaiser Rashid Janjua <kaiser.janjua@mail.au.edu.pk; qrj786@gmail.com> is PhD candidate, Bahria University, Islamabad. Muhammad Ismail Ramay <deanramay@gmail.com; ismail@bahria.edu.pk> is Senior Professor, Department of Management Sciences, Bahria University, Islamabad.

¹<https://www.whed.net/home.php>

²<https://www.unfpa.org/sites/default/files/resource-pdf/SWOP%202014%20fact%20sheet%20-%20Youth%20in%20ASIA.pdf>

³<https://www.hec.gov.pk/english/universities/pages/recognised.aspx>

have been focusing on improving their quality in order to attain higher number of applicants, retaining existing ones and building a superior image in relation to the competitive offering (Carvalho & Mota, 2010; Clemes, Cohen & Wang, 2013). Compounded by the decreased funding and complete reliance on student fees to sustain, HEIs are now more driven towards market-orientation and treating students as customers matching their needs with improved offerings, creating enabling learning platforms, fostering relationships thereby striving to develop deeper attitudinal fortitude and favourable behavioural responses (Eagle & Brennan, 2007; Gruber et al., 2010; Musselin, 2018). Creating and sustaining superior quality and customer loyalty in academia has indeed become a source of competitive advantage and profitability (Rojas-Mendez, Vasquez-Parraga, Kara & Cerda-Urrutia, 2009; Ryu & Han, 2010). Lately, researchers have been of the view that service quality-customer loyalty chain should be viewed through its antecedents which are characterised as 'environmental,' 'transformational,' 'relational,' 'value-driven' and center-staging the customers (Dabholkar, Shepherd & Thorpe, 2000; Torres, 2014; Ostrom, Parasuraman, Bowen, Patricio & Voss, 2016).

Barnett (2011) deems students as a protagonist of the service eco-system especially in higher education context Dill and Soo (2005), Dicker, Garcia, Kelly and Mulrooney (2018) have emphasised the importance of co-creation paradigm for progressive learning and enduring productive outcomes not only for the students but also for the universities. The notion and practice of co-creation of value has a strong bearing on students' quality assessments, relationship with the university, attitudinal makeup and behavioural response towards the university which remains unexplored and posit a gap for both the academicians and practitioners (Akareem & Hossain, 2016; Ranjan & Read, 2014). This implication for considering co-creation of value in service quality-relationship, quality-customer loyalty research has been emphasised by Edvardsson, Tronvoll and Gruber (2010), Torres (2014), Oertzen, Odekerken-Schröder, Braxand Mager (2018) as reflections of Oliver's (1997) view point, in incorporating the dynamic and adaptive elements of service exchanges, actors, roles, relationships and other organisational ecological factors that have an impact on the cognitive and hedonic evaluation of services in a social milieu. Jaakkola, Helkkula and Aarikka-Stenroos (2015) and Oertzen et al. (2018) stress that the impact of these operant and operand resources determines customer value, interpreted contextually and collectively and which permeates across several realms of the organisational life. Likewise, Duque (2014) and Armstrong and Johnston (2016) proposed that future studies should model co-creation onto service performance evaluations, include loyalty as a consequence of satisfaction and explore the relationship of other enduring and relational elements in the service exchange. Therefore, the purpose of this research is to understand the relationship of co-creation of value with respect to the service quality-customer loyalty chain and relationship quality by conjecturing relationships and testing them through structural equation modelling.

1.1. Literature Review

1.1.1. Co-creation of Value

For the last two decades, the concept of co-creation of value (CCV) has generated significant interest and development in the service literature. Grounded in Service-Dominant (SD) logic, an extension of Goods Dominant logic (GD), co-creation of value is defined as“

the joint creation of value by the company and the customer; allowing the customers to co-construct the service experience to suit their context” (Prahalad & Ramaswamy; 2000). Service dominant logic is a social constructionist theory where the underlying idea is that services are form of activities that when configured in combination with the receiver’s competencies, leads to more efficient processes and superior benefit or value for the receiver and in reciprocity benefits the provider (Vargo & Lusch, 2004). It is considered as a corporate strategy that is orchestrated to involve the organisation and its stakeholders with the customer to co-create the products and services that deliver the desired value to the customer (Prahalad & Ramaswamy; 2000). In later publications Ramaswamy and Gouillart (2010), Ramaswamy and Ozcan (2014) have reiterated the increasingly engaged role of customers in the value creation process and stressed that co-creation of value is an organisation’s wide framework, a holistic systemic approach, built on multiple engagement platforms that enable value creation processes with and for the customer in organisations. For them, the organisation is a self-innovating, living organism that continuously strives to co-create value for the betterment of the user, the organisation and its stakeholders. In this regard, these authors redefined the concept by stating that “co-creation is a joint creation and evolution of value with stakeholders, intensified and enacted through platforms of engagements, virtualised and emergent from ecosystems of capabilities, and actualised and embodied in domains of experiences, expanding wealth-welfare-wellbeing” (Ramaswamy & Oscan, 2014). The later discourse on CCV stressed on the operant sources as a basis of exchange where operand resources have been considered as mere ‘facilitators’ for service delivery. These resources or inputs do not have value as such rather their integration, configuration and use create value for the customer i.e., the value-in-use (Vargo, Maglio & Akaka, 2008). Ballantyne and Varey (2006) and Neghina, Caniels, Bloemer and Birgelen (2015) consider operant resources as normative and substantive, rooted in direct interactions in a specific social setup that determines the outcome value. From a ‘social construction’ point of view, value is determined as collective and inter-subjective phenomena and is considered as ‘value-in-social-context’; where, some authors have drawn similar analogy for students in HEIs (Islam, Agarwal & Ikeda, 2015).

The creation of value is manifested through mutual and reciprocal interactions and exchanges built upon mutually engaging iterative episodes and situations where each party in the exchange relationship influences the other (McColl-Kennedy, Vargo, Dagger, Sweeney, & Van Kasteren, 2012; Vargo & Lusch, 2008). For organisations, customers’ involvement during the co-creation in specific forms during several intertwined phases of the service processes and interactions offer an opportunity to influence value assessments by the customer (Edvardsson et al., 2011; Gronroos, 2010). Gronroos and Voima (2013) consider value-in-use as a psychological development through tangible, cognitive and possessive actions taken by the customer, and therefore value is determined not phenomenologically but is experientially and contextually perceived. The temporal, physical, and social aspects of co-creation practices pervades into the cogno-emotive reshaping of the value assessments of other facets of the organisation as well. Therefore, the purpose of this research is to explore the relationship between co-creation of value with service quality evaluations, attitudinal loyalty, and relationship quality along with conceptualising the relationships between service quality, relationship quality and attitudinal loyalty.

1.1.2. *Co-creation of Value and Service Quality*

The research on co-creation of value shows that the value customer receives or the ‘value-in-use’ is highly symbolic, subjective in nature, culturally driven emerged through recurrent participatory interactions. These processes and activities signify incremental effect on the satisfaction/dissatisfaction of the customer with the outcomes (Edvardsson et al., 2011; Galvagno & Dalli, 2014; Holbrook & O’Shaughnessy, 1988; Oertzen et al., 2018). Gronroos and Voima (2013) have been of the view that co-creation experience can influence customers’ perceptions about the products and services, the organisation itself including its constituents that ultimately determines their repurchase intentions. The effect can be positive if value co-creation is deemed constructive. Solomon, Surprenant, Czepiel and Gutman (1985) and Bitner, Brown and Mueter (2000) have emphasised that value in service-based organisations is intrinsic where quality, quantity, benefits and features are co-created. Based on expectancy-disconfirmation paradigm, service quality is assessed by comparing expectations versus experience to arrive at an overall judgment of the service quality which are abstract and malleable in nature (Parasuraman, Zeithaml & Berry, 1994; Zeithaml, 1988). The co-creation manifestation is likely to modify or create ‘quality perceptions’ related to goods and services mutually conceived and produced. Zhang, Tong, Demirel, Duffy, Yih & Bidassie (2015) in their study of healthcare services state that “co-creation of value acts as a medium for patients to engage in defining what good service should be and, in this way, both patients and doctors create value of service together” (p.205). Gronroos and Voima (2013) and Tari-Kasnakoglu (2016) opined that co-creation is likely to positively influence customers evaluations of service quality since co-created services can satisfy personal needs better, offer superior customer-service fit, creates sense of ownership, and develops appreciation of the outcome quality. HEI can take into account the central role of students by involving them and actively seeking their inputs in various university processes and activities can lead to self- efficacy, symbolic depictions of the self, belongingness and personal gratitude towards the outcome (Fishbein & Ajzen, 1975; Ribes-Giner, Perello-Marin & Diaz, 2016). It is quite likely that students who are successfully involved in the co-creation of value are likely to appreciate the service quality and therefore it is hypothesised that:

H1: Co-creation of value positively affects service quality evaluations in HEIs.

1.1.3. *Co-creation of Value—Attitudinal Loyalty*

Previous research shows that co-creation in organisations results in increased self-esteem, enhanced citizenship behaviour, pleasurable feelings, enjoyment in kinship, increased engagement in organisational activities, feelings of empowerment, and appreciation of the value-in-use (Humphreys & Grayson, 2008; Ranjan & Read, 2014; Oertzen et al., 2018). Gronroos and Voima (2013) offered a more analytical view by positing that penetrating into the customer sphere by the organisation along with the other stakeholders has psychological bearings on the customers’ cogno-emotive makeup encompassing aspects of the intellectual and affective functions. Based on consumer cognitive psychology theories, Rauyruen and Miller (2007) define attitudinal loyalty as “customer’s psychological attachment and attitudinal advocacy towards the organisation” (p.25). Reprising Porter, Steers, Mowday and Boulian (1974) and O’Reilly & Chatman

(1986) studies of attitudinal shift, successful co-creation results in altered belief structures, thoughts, and values that depict internalisation of organisational values and practices which leads to sense of belongingness, and appreciation of the association with the host organisations. These belief structures are the building blocks of attitudinal loyalty (Dick & Basu, 1994) and indeed represent attitude manifested behaviour (Fishbein & Ajzen, 1967). This leads to the fact that co-creation not only acts positively on the global attitudes but also transforms the attitude towards behaviour (better outcomes, lesser costs) appreciation and motivation (through the subjective norms) and better perceived behavioural control (access to more resources and opportunities for carrying out behaviour) in determining the overall probability of intentions towards the behaviour (Medden, Ellen & Ajzen, 1992). Hart, Smith, Sparks and Tzokas (1999) view communality and aggregation of positive attitude toward behaviour across numerous activities as core constituents in shaping overall attitude towards the organisation and its multifarious dimensions. Authors who have applied organisational citizenship behaviour (OCB) and participatory tendencies concepts to the students in higher education have suggested that co-creation may lead to student advocacy, positive word-of-mouth and recommendation of the program and courses to other students, and have feelings of pleasure and emotional connection with the university (Elsharnouby, 2015; Khalid, Rahman, Madar, & Ismail, 2013; Mazen, Herman, & Ornstein, 2008). Thus, co-creation of value in universities is likely to result in positive attitudinal shift ingrained in favourable evaluative cognitions, satisfying affective response and overall a positive rhetoric among students. Therefore, it is hypothesised that:

H₂: Co-creation of value positively affects attitudinal loyalty in HEIs.

1.1.4. Co-creation of Value and Relationship Quality

Co-creation of value is considered as an organisational effort which is composed of tangible and intangible assets in the form of skills, knowledge and physical resources to primarily benefit the customer (Barney, Ketchen & Wright, 2011; Mahoney & Pandian, 1992; Prahalad & Hamel, 1990). From the theory of growth of firm (Penrose, 1959) to the S-D logic (Vargo, 2006; Vargo & Lusch, 2004), the basic premise is that it is the network of actors who are intertwined in a web of information and knowledge sharing, mutual and reciprocal exchanges, formal and informal interactions, committed towards creating a superior value which acts as a catalyst in giving access to the organisational resources (Penrose, 1959; Prahalad & Ramaswamy, 2004). The epicentre of co-creation is the strength and depth of customer ties and relationships with the members of organisation and its stakeholders (Yli-Renko, Autio, & Sapienza, 2001). Co-creation leads to increased involvement and engagement especially at the relational level where increased knowledge and skills gained (cognitive), enjoyments from mutual interactions and activities (hedonic), recognition and achievement (self-esteem), motivate the customers to continue their contribution in the relationship. From the social exchange perspective (Homans, 1961; Blau, 1964), the personal, economic and social outcomes of these relationships are considered as 'rewards' which lead to increased trust, companionship, commitment and feelings of esteem and pleasure which are the main attributes of relationship quality (Hennig-Thurau & Klee; 1997; Morgan & Hunt, 1994; Omar, Kassim, Nazri, & Sidek, 2018). Weidman, Twale and Stein (2001), and

Varley's (2015) studies highlight the fact that successful co-creation reduces anxiety, increases trust and confidence in the host organisations, leads to active acquisition and sharing of knowledge and skills both intellectually and normatively, induces continuous commitment to perform tasks and roles effectively, and leads to admiration and appreciation of the relational exchanges. Therefore, it is hypothesised that:

H₃: Co-creation of value positively effects relationship quality in HEIs.

1.1.5. *Service Quality-Relationship Quality*

Several prominent authors consider service quality as a natural antecedent of relationship quality (Athanasopoulou, 2009; Crosby et al. 1990, Morgan & Hunt, 1984; Wong & Sohal, 2002. Chakrabarty, Whitten and Green (2008) study in the IT industry ratify that service organisations when improved their service quality, earned improved quality of relationships with their customers. Gummerus, Johanna, Koskull and Kowalkowski (2017) in their review conclude that service quality is indeed one of the most significant 'hygiene factors' in predicting the quality of relationship in dyads, groups and organisations. Decades ago, Gummesson (1987) theorised that relationship quality can be understood as an accumulated value received overtime by experiencing and evaluating different facets of the organisation. In particular, the perceived quality of products and services through iterative episodic judgments determines satisfaction, trust and value. Crosby et al. (1990) elaborated this relationship by suggesting that the presence of tangible and intangible aspects in the conceptualisation of service quality affects relationship quality. In further elaboration, researchers posit that service quality comprises aspects such as the physical evidence as well as the relational and interactional aspects, also referred as a process quality, that affect relationship quality, and relationship quality encompasses holistic and global judgments through its technical, psycho-social and economic factors (Brady & Cronin, 2001; Holmlund, 2001). Both the American model (Parasuraman et al., 1994) and the Nordic model (Gronroos, 1994; Storbacka, Strandvik & Gronroos, 1994) emphasise the superiority of functional (process) quality vis-à-vis the outcome (technical) quality. In addition, Gronroos (1994) and Storbacka et al. (1994) posited that the reiteration of episodic level service quality experience leads to a more holistic and transformational relationship. Recently, in a higher education context, Teeroovengadum, Kamalanabhan and Seebaluck (2016) further elaborated the fact that transformative quality is embedded in compassion, empowerment and involvement which are inherent to the functional aspects of the service quality construct.

The early literature shows that service quality has been the most ubiquitous antecedent of second order construct of relationship quality i.e., satisfaction, trust and commitment as highlighted in the Helson's (1948) adaptation theory, Festinger's (1957) discourse on cognitive dissonance as well as in Oliver's (1980) critical analysis of satisfaction and loyalty models. Cardozo (1965), Engel and Blackwell (1982) and Howard and Sheth (1969) viewed satisfaction from the expectancy-confirmation/disconfirmation paradigm and believed that the reduction in expectation and performance gap led to positive attitudes and increased satisfaction. Researchers have been of the opinion that service quality perceptions are of critical importance especially in experiential and credence services where increased level of service quality results in reduced perceived risk and uncertainty in a relationship (Hsieh & Hiang, 2004; Reisinger & Waryszak; 1996; Teas, 1993). The initial stages of the relationship in a credence context are critical in terms of building consumer trust and their decision for continued commitment where

the role of consistent and superior service quality is deemed as of profound importance (Ostrom & Iacobucci, 1995). Holmlund (2001) and Hsieh and Hsiang (2004) have been of the opinion that apart from the outcome quality, the expertise, professionalism, empathy and compassion carry deeper interpersonal meaning in establishing value-laden relationships. Consequently, higher education, a credence context, offers an opportunity to the management, faculty and staff to positively influence the quality of relationships with the students by offering desired service quality experience. Therefore, it is hypothesised that:

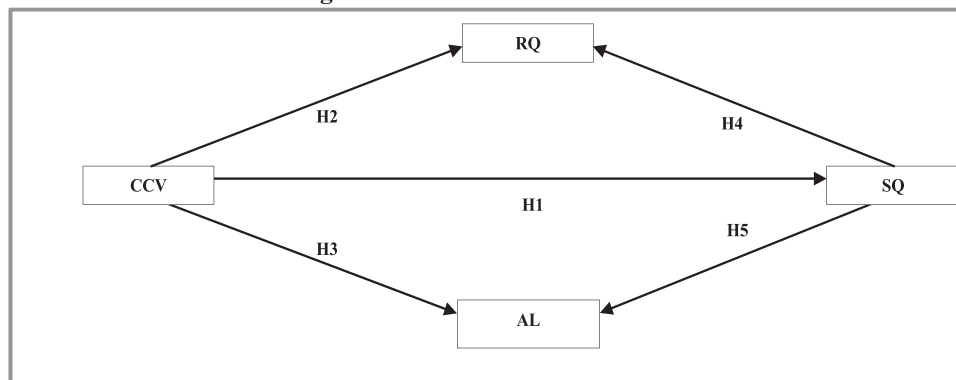
H₄: Service quality perceptions affect relationship quality in HEIs.

1.1.6. Service Quality-Attitudinal Loyalty

Service quality perceptions are formed on the basis of direct experience and the evaluations are based on prior expectations. The confirmation of expectations vis-à-vis the perception leads to post-experience judgements or evaluations. Repeated experiences lead to the strong formation of either positive or negative evaluations i.e., the consumer attitude. Service quality is primarily based on cognitive theoretical perspective and in its classic nature, its conceptualisation is ‘analytic’ i.e. service quality, to a large extent, is ‘symbolic’ and part ‘significant input which is internalised for processing in consumer decision making (Blythe, 2013; Howard & Sheith, 1969; Loudon & Della-Bitta, 1993). This perspective of service quality perceptions highlights value driven ‘psychological measurement’ and ‘analysis of expert judgemental evaluating the evidence that eventually translates into obscure judgements (predisposition) and reflects cognitive and affective aspects of attitude formation (Anderson, 1973; Nasset, 2011). These preferences or the predisposition overtime leads to the formation of attitudinal loyalty towards products and services as they are experienced (Day, 1969; Jacoby & Kyner, 1973). Parasuraman et al. (1986) believed service quality perceptions as a customer judgment and Zeithaml (1988) deemed it as ‘similar to the attitude.’ Previous research in attitudinal loyalty shows that as an input variable, such as service quality, is significantly related to the formation of attitudinal loyalty in the students of universities (Ali, Zhou, Hussain, Nair & Ragavan, 2015; Belwal & Amireh, 2018). Therefore, it can be proposed that:

H₅: Service quality affects attitudinal loyalty in HEIs.

Figure 1: The Theoretical Model*



*Note: CCV = Co-creation of Value; SQ = Service Quality; RQ = Relationship Quality; AL = Attitudinal Loyalty.

2. METHODS

Creswell (2009) has suggested that for causal relationships between constructs that intend to discover directional influence, a positivist approach is considered appropriate for deductive reasoning based on theoretical priori. Therefore, the research design is causal and is based on using questionnaire based survey technique employing constructs as depicted in the theoretical model and data analysis through linear regression. In addition, this study is cross-sectional in nature where data is to be obtained from ‘more than one’ subject (sample) as the intent is to study variation in responses for each variable in the conceptual framework. The unit of analysis is the ‘individual’ who is student of bachelors and masters’ program in a ‘general’ type public or private university recognised by the Higher Education Commission (Sekaran, 2006).

2.1. Population and Sampling

There are over 192 public and private universities in Pakistan having an estimated enrolment of 1.6 million students. This research targeted universities under the ‘general’ category. As per the HEC statistics available, there are 184 universities listed under the ‘general category’.⁴ The general category is divided into public and private sector universities out of which 106 are public sector while 78 are private sector universities. The estimated student population by year 2019 in these universities is 1.414 million out of which 1.140 million are in public sector universities while remaining are in the private sector universities⁵. The population is further refined as the students at bachelors and masters level program in the universities (Asiamah, Mensah, & Oteng-Abayie, 2017; Bartlett, Kotrlik & Higgins, 2001).

2.2. Measurement Scales

Co-creation of value scale is adopted from Ranjan and Read (2014). The scale comprises of five dimensions with a total of 22 items. These dimensions include co-production knowledge, equity, interaction, experience and personalisation. Service quality scale of twenty-one items under five dimensions i.e. SERVQUAL is adopted from Parasuraman et al. (1988) study. Relationship quality is measured through satisfaction, trust and commitment. The scale for relationship quality has been adopted from Cannière, Pelsmacker and Geuens (2008) study. All scales were 5 point Likert type for each representative item. Attitudinal loyalty is measured by the scale adopted by Chudhuri and Holbrook (2001).

2.3. Sampling and Data Collection

In multivariate data analysis, large sample size have been mostly recommended i.e. greater than 500 especially for complex models (Hair, Black, Babin, & Anderson

⁴<http://www.hec.gov.pk/english/universities/pages/recognised.asp>

⁵<http://library.aepam.edu.pk/Books/Pakistan%20Education%20Statistics%202016-17.pdf>

2010). In multivariate data analysis, Reisinger and Mavondo (2007) have recommended data of five respondent per parameter as a minimum number, where ten respondent per parameter is considered appropriate especially when there are issues of normality and missing data. Keeping in view the above, a total sample size of 800 was determined. Data were collected from twenty-seven universities across all the four provinces primarily through Google docs. The link was sent to the university management, faculty and staff via email as well as through social media and WhatsApp for onward distribution to their students. A total of 160 responses were gathered through personally administered paper-based survey. A total of 818 responses were gathered.

3. RESULTS

3.1. Respondents Profiles

The demographic data shows that 574 (70 percent) were from public sector and the remaining 244 (29.8 percent) were from private sector. Bachelors' students accounted for 634 (77.5 percent) and 184 (22.5 percent) belonged to the masters' program. Most of the students were from engineering 263 (32 percent), business 254 (31 percent) and computer science 170 (20 percent) while remaining were from physical sciences, humanities and others. Majority were from third (108, 13.2 percent), fourth (157, 19.2 percent) and fifth semesters (110, 13.4 percent) followed by the first (155, 18 percent) and the seventh semester (111, 13.5 percent). The 2nd (37, 4.5 percent) and the 6th semester (42, 5.1 percent) had the lowest proportion. Male students were 490 (59.99 percent) versus 328 (40.01 percent) females. A total of 767 (93.7 percent) aged under 18-21 and 22-25 age categories (767, 93.7 percent), followed by (6.90 percent) students under the 26-29 category, 6 (0.07 percent) belonged to 30-33 category, and remaining i.e. 8 (0.09 percent) reported were above 33 years. Geographically, responses from Islamabad/ Rawalpindi accounted for (301, 36.79 percent), Lahore (185, 22.62 percent), Peshawar (142, 17.36 percent), Karachi (110, 13.45 percent), Multan (38, 4.64 percent) and other cities (42, 5.13 percent).

3.2. Common Method Bias, Missing Data and Outliers

The possibility of common method bias (CMB) was detected through Harman's Single Factor Score method. The single factor showed Eigen value of 23.027 with 29.148 percent (<50 percent) cumulative variance which indicates no issue of CMB (Podsakoff, MacKenzie & Podsakoff, 2012). The analysis returned the highest Eigen value of 23.027 and cumulative variance of 29.148 percent indicating no issue of CMB. No missing data were there in the dataset as all questions were mandatory. Mahalanobis (1936) technique detected 38 outliers and were removed ($p < 0.01$) as per the suggestions of Aguinis, Gottfredson and Joo (2013) and Tabachnick and Fidell (2006). This led to the total number of responses to 780 in the dataset.

Table 1

Scale Reliability

Constructs	Cronbach's Alpha	Items
Co-Creation of Value (CCV)	0.91	22-items
Service Quality (SQ)	0.93	21-items
Relationship Quality (RQ)	0.92	9-items
Attitudinal Loyalty (AL)	0.81	3-items

Table 1 shows the Cronbach's alpha of all the latent variables scored above than the minimum acceptable range of 0.70 indicating sufficient reliability indicating sufficient homogeneity among the items of each construct (Hair et al., 2010; Nunnally & Bernstein, 1994).

3.3. The Measurement Model

The measurement model is assessed through Confirmatory Factor Analysis (CFA) in order to find out if the data fits in the form of items and constructs (Kline, 2010). The CFA is carried out by employing structural equation modelling technique using AMOS 24 software.

The standardised factor loadings for first order and second order factors are shown in Table 2. The values are between 0.467 to 0.987 and all significant ($p < 0.01$) indicating acceptable construct validity (Hair et al. 2010). Tabachnick and Fidell (2007) have recommended using more stringent cut-offs going from 0.32 (poor), 0.45 (fair), 0.55 (good), 0.63 (very good) or 0.71 (excellent). Nevertheless, researchers have been of the opinion that these criteria for removing 'low' factor loading are simply heuristics and caution should be exercised in removing the low loading items in order to preserve the construct and theoretical importance of the items and factors in the model (Bryne, 1989; Hair et al., 2010).

3.3.1. Model Fit

The initial CFA for measurement model fit indices yielded values as χ^2/df ratio = 2.397; SRMR = .061; GFI = 0.860; NFI = 0; IFI = 0.910, TLI=0.904; CFI = 0.909 and RMSEA = .042. The fit indices indicated the model fit could be improved by inspecting lower loading items (< 0.50), modification indices ($> .30$) and standardised residual co-variances as suggested by Hair et al. (2010). A thorough review resulted in removing of fourteen items as well as co-varying ten items followed by re-specification of the model. The removal and co-varying items are within the thresholds of deletion criterion of 20 percent or less items with respect to the total number of parameters in the model (Hair et al., 2010). The fit indices were selected based on the recommendations of Hair et al. (2010) and Kline (2010). The revised model resulted in better model fit as shown in Table 3 below:

Table 2

Standardised Loadings, Standard Errors (S.E) and P-values

Latent Construct	Factors	Standardised Loadings	SE	Sig.	Items	Standardised Loadings	SE	Sig.
CCV	Know.	.865	.056	***	CCV1	.649	.067	***
					CCV2	.684	.063	***
					CCV3	.699	.064	***
					CCV4	.713	.067	***
					CCV5	.663	.051	***
					CCV6	.736	.068	***
					CCV7	.679	.047	***
	Equ.	.927	.102	***	CCV8	.779	.063	***
					CCV9	.660	.062	***
					CCV10	.732	.061	***
					CCV11	.705	.060	***
					CCV12	.706	.058	***
	Interact.	.923	.052	***	CCV13	.510	.055	***
					CCV14	.599	.053	***
					CCV15	.479	.130	***
					CCV16	.426	.081	***
					CCV17	.487	.135	***
SQ	Exp.	.850	.053	***	CCV18	.725	.154	***
					CCV19	.763	.162	***
					CCV20	.604	.072	***
					CCV21	.698	.087	***
					CCV22	.633	.076	***
	Personal.	.900	.051	***	SQ1	.604	.049	***
					SQ2	.730	.078	***
					SQ3	.796	.079	***
					SQ4	.754	.074	***
					SQ5	.770	.075	***
	Ass.	.946	.043	***	SQ6	.569	.055	***
					SQ7	.690	.067	***
					SQ8	.782	.073	***
					SQ9	.564	.065	***
					SQ10	.621	.044	***
	Rel.	.987	.052	***	SQ11	.745	.043	***
					SQ12	.795	.044	***
					SQ13	.759	.044	***
					SQ14	.764	.048	***
					SQ15	.758	.050	***
RQ	Emp.	.898	.053	***	SQ16	.467	.054	***
					SQ17	.759	.050	***
					SQ18	.626	.106	***
					SQ19	.594	.105	***
					SQ20	.617	.046	***
	Tgbl.	.905	.059	***	SQ21	.662	.088	***
					RQ1	.840	.034	***
					RQ2	.818	.038	***
					RQ3	.875	.036	***
					RQ4	.826	.038	***
	Sat	.903	.044	***	RQ5	.824	.041	***
					RQ6	.781	.042	***
					RQ7	.780	.039	***
					RQ8	.823	.048	***
					RQ9	.786	.040	***
AL	Trust	.946	.052	***	AL1	.756	.050	***
					AL2	.761	.046	***
					AL3	.751	.051	***
	Commit.	.902	.047	***				

Note: p<0.001.

Table 3

Fit Indices: Original and Re-specified Measurement Model

Index	Cut-off Value	Original Model		Re-specified Model	
		Statistic	Fit Level	Statistic	Fit Level
χ^2/df	≤ 3.0	2.397	Good	2.053	Good
GFI	$\geq .90$	.840	Weak	.895	Acceptable
RMSEA	$\leq .07$	.042	Good	.037	Good
SRMR	$\leq .80$	.061	Good	.048	Good
CFI	$\geq .90$	.90	Moderate	.93	Good
TLI	$\geq .90$	.90	Moderate	.92	Good
IFI	$\geq .90$	.90	Moderate	.92	Good

The model fit values for the re-specified model resulted in acceptable fit. The GFI fell short of the recommended value (Hu & Bentler, 1999) however, GFI values above 0.80 are acceptable for large and multi-tier complex models when factor loadings are sufficiently higher and sample size is adequate (Baumgartner & Homburg, 1995; Doll, Xia, & Torkzadeh, 1994; Shevlin & Miles, 1998). It is pertinent to mention that the popular view of Huand Bentler's (1999) cut off values as universal rules is impugned. Instead Hu and Bentler (1998) stated that "it is difficult to designate a specific cut-off value for each fit index because it does not work equally well with various types of fit indices, sample sizes, estimators or distributions" (p.449). Likewise, Hair et al. (2010) have cautioned that there is no "magic" number for fit indices and there are many cases where minor model misspecification remains which should not cause the loss of important information from the model.

3.3.2. Construct Validity, Multicollinearity and Normality

Table 4 shows that all correlations between each of the variables remained under the suggested maximum value of 0.80 (Hair et al., 2010). Further, the VIF for all variables remained less than 4 and tolerance values greater than 0.25 indicating no serious issues of multicollinearity (Field, 2009; Tabachnick & Fidell, 2007). Similarly, Skewness and kurtosis values remained within the suggested range -2.0 to +2.0 thereby, indicating normal multivariate distribution for each of the latent construct (George & Mallery, 2010; Field, 2009; Gravetter & Wallnau, 2014). Further, the values show that the composite reliability (CR) for all latent variables is above 0.70 limit thereby establishing sufficient convergent validity (Gerbing & Anderson, 1988; Zikmund, 2003). Likewise, all latent constructs showed average variance extracted (AVE) values greater than 0.50 and larger than their respective maximum shared variance (MSV). The square root of AVE value for each construct remains larger than its correlation with other construct thereby establishing discriminant validity (Fornell & Larcker, 1981).

Table 4

Construct validity, VIF, Skewness and Kurtosis

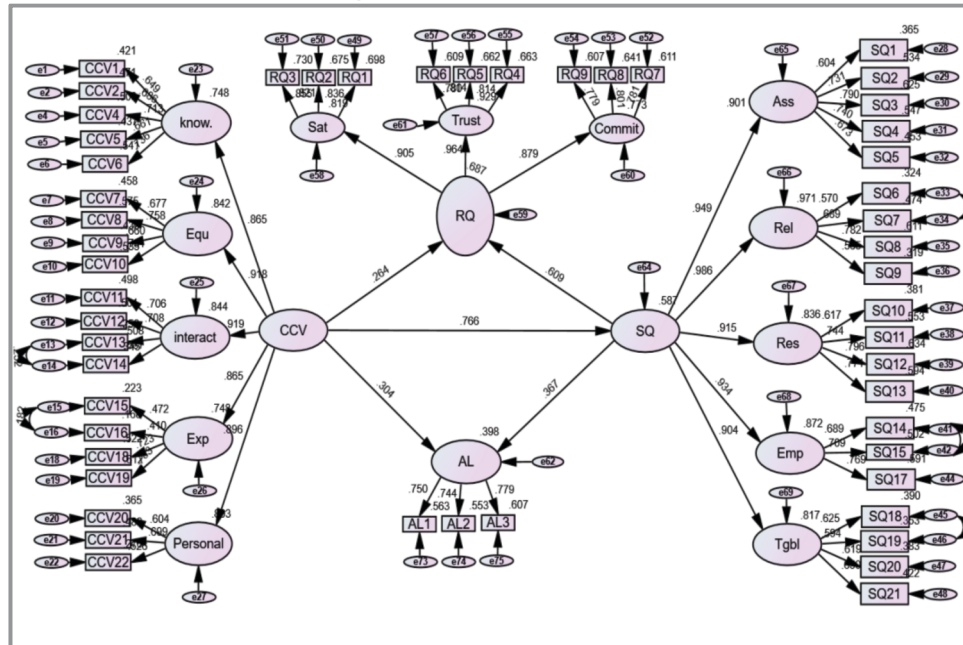
	CR	AVE	MSV	AL	CCV	SQ	RQ	VIF	Skew	Kurt.
AL	0.802	0.575	0.527	0.758				1.68	-0.13	-1.04
CCV	0.948	0.785	0.587	0.483**	0.886			2.38	0.16	-0.16
SQ	0.961	0.830	0.639	0.498**	0.412**	0.911		2.67	-0.33	-0.18
RQ	0.941	0.842	0.639	0.620**	0.621**	0.623**	0.917	2.66	-0.31	-0.33

Note: $p < 0.05$.

3.3.3. The Structural Model

The structural model output shows the model fit values of $\chi^2/df = 2.057$, SRMR = .051, GFI = 0.864, TLI = 0.907, IFI = .912, CFI = 0.910 and RMSEA = .038. All the items and second order factors sufficiently loaded on their respective construct and all paths were significant ($p < 0.01$). The results of the structural model validate the measurement model stability (Hair et al., 2010). The structural model is depicted below (see Figure2).

Fig.2. The Structural Model



3.3.4. Hypothesis Testing

The results of parameter estimates show that all regression coefficients in a structural model are significant and all hypothesis are accepted ($p < 0.05$). Specifically, CCV positively affects AL, SQ and RQ thereby supporting H₁, H₂ and H₃ respectively ($\beta = 0.304$, $p < 0.01$; $\beta = 0.766$, $p < 0.01$; $\beta = 0.264$). Likewise, SQ is found to be a positive and significant antecedent of RQ and AL thereby ratifying H₄ and H₅ respectively ($\beta = 0.609$, $p < 0.01$; $\beta = 0.367$, $p < 0.01$). Table 5 summarises the details of all hypothesis.

Table 5

Standardised Regression Weights

Linkages	Hypotheses		Standardised				Remarks
	Number	Sign	Estimate	S. E.	C. R.	Sig. [*]	
CCV→AL	H ₁	+	.304	.111	2.738	***	Supported
CCV→SQ	H ₂	+	.766	.084	9.100	***	Supported
CCV→RQ	H ₃	+	.264	.046	5.656	***	Supported
SQ→RQ	H ₄	+	.609	.045	13.427	***	Supported
SQ→AL	H ₅	+	.367	.072	5.097	***	Supported

*p<0.001.

4. DISCUSSION AND IMPLICATION

The primary purpose of this research was to determine the impact of co-creation of value on different facets of service quality-customer loyalty chain along with the role of relationship quality. The foremost insight is that co-creation of value is indeed a positive organisation wide endeavour that results in a favourable attitudinal shift. This result is in line with researchers who posit that co-creation in organisations lead to enhanced intellectual capability, pleasurable feelings, kinship, and advocacy through knowledge acquisition and sharing, access to resources, participatory behaviour in co-production, valuable experience, and improvisation (Gronroos & Voima, 2013; Oertzen et al., 2018; Schmidt-Rauch & Nussabaumer; 2011). In higher education sector, co-creation demands students as an active and purposefully involved participant and co-creator of the social milieu and particularly the services which are co-produced and consumed. Their stances and perspectives through deep dialogues and interactions in joint creation and manifestation of knowledge across several platforms of engagement are likely to in still admiration and gratifying feelings for the university. Similarly, sharing information and control that relates to various facets of student life, even including policy making at different levels which leads to integrated outcomes become key elements in enhancing student attitudinal fortitude towards the university.

Likewise, co-creation of value leads to the appreciation of service quality of the university offerings. This is in line with Vargo and Lusch (2008) and, Gronroos and Voima (2013) studies who opined that customers and organisation when work together to form products and services, the primary co-creator for whom the value is created takes the 'ownership' of the final outcome depicting favourable creation and re-creation of service quality evaluations. Since perceived service quality is based on the expectations and perceived performance, the quality or the value assessments are perceived to be favourable since the user is the one who was part of creating it. In other words, when the student who is a value co-creator is involved in the pre-consumption stages of the value creation process, the post-consumption evaluations are appreciated stimulating enthusiasm and feelings of achievement (Vargo & Lusch, 2006). In line with the studies of Hu and McLoughlin (2012), Ryzhkova (2015) and Xu, Liu and Lyu (2018) who consider co-creation as a psychological contract bearing profound physical and emotional investment in the processes, activities and interactions where the outcome yields positive pragmatic evaluations, feelings of accomplishment as a reward. The conceptualisation of co-creation of value illustrates that students and the university when work together across

many facets of services, they indeed create and recreate quality perceptions. The student as a co-creator has deeper cognition, awareness, recognition or appreciation, as of moral, psychological, aesthetic, and/or tangible aspects of the services of the university. In these processes of mutual exchange and 'immersion' students are likely to improve their intellectual capabilities and develop positive hedonic appraisals of the interactions and the artefacts of the university.

In addition, the fact that co-creation leads to more enduring outcome of relationship quality assessments becomes evident. Co-creation of value leads to shared mental schemas and favourable interpersonal cognitions resulting in increased motivation and commitment, confidence and fulfilment of the needs and wants of the customer or the student. Based on the social exchange theory which is primarily based on relational rewards, successful co-creation efforts by the university are likely to yield positive student affect which is an emotional state depicting satisfaction with the university. Similarly, university's conscientious efforts in creating systemic mechanisms and uplifting relational experiences will lead to the creation of positive belief structures representing that the students are engaged with competent, professional and capable organisation which are the key ingredients of mutual trust and reciprocal commitment (Hennig-Thurau & Klee, 1997; Omar, Kassim, Nazri & Sidek, 2018). Relationship quality is considered as an attitudinal loyalty surrogate and as discussed previously; the successful iterative co-creation experiences will inspire students to continue their relationship with the university.

Moreover, service quality is found to be a strong predictor of relationship quality which is in line with the suggestions of previous researchers (Gummerus, Johanna, Koskull & Kowalkowski, 2017; Snijders, Rikers, Wijnia & Loyens, 2018; Wong & Sohal, 2002). This finding depicts that improving and sustaining desirable levels of value in services requires focus on reliability of core services performance, capability, expertise and responsiveness of the faculty, staff and management of the university that imbue trust, confidence and sensitivity, physical evidence and compassion that permeates into unique aspects of relationship quality. Further, service quality is found to be a strong predictor of attitudinal loyalty which depicts that students 'beliefs' formed post service quality assessments will be instrumental in their disposition and resulting attitude towards the university ratifying the suggestions of Oliver (1999), Dickand Basu (1994) and Abdullah (2006) studies.

From a managerial perspective, co-creation is a powerful business model for universities to create value not only for the students but also for the industry and society at large and is indeed a source of competitive advantage. This paradigm entails carving out socialisation mechanisms and platforms that centre-stage the students and actively engages them across different facets of the university life. In particular, sharing and giving access to the operant and operand resources of the university thereby creating value with the students is likely to enhance their intellectual capacities and evolve positive demeanour in appreciation of the quality of mutually created services. The tacit role of relationships and their symbolic connotations are also strengthened through uplifting iterative co-creation experiences. In its spirit, co-creation in organisations especially universities are conceptually a 'collective consciousness endeavour that imbues unification of the multiplicity which leads to better financial and social mobility, and offers legitimacy for universities to continue offer superior social capital to the industry and the society at large.

4.1. Limitations and Future Research

This study considered a cross-sectional approach to co-creation of value behaviour and its outcomes. Co-creation in universities should be assessed on longitudinal basis as students advance into higher semester, their co-creation experiences along with the related outcomes are likely to vary. In addition, more data from diverse academic programs can be taken for a comprehensive cross level analysis and comparison. Importantly, the systemic antecedents of co-creating behaviour that evoke the desire for active involvement, collaboration and engagement need to be explored (Oertzen et al., 2018; Omar, Kassim, Nazri, & Sidek, 2018). Co-creation can also be linked to other important consumer factors such as organisational/brand image, switching costs, organisational justice and other intricate factors. Finally, co-creation has been primarily seen from customers' point of view and future studies should take the perspective of organisation and other stakeholders involved.

4.2. Conclusion

Co-creation of value is an evolving theme in higher education that has strong ramifications in sustaining HEIs strategic differential advantage and legitimising their financial and social viability. In essence, co-creation is a paradigmatic shift that entails systemic changes by centre-staging the students and carving out strategies for better educational, individual and professional future.

REFERENCES

- Abdullah, F. (2006). Measuring service quality in higher education: HEDPERF versus SERVPERF. *Marketing Intelligence & Planning*, 24(1), 1-47.
- Aguinis, H., Gottfredson, R. K., & Joo, H. (2013). Best-Practice recommendations for defining, identifying, and handling outliers. *Organisational Research Methods*, 16(2), 270-301.
- Akareem, H.S., & Hossain, S.S. (2016). Determinants of education quality: what makes students' perception different? *Open Review of Educational Research*, 3(1), 52-67.
- Ali, F., Zhou, Y., Hussain, K., Nair, P.K. & Ragavan, N.A. (2016). Does higher education service quality effect student satisfaction, image and loyalty? *Quality Assurance in Education*, 24(1), 70-94.
- Anderson, R.E. (1973). Consumer dissatisfaction: The effect of disconfirmed expectancy on product performance. *Journal of Marketing Research*, 10(1), 38-44.
- Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modelling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 103(3), 411-423.
- Asiamah, N., Mensah, H. K., & Oteng-Abayie, E. (2017). General, target, and accessible population: Demystifying the concepts for effective sampling. *The Qualitative Report*, 22(6), 1607-1621.
- Athanasopoulou, P. (2009). Relationship Quality: A critical literature review and research agenda. *European Journal of Marketing*, 43(5/6), 583-610.
- Bandyopadhyay, S., & Martell, M. (2007). Does attitudinal loyalty influence behavioural loyalty? A theoretical and empirical study. *Journal of Retailing and Consumer Services*, 14(1), 35-44.

- Barney, J. B., Ketchen, D. J., & Wright, M. (2011). The future of resource-based theory. *Journal of Management*, 37(5), 1299-1315.
- Bartlett, J. E., Kotrlík, J. W. & Higgins, C. C. (2001). Organisational Research: Determining appropriate sample size in survey research, *Learning and Performance Journal*, 19(1), 43-50.
- Belwal, R., & Amireh, M. (2018). Service quality and attitudinal loyalty: Consumers' perception of two major telecommunication companies in Oman. *Arab Economic and Business Journal*, 13(2), 197-208.
- Bitner, M. J., Brown, S., & Mueter, M.L. (2000). Technology infusion in service encounters. *Journal of the Academy of Marketing Science*, 28(1), 138-149.
- Blau, P. M. (1964). *Exchange and power in social life*. New York: John Wiley.
- Brady, M. K., & Cronin Jr, J. J. (2001). Some new thoughts on conceptualising perceived service quality: A hierarchical approach. *Journal of Marketing*, 65(3), 34-49.
- Blythe, J. (2013). *Consumer behaviour*. : Thomson.
- Cardozo, R.N. (1965). An experimental study of customer effort, expectation, and satisfaction. *Journal of Marketing Research*, 2(3), 244-249.
- Cannière, M. H., Pelsmacker, P., & Geuens, M. (2009). Relationship quality and the theory of planned behaviour models of behavioural intentions and purchase behaviour. *Journal of Business Research*, 62(1), 82-92.
- Carvalho, W. S., & Mota, M. (2010). The role of trust in creating value and student loyalty in relational exchanges between higher education institutions and their students. *Journal of Marketing for Higher Education*, 20(1):145-165.
- Chakrabarty, S., Whitten, D., & Green, K. (2008). Understanding service quality and relationship quality in IS outsourcing: Client orientation & promotion, project management effectiveness, and the task-technology-structure fit. *Journal of Computer Information Systems*, 48(2), 1-15.
- Chaudhuri, A. & Holbrook, M.B. (2001). The chain of effects from brand trust and brand affect to brand performance: the role of brand loyalty. *Journal of Marketing*, 65(2), 81-93.
- Clemes, M. D., Cohen, D. A., & Wang, Y. (2013). Understanding Chinese university students' experiences: an empirical analysis, Asia Pacific. *Journal of Marketing and Logistics* 25(3), 391-427.
- Creswell, J. W. (2009). *Research design: qualitative, quantitative, and mixed methods approaches* (3rd ed.). Sage.
- Crosby, L., Evans, K. R., & Cowles, D. (1990). Relationship quality in services selling: An interpersonal influence perspective. *Journal of Marketing*, 54(3), 68-81.
- Dabholkar, P.A., Shephard, D.C., & Thorpe, D.I. (2000). Comprehensive framework for service quality: An investigation of critical conceptual and measurement issues through a longitudinal study. *Journal of Retailing*, 76(2), 139-173.
- Day, G. S. (1969). A two-dimensional concept of brand loyalty. *Journal of Advertising Research*, 9, 29-35.
- Dick, A. S., & Basu, K. (1994). Customer loyalty: Toward an integrated conceptual framework. *Journal of the Academy of Marketing Science*, 22(2), 99-113.
- Dicker, R., Garcia, M., Kelly, A., & Mulrooney, H. (2018). What does 'quality' in higher education mean? Perceptions of staff, students and employers. *Studies in Higher Education*, 44(8), 1425-1441.

- Dill, D.D. & Soo, M. (2005). Academic quality, league tables, and public policy: A cross-national analysis of university ranking systems. *Higher Education*, 49(4), 495-533.
- Doll, W. J., Xia, W., &Torkzadeh, G. (1994). A confirmatory factor analysis of the end-user computing satisfaction instrument. *MIS Quarterly*, 18(4), 453-461.
- Duque, C. L. (2014). A framework for analysing higher education performance: students' satisfaction, perceived learning outcomes, and dropout intentions. *Total Quality Management & Business Excellence*, 25(1-2), 1-21.
- Edvardsson, B., Tronvoll, B., & Gruber, T. (2011). Expanding understanding of service exchange and value co-creation: a social construction approach. *Journal of the Academy of Marketing Science*, 39, 327-339.
- Eagle, L., & Brennan, R. (2007). Are students' customers? TQM and marketing perspectives. *Quality Assurance in Education*, 15(1), 44-60.
- Elsharnouby, T. H. (2015). Student co-creation behaviour in higher education: the role of satisfaction with the university experience, *Journal of Marketing for Higher Education*, 25(2), 238-262.
- Engel, J.F., & Blackwell, R.D. (1982). *Consumer behaviour*. Hinsdale
- Festinger, L. (1957). *A theory of cognitive dissonance*. Evanston, IL: Row & Peterson.
- Field, A. (2009). *Discovering statistics using SPSS (3. baskı)*. NY: Sage Publications.
- Fishbein, M. (1967). A behaviour theory approach to the relations between beliefs about an object and the attitude toward the object, In M. Fishbein (Ed.), *Readings in attitude theory and measurement*, 389-400. New York: John Wiley & Sons.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39-50.
- Galvagno, M., & Dalli, D. (2014). Theory of value co-creation. *Journal of Service theory and Practice*, 24(6), 643-683.
- George, D., & Mallery, M. (2010). *SPSS for windows step by step: A simple guide and reference* (10th ed.). Boston: Pearson.
- Gravetter, F., & Wallnau, L. (2014). *Essentials of statistics for the behavioural sciences* (8th ed.). Wadsworth: Belmont, CA.
- Gronroos, C. (2011). Value co-creation in service logic: A critical analysis. *Marketing Theory*, 11(3), 279-301.
- Gronroos, C. (2008). Service logic revisited: Who creates value? And who co-creates? *European Business Review*, 20(4), 298-314.
- Gronroos C., & Voima, P. (2013). Critical service logic: Making sense of value creation and co-creation. *Journal of the Academy of Marketing Science*, 41(2), 133-50.
- Gruber, T., Fub, S., Voss, R., & Glaser-Zikuda, M. (2010). Examining student satisfaction with higher education services: using a new measurement tool. *International Journal of Public Sector Management*, 23(2), 105-123.
- Gummerus, J., Koskull, V., & Kowalkowski, C. (2017). Guest editorial: relationship marketing – past, present and future. *Journal of Services Marketing*, 31(1), 1-5.
- Hart, S., Smith, A., Sparks, L., & Tzokas, N. (1999). Are loyalty schemes a manifestation of relationship marketing? *Journal of Marketing Management*. 15 (6), 541-562.

- Hair, J.F., Black, W.C., Babin, B.J., & Anderson, R.E. (2010). *Multivariate data analysis* (7th Ed). Upper Saddle River, New Jersey: Prentice Hall.
- Helson, H. (1948). Adaptation level as a basis for a quantitative theory of frames of reference. *Psychological Review*, 55(6), 297–313.
- Holmlund, M. (2001). The D&D model: Dimensions and domains of relationship quality perceptions. *The Service Industries Journal*, 1(3), 13-36.
- Homans, G. C. (1961). *Social behaviour: Its elementary forms*. New York: Harcourt Brace.
- Hennig-Thurau, T., & Klee, A. (1997). The impact of customer satisfaction and relationship quality on customer retention: A critical reassessment and model development. *Psychology & Marketing*, 14(8), 737-764.
- Howard, J.A., & Sheth, J. N. (1969). *The theory of buyer behaviour*. New York: John Wiley.
- Hsieh, Y., & Hiang, S. (2004). A study of the impacts of service quality on relationship quality in search-experience-credence services. *Total Quality Management and Business Excellence*, 15(1), 43-58.
- Hu, L., & Bentler, P. M. (1998). Fit indices in covariance structure modelling: Sensitivity to under parameterised model misspecification, *Psychological Methods*, 3(4), 424-453.
- Hu, L., & Bentler, P. (1999). Cutoff criteria for fit indices in covariance structure analysis: conventional criteria versus new alternatives, *Structural Equation Modelling*, 6(1), 1-55.
- Hu, Y., & McLoughlin, D. (2012). Creating new market for industrial services in nascent fields. *Journal of Services Marketing*, 26(5), 322-331.
- Humphreys, A. A., & Grayson, K. (2008). The intersecting roles of consumer and producer: A critical perspective on co-production, co-creation and prosumption. *Sociology compass*, 2(3), 963-980.
- Islam, A., Agarwal, K. N., & Ikeda, M. (2015). How do academic libraries work with their users to co-create value for service innovation? A qualitative survey. *Qualitative and Quantitative Methods in Libraries*, 4, 637-658.
- Jacoby, J., & Kyner, D.B. (1973). Brand loyalty vs. repeat purchasing behaviour. *Journal of Marketing Research*, 10(1), 1-9.
- Khalid, S. A., Abdul Rahman, N., Madar, A. S., & Ismail, M. (2013). Undergraduates' organisational citizenship behaviour: The role of religiosity. *International Journal of Academic Research in Business and Social Sciences*, 3(7), 572–584.
- Kline, R.B. (2010). *Principles and practice of structural equation modelling*.
- Lally, P., Jaarsveld, V. C. H. M., Potts, H. W. W., & Wardle, J. (2010). How are habits formed: Modelling habit formation in the real world? *European Journal of Social Psychology*, 40(6), 998–1009.
- Loudon, D. L., & Della Bitta, A. J. (1984). *Consumer behaviour: Concepts and applications*. McGraw-Hill Companies.
- Madden, T. J., Ellen, P. S., & Ajzen, I. (1992). A comparison of the theory of planned behaviour and the theory of reasoned action. *Personality and Social Psychology Bulletin*, 18(1), 3-9.

- Mahalanobis, P.C. (1936). On the generalised distance in statistics. *Proceedings of the National Institute of Sciences of India*, 2(1), 49-55.
- Mazen, A. M., Herman, S., & Ornstein, S. (2008). Professor delight: Cultivating organisational citizenship behaviour. *Journal of Management Education*, 32(5), 563–579.
- McColl-Kennedy J. R., Vargo S. L., Dagger T. S., Sweeney J. C., & Van Kasteren, Y. (2012). Health care customer value concretion practice styles. *Journal of Service Research*, 15(4), 370-389.
- Mahoney, J. T. & Pandian, J. R. (1992). The resource-based view within the conversation of strategic management. *Strategic Management Journal*, 13(5), 363-380.
- Morgan, R. & Hunt, S. (1994). The commitment-trust theory of relationship marketing. *Journal of Marketing*, 58(3), 20-38.
- Musselin, C. (2018). New forms of competition in higher education. *Socio-Economic Review*, 16, (3), 657–683.
- Neghina, C., Bloemer, J., Van Birgelen, M., &Caniëls, C.J. (2017). Consumer motives and willingness to co-create in professional and generic services. *Journal of Service Management*, 28(1), 157-181.
- Nesset, E. (2011). Satisfaction and image as mediators of store loyalty drivers in grocery retailing. *The International Review of Retail, Distribution and Consumer Research*, 21(3), 267-292.
- Nunnally, J. C., & Bernstein, I.H. (1994). *Psychometric theory*3E.McGraw-Hill.
- Obermiller, C., & Atwood, A. (2011). Commentary: In defense of the student as customer metaphor. *The International Journal of Management Education*, 9(13),13-16.
- Oertzen,A.,Odekerken-Schröder, G., Brax, S.A.&Mager, B. (2018). Co-creating services-conceptual clarification, forms and outcomes,*Journal of Service Management*, 29(4), 641-679.
- Oliver, R.L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions,*Journal of Marketing Research*, 17(11), 460-469.
- Omar, N. A., Kassim, A. S., Nazri, M. A., &Sidek, F. (2018). The Impact of Customer Value Co-Creation and Relationship Quality on Relationship Equity: Personality Traits as a Moderator. *JurnalPengurusan (UKM Journal of Management)*, 54,87-99.
- Ostrom, A., &Iacobucci, D. (1995). Consumer trade-offs and the evaluation of services. *Journal of Marketing*, 59(1), 17-28.
- Ostrom, A. L., Parasuraman, A., Bowen, D. E., Patricio, L., & Voss, C. A. (2015). Service research priorities in a rapidly changing context. *Journal of Service Research*, 18(2), 127–159.
- Parasuraman, A., Zeithaml, V.A. & Berry, L.L. (1985). A conceptual model of service quality and its implication. *Journal of Marketing*, 3(49), 41-50.
- Penrose, E. (1959). Contributions to the resource-based view of strategic management. *Journal of Management Studies*, 41(1), 183-191.
- Prentice, C. (2013). Service quality perceptions and customer loyalty in casinos. *International Journal of Contemporary Hospitality Management*, 25(1), 49-64.
- Prahalad, C. K., & Ramaswamy, V. (2000). Co-opting customer competence.*Harvard business review*, 78(1), 79-90.

- Prahalad, C.K., & Hamel, G. (1990). The core competence of the corporation. *Harvard Business Review*, 68(3), 79-91.
- Podsakoff, P.M., Mackenzie, S.B., & Podsakoff, N.P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual Review of Psychology*, 63(1), 539-569.
- Porter, L.W., Steers, R. M., Mowday, R.T., & Boulian, P.V. (1974). Organisational commitment, job satisfaction, and turnover among psychiatric technicians. *Journal of Applied Psychology*, 59(5), 603-609
- Ramaswamy, V., & Gouillart, F. (2010). Building the co-creative enterprise. *Harvard Business Review*, 88(10), 100-109.
- Ramaswamy, V., & Ozcan, K. (2014). *The Co-creation paradigm*. Stanford University Press.
- Ranjan, K. R., & Read, S. (2014). Value co-creation: Concept and measurement. *Journal of the Academy of Marketing Science*, 44(3), 290-315.
- Reisinger, Y., & Mavondo, F. (2006). Cultural differences in travel risk perception. *Journal of Travel and Tourism Marketing*, 20(1), 13-31.
- Reisinger, Y., & Waryszak, R. (1996). Catering to Japanese tourists: What service do they expect from food and drinking establishments in Australia? *Journal of Restaurant and Food Service Marketing*, 1(3/4), 53-71.
- Ribes-Giner, G., Perello-Marin, M., & Diaz, O. (2016). Co-creation impacts on student behaviour. *Procedia - Social and Behavioural Sciences*, 228, 72 – 77.
- Rojas-Mendez, J. I., Vasquez-Parraga, A.Z., Kara, A., & Cerda-Urrutia, A. (2009). Determinants of student loyalty in higher education: A tested relationship approach in Latin America. *Latin American Business Review*, 10(1), 21-39.
- Ryu, K., & Han, H. (2010). Influence of the quality of food, service, and physical environment on customer satisfaction and behavioural intention in quick-casual restaurants: Moderating role of perceived price. *Journal of Hospitality and Tourism Research*, 34(3), 310-329.
- Rauyruen, P. & Miller, K.E. (2007). Relationship quality as a predictor of b2b customer loyalty. *Journal of Business Research*, 60(1), 21-31.
- Ryzhkova, N. (2015). Does online collaboration with customers drive innovation performance? *Journal of Service Theory and Practice*, 25(3), 327-347.
- Sekaran, U. (2006). *Research methods for business: A skill building approach*. John Wiley & Sons.
- Sheeran, P. (2002). Intention-behaviour relations: a conceptual and empirical review. *European Review of Social Psychology*, 12(1), 1-36.
- Shevlin, M., & Miles, J. N. V. (1998). Effects of sample size, model specification and factor loadings on the GFI in confirmatory factor analysis. *Personality and Individual Differences*, 25(1), 85-9.
- Snijders, I., Rikers, R. M. J. P., Wijnia, L. & Loyens, S. M. M. (2017). Relationship quality time: the validation of a relationship quality scale in higher education. *Higher Education Research and Development*, 37(2), 407-417.
- Solomon, M., Surprenant, C., Czepiel, J., & Gutman, E. (1985). A role theory perspective on dyadic interactions: The service encounter. *Journal of Marketing*, 49(1), 99-111.

- Storbacka, K., Strandvik, R., & Gronroos, C. (1994). Managing customer relationship for profit: The dynamics of relationship quality. *International Journal of Service Industry Management*, 5(5), 21-38.
- Sweeney, J., Armstrong, R.W., & Johnson, L.W. (2016). The effect of cues on service quality expectations and service selection in a restaurant setting: A retrospective and prospective commentary. *Journal of Services Marketing*, 30(2), 136-140.
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* 5th edn. New York: Allyn and Bacon.
- Tari-Kasnakoglu, B. (2016). Antecedents and consequences of co-creation in credence-based service contexts. *The Service Industries Journal*, 36 (1/2), 1-20.
- Teas, R. K. (1993). Expectations, performance evaluation, and consumers' perceptions of quality. *The Journal of Marketing*, 57(4), 18-34.
- Teeroovengadam, V., Kamalanabhan, T.J., & Seebaluck, A.K. (2016). Measuring service quality in higher education: development of a hierarchical model (HESQUAL). *Quality Assurance in Education*, 24 (2), 244-258.
- Torres, E. N. (2014). Deconstructing service quality and customer satisfaction: Challenges and directions for future research. *Journal of Hospitality Marketing & Management*, 23(6), 652-677.
- Vargo, S. T., & Lusch, R. F. (2006). Service-dominant logic: reactions, reflections and refinements. *Marketing Theory*, 6(3), 281-288.
- Vargo, S. L. & Lusch, R.F. (2008). Service-Dominant logic: Continuing the evolution. *Journal of the Academy of Marketing Science*, 36(1), 1-10.
- 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.
- Verleye, K. (2015). The co-creation experience from the customer perspective: Its measurement and determinants. *Journal of Service Management*, 26(2), 321 -342.
- Weidman, J. C., Twale, D. J., & Stein, E. L. (2001). *Socialisation of graduate and professional students in higher education: A perilous passage?* San Francisco, CA: Jossey-Bass.
- Wittenbraker, J., Gibbs, B. L., & Kahle, L. R. (1983). Seat belt attitudes, habits, and behaviours: An adaptive amendment to the Fischbein model. *Journal of Applied Social Psychology*, 13(5), 406-421.
- Wong, A., & Sohal, A. (2002). An examination of the relationship between trust, commitment and relationship quality. *International Journal of Retail & Distribution Management*, 30(1), 34-50.
- Wood, W., & Neal, D.T. (2009). The habitual consumer. *Journal of Consumer Psychology*, 19(4), 579-92.
- Xu, H., Liu, Y., & Lyu, X., (2018). Customer value co-creation and new service evaluation: the moderating role of outcome quality. *International Journal of Contemporary Hospitality Management*, 30 (4), 2020-2036.
- Yli-Renko, H., Autio, E. & Sapienza, H.J. (2001). Social capital, knowledge acquisition, and knowledge exploitation in young technology-based firms. *Strategy Management Journal*, 22, 587-613.

- 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
- Zhang, L., Tong, H., Demirel, H. O., Duffy, V. G., Yih, Y., & Bidassie, B. (2015). A practical model of value co-creation in healthcare service. *Procedia Manufacturing*, 3, 200-207.
- Zikmund, W.G. (2003). *Business Research Methods*. 7th Edn, Thomson/ South-Western.