

Organizational Commitment in Purchasing and Supply Chain Management

Building an Evaluation Instrument

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Abstract— The concept of organizational commitment has been studied extensively during the past decades, and remains one of the most challenging and studied concepts in organizational research. In purchasing as well as in supply chain management, commitment plays a very central role, because the personnel work directly with outside organizations as well as being part of complicated supply chain networks, and therefore are in a position to develop commitment towards outside organizations. This paper discusses the importance of organizational commitment in supply chain management and in the purchasing function. In addition, the principles of our newly developed Internet-based evaluation instrument are highlighted. This application has been preliminarily tested and the verification and validation processes are still under evaluation.

Keywords—organizational commitment; purchasing; supply chain management; evaluation; measurement

I. INTRODUCTION

Organizational success is one of the main goals in leadership and management. Success greatly depends on how well the leaders can manage the workforce and get them to work towards their shared goals and objectives. Employees have been found to contribute to organizational effectiveness and work efficiently towards its goals if they identify with the organization's goals and values and are willing to engage in activities that go beyond their immediate role requirements. One of the main sources of competitive advantage for today's organizations is the ability to retain talented employees. In other words, long-term sustained success and growth can be achieved by attracting and retaining the best talent [1]. Heinen and O'Neill [1] argue that the relationship with the employees' immediate manager has the greatest effect on employee commitment, growth, and development. Therefore, successful development and execution of organizational policies, systems, management, and leadership are crucial because otherwise, they could hinder the highly committed employees from converting their commitment into performance outcomes [2].

The theoretical part of this paper deals with the issue of organizational commitment linked to the purchasing and supply chain management context. The performance of activities in the purchasing and supply chain function can have a significant effect on the total performance of the organization [3]. Special focus is directed on purchasing personnel, since employees in the purchasing function play a

significant role in initiating and establishing relationships with outside organizations. Consequently, they can have a significant effect on their organization's reputation and image [4] and therefore the effectiveness of their performance can have an enormous effect on the company's bottom line. These are some of the reasons why organizations would like their employees to be highly committed and why we think that organizations should first evaluate the degree of commitment among personnel in the purchasing and supply chain function before trying to manage their commitment.

II. THEORETICAL FRAMEWORK

A. Organizational Commitment

Organizational commitment refers to the extent to which an individual regards him or herself as an organizational person. In particular, organizational commitment refers to "the relative strength of an individual's identification with and involvement in a particular organization" [5]. Reichers [6] defines commitment as a process of identification with the goals of an organization's multiple constituencies [6], such as organization, occupation, job, supervisor, workgroup, or organizational goals.

While there are several definitions of organizational commitment, a common three-dimensional theme is found in most of these definitions: (1) committed employees believe in and accept organizational goals and values, (2) they are willing to devote considerable effort on behalf of their organization, and (3) are willing to remain with their organization [7; 8]. Hence, organizational commitment can be described as a psychological state that binds an individual to an organization [9] and influences individuals to act in ways that are consistent with the interests of the organization [5; 10]. Meyer and Allen [11; 12] defined organizational commitment as consisting of three components: affective, continuance, and normative commitment. They argue that these components reflect distinct psychological states and employees can experience each of these states to varying degrees. First, affective commitment refers to how strongly the employee identifies with, is involved in, and enjoys membership in an organization. This dimension is closely related to Porter, Steers, Mowday and Boulian's [5] definition. Second, continuance commitment [11; 12] is the cost-related aspect of commitment. This form is the function of perceived cost based on sacrifices and investments made by the

employee. This view draws upon Becker's [13] early thoughts about the reasons behind commitment. The third component of the Meyer and Allen model [11; 12], normative commitment, sees commitment developing based on internalized loyalty norms, i.e. the feeling of obligation to remain with an organization.

Organizational commitment has been considered as a mediator variable in several causal models of employee behavior. Often it has been included as a mediator focusing on predicting other employee reactions or behaviors [14]. As a consequence, organizational commitment has been linked to several personal variables, role states, and aspects of the work environment, such as job characteristics or organizational structures. From an antecedent point of view, it has been related to employees' absenteeism, performance, turnover, and other behaviors. In addition, several other variables have been found to correlate with organizational commitment, such as job involvement and job satisfaction behaviors [14].

Additionally, DeCotiis and Summers [15] found that commitment had a direct positive influence on employees' work motivation and objective measures of job performance, as well as a direct negative influence on their intention to leave and actual turnover [14]. In other words, employees who identify with and are involved in their organization are committed, and presumably want to maintain membership in their organization and exert effort on its behalf [7]. Many extensive studies support this prediction [c.f. 14; 16]. Meyer and Allen [17] emphasized the positive correlation between affective commitment and work attendance. A committed workforce will be more dedicated to their jobs and more motivated to give their time and effort to accomplish the required tasks. This can also lead to a more autonomous and self-controlling workforce [18]. Therefore, it is important to identify more clearly what drives employees to become committed to their organization and to understand how to manage and maintain commitment in the workforce.

1) *External Organizational Commitment*

McElroy, Morrow and Lacznik [19] extended the concept of commitment beyond the boundaries of one's employing organization to include commitment to another organization. They argued that an employee could develop commitment, in other words, a psychological attachment to a specific organization external to one's own employer. This is known as external organizational commitment (EOC), and is predicted to develop among boundary spanning members of an organization (e.g. people working in purchasing, selling, consulting) who are in a position to develop long-term relationships with members of other organizations.

EOC can have both positive and negative effects for the employing organization, the external organization, and the individual [19]. For example, high levels of EOC are beneficial as long as this loyalty does not come at the expense of the employing organization (e.g. if in-house duties are neglected, external agreements begin to favor the external organization). One of the positive effects of a high EOC is that employees who develop commitment to an external client organization are likely to exert more effort than required for that organization, which may lead to new and better business

opportunities and relationships [19]. Taking EOC to the extreme, valued employees in boundary spanning roles may even terminate their employment and take a position with the external organization, which will lead to undesirable turnover and may lead to a potential loss or deterioration of business.

2) *Measuring Organizational Commitment*

As the definitions of organizational commitment have been quite diverse [20], so the interest in commitment as an explanation of employee behavior and performance has led to the development of several attempts to measure it. However, they continue to draw criticism for a lack of precision and for concept redundancy [6]. Allen and Meyer [11] conclude that relatively little attention has been given to the development of measures of commitment that conform closely to the researcher's particular definitions of commitment.

Perhaps the most widely used commitment scale, the Organizational Commitment Questionnaire (OCQ), was developed by Porter, Steers, Mowday and Boulian [5]. This scale was developed based on their definition of commitment and measures the affective dimensions of commitment, although it incorporates some 'continuance' and 'normative' elements. The OCQ is used to measure the state in which an individual identifies with a particular organization and its goals and wishes to maintain membership in order to facilitate those goals [7].

Meyer, Allen and Smith [21] argue that different components of commitment are differently related to variables such as antecedents and consequences. Thus, Meyer and Allen developed independent scales to measure these three components of commitment, i.e. the Affective Commitment Scale, Continuance Commitment Scale, and Normative Commitment Scale. However, various studies have shown that normative commitment overlaps with the other two types of commitment (e.g. [22; 23]). On the other hand, constructs of affective and continuance commitment have been well supported in the literature [14].

It is clear that there will always be employee turnover in organizations, and "total" commitment is not required from all employees. As Pierce and Dunham [24] argued, organizational commitment is more important in complex jobs that require adaptability and demand that employees take the initiative. Clearly, an undesirable turnover can be extremely costly to organizations given the high costs incurred (e.g. losing productive employees, recruiting, selecting, and training costs, and potential negative impact on current customer relationships). However, turnover of undesirable employees can be healthy for organizations [c.f. 14].

As a result of all these points, leaders need to have an understanding of how employee commitment develops and is maintained over time [25]. Deep understanding of the processes related to the causes and consequences of commitment will enable management to create better interventions. Management can, for example, adopt appropriate leadership behaviors in order to enhance the levels of employee commitment to their organization and in turn, improve the levels of job satisfaction and job performance, consequently increasing productivity and profitability [25]. Mathieu & Zajac [14] conclude that organizational

commitment is a useful criterion for various organizational interventions designed to improve employees' attitudes and behaviors. At minimum, they suggest that it should be used to influence the employees' socialization processes, participation, ownership in the company, and reactions to job enrichment. However, before interventions can be effectively planned and executed, measurement of organizational commitment and other mediating factors should be conducted.

B. Human Aspects in Purchasing and Supply Chain Management

The purchasing function has evolved into an integral part of supply chain management [26]. It has increasingly assumed a more pivotal strategic role in supply chain management [27]. It can be seen as a subset of supply chain management that deals primarily with managing all aspects related to the inputs to an organization (e.g. purchased goods, materials, and services). It can contribute both in quantitative and qualitative ways to improving the organization's bottom line [28]. Since performance in purchasing and materials-related activities can have a significant effect on the total performance of the organization [3], increased emphasis has naturally been placed on the function's efforts to maintain or rebuild organizational competitiveness [29].

Many studies point out the fact that people working in supply chains have a major effect on building trust between organizations, which is one of the key factors in mutually beneficial business relationships. Trust is critical because without trust, suppliers are unlikely to make long-term investments to support future business with the buyer [30]. The establishment and maintenance of a trusting relationship rely on the motivated individuals who regularly interact across organizational boundaries [30; 31]. In addition, the purchasing agent's communication skills, professional knowledge, decision-making autonomy, and ability to compromise have been found to influence the supplier's trust in purchasers significantly [32]. Zhang, Viswanathan, and Henke [32] concluded that because of their position as boundary spanners, purchasing agents have an influence on the amount of trust outside organizations place in the company they represent.

In addition, the boundary spanning capabilities of purchasing agents are critical in establishing and maintaining supply chain relationships (e.g. [33; 30; 31]). Smith, Plowman, Duchon, and Quinn [34] argue that these capabilities can be influenced by the intrinsic dispositional traits of the individual [32]. The relationships between individuals in boundary spanning positions provide a means for the development of wider communications between their employing organizations, which will create familiarity and trust between the parties.

In addition, Perrone, Zaheer and McEvily [30] argue that the purchasing agent's tenure, i.e. the length of time an individual has spent working within an organization, can significantly increase the supplier's trust in the purchasing agent. This finding is also important because of its direct link to organizational commitment. It is based on the assumption that individuals with long tenure have acquired informal power and knowledge over time [35; 30], making their

knowledge more valuable and consequently making them more powerful [30].

In their study of supply chain integration, Fawcett and Magnan [36] identified the main factors most likely to benefit from, hinder, and assist in successful Supply Chain Management. These factors are presented in Table 1.

TABLE I. TOP TEN BENEFITS, BARRIERS, AND BRIDGES TO SUPPLY CHAIN MANAGEMENT [36]

Benefits	Barriers	Bridges
Increased customer responsiveness	Inadequate information sharing	Senior & functional managerial support
More consistent on-time delivery	Poor/conflicting measurement	Open & honest information sharing
Shorter order fulfillment lead times	Inconsistent operating goals	Accurate & comprehensive measures
Reduced inventory costs	Organizational culture & structure	Trust-based, synergistic alliances
Better asset utilization	Resistance to change—lack of trust	Supply chain alignment & rationalization
Lower cost of purchased items	Poor alliance management practices	Cross-experienced managers
Higher product quality	Lack of SC vision/understanding	Process documentation & ownership
Ability to handle unexpected events	Lack of managerial commitment	Supply chain education and training
Faster product innovation	Constrained resources	Use of supply chain advisory councils
Preferred & tailored relationships	No employee passion/empowerment	Effective use of pilot projects

As shown in Table 1, many of the barriers and bridges concern managerial practices, organizational culture, trust, passion, empowerment, managerial support, and information sharing, many of which have been repeatedly associated with motivation and job satisfaction, and ultimately affective organizational commitment.

Therefore, it can be reasoned that these commitment-related aspects of working life are one of the key factors to enhance when trying to improve the overall performance of the supply chain function and consequently the performance of the organization.

In their study of purchasing executives, Kelley and Dorsch [37] argue that purchasing executives' feelings of commitment to their organization have a tendency to reflect the extent to which they identify themselves as a corporate person. As individuals identify more strongly with their organization, their interpretations and reactions to events tend to be influenced by their definition of who they are, i.e. a committed employee [37].

As can be seen from the above, the commitment of people employed in the supply chain has a major importance on their organization. Successful operations and meeting customer and financial goals are in large part determined by the abilities and motivation of the employees. People working in purchasing and the supply chain must have the right motivation and abilities for strategic purchasing and Supply Chain Management to be successful. Most importantly they must be committed to the objectives of the organization and to be dedicated to the long-term best interests of their employer. This emphasizes the ethical principles such as equity, trust, responsibility, and commitment that are required from employees in purchasing and supply management.

III. BUILDING AN EVALUATION INSTRUMENT

Our aim was to develop a tool that could be rapidly administered to a large number of employees to evaluate the various components of organizational commitment and their primary correlate constructs, such as job satisfaction and perceived organizational support. Our evaluation instrument

was designed to comprise these various constructs in order to unearth the primary factors that affect commitment and to be able to pinpoint their current state in a given organizational context.

A. Evolute System

Evolute is an online system that supports specific-purpose fuzzy logic applications [38; 39]. Fuzzy logic is a conceptual system of reasoning, deduction, and computation that makes it possible to reason precisely with imperfect information. Imperfect information is information which in one or more respects is imprecise, uncertain, incomplete, unreliable, vague, or partially true [40].

The Evolute system allows researchers to develop a specific domain ontology and present it online to the target group through semantic entities, such as statements [39]. Each ontology and its propositions can be fine-tuned over time by adjusting the fuzzy set design and fuzzy rule design. Furthermore, the content of the ontology can be modified, i.e. variables can be added and removed as more about the domain is learned, thus making the ontology correspond better to the phenomenon in question. Evolute makes the examination of results possible both visually and numerically.

B. Evaluation Instrument

From the literature we identified a broad range of constructs that are related to organizational commitment as its antecedent, determinant or correlate factors [e.g. 11; 17; 41; 14; 42; 2]. We categorized these factors under relevant constructs, such as work motivation, job satisfaction, person-organization fit, perceptions of organizational support, and turnover intentions. All the identified categories were grouped under three main dimensions of organizational commitment — affective, continuance, and normative. As a result, we identified 55 variables in 15 categories under these three main dimensions. These 55 variables are described in our instrument with an average of five linguistic indicative statements (indicators).

The statements used in our research application were developed based on various studies and models. For example, organizational commitment statements were adapted from Meyer and Allen’s [12], and Porter, Steers, Mowday, and Boulian’s [5] scales. Job satisfaction and motivating potential of job measures were developed based on Hackman and Oldham’s [43] and Weiss, Dawis, England and Lofquist’s [44] measures. Statements describing the components of organizational justice were adapted from Niehoff and Moorman’s [45] scales. Role ambiguity and conflict were measured on items based on Rizzo and Lirtzman’s [46] scale. In addition, role overload was measured with statements based on Pareek’s [47] Organizational Role Stress Scale.

In general, commitment studies have utilized Likert-type scales. In this study, we propose to capture subjects’ dependent responses through a continuous graphic rating scale. With the continuous scale, we are trying to overcome some of the disadvantages that the conventionally used Likert-scale type measures may possess [c.f. 48]. Russell & Bobko [48] speculated that the Likert scale requires subjects to

somehow compress or otherwise reduce their latent response. They suggest that information loss due to the coarseness of the dependent scale can result in an unknown systematic error, which can have an enormous effect on the ability to detect true interaction effects.

On a practical level, respondents are asked to evaluate their current reality and vision for the future as they perceive it regarding statements describing the identified constructs. As a result of the evaluation, a proactive vision is created, i.e. the gap between the current reality and future vision. The reasoning from the indicative statement evaluation to the visualized proactive vision is made with fuzzy logic [c.f. 40]. The aim of our research application is to help organizations to identify the prevailing nature of their employees’ commitment by examining its related constructs and aspects of working life collectively at the team, workgroup, or organizational level.

DEMOGRAPHIC CHARACTERISTICS

Several demographic characteristics were also included in the study as descriptive statistical variables. We included age, gender, highest education, job type, experience in current job and overall tenure in current organization. Also, we included nationality and total tenure in working life.

C. Preliminary Research Instrument Testing

The first testing of the instrument was performed with 18 industrial management M.Sc. program students with various engineering backgrounds in the fall of 2012. All the subjects were asked to answer the statements considering their own studies at the industrial management school. After the first test run, adjustments were made to some of the items. The second test run was made with 15 other M.Sc. students at the same institution in early 2013. After the second test runs, additional adjustments were made to the overall construction of the ontology behind the application and to its statements. The average age of participants in both studies was 31.5 years old and 70 percent of them were male.

Because the development of this application is still ongoing, only preliminary test results are presented. Figs. 1 and 2 illustrate examples of the category level results of the study.

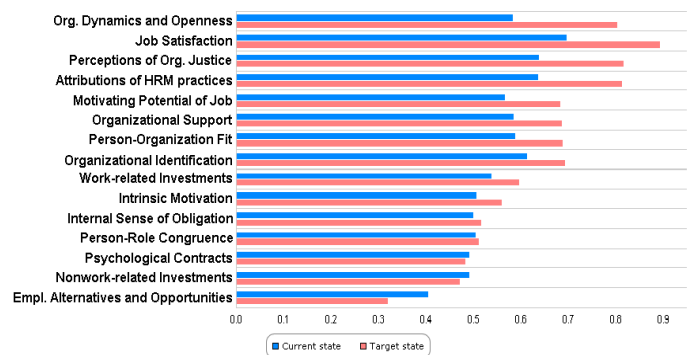


Fig. 1. Example of Category Level Results.

Fig. 1 represents an example of the category level results of the preliminary tests. The blue bars represent the group’s collective perception of the current reality (perceived current

state), and the red bars represent their vision for the future, and the difference is their collective proactive vision. The results have been sorted based on the highest proactive vision, i.e. the greatest collective feeling of tension between the current and envisioned future state.

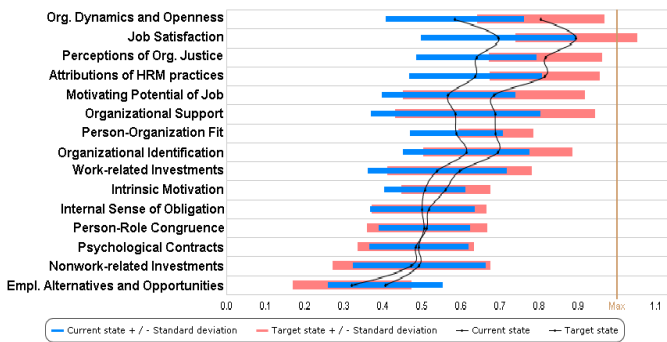


Fig. 2. Average and Standard Deviation of Category Level Results.

Fig. 2 presents the averages and standard deviations of the same category level results as in Fig. 1. The blue bars represent the current state results and their standard deviation in the research group. Likewise, the red bars represent the range of category level results and their standard deviation in the future target state in the research group. The lines represent the averages of these results.

Based on these preliminary results, it seems that understanding the nature of proactive vision is an important element of the process of developing these occupational factors. We believe that the categories that have the highest proactive vision are the targets that organizations should focus their development activities on in order to increase overall commitment in a specific organizational setting. The development of this instrument is still ongoing and we need more empirical results to improve its internal consistency, as well as usability. However, these preliminary tests have shown that with this application we are able to show some trends that could be used to assist organizations in their HRM practice development. In addition, these preliminary tests have shown many areas of the application that still need development. For example, the wording of some items has to be made more clear, and after more empirical research and analysis the overall amount of statements may have to be reduced.

IV. CONCLUSION AND FUTURE RESEARCH

There are a wide variety of reasons why organizational commitment is important and why organizations want their key employees to be highly committed. Studies have demonstrated that higher commitment is related to factors such as greater levels of satisfaction, motivation, and pro-social behavior, while lower levels are related to a higher intent to quit, a lower turnover rate, and tardiness. In addition, high levels of organizational commitment have been associated with greater work attendance, extra role behaviors, and reduced levels of absenteeism.

The theoretical part of this paper dealt with the issue of organizational commitment among employees in the supply chain function, especially in purchasing. The focus was

directed on employees in purchasing because, in their position, their work can have an enormous effect on company performance. The important personal qualities of employees in purchasing include the same qualities that are required from any employee in a responsible position, such as honesty, integrity, commitment, ambition, responsibility, and willingness to grow. However, many of these qualities have a special meaning for personnel in purchasing because of the higher trust their company has placed in them [29]. In addition, personnel in purchasing are in a position to develop external commitment towards their client organization, which emphasizes the importance of commitment to their own employer.

We believe that organizational performance can be achieved with employees who are motivated and committed to their work and to their organization. Therefore, it is important for management to be able to attain knowledge of the degree of their employees' commitment to their organization and the constructs affecting its development. In particular, retaining key employees and their commitment can be critical to the long-term success of the organization.

In this paper we also highlighted the basic principles of our newly developed application for commitment evaluation purposes. We developed this tool to make the factors affecting commitment clearer for management. Also, the visual nature of this instrument will enable management to gain a better understanding of this concept and quickly see the degree of factors affecting it in a certain specific group. This information will also help management to compare results of various evaluated groups and plan specific actions. We believe that, in addition to scale validity and reliability, the measurement method and the results it provides must be useful with regard to the organization's goals and objectives and it must be possible to administer it cost-effectively and rapidly. The first test runs of our evaluation instrument have shown that with the help of our application, a systemic view of organization's commitment-related environment can be formed. We believe that our application can point out the areas where the organization should direct the focus of its HRM practices in order to enhance these commitment-related factors. With the combined collective information gathered, the organization will be able to provide interventions to improve employees' working life and consequently the effectiveness of the organization. In addition, it will also be possible to systematically monitor how different commitment-related aspects will develop in the organization. However, more development is needed before we can take our application to a real business context.

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