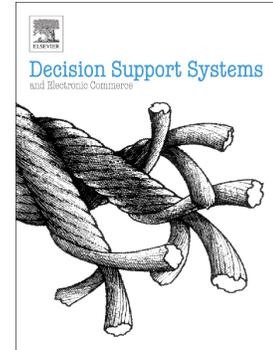


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TITLE PAGE

An Analytic Approach to Assessing Organizational Citizenship Behavior

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An Analytic Approach to Assessing Organizational Citizenship Behavior

Abstract

This study examines the organizational citizenship behavior (OCB) of employees by designing and developing an analytic network process (ANP) methodology. The viability of the proposed methodology is demonstrated via the sales representatives of Beko, a brand name of domestic appliance and consumer electronics giant of Arçelik Inc., controlled by Koç Group. We first develop a conceptual framework based on qualitative research methods – in-depth interviews and focus group sessions. We employ the principles of ANP methodology to examine and discover the inter-relationships among the OCBs. This process results in a descriptive model that encapsulates the findings from both qualitative and analytics methods. *Necessity, altruism, departmental, compliance, and independence* are the underlying dimensions of OCBs found to be the most influential/important. The key novelty of this study resides in designing and developing a prescriptive analytics (i.e. ANP) methodology to objectively evaluate the OCBs, which is rare in the area of organizational behavior (a managerial field of study that have been dominated by traditional statistical methods), and thus serves as a useful contribution/augmentation to the business/managerial research methods, and also extends the reach/coverage of analytics-based decision support systems research and practice into a new direction.

Keywords: Analytic network process (ANP); organizational citizenship behavior (OCB); qualitative research; sales representatives; consumer products.

An Analytic Approach to Assessing Organizational Citizenship Behavior

1. Introduction

Over the last three decades, the notion of organizational citizenship behavior (OCB) has received increasing attention from both scholars and practitioners, leading to a large body of research, particularly in the field of organizational behavior (OB) (Smith et al., 1983; Organ, 1988; Organ, 1990a; Williams and Anderson, 1991; Morrison, 1994; Podsakoff and MacKenzie, 1994; Van Dyne et al., 1994; Schnake and Hogan, 1995; Van Dyne et al., 1995; Organ, 1997; Organ et al., 2006; Marinova et al., 2010; Nielsen, 2012; Takeuchi et al., 2015). The extant OB literature posits that OCB is a valuable managerial tool for organizations, and if managed properly, has positive effects on both individual and organizational performance (Boorman and Motowidlo, 1997; Podsakoff and Mackenzie, 1997; Chiaburu et al., 2011).

Commensurate with its growing significance for competitive business settings, OB researchers tend to emphasize the dimensionality of the OCB (Organ, 1997; Podsakoff et al., 2000; Guenzi and Panzeri, 2015). However, the boundaries regarding what kind of behaviors remain in-role or extra-role should be made clear to managers who usually determine the formal task load for employees and also to those employees who know what their formal duties are (Vigado-Gadot, 2007). Accordingly, managers and employees have great deal of say over what should be defined as OCB and what exceeds the boundaries of such activities (Morrison, 1994). Thus, it is not only important to identify which OCBs are relevant, it is also vital to understand various types of OCBs that may be relevant for a particular business unit. This is illuminating for both practicing managers and researchers in order to gain deeper understanding in extra-role behaviors and the OCB theory.

Drawing on the principles of analytic network process (ANP), this study identifies and critically examines the nature of interdependencies between OCBs of sales representatives of Beko, a brand name of domestic appliance and consumer electronics giant of Arçelik Inc., controlled by Koç Group, which is the Turkey's largest industrial and services conglomerate. Sales employees are selected as appropriate case study subjects for the following reasons. First and foremost, they play a direct role in revenue generation and improving firm competitiveness compared to the employees of other departments (Perrow,

1970; Guenzi and Panzeri, 2015). Also, as Podsakoff and MacKenzie (1994) claimed, sales representatives are capable of focusing on both their personal and organizational performance simultaneously. Accordingly, sales representatives have been perceived as spanning boundaries while they enjoy empowerment and autonomy (Fu et al., 2009). The survival of an organization largely hinges on the organization's ability to understand its environment and stakeholders (Harrison and Freeman, 1999). To this end, sales teams may supply the required information about the organization's environment, which consists of competitors, customers, potential customers, industry and sectoral trends (Podsakoff et al., 2000).

While the ANP, as a multiple criteria decision making (MCDM) approach, has long been an invaluable tool in a wide variety of research areas, ranging from strategic management (Yüksel and Dağdeviren, 2007; 2010a; 2010b; Sevkli et al., 2012; Aragonés-Beltrán et al., 2017), knowledge management (Wu and Lee, 2007; Hung et al., 2011) and project evaluation (Jung and Seo, 2010) to operations management (OM) (Meade and Sarkis, 1999; Gencer and Gurpinar, 2007; Perçin, 2008; Gurbuz et al., 2012; Tan et al., 2012; Verdecho et al., 2012; Zaim et al., 2012; Kilic et al., 2014), its application to the OB field is relatively new. The ANP approach as a MCDM technique proposed in this study serves a useful link between the fields of decision support systems (DSS) and OB. By definition, DSS is an information system that supports organizational decision making by ranking, sorting or choosing among the possibilities. As pointed out by Sprague (1980), DSS includes any system that may be well used with decision-making. Since its emergence in 1960s, DSS has been applied in various areas ranging from long-term course planning (Mohamed, 2015), predicting police patrolling (Camacho-Collados and Liberatore, 2015) to business processes (Schönig et al., 2016), knowledge sharing (Yang and Wu, 2008; Wang et al., 2009), economic decisions (Bittmann and Gelbard, 2009) and unemployment rate prediction (Li et al., 2014). DSS researchers need to embrace contemporary research in psychology, management and related fields to provide a stronger theoretical basis for projects (Arnott and Pervan, 2008). The extensive usage of DSS in many domains proves that DSS is useful in solving problems, offering a new perspective to an existing situation or being proactive in case of uncertainty. Although the

usage of DSS in OB field is somewhat rare and needs further improvement, our study adds to the pool of DSS techniques that can effectively be utilized in this line of research.

Accordingly, the principles of decision-making methodologies like ANP can be employed to produce some scientific and fact-based solutions towards a better understanding of employee behaviors like OCBs. Thus, ANP approach proposed in this study as a DSS mechanism provides a step further in the analysis of the relative importance of OCBs, as demonstrated by sales representatives. It endows senior management with a methodological tool to think about the right orientation of strategy implementation with the objective of creating a strategy-supportive organizational culture. The analysis adopted in this study is based on a bottom-up approach and has been conducted from the viewpoint of the sales representatives who have to design and implement actions that should contribute to the objectives that have been defined at the strategic level. We do not work at the level of senior management who devise the strategies, but at the level of those who must implement them. Thus, this ANP model has the potential to help upper management to understand the department culture, which in turn enables them to apply relevant performance measures, reward systems, evaluation criteria and courses of action related to the unspoken or unseen rules of the work environment.

This study also contributes to extant OB and OM research in a number of ways. First, it elucidates the concept of OCB through an extensive literature review, as there is still confusion with respect to its conceptualization and empirical validation (Van Dyne et al., 1994; Van Dyne et al., 1995; Podsakoff et al., 2011; Farh et al., 2012). Second, this study is conducted in a key emerging country, Turkey. Although DSS research and practice started primarily in developed countries, there is still a clear paucity of DSS research in other country settings, particularly in emerging countries. Turkey, in this regard, provides a meaningful context for the development of DSS research and practice, as DSS is becoming increasingly crucial for all sectors at all levels and serves an important vehicle to modernize Turkey along with other emerging country economies (Chaudhry et al., 2007). Although most emerging countries are subject to huge institutional deficiencies in terms of financial, economic and legal infrastructure, the DSS researchers in emerging countries have demonstrated that DSS could enable both public and private

companies to cope with the challenges of global competition (McHenry, 2003; Delen et al., 2013; Dincer et al., 2016). The use of ANP on a new domain within an emerging country context like Turkey serves a useful contribution to an existing body of DSS research and practice in emerging countries. Another novelty of this study stems from its methodological rigor, which enables triangulation by incorporating qualitative research into ANP methodology, in the form of value judgments (and thus priorities). Qualitative research, in terms of its in-depth interviews and the use of focus groups, thus enables us to understand not only the basic OCBs but also the actual intentions and motivations behind OCBs. It illustrates an attempt to merge a theoretical approach with actual strategy-making value judgments. The incorporation of value judgments in the strategy-making process through the use of ANP generates a model that can be used in further research as well as in practice. This obviously constitutes one of the key reasons for selecting ANP methodology which helps us examine the relationships among OCBs.

The remainder of this study is organized as follows. In Section 2 we review relevant literature. The ANP methodology is presented in Section 3. Section 4 details the application of the ANP model. A discussion of findings and the conclusion are provided in the final section.

2. Literature review

In this section, we first review the pertinent literature to provide a concise definition of OCB, and also explain its role in OB research. We then present a brief coverage of the underlying dimensions of OCB used in this study.

2.1. Definition of OCB

The term OCB was first introduced by Dennis Organ and his colleagues in early 1980s (Smith et al., 1983). It is defined as “individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and that in the aggregate promotes the effective functioning of the organization” (Organ, 1988, p. 5). However, given the evolving nature of work life and business conditions, the creators of the concept revised its definition as: “Contributions to the maintenance and enhancement of the social and psychological context that support task performance” (Organ, 1997, p. 91). OCBs thus began to be recognized and taken into consideration not only as discretionary or extra-role

behaviors, but also as part of a job, and are often recognized by the reward systems of the companies (Marinova et al., 2010). Within this new definition, these two concepts - task performance and contextual performance - need to be clarified.

Task performance can be defined as the effectiveness of employee activities (Borman and Motowidlo, 1993). These activities are specified as contributing to the organization's technical core, either directly by performing a part of the organization's process, or by indirectly delivering required services and materials (Borman and Motowidlo, 1997). Examples of task performance for the employees of a sales unit might be following up the risk of franchisees, product knowledge, closing accounts, and keeping the marketing department informed (Werner, 2000).

Contextual performance is defined by Motowidlo and Borman (1997, p. 100) as "individual efforts that are not directly related to employees' main task functions but are important because they shape the organizational, social and psychological context that serves as the critical catalyst for task activities and processes". Contextual activities are defined as activities related to tasks but not formally part of the job. Examples may include helping both colleagues and other employees in an organization to get their jobs done (Borman and Motowidlo, 1993). When the notion of contextual performance is used in the definition of OCBs, OCBs and their demonstration by the employees have gathered attention by the human resources executives. Organ et al. (2006) also emphasize that extra-role behavior can be perceived differently for managers and employees; while the former group defines it as an in-role which means as part of the normal work role, the latter group might see it as an extra-role.

It is also important to note that the definition of OCB has to be considered in line with organizational effectiveness (Organ, 1997). Etzioni (1964) defines organizational effectiveness as being effective in accomplishing the tasks that the organization fulfills to be successful. Studies of OCB demonstrate that OCBs have substantial influence on organizational effectiveness (Schnake and Hogan, 1995), efficiency and success (Podsakoff and MacKenzie, 1994), since these behaviors allow the release of additional resources, allow managers to gain more time to invest in productive activities (Williams and Anderson, 1991) and improve co-worker productivity (Organ, 1988). As explained in detail by Podsakoff

et al. (2000), OCBs lead to organizational effectiveness by facilitating the coordination of the activities of workforce; by assisting organizations in attracting the required talent according to their strategic priorities, in increasing the stability of the organization's performance; and also by empowering organizations when adapting to environmental changes in order to make them perform more efficiently.

2.2. Dimensions of OCB

Within the context of these definitions, it is useful to recognize the following behaviors as OCB behaviors that are discretionary but aimed at performing the organization's activities. These behaviors should be perceived as positive according to the organization's employees and managers, and should be consistent with the organization's norms, culture, stakeholders, legal environment and owners. Drawing on research in the OB field, a set of 15 OCBs has been identified. The explanations related to each of the 15 OCBs are provided in Appendix 1.

Organ et al. (1983) classify OCBs into two categories (criteria); *altruism* and *generalized compliance*, where altruism represents interpersonal OCB and compliance signifies impersonal OCB (Williams and Anderson, 1991; Spitzmuller et al., 2008). Generalized compliance is a form of conscientiousness that does not offer direct help or assistance to any specific person, but rather is indirectly supportive to others involved in the system. Punctuality and not wasting time during breaks are examples of compliance behaviors (Podsakoff et al., 2000). Organ et al. (2006) define compliance as supporting organizational norms by means of placing importance on the norms themselves in a cooperative system (Marinova et al., 2010). Altruism, on the other hand, consists essentially of helping behaviors (Organ et al., 2006). No direct link has been found between helping behavior and a specific advantage for the organization, but in the long term, it is envisaged that the helping behaviors will ultimately be advantageous for the entire organization (Organ et al., 2006). Altruism is a derivation of prosocial behaviors which are basically exhibited as helping, sharing, donating, cooperating and volunteering in order to sustain the well-being and integrity of others (McNeely and Meglino, 1994; Cialdini and Goldstein, 2004). These activities can be directed both to *individuals* (Moorman and Blakely, 1995) and to the *organization* (McNeely and Meglino, 1994). Altruism in OCB studies combines the

advantages of prosocial behaviors which benefit the organization; such as attending social responsibility meetings; and the behaviors which benefit individuals, such as helping others who have workloads (Brief and Motowidlo, 1986).

Another categorization (defining intentions) of the OCBs is made according to the targeted behaviors that the employees exhibit for the *organization* (Spitzmuller et al., 2008) and for the *individual*, by means of either the individual themselves, or any other individual in the organization (McNeely and Meglino, 1994). Williams and Anderson (1991) define OCBs as behaviors that directly benefit individuals who are subject to OCBs and indirectly contribute to the organization where these behaviors may have effect on employee performances (Podsakoff et al., 2000). An example of OCB targeted at individuals is helping others who have been absent. It is clear that there are different psychological processes responsible for prosocial behaviors with the intention of gaining different advantages (McNeely and Meglino, 1994). On the other hand, OCBs for the organization include behaviors such as informing colleagues in advance if you will be absent or unable to go to work (Williams and Anderson, 1991).

OCBs began to be recognized and taken into consideration not only as discretionary or extra-role behaviors, but also as in-task behaviors, and can be accepted as a part of the reward systems of companies. OCBs have been demonstrated by a significant portion of employees, especially in group-based working departments (Organ, 1997). It is also important to note that employees may not only exhibit all types of OCB uniformly based on previous empirical research (Van Dyne et al., 1995; Settoon and Mossholder, 2002) but may also have new forms of OCB that have not been noted in the literature. This study is thus intended not only to examine the most commonly exhibited OCBs for sales representatives, but also to explore additional behaviors related to OCBs.

3. Research methodology

There are a wide variety of methods and practices that can be used for the application of MCDM approaches to organizational decision making problems. In a decision making situation, MCDM models are considered when there are alternative decisions subject to various and most of the time conflicting criteria. Some alternatives are usually closer to solving the problem when compared to other alternatives.

Since organizations deal with related and non-related problems in order to adapt to changes in their internal and external environments, MCDM models have become a central concern for managers.

Both qualitative and quantitative techniques are adopted in this study for structuring ANP type problems. While qualitative techniques are better at capturing and incorporating intangible aspects of a decision situation, quantitative techniques are more capable of objectifying the interrelationships among numerous criteria. In order to utilize the advantages of both methods, these two methodologies are combined within the same framework. The domain of knowledge about their OCBs is gathered from the sales representatives using qualitative techniques and the findings are analyzed and structured within a model using ANP, which is an influential tool with which to solve complex decision problems (Saaty, 1996; Saaty and Vargas, 2001; Saaty, 2005). Due to their complex and interdependent nature, the interactions among people which stem from both contextual and task settings cannot be explained by hierarchical structures. Since all the alternatives in this model are related, the weights that determine the interrelationships among all components need to be computed. Accordingly, the ANP method is used for settings which are based on the same pairwise comparisons. In this sense, complex analysis should be conducted in order to identify the ranking in terms of importance of OCBs. Figure 1 illustrates the steps of the research methodology that were adopted in this study.

Insert Figure 1 here

The scale developed by Saaty (1980) is used for pairwise comparisons. The fundamental comparison scale (1-9) determines the values of relative importance where a score of 1 represents equal importance (or preference or likelihood) between two nodes and a score of 9 denotes extreme importance (or preference or likelihood) of one node with respect to another node. By using Saaty's scale, researchers are able to integrate their experience, knowledge and intuitions in order to specify how often a node/cluster dominates another with respect to the other nodes/clusters. Pairwise comparison matrix A with n elements can be seen in Equation 1. This matrix indicates that the relative importance status of the element i on the element j is shown by $a_{ij} = w_i / w_j$ in the pairwise comparison matrix.

$$A = [a_{ij}] \quad i, j \in (1, 2, \dots, n) \quad (1)$$

In an ANP model, when the relationships among the criteria are clearly signified, they are specified as two-way interactions; that is, the relationships among OCBs are considered. These relationships then enable us to obtain more relevant and accurate results about the OCBs of a team or a work group. With the completion of the relationships of matrix A , which gives us an estimation of the comparative importance of the components, the theoretical expression of the model can be seen. The solution of Equation 2 below gives us a comparison of elements in the model:

$$Aw = \lambda_{max}w \quad (2)$$

Where, w is the corresponding eigenvector, λ_{max} is the largest eigenvalue of matrix A . There are several algorithms to approximate w . The Super Decision software program was used to compute the eigenvectors from the pairwise comparison matrices and to determine the consistency ratios.

There are three matrix analyses in the ANP approach: a supermatrix, weighted supermatrix and limit matrix. A supermatrix is a data structure that contains priorities from the comparison groups. It basically provides the relative importance of all components. The unweighted supermatrix contains all pairwise comparison results where a weighted supermatrix rated by the importance of clusters is important for network models. The limit supermatrix is the final version of the supermatrix, obtained by raising the weighted supermatrix to its odd powers as in Equation 3.

$$W = \lim_{k \rightarrow \infty} A^{2k+1} \quad (3)$$

Where A is the weighted supermatrix and k goes to infinity.

The constant values are calculated in the limit supermatrix by taking the limit of the weighted supermatrix. In order to form the initial supermatrix, the w is normalized to form a local priority vector. By retaining normalized priority vectors as a hierarchical representation of goal, factors, sub-factors and alternatives, the supermatrix is formed (Saaty, 2001) as in Equation 4.

$$W = [W_{ij}] \quad i, j \in (\text{goal, factors, subfactors, alternatives}) \quad (4)$$

Where W represents the supermatrix formation of a hierarchy and W_{ij} is the submatrix which embodies the impact of cluster j on cluster i . The weighted supermatrix can be formed by computing an eigenvector from the pairwise comparison matrix of the row clusters with respect to the column cluster.

This enables each column cluster to gain an eigenvector. The initial entry of the particular eigenvector for each column cluster is multiplied by all the elements in the first cluster of that column, and this procedure continues until multiplying all the elements in the model. There is thus a weighting process for the clusters in each column of the supermatrix in order to form a weighted supermatrix (Yuksel and Dagdeviren, 2010).

Since one of the aims of this study is to identify which OCBs are important and constantly exhibited by the employees of a sales unit, the results of the limit matrix may be insightful about the most repeated and presented OCBs.

4. Development of the ANP model

4.1. Pre-ANP stage: Case study setting

Our proposed model was applied to the sales representatives of Beko, a brand name of Arçelik Inc., controlled by Koç Group, which is the only Turkish conglomerate within the Fortune's Top 500 Global Companies list. Beko has a large portfolio of appliances, with more than 500 products, ranging from electronics, home appliances, and air conditioning to vacuum cleaners and refrigerators. Having achieved a large proportion of the share of the domestic market, Beko has also managed to introduce its brand to millions of consumers in more than 100 countries worldwide. Beko, which is the bestselling refrigerator brand in Western Europe, has had the fastest growing share in the European market for several years. The company demonstrates favorable performance in its home country market and has recently risen to 4th place in Western Europe's white goods market. Beko has also maintained its leadership on a product group basis in neighboring country markets, including the Middle East, Central Asia and also several African countries, where the company's consolidated sales had reached 5 bn. USD as of 2015 (Koç Holding, 2016).

Specifically, this study aims to identify and understand the OCBs of employees who work in a sales department of a home appliance company located in a greater metro-region of Istanbul. Previous research into management and organization practices in Turkey reveals that national and organizational culture affects the values, attitudes (Bilgic, 1998), leadership styles (Pasa et al., 2001), management practices

(Glaister et al., 2008) and expectations of employees (Collings et al., 2010). Since these differences are likely to create various OCBs, we decided to focus on a specific group of employees who work in the same department in a specific location. Beko sales teams who reside in Istanbul are also in charge of the dealers in various geographic locations throughout Turkey.

After securing the required permission from the company management, we initially contacted the sales department to ensure the cooperation of their employees. The Beko sales department consisted of 47 non-manager, white-collar sales representatives during the implementation of this research. Following our requests, a total of 23 sales representatives participated in various stages of our qualitative research.

4.2. Pre-ANP stage: Model development

The basic steps pursued in model development can be summarized as follows:

1. Two qualitative studies were performed;
 - a. In-depth interviews were conducted to assess the most important OCBs among the sales representatives.
 - b. Focus group sessions were undertaken in order to explore new OCBs related to OCBs.
2. Content analysis was performed in order to identify the relationships among OCBs.
3. The weights of each OCB were calculated within ANP model and the importance levels were identified.

The questions for the in-depth interviews were drawn from both the literature as reviewed earlier and also discussions with selected sales representatives. In-depth interviews were developed in a three-stage process. First, an initial theory-based version of the interview questions was developed. This version was reviewed by three sales representatives from various functional areas. Second, the first draft of the questions list was modified in line with the comments and suggestions of these employees. A revised version of the questions list was further pretested with three former employees of the sales department. Relying on the feedback from the second round of interviews, we then gave the list its final shape. The complete list of questions in the interview protocol is provided in Appendix 2. Each in-depth interview took around 50 minutes. Following in-depth interviews with nine sales people, two focus group sessions

were conducted where each session involved seven employees who did not participate in the in-depth interviews and also other focus group. The participants in both groups varied in terms of their work experience, ranging from assistant sales representatives who began to work recently, to senior sales representatives who had at least fifteen years of sales experience. Each focus group session lasted about one hour.

Using the focus group sessions and a contents analysis, a set of nine new OCBs were derived, in addition to the fifteen OCBs that were drawn earlier from a thorough review of the literature. These nine new behaviors are particularly useful for understanding the motives and intentions behind the existing OCBs. A brief explanation of each of these new OCBs is given below.

Altruism. As noted earlier, altruism is a form of prosocial behavior which is carried out to benefit other people (Batson and Powell, 2003; Dovidio et al., 2006). This definition includes voluntary acts and behaviors with the intention of helping another people, and the key point here is that the action should stem from intentional choice. In altruism, a person expects nothing in return for their helping because they wish to increase another's welfare (Batson, 2002). However, altruism criterion in this research is more in line with the term *reciprocal altruism*, which was defined by Trivers (1971). Reciprocal altruism basically states that people's expectations evolve from helping each other. At some future time, people are expected to return the favor that they received formerly. In this study, this tendency and the motives in altruism behaviors are very distinctive and clear. Since the sales representatives in Beko are working in teams and their performance measures basically depend on the team performance, they tend to exhibit reciprocal altruism.

Compliance. In addition to the previous definition of compliance, it is useful to note that compliance is basically publicly acting in accordance with a direct request (Cialdini and Goldstein, 2004). People who respond to this request may privately agree or disagree with the action they exhibit or sometimes they may have no opinion about the action they display, so the compliance which is shown by employees may be *external* or *internal* where external compliance refers to acting in accordance with a direct request despite privately disagreeing with it and where internal compliance involves both acting

and believing in line with the request (Cialdini and Goldstein, 2004). External compliance occurs because people tend to be concerned with other people's responses, and internal compliance occurs when people have personal commitments to the values and principles of the request.

Behaviors towards individuals, organizations and departments or brands. These three OCBs represent the behaviors targeted at co-workers, colleagues, managers or the organization's functions collectively. Behaviors towards individuals can include self-presentation behaviors. Such as performing or acting in a way to promote self-interests. *Strategic self-presentations* are processes of expressing and presenting oneself to shape other people's impressions and reach implicit objectives (Jones and Pittman, 1982; Nezlek and Leary, 2002). Of the self-presentation techniques, self-promotion is commonly employed during work-related interactions (Ellis et al., 2002; Stevens and Kristof, 1995) and thus in this study "individual" group behaviors involve these inclinations and motives. Self-promotion conveys positive information about the self through either the behaviors or narratives about positive assets and accomplishments. It is often displayed in situations where competence is highly valued, such as sales teams where everyone and every team or region has its own targets to accomplish and is competing with other members and teams. Behaviors towards a department or brand is like the sub-criteria of organizational group behaviors because in some cases employees tend to benefit the department or brand (e.g. Beko) in some situations.

Conformity. This is basically the yielding to perceived group pressure by copying the behavior and beliefs of others (Cialdini and Goldstein, 2004). Like compliance, conformity is a behavioral consequence of social influence, which is basically the expression of social power by a person or a group. Its main purpose is to change the attitudes or behaviors of others in a desired direction.

Independence. Along with compliance and conformity, independence is the third and the last main behavioral consequence of social influence (Cialdini and Goldstein, 2004). It is simply not being subject to control by others. It is difficult to distinguish independence from conformity because they often result from the same behavioral context.

Discretionary. Organ (1988) defines discretionary behaviors as offering any form of help voluntarily. The act is not considered to be an obligation or a requirement and it may not be seen as the part of the task or job. In this point, discretionary behaviors are compatible with the choice of employees and when they do not exhibit discretionary behaviors, they are not subject to punishment (Organ, 1988).

Necessity. Unlike other OCBs, this behavior has not been described in previous research. Necessity essentially represents a motive that stands between in-role and extra-role behaviors. For example, employees should help newcomers not because of their prosocial inclinations but because of their requirements in easing the work load. This type of behaviors is thus grouped as necessity, since their absence creates lags, incompetence or inefficiency in employee task performances. Necessity represents some discretionary behaviors promoted by upper management. For example, participating in a company picnic might be very important for the upper management, and employees may feel themselves obligated to participate. The absence of such behaviors does not harm the individual but in some degree, it also does not benefit them.

The initial set of 15 OCB behaviors was aggregated into three clusters that are labeled as *support*, *corporate* and *discipline*, and the other nine OCBs were also classified into two clusters, labeled *individualistic* and *collectivistic*. These five clusters are shown in the proposed model of the study in Figure 2. The OCBs in the *support* cluster are shown in order to obtain help, assistance and backing to the colleagues and associates. In the *corporate* cluster, the OCBs are mostly intended for the organization as a whole, and in the *discipline* cluster the OCBs are generally related to the person's task-related behaviors and performance. The OCBs in the *individualistic* cluster are shown particularly to other individuals and these behaviors stem from an individual's own personality and choices. The *collectivistic* cluster contains both in-task and prosocial behaviors that are demonstrated in order to cooperate with groups. For instance, these behaviors may be shown in order to benefit the whole organization or any department or any work team. The reliability of this clustering process was found to be satisfactory. The details of the methodology used for both content and reliability analysis is provided in Appendix 3.

Insert Figure 2 here

4.3. ANP stage: Analysis

The ANP methodology is implemented in a three-step process, which is explained as follows.

Step 1: The first step involves an evaluation of the proposed model through the ANP. The ANP model has clusters of elements connected by their dependence to each other. The purpose of this model is to identify the commonly exhibited OCBs which are presented in Figure 2. We thus define a complete set of network clusters and their nodes in which OCBs can be measured using the ANP method. Next, we connect all the nodes in each cluster with respect to their outer and inner dependencies, which were determined from the findings of qualitative research. These connections specify the impact between the nodes and these impacts or influences are shown by arrows between clusters. The loops above the clusters signify dependency among the nodes in same cluster (Saaty, 2005). The interdependencies among nodes and clusters are shown in Table 1.

Insert Table 1 here

Step 2: The next step is the formation of comparison sets between clusters and behaviors. Based on the results of the content analysis derived from the focus groups and in-depth interviews, the relationships among OCBs are defined and were rated through the Super Decisions software. We ended up with a set of numerical judgments and the priority weights derived from these judgments.

Step 3: We finally formed the supermatrix and synthesized the model. At this stage, weighted, unweighted and limit supermatrices are constructed. Priority vectors are derived in the supermatrix, a "0" appearing in the matrix means that the element in its row has no effect on the element in its column. The super matrix is constructed by assigning all the components in each cluster vertically on the left and horizontally at the top. The unweighted supermatrix includes the local priorities resulting from the pairwise comparisons of the model and can be seen in Appendix 4. The supermatrix is required to be stochastic to derive reasonable limiting priorities. A matrix is a stochastic matrix when all of its columns add up to one. The weighted supermatrix is obtained using the cluster matrix (formed after the cluster comparisons) to normalize the supermatrix. The control criterion can be any criterion at the upper or lower levels. In case of interdependency, nodes within the same level may be seen as controlling

components for each level. The weighted supermatrix results are provided in Appendix 5. Finally, the weighted supermatrix is multiplied by itself until the supermatrix row values converge to the same value for each column of the matrix. This is called the limit supermatrix and is shown in Appendix 6.

5. Discussion and conclusion

This study explored how sales representatives at a domestic appliance and consumer electronics giant exhibited OCBs, and also indicated the ranking of these behaviors based on their relative importance, using the ANP methodology. Employing a qualitative research approach, a set of nine new OCBs were identified, in addition to the fifteen OCBs that were drawn from previous literature. This entire set of 24 OCBs were analyzed and classified into five major clusters, labeled *individualistic*, *collectivistic*, *support*, *corporate* and *discipline*. Previous studies in the OCB literature suggested that it was not clear which forms of OCBs were of much importance (Podsakoff et al., 1994). But later studies show that both executives and employees realized that the many forms of OCBs have some considerable effects on both individual and organizational performance (Van Dyne et al., 1995; Werner, 2000). Team-based structures need to be used in more cooperation with inside and outside stakeholders. To remain effective, these structures necessitate forming interpersonal relations with customers and dealers. They thus need to promote an organizational image to current and potential customers and dealers (Borman and Motowidlo, 1997).

Table 2 shows the ranking of the full set of 24 OCBs based on the values of limiting priorities. Similarly, it is also possible to rank OCB clusters in terms of their overall scores by summing up the individual scores of OCBs constituting each cluster. At the cluster level, the *collectivistic* cluster is found to have the highest level of importance (31.6) followed by *individualistic* (24.2) and *support* (21.8) clusters. In contrast, both *corporate* (15.5) and *discipline* (6.9) clusters are noted to be relatively less important OCBs.

Insert Table 2 here

As noted earlier, Table 2 illustrates the relative importance of each OCB within its own cluster. Of the five OCBs comprising the *collectivistic* cluster, the OCBs presented as “necessity” and

“departmental” have the highest levels of importance not only within their own cluster but also within the whole set of OCBs, respectively. In fact, these OCBs were perceived as in-role behaviors instead of extra-role behaviors. Because of the continuum of the tasks, performance indicators depend on both prosocial and task related relationships among employees. Since the employees of sales departments are generally characterized by relatively higher levels of team spirit, they tend to support the well-being of their teams, although this kind of support or help would not have any direct effect on their individual performance levels (Moorman and Blakely, 1995). Employees who adopt team-based culture are thus likely to go beyond their in-role requirements, which in turn have positive effects on organizational performance. It is also important to note that the managers in collectivist cultures may evaluate OCBs more favorably in assessing the performance of their employees than the managers in departments shaped by different work values (Organ et al., 2006). In addition, when employees agree that their organization has a concern about the welfare of the groups, they tend to exhibit OCBs toward their organization or department (Brief and Motowidlo, 1986). The finding that “organizational” behavior has the lowest level of importance within *collectivistic* cluster suggests that the OCBs are not presented towards organization; instead they are mostly shown towards the employees’ work group, team or department. This finding is not particularly surprising in that, as Kramer (1999) asserted, employees tend to engage in social behaviors by exhibiting cooperative and altruistic behaviors. The finding is also in line with the view that the OCBs are not presented towards the organization; the priority is mostly on the employee’s work group or department, with whom they have social relations.

Within the *individualistic* cluster, “altruistic” behaviors of employees have the highest level of importance followed by “independence” and “discretionary” OCBs. Due to the nature of sales departments in general, the finding that altruistic OCB has the highest level of importance is not surprising, as it has also been confirmed by earlier research, noting that group cohesiveness was significantly and positively linked to altruism (Podsakoff et al., 2000). Altruistic behaviors can also inspire other team members and ensure cooperation (Yen and Niehoff, 2004) which will support teams to become more effective in performing their duties in achieving customer satisfaction (Podsakoff et al.,

2009). On the other hand, “individual” OCB is found to have the lowest level of importance. Performance evaluations and personal rewards are the sources of individualistic behaviors that are related to OCBs (Podsakoff et al., 2009). It might thus be asserted that according to Beko’s sales representatives, individualistic behaviors are ranked lower than collectivistic OCBs because more collectivistic behaviors are evaluated according to team performance levels. In general, performance measures are highly dependent on reaching the sales targets and managing the dealer relationships, which rely on team performance indicators.

In the *support* cluster, the finding that both “helping behavior” and “courtesy” constitute the first two OCBs with the highest level of importance can be partially explained by the team-based nature of the sales department, characterized by high levels of cooperation. In the *support* cluster, “sportsmanship” and “helping co-workers” have relatively higher levels of importance as these two OCBs intensify harmony in organizations (Podsakoff et al., 2000) and in turn create a more sustaining social environment. When employees think that they have been receiving help from their teams, they tend to reciprocate by expressing OCBs toward their colleagues (Deckop et al., 2003). On the other hand, “interpersonal helping” has the lowest level of importance within the *support* cluster. While helping behaviors are generally based on personal welfare that enriches the helper’s benefits and well-being (Spitzmuller et al., 2008), these behaviors are generally based on co-worker’s needs instead of team welfare and performance appraisals. The main motive behind exhibiting OCBs towards groups, teams or department instead of individuals, might be related to the rewards and performance recognition which are based on team performance, not individual performance.

Within the *corporate* cluster, “organizational obedience” features by far as the most important OCB. This might be explained by the collectivist culture that characterizes both the organization and the department. Organizational obedience is basically the acceptance of the organization’s rules, while respecting the orderly structures of the employees (Van Dyne et al., 1994). Even though every employee is obligated to follow the rules and regulations of their organization, the reality may simply be different. When performance measures are set according to the team-based structures, as in Beko, it becomes

necessary to form interpersonal relationships with both inside and outside stakeholders, such as the dealers, customers and employees of other departments. Sales representatives tend to demonstrate obedience noticeably in order to eliminate uncertainties when dealing with their tasks. Other than formal obedience, such as following the task-related rules, the company culture would encourage sales representatives to obey the informal rules of the organization. For example, they need to be in close contact with the marketing department in order to share information about products, prices and promotion policies. They should also follow up the risks of the dealers within the system with finance department employees. There is a high sense of hierarchy among the employees. On the other hand, the OCB of “organizational participation” has the lowest level of importance within the *corporate* cluster. Although some of the tasks of sales representatives at Beko rely to some extent on their relationships with other departments, the extent of their routines is dependent on their team and also on some departmental decisions. They do not usually need to demonstrate organizational participation since their contextual and task environments depend heavily on their team’s performance rather than their relations with employees in other departments.

In the *discipline* cluster, the OCBs of “job dedication” and “individual initiative” are found to have the highest level of importance. “Individual initiative” is based on communication in the workplace, and “job dedication” is largely related to self-discipline and task performance. Individual initiative behaviors are generally task-related extra-role behaviors that involve voluntary actions of creativity or innovation in order to increase both individual and organizational performance (Podsakoff et al., 2000). Beko’s sales representatives therefore need to develop some constructive ideas and also take initiatives to make practical suggestions in order to improve customer loyalty, dealer satisfaction and thus organizational performance. Sales representatives at Beko need to go beyond their task performance. Not only job dedication, but also volunteering to take extra roles is necessary to be able to be successful in their career development plans. Both “conscientiousness” and “personal industry”, however, are found to be the least important OCBs within the *discipline* cluster and also within the entire list of 24 OCBs, respectively. This might be because of their close relatedness to the individual’s own job-related tasks and performance.

Since sales representatives are generally working in a collectivist environment rather than an individualistic one, they tend to consider their group's or team's benefits first rather than considering their own individual performance.

5.1. Implications

This study presents a rigorous methodological approach that allows senior management of companies to perform a self-assessment analysis to ascertain to what extent OCBs are contributing to building of a strategy-supportive organizational culture towards a successful strategy execution. The model is based on the principles of ANP methodology, which has shown to be an effective analysis tool that incorporates value judgments as a key part of the input information. The method allows senior managers to conduct a thorough analysis of the OCBs exhibited by the sales representatives and whether they are in line with the strategic goals of the organization.

As noted earlier, Turkey, along with other emerging countries, has been suffering from vast institutional deficiencies with some significant impact on the performance of both public and private organizations in those countries. This type of analysis is essential to generate some scientific and fact-based solutions towards better understanding of employee behaviors, which will in turn allows top managers to devote their efforts to activities that substantially contribute to the achievement of the organization's objectives and consequently to a larger and more effective contribution to the welfare of emerging countries. The novelty of this study lies in the design and development of ANP methodology to a domain where ANP had never been applied before and with a new approach based on the analysis of the value judgments of sales representatives. The extension of ANP application to a new domain within an emerging country context also constitutes another novelty of this study by addressing to calls for more DSS research in emerging countries (Chaudhry et al. 2007). The method adopted in this study can also be extrapolated to the analysis of the OCBs of other organizations operating in different industries and even in different country contexts, only by changing the business units, yet maintaining the procedure.

This study also offers an important perspective for both scholars and practitioners who are mainly interested in linking OB and OM research through applying OM techniques for elucidating human aspects

of management and organization. The role of human motivation is essential for value creation since value creation does not depend solely on the firm's resources but also on the motivation of employees to leverage these resources (Bridoux et al., 2011). Understanding and evaluating not only the employees' task performance but also their contextual performance is important in assessing their motivation, which in turn leads to increased efficiency and effectiveness (Lado and Wilson, 1994). Our findings show that not all OCBs in the literature have been exhibited similarly by all employees. We thus recommend that both researchers and practitioners identify the most frequently exhibited OCBs of a particular team or department before applying models to dynamic decision processes. Recent methods, which are especially used in the area of human resource management, such for as assessment centers, competency based interviews and various forms of performance appraisals, enable practitioners to assess their employees through comprehensive and holistic methods. The data gathered from these methods can be used with a dynamic decision-making method in order to obtain more robust evaluations concerning both current and potential candidates. In line with dynamic decision making modeling, integrated and hybrid decision making models may be accommodated to managerial decisions and tradeoffs.

5.2. Limitations and future research directions

Although the findings of this study contribute to the utilization of MCDM techniques within the field of OB, which has been rare in this research stream, its limitations should also be recognized. Although large in size and spread geographically, relying on a single organization is a limitation of this study, which obviously hinders the widespread generalizability of the research findings. In fact, OCBs may vary with respect to different types of contingencies, such as an organization's climate, culture and leadership style. In our case, the OCBs of sales representatives or members of other departments are likely to go through some important changes as the work conditions, climate, management style or even the employees of the company undergo specific transformations. This study could therefore be extended by applying it to other research contexts, taking into account these contingencies. Another shortcoming of this study is the sample size, the 23 sales representatives participated in various stages of our qualitative research. A larger pool of participant may potentially lead to more reliable and robust interview/knowledge outcomes. Also,

even though ANP has become a capable and popular MCDM methodology in recent years, other MCDM methodologies such as VIKOR or PROMETHEE could also be employed to assess the OCB dynamics.

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FIGURES

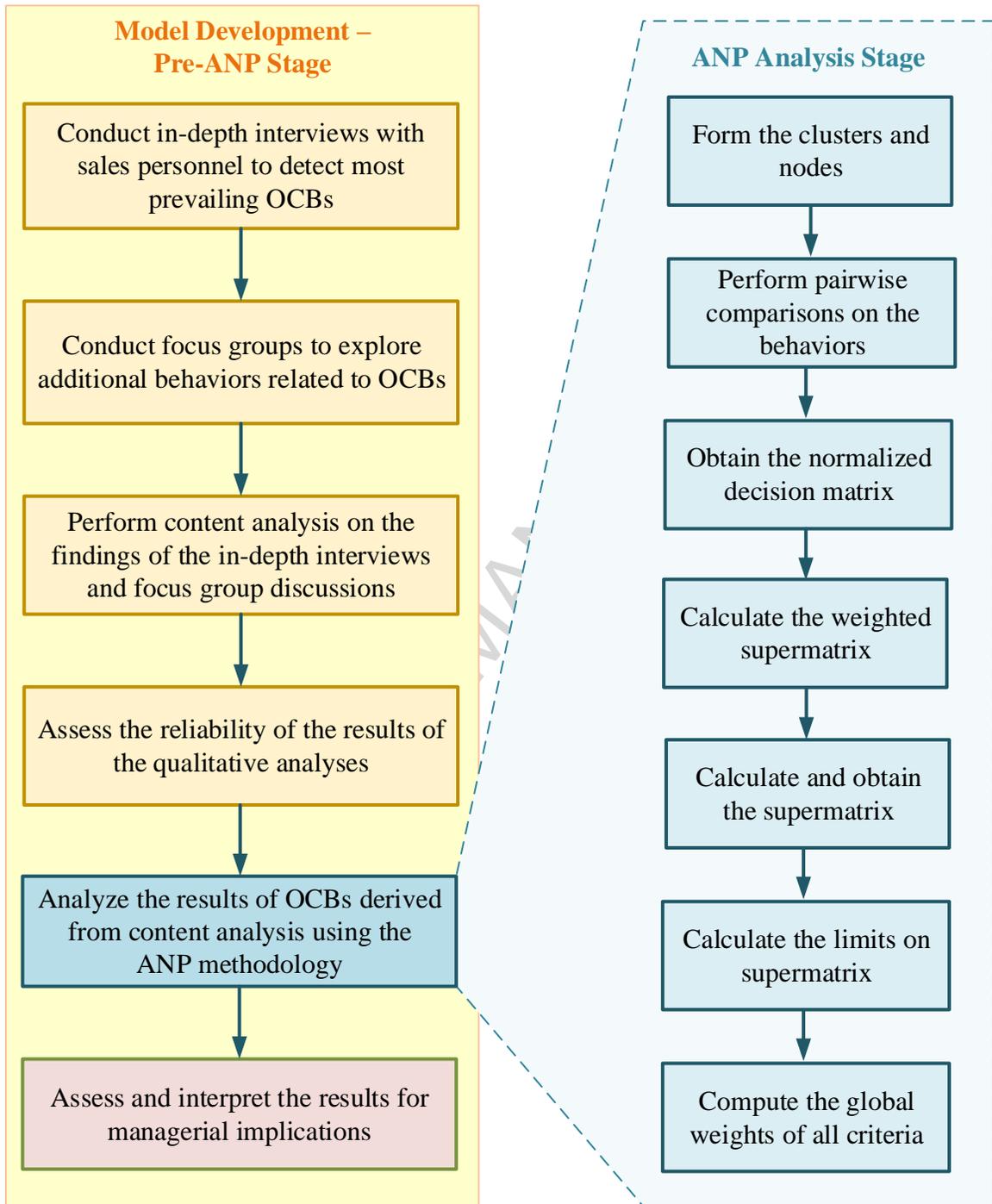


Figure 1. Research methodology

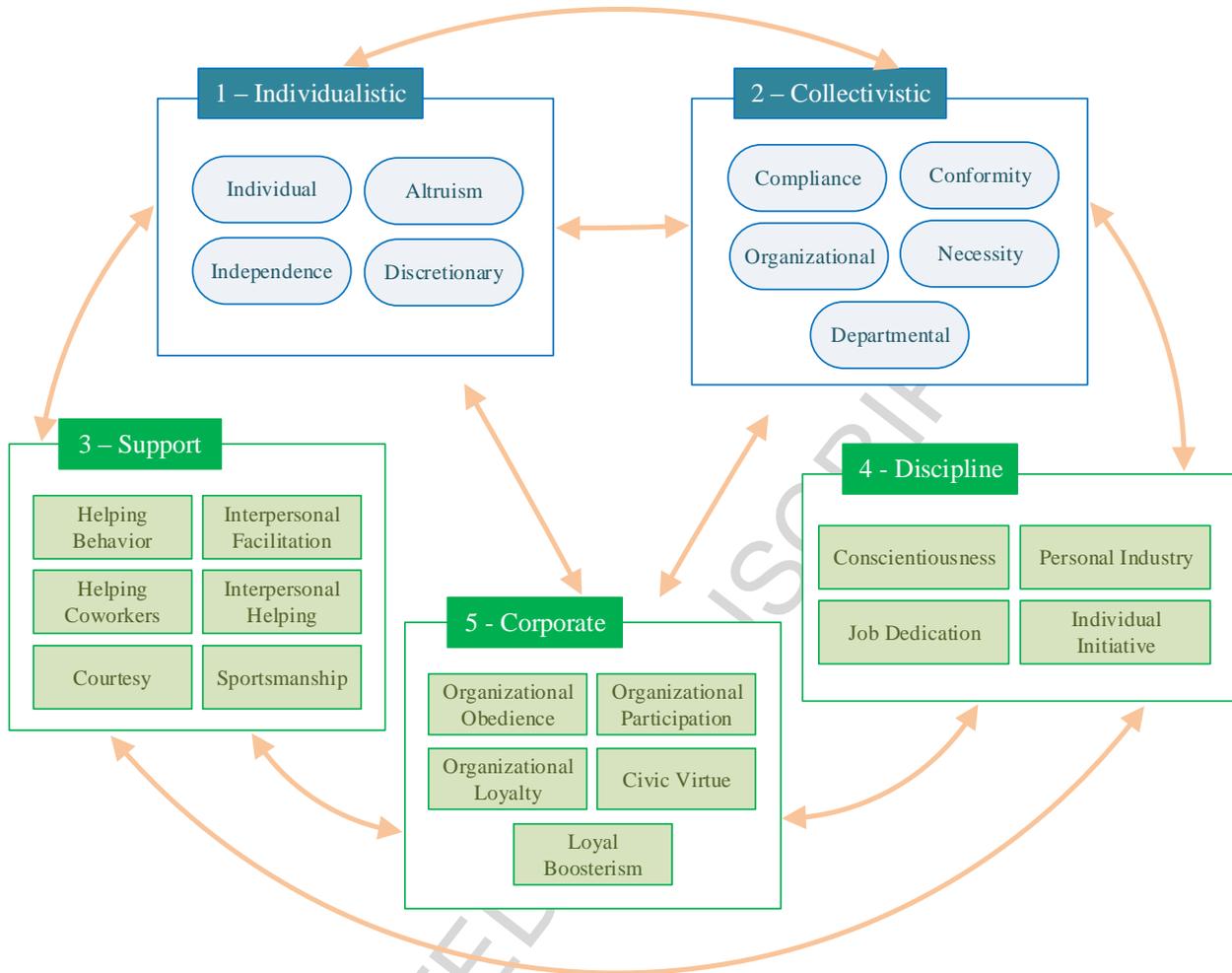


Figure 2. Proposed model

TABLES

Table 1. Interdependencies among nodes and clusters

Weighted supermatrix	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1. Altruism		x	x	x		x	x	x	x	x	x	x	x	x	x		x	x		x		x		
2. Discretionary	x		x	x	x	x	x		x			x		x			x	x		x		x		
3. Independence	x	x		x	x		x	x	x			x	x	x		x	x	x		x		x		x
4. Individual	x	x	x		x	x		x						x				x		x		x		x
5. Compliance		x	x	x		x	x	x	x	x					x	x			x	x	x		x	x
6. Conformity	x	x	x	x	x		x	x	x	x	x	x			x			x		x		x		x
7. Departmental	x	x	x		x	x		x				x					x		x				x	
8. Necessity	x		x	x	x	x	x		x	x	x	x	x	x	x	x			x		x	x	x	x
9. Organizational	x	x	x		x	x		x		x	x		x		x	x					x			
10. Courtesy	x				x	x		x	x		x	x	x	x	x									
11. Helping behavior	x				x		x	x	x		x	x	x	x	x									
12. Helping co-workers	x	x	x			x	x	x			x			x										
13. Interpersonal facilitation	x		x					x	x	x	x				x			x						
14. Interpersonal helping	x	x	x	x						x	x	x												
15. Sportsmanship	x	x	x	x	x					x	x	x	x											
16. Civic virtue	x		x		x			x	x												x			
17. Loyal boosterism	x	x	x				x											x						
18. Organizational loyalty	x	x	x	x														x						
19. Organizational obedience					x	x	x	x																
20. Organizational participation	x	x	x	x	x											x								
21. Conscientiousness					x	x		x	x															
22. Individual initiative		x	x	x				x																
23. Job dedication					x	x	x	x																
24. Personal industry			x	x	x	x		x																

Table 2. Normalized clusters and priorities (in percentage)

Cluster	Name	Normalized by cluster	Limiting	Ranking	Total
Individualistic	Altruism	39.40	9.40	2	24.20
	Independence	27.60	6.70	5	
	Discretionary	20.90	5.20	8	
	Individual	12.10	2.90	16	
Collectivistic	Necessity	30.50	9.60	1	31.50
	Departmental	21.70	6.90	3	
	Compliance	21.30	6.70	5	
	Conformity	16.60	5.30	7	
	Organizational	9.90	3.10	13	
Support	Helping behavior	21.40	4.70	9	21.90
	Courtesy	20.30	4.40	10	
	Sportsmanship	15.50	3.40	11	
	Helping co-workers	15.00	3.30	12	
	Interpersonal facilitation	14.10	3.10	13	
	Interpersonal helping	13.70	3.00	15	
Corporate	Organizational obedience	43.70	6.80	4	15.50
	Civic virtue	15.80	2.40	17	
	Organizational loyalty	15.20	2.40	17	
	Loyal boosterism	14.40	2.20	21	
	Organizational participation	10.90	1.70	22	
Discipline	Job dedication	34.50	2.40	17	6.90
	Individual initiative	32.80	2.20	20	
	Conscientiousness	16.80	1.20	23	
	Personal industry	15.90	1.10	24	

APPENDICES

Appendix 1. Dimensions of OCB

Helping behavior. Helping behavior remains in interpersonal aspects of OCBs and contributes to the effectiveness of the organization. Employees are willing to help their colleagues, associates, clients and/or the boss. To describe a behavior as altruism, a person should be self-motivated for this behavior and it is important to have a motive other than self-interest (Organ, 1997). Examples may include the support given to newcomers to the organization in order to ease their orientation processes, and also helping colleagues who have a lot of things to do (Smith et al., 1983).

Courtesy. These are the gestures used in the interest of preventing problems that would otherwise occur among the employees (Organ, 1997). Courtesy behaviors are part of helping behaviors, but they basically focus on preventing problems related to both task and prosocial subjects. These behaviors include being polite and considerate to each other (Organ et al., 2006).

Sportsmanship. Organ et al. (2006, p. 545) define sportsmanship as “an employee’s ability to roll with the punches”. Employees who have internalized sportsmanship behaviors are inclined to agree with the policies of the organization even if they do not like or agree with them. These behaviors also include bearing the unavoidable problems and requirements of work without complaints (Organ, 1990a).

Conscientiousness. This OCB consists of not only required tasks but also actions that include the wide range of requirements of the organization (Organ, 1988). Employees who display these behaviors accept and obey the rules, regulations, and procedures of the organization. Examples of this behavior are punctuality, and preserving and maintaining resources, which are vital for the organization (Organ, 1988; Organ, 1990a).

Civic virtue. Employees who present civic virtue behaviors are those who are accountable and involved in all kinds of processes of the organization, not only by communicating their ideas but also attending meetings and providing a variety of information for the entire organization (Organ, 1990b). This OCB also includes participation in, and contribution to both the formal and informal events of organization (Organ et al., 2006). These behaviors can be enacted regularly, such as attending meetings and participating in all kinds of activities related to the organization in general. Civic virtue behaviors can also include those that can be demonstrated in external settings, by guarding the organization’s policies and procedures in case of critics from outside.

Interpersonal facilitation. These behaviors consist of interactive communications that contribute to organizational goal accomplishment, and do not necessarily include task specific behaviors (Van Scotter and Motowidlo, 1996). Interpersonal facilitation behaviors include intentional acts that help to boost morale, improve cooperation, remove barriers to performance, or assist colleagues to accomplish their tasks. Interpersonal facilitation behaviors consist of a wide variety of interpersonal acts that help to sustain the interpersonal relations that are needed to support effective task performance in an organizational setting.

Job dedication. These behaviors include self-disciplined actions such as obeying the rules, a sense of working hard, and being the first mover in solving problems at work (Van Scotter and Motowidlo, 1996). This behavior includes Smith et al.’s (1983) generalized compliance criterion, and is the motivational basis for job performance that leads employees in an organization to perform with the motive of promoting the organization’s best interests. As previous research indicates, job dedication includes motivational traits such as conscientiousness (Van Scotter and Motowidlo, 1996) a generalized expectancy of task success (Motowidlo, 1979; Motowidlo, 1981) and goal orientation (Malouff et al., 1990).

Helping co-workers. These behaviors are related to the tasks that are not assigned as requirements of the job. Drawing attention to a potential error, sharing supplies, and offering help related to work are some of the examples of helping co-workers (George and Brief, 1992). These behaviors are voluntary (i.e. spontaneous) in that they appear in no job description: they are not planned for or assigned as requirements of the job. These everyday acts, if they occur, are often taken for granted. Their absence, however, may explain the process by which seemingly minor difficulties at work (e.g. a worker being out of supplies) result in more serious organizational liabilities (e.g. the production line being called to a halt) (George and Jones, 1997).

Appendix 1. Continued

Loyalty. As Van Dyne et al. (1994) note in their research, loyal citizens support and defend their communities and offer extra effort for the well-being of their society. Organizational loyalty can be understood in this sense as the identification of employees' self with their firm and commitment to their organizations' leaders and the organization as a whole. Some examples of this behavior are defending the organization against threats, contributing to its good reputation and cooperating with others to serve the interests of the whole.

Obedience. This behavior basically constitutes respect for systematic and organized designs and processes (Van Dyne et al., 1994). Employees who tend to present organizational obedience easily accept the necessity of the rules and regulations which are central to organizational structure, job descriptions and personnel policies. Their primary urge is to obey and follow the instructions and make sure that there is obedience to and compliance with the rules and regulations of the organization.

Participation. These are behaviors of active and responsible involvement in community self-governance in whatever ways are possible under the law, again as an analogous to employee behaviors (Van Dyne et al., 1994). Organizational participation is about organizational affairs guided by the ideal standards of a virtue; keeping others informed and expressing full responsible involvement in organizational governance. Employees who present participation behaviors are likely to attend a meeting in which participation is not obligatory. They also share their thoughts and ideas with others in the organization in order to contribute to organizational processes.

Loyal boosterism. This is basically the promotion of the organizational image to outsiders (Moorman and Blakely, 1995) or external environments, such as individuals and competitors. This type of behavior has an organizational and collective nature. Defending the organization against criticism, emphasizing the positive aspects of the organization, and refraining from complaining about the organization are examples of such behaviors (Van Dyne et al., 1994).

Personal industry. Employees who present these behaviors perform specific tasks which are not their primary tasks and duties (Moorman and Blakely, 1995). Employees who naturally work extra hours; spend additional work time on a task, or volunteer to participate in new projects are exhibiting behaviors related to personal industry.

Individual initiative. These behaviors include communications and interpersonal relations at work in order to increase individual and group performance (Moorman and Blakely, 1995). Individual initiative as a form of OCB focuses mostly on prosocial behaviors which include examples such as suggestions regarding creativity and innovation in order to improve a task or the organization's performance, carrying out both task-related and social actions with extra eagerness and energy to accomplish one's job, offering to undertake additional tasks and trying to encourage others in the organization to do the same (Podsakoff et al., 2000).

Interpersonal helping. This is deemed as an in-role behavior where its origin stems from the factors outside of employees' self interests. Examples of this behavior type include showing genuine concern and courtesy toward colleagues even when they are facing challenging business or personal situations, trying to make newcomers feel welcome in the work group rather than just helping them on their orientation day and adjusting their work schedules to accommodate other employees' requests for time-off (Moorman and Blakely, 1995).

Appendix 2. The list of questions in the interview protocol

#	Helping behavior
1	What do you generally do to introduce new employees to the work environment?
2	How do you help your colleagues when they are trying to solve their work-related or social problems?
	Courtesy
3	When you have a problem with a situation, do you try not to break the peace or do you prefer to express your feelings?
	Interpersonal facilitation
4	What is your general attitude while working with other departments?
	Helping co-workers
5	What do you think about transferring your professional knowledge, tactics and experience to your colleagues?
6	What do you think about warning your colleagues who work for other departments, on a risky situation? How do you explain to them the risks or flaws that you see?
7	Do you have problems when you have to share equipment, tools, and instruments with your colleagues? If yes, what kind of problems do you generally face?
	Sportsmanship
8	When you have a conflict with your colleagues, how do you settle this conflict?
	Interpersonal helping
9	How do you treat colleagues who have a very difficult task to accomplish?
	Personal industry
10	What is your attitude about the subjects that you are not responsible for but which will be very advantageous to the entire company?
11	What is your attitude when you find out that you have made a mistake in a task? How do you rectify it?
	Individual initiative
12	How do you express yourself to senior management/colleagues, or employees of other department in a situation where no one will support you but you believe that it is right for your company?
13	How do you motivate your colleagues to help them express their ideas in a meeting, if you have to? What do you do and how do you do this?
	Loyal boosterism
14	How do you feel when strangers/friends/ your colleagues criticize/praise your company?
15	How do you persuade other people/family members/friends to buy your company's products?
	Civic virtue
16	How do you communicate your suggestions and ideas when you want to introduce developments and improvements about your job, company, business etc.?
	Job dedication
17	How do you manage and ensure your work discipline? What values do you have regarding your work discipline?
	Organizational loyalty
18	What is your attitude if you face difficult news, comments and feedbacks? How do you feel about that?
	Organizational obedience
19	How do you describe your relations with your seniors?
20	How do you feel when you carry out the rules that your company expects you to follow?
	Organizational participation
21	What is your attitude to the meetings that you do not have any obligation to attend (e.g. another department's meeting, social responsibility meetings, company social gatherings)?
	Conscientiousness
22	If you are asked to accomplish a very challenging task and you have some opposing ideas about the situation, what do you do? How do you express yourself?
23	What is your attitude to the general rules and deadlines of your company?

Appendix 3. The methodology used for content and reliability analysis

Content analysis usually yields numerical descriptions of the data. The main idea is that many words in a text are summarized and classified into fewer content categories. This method requires the objective, systematic and quantitative description of the manifest content of communication (Zimmer and Golden, 1988). In line with the requirements, an analysis of the texts obtained from in-depth interviews and focus groups is performed. In the first phase, the researcher codes the answers of the respondents into a list of themes. In this study, these themes were the OCBs. The researcher then groups the themes into mutually exclusive and exhaustive categories. Two independent sorters group the OCBs under certain categories. Later, the researcher and the sorters discuss the reasoning behind the classification and come up with an agreed categorization. Finally, two judges, who are different from the sorters, group the themes into the agreed categories. In this study, the initial set of fifteen OCBs were grouped under three clusters and further nine OCBs obtained through focus group sessions were categorized under two clusters. Based on the findings from content analysis the judges were asked to make their own categorization to confirm whether our clustering matched with their own clustering. The level of agreement between the two evaluations was found to be adequate, with a 73% match. This situation is also known as average agreement. A z-score was calculated to find out the probability of obtaining a 73% match in the following formula.

$$Z = \frac{k - E}{\sqrt{np(1-p)}}$$

E: expected number of matches

p: probability that two judges assign a theme to the same category

k: items matched

n: total number of items evaluated, the themes

The percentage level of agreement between the two judges was found to be statistically significant ($z=14.24$, $p<0.001$) at 84.6% reliability level which was calculated by the following formula:

$$R = \frac{N * \text{Average Agreement}}{[1 + (N-1) * \text{Average Agreement}]}$$

N: number of judges.

Appendix 5. Weighted supermatrix

Weighted supermatrix	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1. Altruism	.00	.09	.09	.02	.00	.10	.09	.07	.09	.41	.41	.04	.13	.04	.41	.00	.02	.02	.00	.04	.00	.07	.00	.00
2. Discretionary	.08	.00	.05	.05	.02	.03	.05	.00	.01	.00	.00	.23	.00	.26	.00	.00	.15	.13	.00	.11	.00	.23	.00	.00
3. Independence	.08	.05	.00	.09	.09	.00	.02	.06	.05	.00	.00	.13	.27	.09	.00	.26	.07	.07	.00	.08	.00	.25	.00	.40
4. Individual	.02	.02	.02	.00	.05	.02	.00	.02	.00	.00	.00	.00	.00	.15	.00	.00	.00	.04	.00	.02	.00	.23	.00	.40
5. Compliance	.00	.07	.06	.11	.00	.03	.04	.07	.04	.03	.00	.00	.00	.00	.04	8.7	.00	.00	.22	.45	.26	.00	.41	.02
6. Conformity	.07	.04	.00	.03	.06	.00	.08	.07	.04	.10	.02	.07	.00	.00	.12	.00	.00	.00	.07	.00	.11	.00	.09	.11
7. Departmental	.08	.08	.02	.00	.01	.02	.00	.01	.00	.00	.00	.16	.00	.00	.00	.00	.45	.00	.48	.00	.00	.00	.09	.00
8. Necessity	.08	.00	.10	.06	.11	.14	.08	.00	.13	.10	.14	.02	.05	.00	.07	.07	.00	.00	.22	.00	.54	.20	.39	.06
9. Organizational	.02	.02	.02	.00	.02	.02	.00	.04	.00	.01	.08	.00	.20	.00	.01	.28	.00	.00	.00	.00	.07	.00	.00	.00
1. Courtesy	.06	.00	.00	.00	.08	.11	.00	.03	.01	.00	.03	.06	.08	.27	.22	.00	.00	.00	.00	.00	.00	.00	.00	.00
11. Helping behavior	.15	.00	.00	.00	.00	.02	.00	.10	.10	.02	.00	.18	.16	.10	.06	.00	.00	.00	.00	.00	.00	.00	.00	.00
12. Helping co-workers	.05	.03	.02	.00	.00	.04	.17	.02	.00	.00	.15	.00	.00	.06	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13. Interpersonal facilitation	.02	.00	.12	.00	.00	.00	.00	.01	.05	.06	.06	.00	.00	.00	.03	.00	.00	.42	.00	.00	.00	.00	.00	.00
14. Interpersonal helping	.01	.16	.07	.22	.00	.00	.00	.00	.00	.14	.04	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15. Sportsmanship	.06	.09	.07	.07	.08	.00	.00	.00	.00	.09	.03	.06	.08	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16. Civic virtue	.00	.00	.01	.00	.02	.00	.00	.07	.30	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.28	.00	.00	.00
17. Loyal boosterism	.03	.08	.05	.00	.00	.00	.06	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.30	.00	.00	.00	.00	.00	.00
18. Organizational loyalty	.09	.03	.05	.09	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.28	.00	.00	.00	.00	.00	.00	.00
19. Organizational obedience	.00	.00	.00	.00	.19	.30	.24	.22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20. Organizational participation	.02	.01	.01	.03	.07	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.28	.00	.00	.00	.00	.00	.00	.00	.00
21. Conscientiousness	.00	.00	.00	.00	.05	.02	.00	.02	.13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22. Individual initiative	.00	.18	.12	.13	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23. Job dedication	.00	.00	.00	.00	.05	.09	.13	.06	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24. Personal industry	.00	.00	.06	.04	.01	.01	.00	.03	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

Appendix 6. Limit supermatrix

Limit supermatrix	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1. Altruism	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09
2. Discretionary	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
3. Independence	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
4. Individual	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
5. Compliance	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
6. Conformity	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
7. Departmental	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
8. Necessity	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09
9. Organizational	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03
1. Courtesy	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
11. Helping behavior	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
12. Helping co-workers	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03
13. Interpersonal facilitation	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03
14. Interpersonal helping	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03
15. Sportsmanship	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03
16. Civic virtue	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
17. Loyal boosterism	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
18. Organizational loyalty	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
19. Organizational obedience	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
2. Organizational participation	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
21. Conscientiousness	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
22. Individual initiative	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
23. Job dedication	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
24. Personal industry	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01

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Highlights

- The nature of interdependencies between OCBs of sales representatives is examined.
- Use of analytic techniques in studying OCBs is shown to be highly effective.
- ANP lends itself as a viable MCDM tool to identify the prevailing OCBs.
- Necessity, altruism, compliance and independence are found to be the most important OCBs.
- Use of ANP on OCBs in Turkey contributes to DSS research in emerging countries.

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