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CUSTOMER PERCEIVED VALUE AND CUSTOMER RELATIONSHIP MARKETING IN B2B AGRIBUSINESSES: A CASE OF AGROCHEMICAL MARKET IN SRI LANKA

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Abstract. This research examined the impact of customer' perceived value on CRM in Business to Business (B2B) agrochemical agribusinesses in Sri Lanka. Customer perceived value was measured by economical value, emotional value and social value based on standard 36 attributes. A total of 110 respondents including distributors and direct dealers engaged in agrochemical marketing covering all island were interviewed. Results were obtained by both descriptive and inferential statistics. Two mediating variables; customer satisfaction and customer loyalty were used to find the impact of customer perceived value on relationship marketing attributes. Findings revealed that dealers perceived slightly higher economical values than emotional values and comparatively low social values. Weaker but positive correlations were found between dealer's perceived emotional, economic and social values with their satisfaction and customer loyalty. Customer satisfaction and customer loyalty had mediating effects to the relationship of customer perceived value with CRM attributes hence with relationship marketing. The findings provide utilizable model for the agro chemical manufacturing companies to enhance dealer's perceived value that contribute to higher dealer satisfaction, loyalty hence re-purchase behaviour and long term customer retention.

Keywords: customers' perceived value, customer relationship marketing, agrochemical industry, B2B markets, customer retention, re-purchase behaviour

INTRODUCTION

At present, agribusinesses involve a range of different commercial enterprises. It includes supply of inputs to marketing of the farm produce. With commercial agriculture, agricultural inputs gained prominence and agrochemicals are of paramount importance. Agrochemicals contributes substantially to increase yield in agriculture by controlling pests and diseases. Agrochemicals are an integral part of agricultural inputs and agribusiness firms (Rosairo and Potts, 2016). Agrochemicals include inorganic fertilizers, pesticides, weedicides etc. Agribusiness firms use customer relationship marketing as a tool to improve customer loyalty in agrochemical trade. Customers are the dealers/buyers of agrochemicals from large agribusiness firms and sell back through their shops to general public. Farmers do not have direct contact with firms but through the dealers. Thus farmers have a good rapport with the dealers.

Sri Lanka has a growing market for agro chemicals which play a major role in rural agricultural production. Agrochemical business is a highly competitive industry in Sri Lanka due to the existence of large number of agrochemical companies and they are distributing hundreds of agrochemicals under different trade names. Total agrochemical trade in Sri Lanka is handled by the private sector (Vidanapathirana and Rambukwella, 2008). All the agrochemicals are marketed through a controlled

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dealer network and more than 4,000 dealers have been trained for this in Sri Lanka (Vidanapathirana and Rambukwella, 2008). Currently they have undertaken all the distribution and sales activities inside Sri Lanka. Thus this is a B2B agricultural input industry.

Pesticide market is totally run by this controlled dealer network which needs a good working partnership between the manufacturer and the distributor/dealer (B2B system). Maintaining mutual recognition and understanding between manufacturer and distributer is more important for pesticide market (Anderson and Naurus, 1990; Redaelli et al., 2015; Vázquez-Casielles et al., 2017). Delivering value in B2B systems is very much important especially in agro chemical market as it is totally handled by a huge dealer network (Vidanapathirana and Rambukwella, 2008).

Creating and delivering customer value is seen as a cornerstone of marketing and competitive strategy and relationship management (Berghman et al., 2006). So, customer perceived value is considered to be an important constituent of relationship marketing and the ability of a company to provide superior value to its customers is regarded as one of the most successful competitive strategies (Ravald and Grönroos, 1996). Multi dimensions of perceived value have been identified from Sweeney and Soutar's (2001) and Lim et al. (2006) works, which originally included four dimensions of perceived value such as quality, economic, emotional, and social values. But the work of Shoki (2012) which structures only three value dimensions such as economical, emotional and social values on the customer perceived value model, has been adapted to this study. With customer perceived value, customer satisfaction, customer loyalty, and customer retention are important to maintain a strong relationship in B2B system.

Therefore this research was conducted to determine the impact of customer perceived value on customers relationship marketing (CRM) with following specific objectives: (i) determining customers' perceived economic, emotional and social values in Business to Business marketing systems in agro chemical industry; (ii) examining the relationship of customer perceived value on mediating customer satisfaction and customer loyalty; (iii) examining the relationship of customer perceived value on long term Customer Relationship Marketing (CRM). This type of studies in agribusiness firms with regard to agrochemical have been not studied in Sri Lanka. Though agrochemical related farmer perception

studies (Bandarage, 2013; Padmajani et al., 2014; Nishantha et al., 2016; Malkanthi et al., 2019) and medical (Fernando et al., 2012; Jayasumana et al., 2014; Knipe, 2016; Kudagammana and Mohotti, 2018) studies been done in Sri Lanka, this approach itself is a new one.

RESEARCH METHODOLOGY

The research was focused on intermediaries who are the distributors and dealers involved in marketing of agrochemicals all over Sri Lanka. In order to study the impact of dealer perceived value on relationship marketing attributes such as dealer satisfaction, dealer loyalty, and dealer retention and re-purchase behaviour, distributors and dealers engaged in agrochemical marketing covering the island were interviewed. Sample consisted of 30 distributors and 80 dealers totalling up to 110 respondents. In this research deductive approach was used. Research was according to B2B marketing theory, customer relationship management theory and they were used to develop hypotheses and was tested using appropriate research strategies. Owing to the descriptive and explanatory nature of this research, descriptive-explanatory research design was considered as the most suitable research design.

Stratified proportionate random sampling technique was used to collect data and geographical areas were considered as strata which are all the 25 districts. Primary data were collected through face to face interviews with the help of a pre tested questionnaire. Data were analysed using both quantitative and qualitative methods such as descriptive statistics, regression analysis and correlation analysis.

RESULTS AND DISCUSSION

Respondents were bounded with an agrochemical company as direct dealers who sell products directly to the public and as distributors who re-sell to the sub dealers and dealers. There were two types of the relationship with the manufacturer. They are totally exclusive with the manufacturer and nottotally exclusive with the manufacturer. In totally exclusive relationships, the intermediate firm has engaged with selling particular manufacturer's products only and in the other type, intermediate firms do not want to be engaged with selling only one manufacturer's products but engaged in selling other competitors products also. This describes a certain level
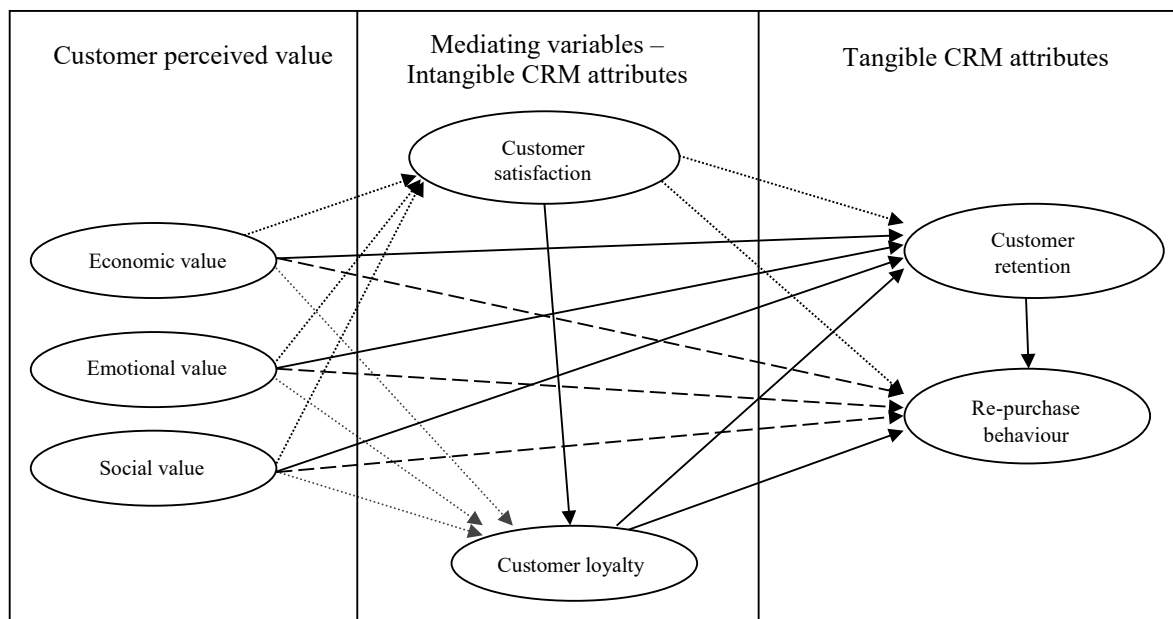
Fig. 1. Conceptual framework for the study
Source: own elaboration based on conceptualization.
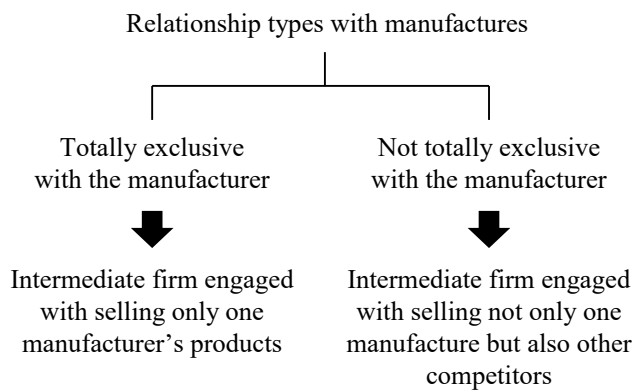
Fig. 2. Relationship types with manufacturers
Source: own elaboration based on conceptualization.

of customer loyalty towards the manufacturing firm by the dealers.

The age category of the respondents varies from less than 20 years to more than 60 years where nearly 43% of the respondents lie in between 50–60 age category. Duration of the relationship with the manufacturing firm also a valuable data which describes the relationship and convey that relationship's longevity and retention with

the manufacturer. Majority of respondents were be-longed to the 20–30 years' duration category.

Customer perceived value described by economical value, emotional value and social value. These each val-ue dimension represents different attributes. The mean values for the attributes of each value dimension repre-sent by Table 1.

Based on the mean scores of attributes of each value dimension, it can be concluded that customer's perceived economic value was at somewhat lower level (mean score of 2.30, SD 0.727). Customers' perceived emotion-al value of the mobile phone services was also at a lower level (mean score of 2.28, SD 0.691) but compared to the economic value it was slightly lower. Customers' perceived social value of the mobile phone services was also at a lower level (mean score of 2.26, SD 0.673) and when compared to other two it was the lowest value.

Although all 3 dimensions showed slightly equal values of mean scores, compared to each value they could be ranked as below (Table 02). Thus, perceived economic value on the manufacturer was somewhat higher than perceived emotional value and emotional value on the manufacturer was somewhat higher than perceived social values where social value is the least highlighted dimension.

Table 1. Mean values of attributes for economic value dimension

Factors	Mean	Factors	Mean	Factors	Mean
Timeliness of product delivery	2.28	Reliability of the products	2.01	Environment friendliness	2.37
Availability of products	2.11	Less complaints	2.06	Discount facility	3.01
Quality	1.52	High demand	2.31	Incentives	3.18
Consistent quality	1.43	Tour facilities to manufacturing companies	3.25	Credit basis payments	2.98
Time invested	2.18	Energy invested	2.27	Good sales team	1.85
Invested money is worthy	2.35	Efficacy of the products	1.97	Increased product range	1.98
Consideration of Brand image when purchasing products from manufacturer	1.84	Considerations on Brand image when selling products to consumers	1.79	Consideration of Company image when selling products to consumers	2.89
Consideration of Company image when purchasing products from manufacturer	2.56	Lower prices compared to competitors	3.02	Duration of allocated time to pay outstanding	2.87
Good after purchase service	2.19	Ability to actively involve in problem solving	2.17		

Note: The measurement of Likert scale was 1 Strongly agree and 5 Strongly disagree. Values above 2.5 mean value are disagreeing and vice versa
Source: own elaboration based on data collected.

Table 2. Mean values of attributes for emotional and social value dimensions

Emotional value factors	Mean	Emotional value factors	Mean
Trust	1.93	No losses occurred	2.30
Flexibility	2.82	Higher amount of sales	2.45
Security	2.04	Positive attitude towards the manufacturer	2.08
Pleasure	2.35	Social value factor	Mean
		Reputation	2.26

Note: The measurement of Likert scale was 1 Strongly agree and 5 Strongly disagree. Values above 2.5 mean value are disagreeing and vice versa
Source: own elaboration based on data collected.

The associations between customers' perceived values with customer satisfaction and customer loyalty were examined by using Pearson's Correlation. It can be concluded that: regarding customer satisfaction; (i) all the three values – economic, emotional and social values – were positively correlated with customers' satisfaction (at the significant level of .001); (ii) The moderate correlation has existed between emotional value and customers' satisfaction (0.624); (iii) moderate correlation has existed between economic value with customers' satisfaction (0.594); and (iv) the weakest correlation is between social value and customers' satisfaction with correlation coefficient 0.427.

Regarding customer loyalty; (i) all the three values – economic, emotional and social values – were positively correlated with customers' satisfaction (at the significant level of 0.001) but weakly correlated; (ii) A weak correlation existed between social value and customer loyalty (0.442); (iii) weak correlation has existed between emotional value with customer loyalty (0.388); and (vi) the weakest correlation is between economical value and customer loyalty with correlation coefficient

Table 3. Ranked mean scores of value dimension

Perceived value of the dealers in Agro-chemical industry	Mean scores	Standard deviation (SD)	Descriptive level of dealer's perceived values
Economic value	2.301	0.727	High
Emotional value	2.280	0.691	Moderate
Social value	2.260	0.673	Low

Source: own elaboration based on data collected.

0.377 where all three value dimensions are associated with customer loyalty but with different levels with low and moderate coefficients.

Many studies had focused on customer perceived value but fewer studies had addressed the impact of customer perceived value on relationship marketing (Ravald and Grönroos, 1996; Dovalienė and Virvilaitė, 2008; Flint et al., 1997; Wang et al., 2004; Yang and Peterson, 2004).

Mediating variables had been used in studies but very limited in B2B studies where Lam et al. (2004) had used customer satisfaction as a mediating variable on finding the relationship between customer value and customer loyalty in B2B context. They have proved that customer satisfaction played as a mediating variable which affects indirectly the relationship between customer value and customer loyalty. Further, mediating variables had been used by Tarn (1999) in his study on finding the effect of service quality on behavioral intentions which was mediated through customer satisfaction.

The results of linear regression analysis (Table 4) suggested that customer satisfaction and customer loyalty had

Table 4. The results of regression analysis and mediating effect

Dependent variables	Independent variable	R^2	Significance	Standard coefficients	Type of the effect
Retention	Economical value	0.125	0.282	0.252	Total effect C
	Emotional value	0.426	0.000*		
	Social value	–0.027	0.782		
Re-purchase behaviour	Economical value	0.075	0.524	0.221	Total effect C
	Emotional value	0.339	0.003*		
	Social value	0.144	0.148		
Customer satisfaction	Economical value	0.274	0.003*	0.472	Indirect effects
	Emotional value	0.399	0.000*		
	Social value	0.142	0.085**		
Customer loyalty	Economical value	0.087	0.452	0.256	
	Emotional value	0.214	0.051**		
	Social value	0.319	0.001*		
Retention	Customer satisfaction	0.302	0.001*	0.091	
	Customer loyalty	0.186	0.052**	0.035	
Re-purchase behaviour	Customer satisfaction	0.281	0.003*	0.079	
	Customer loyalty	0.184	0.055**	0.034	
Customer loyalty	Customer satisfaction	0.469	0.000*	0.22	
Retention	re-purchase behaviour	0.887	0.000	0.942	
Retention	Economical value	0.139	0.253	0.254	Direct effect C'
	Emotional value	0.447	0.000*		
	Social value	–0.017	0.869		
	Customer satisfaction	–0.048	0.691		
	Customer loyalty	–0.01	0.924		
Re-purchase behaviour	Economical value	0.095	0.441	0.225	Direct effect C'
	Emotional value	0.372	0.003*		
	Social value	0.166	0.117		
	Customer satisfaction	–0.059	0.632		
	Customer loyalty	–0.042	0.682		

Source: own elaboration based on data collected.

mediating effectsto the relationship of customer perceived value with CRM attributes hence with relationship marketing. The results suggested that perceived value had both direct and indirect effects on CRM attributes.

CONCLUSION

Customer perceived value had long attracted the interests of many researchers because of its significance in influencing the relationship marketing but very limited attraction has given on this concept in B2B markets. In consistent with prior studies, this study showed that customer perceived value is a significant determinant of CRM attributes such as customer retention and customer's re-purchase behavior intentions. Although, customer perceived value alone may not be sufficient to generate repeat purchases and retention, but customer satisfaction and loyalty towards the manufacturer as mediators. So, this study revealed that customer perceived value has an impact on CRM attributes such as customer retention and customers' re-purchase behavior with direct and indirect effects due to mediating variables which are customer satisfaction and customer loyalty. The findings provide utilizable model for the agro chemical manufacturing companies to enhance dealer's perceived value that contribute to higher dealer satisfaction, loyalty hence re-purchase behaviour and long term customer retention.

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REFERENCES

Anderson, J. C., Narus, J. A. (1984). A model of the distributor's perspective of distributor-manufacturer working relationships. J. Market., 48(4), 62–74.

Anderson, J. C., Narus, J.A. (1990). A model of the distributor firm and manufacturer firm working relationships J. Market., 54, 42–58.

Bandarage, A. (2013). Political economy of epidemic kidney disease in Sri Lanka. Retrieved from: https://journals. sagepub.com/doi/pdf/10.1177/2158244013511827

Berghman, L., Matthyssens, P., Vandenbempt, K.(2006). Building competences for new customer value creation: An exploratory study. Ind. Market. Manag., 35, 961–973.

Callarisa Fiol, L. J., BigneAlcaniz, E., Moliner Tena, M. A. and García, J. S. (2009). Customer loyalty in clusters: Perceived value and satisfaction as antecedents. J. Bus. Bus. Market., 16(3), 276–316.

Dovalienė, A., Virvilaitė, R. (2008). Customer value and its contribution to the longevity of relationship with service provider: the case of theatre industry. Eng. Econ., 56(1).

Evans, J. R., Laskin, R. L.(1994). The relationship marketing process: A conceptualization and application. Ind. Market. Manag., 23(5), 439–452.

Fernando, A., Paranagama, P.A., Jayalath, K, Fonseka, S., Amarasinghe, M., Senanayeke, K., Jayasumana, C., Mahamithawa, P., Wijewardhane, C., Samarasinghe, D., Dahanayake, K. (2012). Determination of Arsenic content in synthetic and organic manure based fertilizers available in Sri Lanka. In: Proceedings of the International Conference on Chemical Sciences (pp. 129–134). Colombo, Sri Lanka: Institute of Chemistry Ceylon.

FAO (Food and Agriculture Organization) (2002). International code of conduct on the distribution and use of pesticides. Roma: FAO.

Flint, D. J., Woodruff, R. B., Gardial, S. F.(1997). Customer value change in industrial marketing relationships: a call for new strategies and research. Ind. Market. Manag., 26(2), 163–175.

Ganesan, S. (1994). Determinants of long-term orientation in buyer-seller relationships. J. Market., 58, 1–19.

Gronroos, C. (1990). Relationship approach to marketing in service contexts: The marketing and organizational behaviour interface. J. Bus. Res., 20(1), 3–11.

Jayasumana, C., Gunatilake, S., Senanayake, P. (2014). Glyphosate, hard water and nephrotoxic metals: Are they the culprits behind the epidemic of chronic kidney disease of unknown etiology in Sri Lanka? Int. J. Environ. Res. Public Health, 11, 2125–2147.

Knipe, D. W. (2016). Pesticide exposure in Sri Lanka. Int. J. Epid., 45(2), 327–332. doi:10.1093/ije/dyv369

Kudagammana, S. T., Mohotti, K. (2018). Environmental exposure to agrochemicals and allergic diseases in pre-school children in high grown tea plantations of Sri Lanka. Allergy, asthma, and clinical immunology. Offic. J. Canad. Soc. Allergy Clinic. Immun., 14, 84. doi:10.1186/s13223–018–0308-z

Lam, S. Y., Shankar, V., Erramilli, M. K., Murthy, B. (2004). Customer value, satisfaction, loyalty, and switching costs:

an illustration from a business-to-business service context. J. Acad. Market. Sci., 32(3), 293–311.

Liljander, V., Strandvik, T. (1995). The nature of customer relationships in services. Adv. Servic. Market. Manag., 4(141), 67.

Lim, H., Widdows, R., Park, J. (2006). M-loyalty: winning strategies for mobile carriers. J. Consum. Market., 23(4), 208-218.

Malkanthi, S. H. P., Sandareka, U. G., Wijerathne, A. W., Sivashankar, P. (2019). Banning of Glyphosate and its Impact on Paddy Cultivation: A study in Ratnapura District in Sri Lanka. J. Agric. Sci., 14(2), 129–144. DOI: http://doi.org/10.4038/jas.v14i2.8515

Monroe, K. B. (1990). Pricing: Making profitable decisions. New York: McGraw-Hill.

Nishantha, K. M. D. W. P., Sandika, A. L., Babu, A. G. C., Hettiarachchi, H. A. S. N., Pushpanjali, K., Abeytilakeratna, P. D., Nugaliyadde, M. M. (2016). Farmers' knowledge and attitudes on pesticide usage in vegetable cultivation in Sri Lanka. Tropic. Agric. Res. Ext., 19(2), 244–252. DOI: http://doi.org/10.4038/tare.v19i2.5350

Olaru, D., Purchase, S., Peterson, N. (2008). From customer value to repurchase intentions and recommendations. J. Bus. Ind. Market., 23(8), 554–565.

Padmajani, M. T., Aheeyar, M. M. M., Bandara, M. M. M. (2014). Assessment of Pesticide Usage in Up-Country Vegetable Farming in Sri Lanka, HARTI Research Report No: 164. Colombo, Sri Lanka: Hector Kobbekaduwa Agrarian Research and Training Institute.

Patterson, P. G., Spreng, R. A. (1997). Modelling the relationship between perceived value, satisfaction and repurchase intentions in a business-to-business, services context: An empirical examination. Int. J. Serv. Ind. Manag., 8(5), 414–434.

Pokharel, B. (2011). Customer relationship management: Related theories, challenges and application in banking sector. Bank. J., 1(1), 19–28.

Redaelli, E. J., Paiva, E. L., Teixeira, R. (2015). The relationship between manufacturer and distributors: knowledge transfers and performance. Brazil. Admin. Rev., 12(4), 421–441.

Ravald, A., Grönroos, C. (1996). The value concept and relationship marketing. Eur. J. Market., 30(2), 19–30.

Rojas, L. (2012). International pesticide market and regulatory profile Wcrop chemicals. Retrieved from: http// wcropchemicals.com/2016/01/10/pesticide-regulatory-profile/

Rosairo, H. S. R., Potts, D. J. (2016). A study on entrepreneurial attitudes of upcountry vegetable farmers in Sri Lanka. J. Agribus. Dev. Emerg. Econ., 6(1), 39–58.

Shoki, M., Fen, H., Ismail, K. (2012). Relationship between Customers' Perceived Values, Satisfaction and Loyalty of Mobile Phone Users. Rev. Integ. Bus. Econ. Res., 1(1), 126–135.

Sirdeshmukh, D., Singh, J., Sabol, B.(2002). Consumer trust, value, and loyalty in relational exchanges. J. Market., 66(1), 15–37.

Sweeney, J. C., Soutar, G. N.(2001). Consumer perceived value: The development of a multiple item scale. J. Retail., 77(2), 203–220.

Tarn, J. L. M. (1999). The effects of service quality, perceived value and customer satisfaction on behavioral intentions. J. Hospit. Leis. Market., 6(4), 31–43.

Uddin, M. A. (2012). Factors responsible to dealers' satisfaction: A study on Partex furniture industries Ltd. World, 2(5).

Ulaga, W., Chacour, S. (2001). Measuring customer-perceived value in business markets. Ind. Market. Manag., 30(6), 525–540.

Vázquez-Casielles, R., Iglesias, V., Varela-Neira, C. (2017). Manufacturer–distributor relationships: role of relationship-specific investment and dependence types. J. Bus. Ind. Market., 32(8), 1245–1260.

Vidanapathirana, R., Rambukwella, R. (2008). An analysis of price margins of agro-chemicals. Working Paper no. 03

Vaikunthavasan, S.(2011). The impact of customer perceived value on customer satisfaction: An empirical study in Bank of Ceylon.

Wang, Y., Po Lo, H., Chi, R., Yang, Y. (2004). An integrated framework for customer value and customer-relationship-management performance: a customer-based perspective from China. Manag. Serv. Qual.: Int. J., 14(2/3), 169–182.

Yang, Z., Peterson, R. T.(2004). Customer perceived value, satisfaction, and loyalty: The role of switching costs. Psychol. Market., 21(10), 799–822.

Zeithaml, V. A. (1988). Consumer perceptions of price, quality, and value: a means-end model and synthesis of evidence. J. Market. 52(3), 2–22.