ABSTRACT

The paper discusses theoretically and examines empirically the influence of the relationship commitment on collaborative behaviour in supply chains. In today’s unstable business environment companies should collaborate to achieve mutual goals and competitive advantage. Defining relationship commitment and collaboration in supply chains (from social exchange theory point of view) is the basis of the research of this paper. Our aim is to examine the influence of relationship commitment on collaboration in supply chains in Slovenian economy. The qualitative research part discusses if the relationship commitment between partners in supply chain influences the collaborative behaviour between partners and which are the antecedents of relationship commitment. The research is based on a quantitative analysis of the online questionnaire survey made on the Slovenian economy. The research results show strong influence of trust and relationship commitment on collaboration between partners in supply chains.

KEY WORDS

relationship commitment; trust; collaborative behaviour; supply chains;

1. INTRODUCTION

Some authors theorize that successful business relationships are based on relationship commitment and trust [1]. Companies form different relationships: internal partnerships (business units, employees, functional departments), supplier relationships (goods suppliers, service suppliers), lateral partnerships (competitors, non-profit organizations, government) and buyer relationships (intermediate customers, ultimate customers) [1]. So, the main basis for the research is relationship commitment-trust theory of relationship marketing. However, this theoretical basis will be combined with supply chain management field. Relationship marketing is not important only for the marketing department, but for the whole company. Since logistics and supply chain management are inseparably combined with internal and external partnerships, it is appropriate to use the commitment-trust theory of relationship marketing. The supply chain could be defined as a set of three or more organizations directly involved in (the upstream and downstream) flows of products, services, finances and/or information from a source to a customer and where all companies strive to achieve the same goal [2]. Therefore, it is important to combine these two study fields: the field of relationship marketing and the field of supply chain management.

Commitment has been central in social exchange theory [3] and in the last decades it has become an important concept in inter-organizational relationships [1, 4]. It is therefore assumed that a very important factor is influencing collaborative behaviour between partners in supply chains.

2. RELATIONSHIP COMMITMENT AND ITS ANTECEDENTS

Commitment to a relationship is defined as an enduring desire to maintain a valued relationship [5]. According to that, relationship commitment is defined as “an exchange partner believing that an on-going relationship with another is so important as to warrant maximum efforts at maintaining it” [1].

Antecedents that have influence on relationship commitment are according to theories mentioned above, relationship termination costs, relationship
benefits, shared values, communication and trust [1]. Trust is also a factor that has huge direct influence on collaborative behaviour [1] and will be also examined in our research.

Relationship termination costs are defined as “all expected losses from termination and result from the perceived lack of comparable potential alternative partners, relationship dissolution expenses and substantial switching costs” [1].

Relationship benefits means that firms receive superior benefits from their partnership on such dimensions as product profitability, customer satisfaction and product performance [1].

Shared values are included as important part in the model of fundamental partnership variables [1, 4, 6] and in this context trust is produced among social actors when they hold shared beliefs and hence to build up mutual expectations [7]. Shared values are defined as the extent to which partners have common beliefs about what behaviours, goals and policies are important or unimportant, appropriate or inappropriate, right or wrong [1].

Communication is where an individual or a group of people establish a common and coordinated activity through the exchange information of concepts, suggestions and attitudes to obtain a specific goal [8]. Relationship components are experienced through communication which is possible only if there is a two-way flow of communication [9]. Improved (internal and external) communication enables supply chain integration. It is difficult to find an area of logistics that is not affected by improved communication [10]. Communication is essential in relationships as it implies dependence and commitment [9]. Effective inter-organizational communication can be characterized as frequent, genuine and involving personal contacts between buying and selling side [11].

Trust is a multidimensional concept [12] and can be defined from several different perspectives: sociological, psychological, economic etc. point of view [1, 12, 13, 14]. And its definition differs from the context in which the concept has been researched [13].

Trust is from sociological point of view in general defined as “a willingness to rely on an exchange partner in whom one has confidence” [5]. Trust exists when one party believes the other party has incentive to act in their interest or to take their interests to heart [15]. Different authors [1, 7, 9, 13, 16] argue that trust is a very important factor influencing the supply chain management relationships. It is recognized as an important element in successful, strategic relationships with the suppliers [13, 17]. Trust can influence the development of customer orientation, which means, the greater the level of trust, the more chance of a positive attitude being developed [9].

So, in business world trust is defined as the firm’s belief that another company will perform actions that will result in positive outcomes for the firm as well as not take unexpected actions that result in negative outcomes [18]. If one organization trusts another, it will assign collaborative intentions to the trusted organization. Several studies have shown that inter-organizational trust leads toward a cooperative behaviour between organizations [19]. Relationships characterized by trust are highly valued and parties will desire to commit themselves to such relationships [1].

3. COLLABORATIVE BEHAVIOUR AND SUPPLY CHAINS

Several authors [1, 19, 20, 21, 22] have pointed out the importance of working together in today’s unstable economic and social environment. Basically, there are three frequently discussed ways of working together: coordination, cooperation and collaboration [20, 23].

The collaboration is described as a form of modern relationship formation used in inter-organizational alliances, and therefore in supply chains. Higher levels of integration allow partners in a supply chain to work together [10].

Collaboration is based [24] on shared objectives, sense of urgency, commitment and belonging, on open communication, mutual trust and respect, complementary skills and knowledge. The main goal is achieving innovative and extraordinary results efficiently. The degree of interdependence of partners in relational exchange is substantial. Collaboration [20] does not anchor in the process of relationship but in the pursuit of a specific result. Collaborations are established to solve problems, develop new understandings, design new products [20].

Supply chain collaboration is from all concepts the best concept to capture the joint relationship between autonomous supply chain partners. Collaboration means that the pie gets larger so that all partners can get a larger piece than they had before [23]. Based on social exchange theory, it can be claimed that collaboration in inter-organizational relationships may be supported by trust [6].

Collaboration in supply chains could be internal and external [25]. The paper deals with external collaboration. Furthermore, external collaboration in supply chain could be horizontal or vertical [25]. This research includes both.

So, our paper studies relationship commitment-trust theory [1], which is the basis for relationship studies. This also shows that the supply chain management is inseparably connected to marketing. On one hand, the supply chain management focuses on efficient supply and tends to be cost-orientated; on the other hand, marketing is more concerned with revenue by focusing on the demand side of the company.
And both together they determine the company’s profitability [26]. Since supply chains are by definition sets of three or more organizations, partnerships between them are very important for effective and efficient supply chains. Therefore, the factors that influence collaborative behaviour are imposing.

4. RESEARCH METHODOLOGY

Having closely studied various scientific literature about relationship marketing and supply chain management it has been determined that a combination of various concepts could be included in the research model. The key mediating variable model has been used for the basis of the research and so a relationship commitment and trust as a main variable that influence collaborative relationships in supply chains are set. According to the theory, the main antecedents of relationship commitment are relationship termination costs, relationship benefits, shared values, communication and trust.

4.1 Research Model

According to relationship commitment-trust theory and social exchange theory the factors with an influence on relationship commitment are relationship benefits, relationship termination costs, shared values, communication and trust [1]. Same theories identify trust and relationship commitment as factors influencing the collaborative behaviour in supply chains [1]. So, the model shown in Figure 1 was formed.

Based on the research model seven hypotheses have been formed.

H1: Relationship termination costs have positive influence on relationship commitment in supply chains.

H2: Relationship benefits have positive influence on relationship commitment in supply chains.

H3: Shared values have positive influence on relationship commitment in supply chains.

H4: Communication has positive influence on relationship commitment in supply chains.

H5: Trust has positive influence on relationship commitment in supply chains.

H6: Trust has positive influence on collaborative behaviour in supply chains.

H7: Relationship commitment has positive influence on collaborative behaviour in supply chains.

4.2 The Questionnaire

Based on literature review, especially studies made by Morgan and Hunt [1], Deepen [4] and Cao and Zhang [23], the questionnaire comprised 32 statements related to (1) collaboration in supply chains, (2) relationship commitment, (3) relationship termination costs, (4) relationship benefits, (5) shared values, (6) communication, (7) trust. Respondents marked their agreement with statements on scale from 1 to 5 (1 means that they totally disagree with statement and 5 means that they totally agree with statements; the marks in between are increasing values between 1 and 5). Questionnaire comprised also respondents’ details (such as age, gender, number of working years, level of education etc.).

Our research was made in November and December 2013. There were 118 questionnaires completed and used in the research.

The reliability of the questionnaire was tested by using the Cronbach’s alpha test, calculating the coefficient for each set of variables, which were merged in factors. The value of Cronbach’s alpha for variables that measured collaboration is 0.864, which indicates great reliability of measurement. The value of Cronbach’s alpha for relationship commitment is 0.748. The value of test for variables that measured trust is 0.877, for variables measuring communication 0.779, for variables measuring shared values the value was 0.832, for variables measuring relationship benefits the value is 0.818 and for variables measuring relationship termination costs the value is 0.681. All these values indicate great reliability of measurement.

4.3 Research Sample

Logistics managers, chief buyers, sales managers, project managers and employees in logistics departments were included in the online survey. The survey was carried out in the primary, secondary and tertiary sector of the Slovenian economy. Companies of all sizes were included, both local and foreign ones with presence in Slovenia.
More specifically, 26 (22.2%) logistics managers, 25 (21.4%) project managers, 24 (20.5%) chief buyers, 17 (14.5%) sales managers, and 20 (17.1%) employees in logistics departments were included in survey. Furthermore, 3 respondents (2.6%) work in the primary sector, 45 respondents (38.5%) in the secondary and 69 (58.9%) in the tertiary sector (the quarterly sector was not included). Fifty (42.7%) respondents work in micro, 32 (27.3%) in small, 17 (14.5%) in medium and 18 (15.4%) in large companies. Fifty-seven (49.6%) respondents work in local and 58 (50.4%) in foreign companies.

According to the demographic data, the sample reflects the population in terms of economy branch and size of companies. Based on the findings it can be concluded that the research sample could be generalized to the whole population.

Data analysis was conducted using Statistical Package for the Social Sciences. Univariate, bivariate (Pearson’s correlation coefficient) and multivariate (factor analysis and linear regression) analyses were made.

Also the Kaiser-Meyer-Olkin (KMO) and Bartlett’s test were performed. The KMO test value for variables that measure collaboration is 0.835 (Bartlett’s test value 0.000). The KMO test value for variables that measure relationship commitment is 0.734 (Bartlett’s test value 0.000). The KMO test value for variables that measure trust is 0.850 (Bartlett’s test value 0.000). The KMO test value for variables that measure trust is 0.850 (Bartlett’s test value 0.000). The KMO test value for variables that measure shared values is 0.804 (Bartlett’s test value 0.000). The KMO test value for variables that measure relationship benefits is 0.500 (Bartlett’s test value 0.000). The KMO test value for variables that measure relationship termination costs is 0.510 (Bartlett’s test value 0.000). All these values of KMO test indicate great sample adequacy. The KMO test value for variables that measure relationship benefits is 0.500 (Bartlett’s test value 0.000). Also these two KMO test values show proper sample adequacy. All Bartlett’s test values indicate that Factor Analysis is suitable.

5. RESEARCH FINDINGS

Thirty-two statements that have measured research concepts incorporated in our research were included in Factor analysis. More specific, Principal axis factoring, Unrotate factor solutions and Direct Oblimin functions were used. Factor analysis produced a combination of seven factors: trust, relationship commitment, collaboration, communication, shared values, relationship termination costs and relationship benefits. We examined the relationships between these factors and influences among them. Since we have used 1 to 5 interval scale, we performed Pearson’s correlation coefficient. The results of Pearson’s correlation coefficient are shown in Table 1.

As seen from Table 1, Pearson’s correlation coefficient indicates statistically significant correlations between all factors, except relationship termination costs. Results also show that the findings could be generalized.

The correlation strength is described on level 0 to 1, which means very low to very strong correlation [27]. The correlations we are interested in are following:

- trust- relationship commitment- the correlation is strong,
- trust- collaboration- the correlation is strong,
- relationship commitment- collaboration- the correlation is strong,
- relationship commitment- communication- the correlation is strong,
- relationship commitment- shared values- the correlation is strong,
- relationship commitment- relationship termination costs- no correlation,
- relationship commitment- relationship benefits- the correlation is moderate.

Furthermore linear regression analyses were conducted. We used the method Enter. The results are shown in Table 2 and Table 3.

Table 2 shows the result of linear regression analysis, where relationship commitment was determined.

<table>
<thead>
<tr>
<th>trust</th>
<th>relationship commitment</th>
<th>collaboration</th>
<th>communication</th>
<th>shared values</th>
<th>relationship termination costs</th>
<th>relationship benefits</th>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>relationshi committed</td>
<td>0.693**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>collaboration</td>
<td>0.732**</td>
<td>0.837**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>communication</td>
<td>0.604**</td>
<td>0.730**</td>
<td>0.780**</td>
<td>0.987**</td>
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<td></td>
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<tr>
<td>shared values</td>
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<td>0.756**</td>
<td>0.806**</td>
<td>0.301**</td>
<td>1</td>
<td></td>
</tr>
<tr>
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<td>-</td>
<td>-</td>
<td>0.271**</td>
<td>0.219**</td>
<td>1</td>
</tr>
<tr>
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<td>0.443**</td>
<td>0.358**</td>
<td>0.406**</td>
<td>0.418**</td>
<td>0.219**</td>
</tr>
</tbody>
</table>

** p≤0.01
as dependent variable. Trust, relationship termination costs, relationship benefits, shared values, communication were determined as independent variable. The results show that trust has a strong influence on relationship commitment (adjusted $R^2=0.476; p=0.000; B=0.696$). The analysis does not show influence of relationship termination costs on relationship commitment (adjusted $R^2=0.029; p=0.069; B=0.144$). The analysis also shows that relationship commitment is also influenced by relationship benefits (adjusted $R^2=0.189; p=0.000; B=0.323$), shared values (adjusted $R^2=0.568; p=0.000; B=0.731$) and relationship commitment (adjusted $R^2=0.529; p=0.000; B=0.722$).

Table 3 shows the result of linear regression analysis, where collaborative behaviour was determined as dependent variable. Trust and relationship commitment were determined as independent variable. The results show that trust between partners in supply chains has a strong influence on collaboration in supply chains (adjusted $R^2=0.532; p=0.000; B=0.643$). The results also show that relationship commitment between partners in supply chain has a strong influence on collaborative behaviour in supply chains (adjusted $R^2=0.698; p=0.000; B=0.732$).

The results from our analysis are shown in model of research findings in Figure 2.

### 6. DISCUSSION

Factor analysis produced a combination of seven factors and we examined the relationships and influences among them. The Pearson correlation coefficient and linear regression analysis demonstrate results shown in Tables 1, 2 and 3. Based on our research findings we can confirm hypotheses H2- H7:

H2: Relationship benefits have positive influence on relationship commitment in supply chains.

The results are shown in Table 1 and Table 2. Table 1 shows the correlation between relationships benefits and relationship commitment (Pearson’s correlation coefficient 0.443**). Table 2 shows that relationship benefits influence relationship commitment (adjusted $R^2=0.189, p=0.000; B=0.323$). The results are statistically significant and could be generalized.

We can say that employees working in logistics and supply chains see the benefits of existing relationships as important for achieving relationship commitment which furthermore leads to better collaboration between partners in supply chains.

H3: Shared values have positive influence on relationship commitment in supply chains.

The results are shown in Table 1 and Table 2. Table 1 shows the correlation between shared values and relationship commitment (Pearson’s correlation coefficient 0.756**). Table 2 shows that shared values influence relationship commitment (adjusted $R^2=0.568, p=0.000; B=0.731$). The results are statistically significant and could be generalized.

This means that more values the organizations which work together in supply chains have, the more committed they are to these partners in supply chains. Managers in such departments have to be aware of this situation and build proper organizational culture and values.

H4: Communication has positive influence on relationship commitment in supply chains.

The results are shown in Table 1 and Table 2. Table 1 shows the correlation between communication and relationship commitment (Pearson’s correlation coefficient 0.730**). Table 2 shows that communication influence relationship commitment strong (adjusted

| Table 2 - Linear regression analysis: dependent variable is relationship commitment |
|---------------------------------|-----------|------|-----|
| factor                          | adjusted $R^2$ | $F$  | $p$  | $B$  |
| trust – relationship commitment | 0.476      | 107.366 | 0.000 | 0.696 |
| relationship termination costs – relationship commitment | 0.029 | 3.379 | 0.069 | 0.144 |
| relationship benefits – relationship commitment | 0.189 | 28.085 | 0.000 | 0.323 |
| shared values – relationship commitment | 0.568 | 153.248 | 0.000 | 0.731 |
| communication – relationship commitment | 0.529 | 131.418 | 0.000 | 0.722 |

| Table 3 - Linear regression analysis: dependent variable is collaboration |
|---------------------------------|-----------|------|-----|
| factor                          | adjusted $R^2$ | $F$  | $p$  | $B$  |
| trust – collaboration           | 0.532      | 133.973 | 0.000 | 0.643 |
| relationship commitment – collaboration | 0.698 | 271.728 | 0.000 | 0.732 |

Figure 2 - Model of research findings
R² = 0.529, p=0.000; B= 0.722). The results are statistically significant and could be generalized.

The better is the communication between partners working together in supply chain the more are employees in logistics committed to the relationship with partners in supply chains. Information sharing, communication in time and two way communication are fields which have to be taken into consideration by logistics managers.

H5: Trust has positive influence on relationship commitment in supply chains.

The results are shown in Table 1 and Table 2. Table 1 shows the correlation between trust and relationship commitment (Pearson’s correlation coefficient 0.693**). Table 2 shows that trust has a strong influence on relationship commitment (adjusted R²= 0.476, p=0.000; B= 0.696). The results are statistically significant and could be generalized.

Trust and relationship commitment are very connected concepts. First, trust has to be built, so that further on relationship commitment could be established. Both together, as seen from results of research, should be taken into consideration by supply chains managers and others working with partners in supply chains.

H6: Trust has positive influence on collaborative behaviour in supply chains.

The results are shown in Table 1 and Table 3. Table 1 shows the correlation between trust and collaborative behaviour in supply chains (Pearson’s correlation coefficient 0.732**). Table 3 shows that trust has a strong influence on collaboration between partners in supply chains (adjusted R²= 0.532, p= 0.000; B= 0.643). The results are statistically significant and could be generalized.

Managers and other employees working in field of supply chains should build relationships on trust and so achieve better collaborative behaviour, which could lead to effective and efficient supply chains.

H7: Relationship commitment has positive influence on collaborative behaviour in supply chains.

The results are shown in Table 1 and Table 3. Table 1 shows the correlation between relationship commitment and collaborative behaviour in supply chains (Pearson’s correlation coefficient 0.837**). Table 3 shows that trust has a strong influence on collaboration between partners in supply chains (adjusted R²= 0.698, p=0.000, B= 0.732). The results are statistically significant and could be generalized.

Supply chains in today’s world should be built on an exchange partner believing that an on-going relationship with another partner is so important as to warrant maximum efforts at maintaining it. The results of research show, that employees working with partners in supply chains estimate that relationship commitment has a positive impact on sustainable, long-term, collaborative relationships with partners in supply chains.

Hypothesis “H1: Relationship termination costs have positive influence on relationship commitment.”, has to be rejected.

The results shown in Table 1 and Table 2 indicate there is no correlation between relationship termination costs and relationship commitment. Table 2 shows that relationship termination costs have no influence on relationship commitment between partners in supply chains (adjusted R²= 0.029, p=0.069; B= 0.144). Since no correlations and no influence were proved in research, the hypothesis H1 is rejected. In comparison to other factors included in the research, relationship termination costs are seen as factor that does not influence relationship commitment. Relationship termination costs are so noted as less important for collaboration with partners in supply chains than other factors included in research.

The research findings are very important for logistics managers, chief buyers, chief sellers and project managers dealing with logistics, who strive towards implementing strategies to achieve better relationships with partners collaborating in supply chains. This kind of scientific research was made in Slovenia for the first time. The field of relationships between partners in supply chains is very clearly interesting topics with great contribution to the logistics managers. Recent studies [4, 23, 28] have shown that the future of supply chains depends on the degree of inter- and intraorganizational collaboration with stress on trust and relationship commitment as antecedents of good long-lasting successful relationships. Studies like ours show that companies have to be aware of the fact that supply chains are inseparably connected to collaborative intra-organizational relationships, which are based on good marketing relationship strategies and relationship commitment and trust between collaborating companies.

7. CONCLUSION

According to Ballou [28] the future of supply chains lies in collaboration between partners in supply chains. First, organizations in supply chains have to integrate internally, which means internal collaboration [29], and second, they need to collaborate externally. Collaborative behaviour between partners is the key to achieve the benefits of supply chain management. On the basis of relationship commitment- trust theory the most important factors to achieve collaboration between partners are relationship commitment between companies included in supply chains and trust among them.
To sum up, we can in our research confirm six hypotheses which means that trust, relationship benefits, shared values and communication have a semi strong or strong influence on relationship commitment between partners in supply chains. Furthermore, we can say that relationship commitment and trust have a strong influence on collaborative behaviour between partners in supply chains. The results of the research suggest that building trust and relationship commitment (through shared values, communication and relationship benefits) are very important for today’s supply chain management.

VPLIV PРИPADNOSTI ODNOSU IN ZAUPANJA NA KOLABORATIVNO VEDENJE V OSKRBOVALNIH VERIGAH

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POVZETEK


KLJUČNE BESEDJE

Pripadnost odnosu; zaupanje; kolaborativno vedenje; oskrbovalne verige;

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