ISSN 1392-2785 ENGINEERING ECONOMICS. 2006. No 4 (49)
COMMERCE OF ENGINEERING DECISIONS

Study of Relationship Quality Dimensionality in the Parcel Delivery Services Market

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The article is organized in five parts. First part is introduction. In this part the research problem, the aim of this work and objectives are formulated. The aim of this work is as follows: after having analyzed an integrative model of determinants of key relationship marketing outcomes, to perform confirmatory factor analysis of the scale in order to assess if the same dimensions structure exists for parcel delivery services. The objectives of this work are: 1) to analyze T. Hennig-Thurau et al. (2002) model of determinants of key relationship outcomes, 2) to do survey of Lithuanian parcel delivery services consumers and to measure relationship quality using this instrument, 3) to perform confirmatory factor analysis in order to determine if dimensions structure of the model is the same for Lithuanian parcel delivery services. The problem solved in this paper is as follows: an integrative model of determinants of key relationship marketing outcomes was developed using a wide variety of services to expand the generalization therefore it is possible to examine context-specific relationships of a single service type. Moreover, it is not known if the same relationship quality dimensions exist in other than North-American cultural context such as Lithuanian culture.

In the second part of this article relationship quality model suggested by T. Hennig-Thurau et al. (2002) is analyzed and research hypotheses are formulated. Hypotheses are formulated in order to test relationships between dimensions and their discriminant validity.

In the third part of this work research methods are described. Confirmatory factor analysis process is analyzed.

In the fourth part of this article the results of study are analyzed. Various goodness of fit statistics such as degrees of freedom and chi-square test, RMSEA, NFI, NNFI, PNFI, CFI, IFI, RFI, standardized RMR, GFI, AGFI, PGFI, D^2, Fornell-Larcker test is analyzed in order to accept or reject hypotheses and to assess relationships between dimensions and discriminant validity of these dimensions. Nested models are compared with the original model and differences in goodness of fit statistics are examined. In the fifth part of this work final conclusions are formulated about model's reliability and validity in parcel delivery services setting.

Keywords: *relationship quality, confirmatory factor analysis, relationship marketing.*

Introduction

Relationship marketing concept first was mentioned by L. Berry (1983) and now this concept is in vogue, maybe more than ever (T. Hennig-Thurau *et al*., 2002). Marketing transition from transactional marketing to relationship marketing lasted past two decades (M. Christopher, A. Payne, D. Ballantyne, 2002; I. Gordon, 1998; E. Gummesson, 2003; T.Hennig-Thurau, 2000; R. Varey, 2002; R. Virvilaitė *et al.*, 2003). Ch. Grönroos (1997, 2001) explains the role and scope of relationship marketing as identifying and establishing, maintaining and enhancing customer relationships and points out that the process of marketing includes the following:

- Market research to identify potentially interesting and profitable customers to contact.
- Establishing the first contact with a customer so that the relationship emerges.
- Maintaining an existing relationship so that the customer is satisfied with the quality and the value he or she judges to have received and is willing to continue business.
- Enhancement of ongoing relationship so that the customer decides to expand the content of the relationship by purchasing larger quantities types service or goods.
- Sometimes terminating a relationship or coping when a customer decides to discontinue the relationship, in such a manner that the relationship can be reestablished in the future under different circumstances.

Finally Ch. Grönroos (2001) defines a relationship marketing "as a social process oriented to establish, maintain, enhance and when necessary also to terminate relationships with customers and other stakeholders, at a profit so that the objectives of all parties are met. This is achieved by a mutual exchange and fulfillment of promises".

T. Hennig-Thurau *et al*. (2002) explains that "the key goal of relationship marketing is the identification of key drivers that influence important behavioral outcomes for the firm and a better understanding of the causal relationships between these drivers and outcomes". R. Brodie *et al.* (2003) points out that firms are realizing that the intangible aspects of a relationship are not easily duplicated by competitors thus providing sustainable competitive advantage for the firm. Companies need instruments to assess relationship quality between company and customers. However, service quality models have serious weaknesses, because these instruments often are limited to evaluation of a service episode and are static (T. Palaima et al., 2006; Ch. Grönroos, 2001; V. Liljander et al., 1995). Relationship marketing paradigm requires dynamic approach, which could help to assess services quality in the long-term perspective along with other

relationship quality dimensions.

In relation to marketing literature there are several methodologies and instruments to measure relationship quality. These models contributed very much to relationship marketing theory, but also every of these models have some limitations:

The relationship quality based student Loyalty model (T. Hennig-Thurau, F. Langer, U. Hansen, 2001). The main limitation of this model is that it is a service industry specific model. This model measures relationship quality of university services users. It's impossible to use this model in the parcel delivery company.

An integrative model of determinants of key relationship marketing outcomes (T. Hennig-Thurau *et al.*, 2002). The main limitations of this model are:

- Wide variety of services used does not allow testing context-specific relationships.
- Model was tested only in North American culture. It is not known if the same dimensions exist in other cultures.
- Cross sectional nature of data only allows for correlation, rather than causal, inferences to be made.

Relationship quality model (R. Brodie *et al.*, 2003). This model is based more on the SERVQUAL dimensions model with some additional relationship quality dimensions. Moreover the amount of loyalty variance explained by these relationship quality dimensions is not reported. So it is not known how this scale is effective in comparison with SERQUAL scale.

Literature analysis revealed that the first model is more promising for assessment of relationship quality and future development, but there is a scientific problem:

The research problem. Does the structure of an integrative model of determinants of key relationship marketing outcomes (T. Hennig-Thurau *et al.* 2002) exist in parcel delivery services market?

The aim of this work. After having analyzed an integrative model of determinants of key relationship marketing outcomes, to perform confirmatory factor analysis of the scale in order to assess if the same dimensions structure exists for parcel delivery services.

The objectives of this work are: 1) To analyze T. Hennig-Thurau model of determinants of key relationship outcomes, 2) To do survey of Lithuanian parcel delivery services consumers and to measure relationship quality using this instrument, 3) To perform confirmatory factor analysis in order to determine if dimensions structure of the model is the same for Lithuanian parcel delivery services.

The research object is relationship quality of Lithuanian parcel delivery services customers.

Research methods used: web-based survey, exploratory factor analysis, confirmatory factor analysis.

The analysis of an integrative model of the key relationship outcomes and hypotheses formulation

The model is presented in Figure. In the model there are seven dimensions of relationship quality: confidence benefits, social benefits, special treatment benefits, satisfaction, commitment, word of mouth and loyalty.

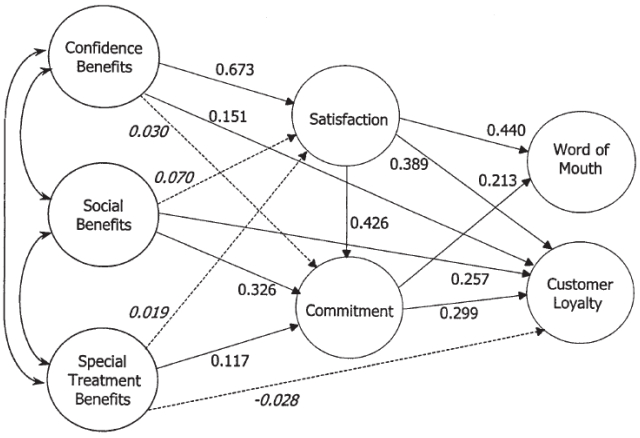

Figure. An integrative model of determinants of key relationship outcomes (T. Hennig-Thurau *et al.*, 2002).

Satisfaction in this model is dimension, which has strongest impact on customer loyalty and word of mouth. R. Rust *et al.* (1996) agrees with antecedent of loyalty.

R. Bennett *et al.* (2004) explains that the summary of satisfaction research is predominantly consumer oriented rather then taking place in business-to-business settings. Finally, the main three key issues are formulated regarding satisfaction and loyalty:

- Satisfaction and loyalty are related constructs.
- There are moderating factors for the relationship.
- The methodology influences outcome of the research.

R. Bennett *et al.* (2004) points out that that some studies concluded that both satisfaction and loyalty items are capturing the same construct. Furthermore, the authors explain that researchers achieving high levels of association and strong positive relationships should examine both convergent and discriminant validity amongst all constructs in a study, rather than assuming that constructs are distinct.

Based on these arguments the following hypotheses are formulated:

Hypothesis $H1_{SA/WM}$*:* Satisfaction and word of mouth are related constructs in business-to-business parcel delivery services setting.

Hypothesis $H1_{SA/LO}$*:* Satisfaction and loyalty are related constructs in a business-to-business parcel delivery services setting.

Hypothesis $H2_{SA/WM}$*:* Satisfaction and word of mouth are discriminant constructs in business-to-business parcel delivery services setting.

Hypothesis $H2_{SA/LO}$*:* Satisfaction and loyalty are discriminant constructs in a business-to-business parcel delivery services setting.

T. Hennig-Thurau *et al.* (2002) explains that commitment is seen as a focal relationship constructs preceding a customer's relational behaviors. V. Liljander and T. Strandvik (1995) define commitment as "the parties' intentions to act and their attitude towards interacting with each other". R. Morgan and S. Hunt (1994) explain that loyalty, which is based on positive commitment, indicates a stronger relationship.

Based on these arguments the following hypotheses are formulated:

Hypothesis $H1_{CO/WM}$*:* Commitment and word of mouth are related constructs in business-to-business parcel delivery services setting.

Hypothesis $H1_{CO/LO}$*:* Commitment and loyalty are related constructs in business-to-business parcel delivery services setting.

Hypothesis $H2_{CO/WM}$*:* Commitment and word of mouth are discriminant constructs in a business-to-business parcel delivery services setting.

Hypothesis $H2_{CO/LO}$*:* Commitment and loyalty are discriminant constructs in a business-to-business parcel delivery services setting.

According *to* T. Hennig-Thurau *et al.* (2002) and K. Gwinner *et al.* (1998) *Social benefits* focus on relationship itself rather than on the outcome. The authors suggest that social benefits are positively related to *commitment* to the relationship. Based on this argument and other arguments provided by R. Bennett *et al.* (2004) the following hypotheses are formulated:

Hypothesis $H1_{SB/CO}$*:* Social benefits and commitment are related constructs in business-to-business parcel delivery services setting.

Hypothesis $H2_{SB/CO}$*:* Social benefits and commitment are discriminant constructs in business-to-business parcel delivery services setting.

According to T. Hennig-Thurau *et al.* (2002), trust and confidence benefits play a key role in the relationship quality and the relationship benefits approaches. In the model these two constructs are combined into one single construct. In order to determine convergent and discriminant validity of these constructs the following hypotheses are formulated:

Hypothesis $H1_{CB/CO}$*:* Confidence benefits and commitment are related constructs in business-to-business parcel delivery services setting.

Hypothesis $H2_{CB/CO}$*:* Confidence benefits and commitment are discriminant constructs in business-to-business parcel delivery services setting.

From Figure we can see that there exists relationship between confidence benefits and customer loyalty. These constructs are related. Based on the arguments provided by R. Bennett *et al.* (2004) we will formulate the following hypotheses:

Hypotheses $H1_{CB/LO}$*:* Confidence benefits and loyalty are related constructs in business-to-business parcel delivery services setting.

Hypotheses $H1_{CB/WM}$*:* Confidence benefits and word of mouth are related constructs in a business-to-business parcel delivery services setting.

Hypotheses $H2_{CB/LO}$*:* Confidence benefits and loyalty are discriminant constructs in business-to-business parcel delivery services setting.

Hypotheses $H2_{CB/WM}$*:* Confidence benefits and word of mouth are discriminant constructs in a business-to-business parcel delivery services setting.

Path loading connecting social benefits and loyalty (see Figure) shows that there exists relationship between constructs. The following hypotheses are formulated:

Hypothesis $H1_{SB/WM}$*:* Social benefits and word of mouth are related constructs in business-to-business parcel delivery services setting.

Hypothesis $H2_{SB/WM}$*:* Social benefits and word of mouth are discriminant constructs in business-to-business parcel delivery services setting.

From Figure it is not known if there exists the relationship between social benefits and confidence benefits. In order to test relationship between two constructs and discriminant validity the following hypotheses were formulated:

Hypothesis $H1_{SB/CB}$*:* Social benefits and confidence benefits are related constructs in business-to-business parcel delivery services setting.

Hypothesis $H2_{SB/CB}$*:* Social benefits and confidence benefits are discriminant constructs in business-to-business parcel delivery services setting.

Finally, in order to determine if loyalty and word-of-mouth are related constructs and discriminant constructs we will test the following hypotheses:

Hypothesis $H1_{LO/WM}$*:* Loyalty and word-of-mouth are related constructs in business-to-business parcel delivery services setting.

Hypothesis $H2_{LO/WM}$*:* Loyalty and word-of-mouth are discriminant constructs in business-to-business parcel delivery services setting.

Description of research methods used

The primary objective of CFA is to determine the ability of a predefined factor model to fit an observed set of data.

Some common uses of CFA are to:

- Establish the validity of a single factor model.
- Compare the ability of two different models to account for the same set of data.
- Test the significance of specific factor loadings.
- Test whether a set of factors are correlated or uncorrelated.
- Assess the convergent and discriminant validity of a set of measures.

Confirmatory factor analysis was performed using six basic steps (T. Brown, 2006):

1. **Definition of the factor model**. This involves selecting the number of factors, and defining the nature of the loadings between the factors and the measures. These loadings fixed at a zero, or at other constant values, allowed to vary freely, or be allowed to vary under specified constraints (such as being equal to another loading in the model). Factor model was defined based on the results of the research done by T. Hennig-Thurau *et al.* (2002). The factor structure and indicators are identical to an integrative model of determinants of key relationship marketing outcomes (see Figure).
2. **Collection of measurement.** Respondents were selected using the database of parcel delivery services customers. The population was business-to-business

parcel delivery services customers, who were active services users in the past 6 months and bought services for more than 200 Lt. A total sample of 200 responses was collected. According to Kline (2005), sample size can be considered as small, medium and large when N values are less than 100, between 100 and 200, and more than 200, accordingly.
Web-based interactive survey was used to collect responses. All questions in the questionnaire were set as required in order to avoid missing values and maximum likelihood estimation problems described by A. Diamantopoulos and A. Siguaw (2005). Firstly, respondents were selected from database. Secondly, e-mails were sent asking customers to participate in survey. Thirdly, the responses collected to interned-based database. Finally, in the end of survey the responses were exported to SPSS to code and perform clearing.

3. **Obtaining correlation matrix**. From SPSS database data was imported to LISREL software. Then correlation matrix was generated.
4. **Fit the model to the data**. Estimates of factor loading were obtained using maximum likelihood estimation.
5. **Evaluate model adequacy and fit**. To evaluate the model fit various fit indicators suggested by A. Diamantopoulos and A, Siguaw (2005), R. Kline (2005), E. Kelloway (1998) and B. Byrne (1998) were used. Namely, degrees of freedom and chi-square test, RMSEA, NFI, NNFI, PNFI, CFI, IFI, RFI, standardized RMR, GFI, AGFI, PGFI.
6. **Comparison with other models**. The discriminant validity between all dimensions was checked by constraining pairing to 1 and examining the change in model fit. Different models and their fit indicators were examined.

Analysis of results

Confirmatory factor analysis model structure, latent variables and their indicators are provided in Table 1. Confirmatory factor model consists of seven latent variables and seventeen indicators. Seven relationship quality dimensions are tested. Namely, special treatment benefits, social benefits, confidence benefits, commitment, loyalty and word-of-mouth.

Table 1

CFA model dimensions and questionnaire items

Question code	Latent variable code	Relationship quality dimension measured	Questionnaire item
K11.3	ST	Special treatment benefits	Your company has higher priority than other clients.
K11.4	ST	Special treatment benefits	Your company receives better services than other clients.
K11.5	ST	Special treatment benefits	Your company receives special discounts or proposals which other companies don't receive.
K12.1	SB	Social benefits	You are recognized by employees of parcel delivery company.
K12.2	SB	Social benefits	You enjoy certain social aspects of the relationship
K12.3	SB	Social benefits	You have good relationships with this company
K12.4	SB	Social benefits	You know the personnel of this company.
K13.2	CB	Confidence benefits	You know what to expect from this company
K13.3	CB	Confidence benefits	Personnel of this company are perfectly honest and truthful.
K13.4	CB	Confidence benefits	You can fully rely on this company personnel
K13.5	COM	Commitment	Relationships with this parcel delivery company are very important to your company.
K13.6	COM	Commitment	Relationships with this parcel delivery company deserve your maximum effort to be maintained.
K14.1	LO	Loyalty	Your company will use X company's parcel delivery services in the future.
K15.1	WO	Word-of-mouth	Your company will say positive things about this parcel delivery company.
K15.2	WO	Word-of-mouth	If somebody asks you about services of this company, you will recommend using these services.
K15.3	WO	Word-of-mouth	If somebody told you that this company is bad, you would try to prove that it is not true.
K7.1	SA	Satisfaction	Overall, I'm satisfied with this company.

Model fit was evaluated using goodness of fit statistics calculated by LISREL (see Table 2). Firstly, model parameters are estimated in which all the parameters between latent variables are allowed to vary freely. Then model's fit was assessed. In Table 2 are provided nearly all fit statistics calculated by LISREL, but A. Diamantopoulos and A. Siguaw (2005) explains that "Chi-square test used in conjunction with the RMSEA, ECVI, standardized RMR, GFI and CFI indices should be more than sufficient to reach an informal decision concerning the model's overall fit". Discriminant validity of constructs was performed using Fornell and Larcker (1981) test and D^2 test suggested by A. Diamantopoulos and A. Siguaw (2005). Composite reliability and average variance extracted are tested too to see if in literature suggested thresholds are exceeded (R. Bagozzi and Y. Yi, 1988).

In the first row of Table 2 and Table 3 are provided goodness of fit statistics of original illustrative model, which later will be compared to nested models testing formulated hypotheses. The goodness of fit index GFI is reasonably good 0.86 and almost reaches the threshold suggested in literature (A. Diamantopoulos and A. Siguaw, 2005). RMSEA is 0.09 and indicates mediocre fit (K. Jöreskog and D. Sörbom, 1997). Standardized root mean square residual is 0.054 and indicates acceptable fit. AGFI is bellow suggested threshold but PGFI is above. PGFI index takes into account model's complexity.

Comparative fit index is very high (0.97) and exceeds

suggested threshold. NFI (0.95) and NNFI (0.96) demonstrate good relative fit.

Constructs reliability and average variance extracted were calculated using formula suggested by (A. Diamantopoulos and A. Siguaw, 2005). The following results were obtained (first number in brackets is construct reliability and second is an average variance extracted): special treatment benefits (0.89; 074); social benefits (0.86; 0.62), confidence benefits (0.90; 0.77), commitment (0.91; 0.84), word-of-mouth (0.91; 0.77). All the number exceeds minimum thresholds and demonstrates high reliability and high amount of variance extracted.

Now in order to test formulated hypotheses nested models will be compared to this original model and goodness of fit changes will be examined.

In Table 3 standardized correlation coefficients between different constructs are provided (R). Hypotheses are sorted by correlation descending and will be tested in this order because dimensions with strong positive relationships are more likely to be not discriminant and therefore need to be tested first of all (R. Bennett *et al.*, 2004; R. Kline, 2005).

$H1_{CB/CO}$; $H2_{CB/CO}$. The strongest relationship (0.8) exists between confidence benefits and commitment therefore hypothesis *$H1_{CB/CO}$* is accepted. To test if these dimensions are discriminant the relationship between these variables was constrained to 1.0 and then changes in model's fit were examined. D^2 test, RMSEA, NNFI, CFI, IFI, RFI, standardized RMR, GFI and PGFI indicates loss in model's fit (see Table 2 and Table 3). Standardized RMR is very large and exceeds suggested thresholds. Fornell-Larcker test has been passed. Confidence benefits and commitment are discriminant constructs therefore hypotheses *$H2_{CB/CO}$* are accepted.

Table 2

Goodness of fit statistics

Hypothesis is tested	Degrees of freedom	Normal theory weighted Least Squares Chi-Square	Minimum function Chi-Square	D^2 test	RMSEA	90% confidence interval for RMSEA	NFI	NNFI
	100	246.71	279.84		0.091	0.077; 0.11	0.95	0.96
$H1_{CB/CO}$; $H2_{CB/CO}$	101	265.51	313.91	18.8	0.096	0.082; 0.11	0.95	0.95
$H1_{SB/CO}$; $H2_{SB/CO}$	101	269.39	333.42	22.68	0.097	0.083; 0.11	0.94	0.95
$H1_{CO/WM}$; $H2_{CO/WM}$	101	249.89	287.08	3.18	0.092	0.077; 0.11	0.95	0.96
$H1_{LO/WM}$; $H2_{LO/WM}$	101	274.85	296.11	28.14	0.099	0.085; 0.11	0.95	0.96
$H1_{CB/WM}$; $H2_{CB/WM}$	101	252.98	288.29	6.27	0.092	0.078; 0.11	0.95	0.96
$H1_{SB/WM}$; $H2_{SB/WM}$	101	253.25	296.22	6.54	0.093	0.078; 0.11	0.95	0.96
$H1_{SB/CB}$; $H2_{SB/CB}$	101	273.12	330.69	26.41	0.098	0.084; 0.11	0.95	0.95
$H1_{CO/LO}$; $H2_{CO/LO}$	101	247.39	282.09	0.68	0.091	0.076; 0.11	0.95	0.96
$H1_{CB/LO}$; $H2_{CB/WM}$	101	247.94	282.13	1.23	0.091	0.077; 0.11	0.95	0.96
$H1_{SA/WM}$; $H2_{SA/WM}$	101	247.32	280.31	0.61	0.091	0.076; 0.11	0.95	0.96
$H1_{SA/LO}$; $H2_{SA/LO}$	101	246.7	279.84	-0.01	0.091	0.076; 0.10	0.95	0.96

Table 3

Goodness of fit statistics

Hypothesis is tested	PNFI	CFI	IFI	RFI	Standardized RMR	GFI	AGFI	PGFI	R	R^2	Average variance extracted	Fornell Larcker test
	0.7	0.97	0.97	0.94	0.054	0.86	0.78	0.56				
$H1_{CB/CO}$; $H2_{CB/CO}$	0.7	0.96	0.95	0.93	0.27	0.84	0.76	0.56	0.830	0.689	0.809621	Passed
$H1_{SB/CO}$; $H2_{SB/CO}$	0.7	0.96	0.96	0.93	0.35	0.84	0.76	0.55	0.690	0.476	0.737447	Passed
$H1_{CO/WM}$; $H2_{CO/WM}$	0.71	0.97	0.97	0.94	0.13	0.85	0.78	0.56	0.790	0.624	0.811622	Passed
$H1_{LO/WM}$; $H2_{LO/WM}$	0.71	0.97	0.97	0.93	0.17	0.85	0.77	0.56	0.790	0.624		
$H1_{CB/WM}$; $H2_{CB/WM}$	0.71	0.97	0.97	0.94	0.13	0.85	0.78	0.56	0.710	0.504	0.699596	Passed
$H1_{SB/WM}$; $H2_{SB/WM}$	0.71	0.97	0.97	0.93	0.19	0.85	0.77	0.56	0.680	0.462	0.699596	Passed
$H1_{SB/CB}$; $H2_{SB/CB}$	0.7	0.96	0.96	0.93	0.34	0.84	0.75	0.55	0.670	0.449	0.697596	Passed
$H1_{CO/LO}$; $H2_{CO/LO}$	0.71	0.97	0.97	0.94	0.076	0.86	0.78	0.57	0.640	0.410		
$H1_{CB/LO}$; $H2_{CB/WM}$	0.71	0.97	0.97	0.94	0.075	0.86	0.78	0.57	0.610	0.372		
$H1_{SA/WM}$; $H2_{SA/WM}$	0.71	0.97	0.97	0.94	0.055	0.86	0.78	0.57	0.300	0.090		
$H1_{SA/LO}$; $H2_{SA/LO}$	0.71	0.97	0.94	0.94	0.055	0.86	0.79	0.57	0.250	0.063		

$H1_{SB/CO}$; $H2_{SB/CO}$. Social benefits and commitment are constructs which have a very strong correlation (0.69) therefore hypothesis $H1_{SB/CO}$ is accepted (see Table 2).

From test D^2 we see that fit of this nested model is decreased. Other indicators suggest the same result (see Table 2 and Table 3). Standardized RMR is extremely large. Fornell-Larcek test has been passed. Hypotheses $H2_{SB/CO}$ are accepted.

$H1_{CO/WM}$; $H2_{CO/WM}$. Commitment and word-of-mouth are positively related constructs, standardized correlation coefficient is high (0.79) therefore hypotheses $H1_{CO/WM}$ are accepted. D^2 test does not indicate significant increase, but standardized RMR increased while CFI decreases from 97 to 96. This indicates some loss of fit. Fornell-Larcker test indicates too that these constructs are discriminant therefore hypotheses $H2_{SB/CO}$ are accepted.

Correlation coefficient R shows (Table 3) that all other pairs of constructs hypothesized to be related constructs are related. Relationship strength varies from social benefits and commitment being the most related constructs (0.83) to satisfaction and loyalty being the least related constructs (0.25) therefore, we can conclude that $H1_{LO/WM}$, $H1_{CB/WM}$, $H1_{SB/WM}$, $H1_{SB/CB}$, $H1_{CO/LO}$, $H1_{CB/LO}$, $H1_{SA/WM}$, $H1_{SA/LO}$ are accepted. Goodness of fit statistics of all other nested models indicates loss of fit therefore $H2_{LO/WM}$, $H2_{CB/WM}$, $H2_{SB/WM}$, $H2_{SB/WM}$, $H2_{SB/CB}$, $H2_{CO/LO}$, $H2_{CB/LO}$, $H2_{SA/WM}$, $H2_{SA/LO}$ are accepted.

Conclusions

1. Analysis of an integrative model of determinants of key relationship marketing outcomes suggested by T. Hennig-Thurau *et al.* (2002) revealed that it is the most promising model because it integrates nearly all the most important relationship quality dimensions suggested by different authors in scientific literature. Also some model's limitations were identified. Analysis revealed that variety of services used does not allow identifying context specific relationships. Moreover, it is not known if the same dimensions exist in different culture or in different service type.
2. The results of confirmatory factor analysis revealed that there exist seven relationship quality dimensions in parcel delivery services setting: social benefits, confidence benefits, special treatment benefits, commitment, loyalty and word of mouth. While testing formulated hypotheses it is revealed that despite existence of constructs with strong positive relationship, all the constructs are discriminant in parcel delivery services setting. Discriminant validity of relationship quality dimensions was double-tested by chi-square and Fornell-Larcker test and both tests indicated that constructs are discriminant. Moreover, construct reliability and average variance extracted are tested and results have shown that all the constructs are reliable and with a high average variance extracted. Finally, we can conclude that relationship quality measurement scale suggested by T. Hennig-Thurau *et al.* (2002) is a valid and reliable scale suitable for relationship quality measurement in parcel delivery services.

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Santykių kokybės dimensijų tyrimas greitųjų siuntų pristatymo rinkoje

Santrauka

Santykių marketingo koncepcija, pirmą kartą paminėta L.Berry, (1983) ir iki šiol yra aktuali (Hennig-Thurau ir kt., 2002). Teigiama, kad marketingo paradigmos pokyčiai iš sandorių marketingo į santykių jau tęsiasi 20 metų (Christopher, Payne, Ballantyne, 2002). Pasak

Grönroos (2002), santykių marketingas apima tokius aspektus: marketingo tyrimus, kontakto su vartotojais užmezgimą, santykių išlaikymą per pasitenkinimą ir kokybę, santykių išplėtimą ir vartojimo didinimą ir netgi santykių nutraukimą.

T. Hennig-Thurau ir kt. (2002) aiškina, kad vienas iš pagrindinių santykių marketingo tikslų yra svarbių veiksnių, lemiančių lojalumą ir gyvąjį žodį, identifikavimas. R. Brodie ir kt. (2003) teigia, kad neapčiuopiami konkurenciniai pranašumai, kuriami santykių marketingo priemonėmis, yra sunkiai imituojami konkurentų. Taigi įmonėms reikia instrumentų, kurie leistų išmatuoti santykių kokybę tarp paslaugų teikėjo ir vartotojo. Paslaugų kokybės modeliai ir instrumentai turi rimtų trūkumų, nes matuoja tam tikrą paslaugos epizodą ir yra statiški (Palaima ir kt., 2006; Grönroos, 2001; Liljander ir kt., 1995). Santykių marketingo paradigma reikalauja dinaminės perspektyvos, kuri leistų matuoti paslaugų kokybę kartu su kitomis santykių kokybės dimensijomis ilgalaikėje perspektyvoje.

Santykių marketingo mokslinėje literatūroje yra keletas modelių ir instrumentų santykių kokybei matuoti. Šių modelių indėlis į santykių marketingo teoriją yra nemenkas, tačiau ir jie turi ribotumų ir trūkumų.

Pagrindinis T. Hennig-Thurau, F. Langer, U. Hansen (2001) santykių kokybe pagrįsto studentų lojamumo modelio (angl. *The relationship quality based student Loyalty model*) trūkumas tas, kad jis matuoja santykių kokybę tik tarp universitetų ir jų paslaugų vartotojų-studentų.

T. Hennig-Thurau ir kt. (2002) Integruoto santykių marketingo pasekmių determinantų modelis (angl. *An integrative model of determinants of key relationship marketing outcomes)* buvo testuojamas tiriant įvairių tipų paslaugų vartotojus, siekiant sukurti universalią matavimo skalę. Tačiau modeliui testuoti naudota paslaugų įvairovė neleidžia patikrinti konkrečiam paslaugų tipui būdingų ryšių tarp modelio kintamųjų. Be to, neaišku, ar ta pati dimensijų struktūra yra būdinga konkrečiam paslaugų tipui. Kitas modelio trūkumas tas, kad modelis testuotas apklausiant tik Šiaurės Amerikos vartotojus, todėl neaišku, ar pastarosios dimensijos egzistuoja kitose kultūrose.

K. Roberts ir kt. (2003) santykių kokybės modelis yra SERVQUAL modelis, turintis papildomų santykių kokybės dimensijų. Modelis tik parodo, kad paslaugų kokybė lemia santykių kokybę, o ši lemia lojalumą, tačiau nėra žinoma, ar gerai šios dimensijos paaiškina viena kitą.

Mokslinės literatūros analizė parodė, kad perspektyviausias toliau vystyti yra T. Hennig-Thurau ir kt. (2002) modelis.

Mokslinė problema: ar T. Hennig-Thurau ir kt. (2002) modelio santykių kokybės dimensijų struktūra yra būdinga greitųjų siuntų paslaugų rinkai?

Tyrimo tikslas – remiantis T. Hennig-Thurau ir kt. (2002) modeliu, ištirti santykių kokybės dimensijų struktūrą greitųjų siuntų paslaugų rinkoje.

Tyrimo uždaviniai: 1) atlikti T. Hennig-Thurau ir kt. (2002) modelio santykių kokybės dimensijų teorinę analizę, 2) pasitelkus T. Hennig-Thurau ir kt. (2002) tyrimo instrumentą, atlikti Lietuvos greitųjų siuntų paslaugų vartotojų empirinį tyrimą, 3) pritaikius patvirtinančiąją faktorinę analizę, identifikuoti santykių kokybės dimensijų struktūrą greitųjų siuntų paslaugų rinkoje.

Tyrimo objektas yra santykių tarp paslaugos teikėjo ir vartotojų kokybė Lietuvos greitųjų siuntų paslaugų rinkoje.

Tyrimo metodai: internetinė greitųjų siuntų paslaugų vartotojų apklausa, patvirtinančioji faktorinė analizė.

Teorinis pagrindimas ir hipotezių formulavimas. T. Hennig-Thurau ir kt. (2002) modelį sudaro septynios dimensijos: pasitikėjimo nauda (angl. *confidence benefits*), socialinė nauda (nagl. *social benefits*), ypatingo požiūrio į paslaugos vartotoją nauda (angl. *special treatment benefits*), pasitenkinimas (angl. *satisfaction*), prisirišimas (angl. *commitment*), ketinimas rekomenduoti (angl. *word-of-mouth*) ir lojalumas. Pasak T. Hennig-Thurau ir kt. (2002), vartotojų pasitenkinimas yra dimensija, turinti didžiausią poveikį vartotojų lojalumui ir ketinimui rekomenduoti. R. Bennet ir kt. (2004) atlikta empirinių tyrimų apžvalga parodė, kad pasitenkinimas ir lojalumas gali priklausyti vienam faktoriui. Jeigu tarp šių konstruktų yra stiprus koreliacinis ryšys, būtina tikrinti, ar šie konstruktai nepriklauso vienam faktoriui (angl. *discriminant validity*). Vartotojų prisirišimas yra antroji pagal stiprumą dimensija, lemianti vartotojų lojalumą ir gyvąjį žodį.

Remiantis šiuo teoriniu pagrindu, iškeltos šios hipotezės:

Hipotezė $H1_{SA/WM}$*:* Vartotojų pasitenkinimas ir ketinimas rekomenduoti koreliuoja.

Hipotezė $H1_{SA/LO}$*:* Vartotojų pasitenkinimas ir lojalumas koreliuoja.

Hipotezė $H2_{SA/WM}$*:* Vartotojų pasitenkinimas ir noras rekomenduoti yra skirtingi konstruktai ir nepriklauso vienam faktoriui.

Hipotezė $H2_{SA/LO}$*:* Vartotojų pasitenkinimas ir lojalumas yra skirtingi konstruktai ir nepriklauso vienam faktoriui.

Hipotezė $H1_{CO/WM}$*:* Prisirišimas ir noras rekomenduoti koreliuoja.

Hipotezė $H1_{CO/LO}$*:* Prisirišimas ir lojalumas koreliuoja.

Hipotezė $H2_{CO/WM}$*:* Prisirišimas ir noras rekomenduoti yra skirtingi konstruktai ir nepriklauso vienam faktoriui.

Hipotezė $H2_{CO/LO}$*:* Prisirišimas ir lojalumas yra skirtingi konstruktai ir nepriklauso vienam faktoriui.

Hipotezė $H1_{SB/CO}$*:* Socialinė nauda ir prisirišimas koreliuoja.

Hipotezė $H2_{SB/CO}$*:* Socialinė nauda ir prisirišimas yra skirtingi konstruktai ir nepriklauso vienam faktoriui.

Hipotezė $H1_{SB/CO}$*:* Egzistuoja koreliacija tarp socialinės naudos ir prisirišimo.

Hipotezė $H1_{CB/CO}$*:* Pasitikėjimo nauda ir prisirišimas koreliuoja.

Hipotezė $H2_{CB/CO}$*:* Pasitikėjimo nauda ir prisirišimas yra skirtingi konstruktai ir nepriklauso vienam faktoriui.

Hipotezė $H1_{CB/LO}$*:* Pasitikėjimo nauda ir lojalumas koreliuoja.

Hipotezė $H1_{CB/WM}$*:* Pasitikėjimo nauda ir noras rekomenduoti koreliuoja.

Hipotezė $H2_{CB/LO}$*:* Pasitikėjimo nauda ir lojalumas yra skirtingi konstruktai ir nepriklauso vienam faktoriui.

Hipotezė $H2_{CB/LO}$*:* Pasitikėjimo nauda ir noras rekomenduoti yra skirtingi konstruktai ir nepriklauso vienam faktoriui.

Hipotezė $H1_{SB/WM}$*:* Socialinė nauda ir noras rekomenduoti koreliuoja.

Hipotezė $H2_{SB/WM}$*:* Socialinė nauda ir noras rekomenduoti yra skirtingi konstruktai ir nepriklauso vienam faktoriui.

Hipotezė $H1_{SB/CB}$*:* Socialinė nauda ir pasitikėjimo nauda koreliuoja.

Hipotezė $H2_{SB/CB}$*:* Socialinė nauda ir pasitikėjimo nauda yra skirtingi konstruktai ir nepriklauso vienam faktoriui.

Hipotezė $H1_{LO/WM}$*:* Lojalumas ir noras rekomenduoti koreliuoja.

Hipotezė $H2_{LO/WM}$*:* Lojalumas ir noras rekomenduoti yra skirtingi konstruktai ir nepriklauso vienam faktoriui.

Tyrimo eiga ir imtis. Respondentai buvo atrinkti naudojant greitųjų siuntų paslaugų verslo klientų duomenų bazę. Tyrimo populiaciją sudarė klientai, per paskutiniuosius 6 mėnesius pirkę paslaugų ne mažiau kaip už 200 Lt. Tyrimo imtis – 200 respondentų. Tokio dydžio imtis patvirtinančiai faktorinei analizei yra laikoma vidutine (Kline, 2005).

Respondentams apklausti buvo pasitelktas internetinis klausimynas. Visi klausimai buvo privalomi, kad būtų išvengta trūkstamų reikšmių keliamų problemų (Diamantpoulos ir Siguaw, 2005). Atrinktiems respondentams buvo išsiųsti elektroniniai laiškai su kvietimais dalyvauti tyrime.

Statistinės analizės metodas. Surinkti duomenys buvo kaupiami internetinėje duomenų bazėje iš kurios vėliau buvo importuoti į statistinės analizės programą LISREL. Siekiant įvertinti modelio tinkamumą, buvo atlikta patvirtinančioji faktorinė analizė. Modelio tinkamumui ir hipotezėms patikrinti buvo naudojami rodikliai, rekomenduojami Diamantpoulos ir Siguaw (2005): RMSEA, NFI, NNFI, PNFI, CFI, IFI, RFI, standartizuotas RMR, GFI, AGFI, PGFI. Pirmiausia sudarytas pagrindinis modelis, kuris vėliau buvo lyginamas su lizdiniais modeliais, norint patvirtinti arba atmesti hipotezes.

Tyrimo rezultatai. Faktorinės analizės rezultatai parodė, kad visos iškeltos hipotezės pasitvirtino, t.y. greitųjų siuntų paslaugų rinkoje egzistuoja septynios santykių kokybės dimensijos, identiškos išskirtoms T. Hennig-Thurau ir kt. (2002) modelyje. Apibendrinant galima teigti, kad T. Hennig-Thurau ir kt. (2002) matavimo instrumentas yra validus ir patikimas santykių kokybei tarp kliento ir greitųjų siuntų paslaugų teikėjo tirti.

Raktažodžiai: *Santykių kokybė, patvirtinančioji faktorinė analizė, santykių marketingas.*

The article has been reviewed.

Received in June, 2006; accepted in October, 2006.

DOI: 10.5755/j01.ee.49.4.11438