The employee satisfaction in metalworking manufacturing: How do organizational culture and organizational learning capacity jointly affect it?

Bulent Aydin; Adnan Ceylan

Gebze Institute of Technology (TURKEY)

bulentaydin@kibarholding.com; aceylan@gyte.edu.tr

Abstract: It is a known fact that the organizations, which give more attention to the satisfaction of their employees, produce more successful outcomes than others do. In this sense, we have constructed an original model and carried out a research analysis in metalworking manufacturing, which the main subject is about to investigate the employee satisfaction depending on the factors of organizational culture and organizational learning capacity. The aim of the research is to contribute to academic researchers as well as managerial level and human resource department employees of metalworking organizations, in maximizing the employee satisfaction. The research was applied on 578 employees of the related industry. By the results, we have determined that the constructed model is significant and there is positive significant correlation both between -organizational culture and employee satisfaction- and -organizational learning capacity and employee satisfaction. Additionally, the total explained variance of employee satisfaction depending on these two variables has come out as the value of 0.56.

Keywords: employee satisfaction; organizational culture; organizational learning capacity

The employee satisfaction in metalworking manufacturing: How do organizational culture and   143
organizational learning capacity jointly affect it?

B. Aydin; A. Ceylan

1 Introduction

People join various organizations in most part of their lives. The organizations are strong social tools for arranging the relationships between the individuals. The organizations are composed of two or more people to achieve a goal (or goals) whose behaviors are managed according to specified rules (Applewhite, 1965). Another definition is that organizations are goal directed, boundary maintaining, and socially constructed systems of human activity, which focuses attention on the social processes involved in the genesis and persistence of organizations (Aldrich, 1999). When an individual wants to achieve his goals, which require more power than he has, he must cooperate with others. We may understand from these statements that the organizations satisfy the individuals' needs with interactive and collaborative working processes. Just like the individuals, the organizations also collaborate with the other organizations and that is why, they must be in aware of the events becoming outside their organization.

The complexity of environmental changes forces firms to search efficient operational exploration for their development process. This means, increasing the efficiency will play important role in accelerating the development of the organizations. It is sure that there are many factors affecting the organizational effectiveness and one of them is the employee satisfaction. Effective organizations should have a culture that encourages the employee satisfaction (Bhatti & Qureshi, 2007). For these statements, our research analysis will investigate the employee satisfaction as a dependent variable and -the factors affecting the employee satisfaction-, as the independent variables. We know that there are many factors affecting the employee satisfaction. Leadership, employee benefits, job content, performance appraisal system, job safety, commitment level to the organization, improving the workplace conditions, relationships between managers or other employees may be described as the factors influencing the employee satisfaction. However, in our study, the independent variables have been selected as organizational culture and organizational learning capacity as a different point of view. Organizational culture and organizational learning have always been important for organizations and should be fully investigated. Our study will try to find out the effects of organizational culture and organizational learning capacity on employee satisfaction in the metalworking manufacturing. To maximize the employee satisfaction, we will find out the relative effects of the two independent

The employee satisfaction in metalworking manufacturing: How do organizational culture and   144
organizational learning capacity jointly affect it?

B. Aydin; A. Ceylan

variables. To calculate how to maximize the employee satisfaction, we will create a mathematical equation. In order to determine this equation, we have applied a survey instrument on the employees of metal industry. After testing the reliability of the survey instrument and the correlations between the variables, we will analyze what percent of the total variance will be explained by the variables of organizational culture and organizational learning capacity. Moreover, the importance level of each of these two variables on employee satisfaction will be determined.

The study is an original study as it has been applied on the metal industry. We have selected this sector for several reasons. The metal sector has great significance in the global economy. The experts in this sector create their strategy maps by following the global market conditions. Therefore, our study gains an international importance. Besides the global view, there are some other reasons. The working condition of metalworking manufacturing is so hard that needs to be developed to facilitate these hard working conditions. From social work perspective, there is significant number of employees in the metal industry in all over the world. In this manner, the results of this study will contribute to the welfare of the countries. Additionally, investing on this sector requires great monetary power, which may discourage the investors. Therefore, the investors will gain a different point of view in the decision process of investing on this sector. Lastly, there are not considerable researches related with the development of this sector (depending on the factors stated in our model). Consequently, the organizations will gain an extensive vision to grow in their sector and this will help to raise the standards of professional social work. Furthermore, our study may also contribute to the globally acting sectors other than metal that are challenging similar problems.

2 Literature review

2.1 Employee satisfaction

Utilizing from the employees is important for the effectiveness of the firms. This contributes to have competitive advantage; and mostly, human resource management (HRM) deals with this subject in the organizations. There is the 'employee concept' in the center of HRM. These employees are the ones who are working for that firm or have the possibility of working for that firm. HRM can be

The employee satisfaction in metalworking manufacturing: How do organizational culture and   145
organizational learning capacity jointly affect it?

B. Aydin; A. Ceylan

defined as the management of the decisions and actions related with the employees in the organization to implement the strategies for creating competitive advantage. Another definition about HRM is from Armstrong (2000), that it is the strategically management of the members of an organization who contribute to the achievement of that organization's objectives. These definitions make us conclude that HRM is a strategic business and should be concerned strategically. Strategy may be defined as the statement of what an organization wants to become, the objectives it wants to reach and, how it means to get there (Armstrong, 2000). Strategic HRM (SHRM) helps the organization in reaching its objectives, and the main players in SHRM are again the 'employees'. Lawler (1986) argued that a firm's HR strategy should be centered on developing skills and ensuring motivation and commitment (Wallace, Eagleson, & Waldersee, 2000). In this statement, 'ensuring the motivation' is concerned with the employee satisfaction. That is why; the satisfaction of the employees takes an added importance.

Employees are more loyal and productive when they are satisfied (Hunter & Tietyen, 1997), and these satisfied employees affect the customer satisfaction as well as organizational productivity (Potterfield, 1999). Employee satisfaction is defined as the combination of affective reactions to the differential perceptions of what he/she wants to receive compared with what he/she actually receives (Cranny, Smith, & Stone, 1992). Therefore, the organizations should try to supply the employee expectations in order to approach the employee satisfaction. In addition, emotional state of the employees may also affect their satisfaction. This forces the managers to create and sustain positive working environments in the organizations. One the other hand, the well-satisfied employees cause to increase the organizational citizenship and; as stated by Organ and Ryan (1995), the employee satisfaction is the basic of organizational citizenship behavior (Ozdevecioglu, 2003). That is, the satisfied employees will work more willingly and this contributes to the effectiveness of their organizations.

There is no limit for the employees to reach the full satisfaction and it may vary from employee to employee. Having good relationships with the colleagues, high salary, good working conditions, training and education opportunities, career developments or any other benefits may be related with the increasing of employee satisfaction. When investigating the employee satisfaction, it should be known that; -an employee may be more satisfied by a satisfying item, whereas the

The employee satisfaction in metalworking manufacturing: How do organizational culture and   146
organizational learning capacity jointly affect it?

B. Aydin; A. Ceylan

other employee may be less satisfied with the same item-. Because of this, we had better analyze the employee satisfaction from a large perspective. That means; the sum of all satisfying factors composes that employee's satisfaction level. For all these statements, we may define the employee satisfaction as; how pleased an employee is with his or her position of employment (Moyes, Shao, & Newsome, 2008). To investigate what the employees are satisfied by and measuring the employee satisfaction in the workplace is critical to the success and increases the profitability of the organization for having competitive advantage (Kelley, 2005). Therefore, researching different factors of employee satisfaction on different areas (such as manufacturing industry, service industry or etc) will enrich the literature and contribute to organizations.

2.2 Organizational culture

The people learn most of the behaviors and beliefs from the people they grow up with. Although each individual has unique talents and personal preferences, the behaviors and beliefs of the people in the same organizations show common properties. This helps the organizations to create their own cultural properties. Since the members in the organizations work together to become a team, the created culture will enable the organization members to understand each other easily and work effectively. Deshpande and Webster (1989) make a definition for culture that, it is the pattern of shared values and beliefs that help members of an organization understand organizational functioning and thus teach them the behavioral norms in the organization (Kandemir & Hulth, 2004). Culture is the shared knowledge and schemes created by a set of people for perceiving, interpreting, expressing, and responding to the social realities around them (Lederach, 1995), and is an active living phenomenon through which people jointly creates and recreates the worlds in which they live (Morgan, 1997). The beliefs and ideas of the organizations have created the culture, which cannot be seen, but its physical manifestations are felt in the workplace. In fact, the working environment is surrounded by the culture, which shapes the job relationships and processes in the organizations. For Schein (1992), the organizational culture helps the organization to solve its problems of -external adaptation and internal integration- by creating a shared pattern. As the new members come into the organization, they deal with these problems in this shared pattern. According to these definitions; (in the organizations) a group of people come together to perform a

The employee satisfaction in metalworking manufacturing: How do organizational culture and   147
organizational learning capacity jointly affect it?

B. Aydin; A. Ceylan

job, they need a set of rules to act in common manner and they need to know how to act in various circumstances. Knowing -how the other members of the organization act in the same circumstances-, gathers the organization members under the same umbrella. Organizational culture is also taken into consideration in the decision making process of long-term plans for strategic planning. O'Cass and Ngo (2007) state that market-oriented behaviors (which generally take place in the organizations' strategy maps) are driven by the organizational culture that manifests itself in specific behaviors. That is why; the strategic planners place much emphasis on the strong role of culture. This helps the organizations to have competitive advantages and nourishes the organizational health.

It is widely accepted in the literature that the organizational culture is a complex concept and should be analyzed from various perspectives. In metal sector, communication and transmission of new knowledge is essential to create a continuous way for strategic processes. Additionally, a well control mechanism and the satisfaction of customers should be included in these processes. We believe that, in accordance with the scope of our research analysis, the multidimensional nature of organizational culture will be investigated in terms of involvement, collaboration, transmission of information, learning, care about clients, strategic direction, reward and incentive system, system of control, communication, coordination and integration (Ginevičius & Vaitkūnaitė, 2006). For Ginevičius and Vaitkūnaitė (2006), the first dimension -involvement- is defined as to provide favorable conditions for all the members of the organization for decision making processes and giving various ideas or suggestions for the organization. Collaboration is the encouragement of the teamwork rather than individual work. Transmission of information is defined as the reaching of new or other important information to the employees in due time. Learning culture is creating ways to facilitate the learning business and it assists to increase the organizational learning capacity. Care about clients is related with the satisfaction of the clients. Strategic direction deals with achieving the pre-identified goals and plans of the organization. Reward and incentive system provides motivation for the employees. System of control directs the employees and the managers need less supervision for their employees. Communication is the lifeblood for an organization that builds bridges with the employees within the organization. Coordination and integration is different from communication that it ensures to work effectively with the persons from other departments or groups when carrying out common activities.

The employee satisfaction in metalworking manufacturing: How do organizational culture and organizational learning capacity jointly affect it?

B. Aydin; A. Ceylan

148

Actually, each of the culture dimensions has different level of effect on sustaining the organization. The selected dimensions in this paper are believed to be the basic and important ones for metalworking industry.

2.3   Organizational learning

Organizational learning has become popular in organizational literature in recent years (Wang, Yang, & McLean, 2007). Lifelong learning makes a major contribution to not only the organization itself but also the economic development of the related country. Organizational learning requires the participation of all the members of that organization. Huber (1991), Slater and Narver (1995) say that organizational learning is a complex process that refers to the development of new knowledge and it has the potential to change behavior (Škerlavaj, Štembergera, Škrinjaraand, & Dimovskia, 2007). In addition to these definitions, Cyert and March (1963) state that organizational learning has been viewed as a process, by which organizations as collectives learn through interaction with their environments.

Organizational learning will strengthen the organization to achieve improved results because it ensures adapting to change, growing through innovation, having result-oriented employees. Sharing is one of the key factors in the organizational learning and the lots of the on-the-job learning activities occur from the experiences of the employees. During the working, the individuals continue to learn and, 'learning on the job efforts' become the part of their learning culture. The colleagues in the organization watch the other employees' behaviors and this contributes to the less experienced employees. Since organizational learning helps to increase the amount of existing knowledge of the organization, the organizations should make it a continuous process until creating their own way for culture. Reinforcing the organizational learning to become the part of the organization's culture starts to shape the learning behaviors of the organization's members.

For Senge (2006), organizational learning is so important to create the future that the organization wants and it is focused on five core disciplines; systems thinking, team learning, shared vision, mental models and personal mastery. Systems thinking is the ability of seeing the whole, and to focus on the relationships of the parts in that system, team learning is utilizing the experiences of the group by feeling of synergy which means sharing the knowledge, shared vision is that, every individual knows the role of himself and tries contribute to make that vision real,

The employee satisfaction in metalworking manufacturing: How do organizational culture and   149
organizational learning capacity jointly affect it?

B. Aydin; A. Ceylan

mental models are how the individual understand the others and the personal mastery is the discipline of personal growth and learning (Senge, 2006).

2.4 Organizational learning capacity

The consumer demands change rapidly and the organizations' strategies must flex to these changes by improving the innovation capacity of the organization. The innovation capacity of an organization is dependent on the learning capacity of that organization. The organizational learning creates knowledge and the members share this knowledge with the whole organization to improve the efficiency. These organizations tend to build their capacity to utilize from the outside knowledge.

The organizations should know their learning capacity, which is related with how more they can learn. Additionally, enhancing the learning capacity for new learning areas may contribute to the competitiveness of the organizations. It is now widely accepted that in order to survive in the increasingly competitive global business, organizations need to develop their productive learning capacity (Millward, 2006). The learning capacity uses the available knowledge within the organization and to continually renew the knowledge, and this capacity determines the organizational improvement and, hence, its competitiveness (Prieto & Revilla, 2003). In renewing the knowledge, the organizations acquire the learning activities from either inside or outside of the organization. This requires an environment conducive to learning. 'Learning capacity in organizations is often characterized by two essential dimensions (Dierickx and Cool, 1989; Steward, 1997; Bontis, 1999; Decarolis and Deeds, 1999; Vera and Crossan, 2000) a static dimension, based on the structures that hold the stocks of knowledge –tacit or explicit- which are internal to the organization, a dynamic dimension, based on the knowledge flows –representative of learning processes- that embody the knowledge streams into the organization which make knowledge stocks evolution possible that are the input of numerous knowledge flows as knowledge generation, accumulation, distribution and utilization, which may be assimilated and developed into stocks of knowledge' (Prieto & Revilla, 2003, p:3). Increasing the stock of knowledge makes the organizations chary in case of unknown and sudden circumstances. In this manner, organizational learning capacity provides proactive learning. In adaptive learning, the organization may solve the problems that have already occurred, but in proactive learning, the organization learns for the potential problems that have the probability to occur. That is, proactive learning is a reason for being 'leader' in

The employee satisfaction in metalworking manufacturing: How do organizational culture and   150
organizational learning capacity jointly affect it?

B. Aydin; A. Ceylan

the sector and organizational learning capacity has a role in providing this proactive learning.

Organizational learning capacity can be identified in four components namely, systems orientation, organizational climate for learning orientation, knowledge acquisition and utilization orientation, and information sharing and dissemination orientation (Teo & Wang, 2006). The systems orientation develops a way of looking at the outside and creating a new methodology if needed. Systems orientation makes the person a systems thinker and provides to identify the problems and to solve them faster. Kandemir and Hulthb (2004) define the systems orientation as; it is the broad picture of organizational systems managed by the top management and comprised of innovation, manufacturing, marketing, and distribution where the systems thinking is required. For Senge (1990) and Stalk (1988) systems thinking is understanding the systems and interrelations between the subsystems and it encourages the organizations to focus their strategic efforts on one system (Kandemir & Hulthb, 2004).

The organizational climate for learning orientation is another component of the organizational learning capacity. The organizational learning climate analyzes how the organization members' learning is being affected by these environmental conditions. Changing the conditions to improve the learning activities will facilitate the organization's members to acquire new skills. Schein (1985) and Mikkelsen and Gronhaug (1999) think that, an organization's climate is thought to be a direct behavioral manifestation of organizational culture, which is a deeper and less consciously held set of cognitions and affective attachments (Janz & Prasarnphanich, 2003). According to Moss-Kanter (1983), Slater and Narver (1995), a climate conducive to learning is expected to influence the rate of organizational learning and, ultimately, organizational performance (Janz & Prasarnphanich, 2003). The learning climate is related with the statement where the environment is surrounded with the opportunities of learning. The environment sometimes facilitates and sometimes hinders the learning.

The other component of the organizational learning capacity is knowledge acquisition and utilization orientation. For Choo (1998), knowledge acquisition and utilization orientation represents the extent to which an organization is skilled in obtaining and assimilating the knowledge necessary for improvement and transformation in processes and structures, and for innovation (Teo & Wang,

The employee satisfaction in metalworking manufacturing: How do organizational culture and   151
organizational learning capacity jointly affect it?

B. Aydin; A. Ceylan

2006). In this way, new knowledge may be created; above all, important knowledge may be separated from the non-important ones (to determine the priorities for the organization). Knowledge utilization states that the acquired knowledge creates new capabilities and innovations and helps to embody this knowledge to become the organization's routines, processes and mindsets (Wikstrom & Normann, 1994).

As a last component, information sharing and dissemination orientation provides facilitating to reach the information within the organization. Every organization wants to increase the information they have and; one of the ways to do is to utilize from the sharing and dissemination method. Information sharing helps the colleagues to hear about all the new gained knowledge, so the members of the organizations will better meet the needs of the organization. This component also provides using the information channels better with the other organizations. This will be another way to increase the total amount of the organization's knowledge. In the future, some organizations from different markets will form collaborative networks in which knowledge is created and shared for business purposes; this will create multi-firm network organizations to pursue strategies of continuous innovation and will grow across as well as within industries (Miles & Snow, 2007). Therefore, we may consider the sharing and dissemination orientation in a wide perspective and see it as the part of big picture analysis. According to Schein (1992), without sharing and dissemination, knowledge would reside only in specific individuals or groups and, this will not create synergy and contribute to organizational learning, which is very important for the organizations to increase their core competencies and competitiveness.

2.5   Relation between organizational learning and employee satisfaction

The important point in our study is the relationship between organizational learning and employee satisfaction. It is known that, surviving in the global competition requires knowledge intensive activities. Creating the mechanisms to increase the knowledge in the organizations will help the worker satisfaction (Singh & Sharma, 2008). The knowledge capacity will contribute to self-confidence, which is related with employee satisfaction. In today's businesses, the organizations are being more knowledge based. The important point is 'knowing how to act', which brings the organizational success. Success is a motivator for the individuals (Meyer, 2008). From this point of view, we may indicate that increasing the knowledge

The employee satisfaction in metalworking manufacturing: How do organizational culture and   152
organizational learning capacity jointly affect it?

B. Aydin; A. Ceylan

capacity will affect the organizational success and hence, the satisfaction. On the other hand, as a reverse aspect, Alegre and Chiva (2007) have studied the effect of employee satisfaction on organizational learning. They state that a key to learning is 'dialogue' within the organizations and well-satisfied employees create better communications with their colleagues in their workplaces. This is a reverse approach about increasing the organizational knowledge by the influence of satisfaction. Therefore, we may conclude that, -satisfaction is a reflection of the learning capacity of the organizations- and -organizational learning capacity is the reflection of employee satisfaction-. This mutual interaction will contribute to the organizational strength. Although we may find that organizational learning affects the employee satisfaction, the reverse relationship may vary, which should be deeply researched for sensitive conclusions.

3   The research model

Related to our subject, we have constructed a relationship between the concepts, and created a model. According to the model, employee satisfaction is affected by organizational culture (which has nine sub-dimensions and adapted from Ginevičius and Vaitkūnaitė, 2006) and organizational learning capacity (which has four sub-dimensions and adapted from Teo and Wang 2006). The model for this research (depending on these factors) may be seen on (figure 1).
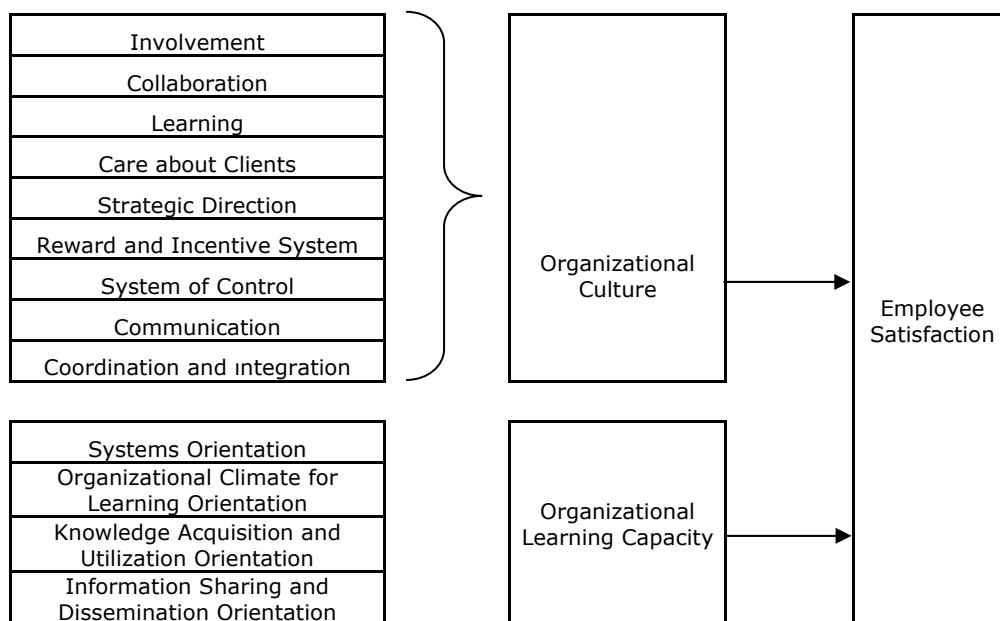

Figure 1. "The model of the research".

The employee satisfaction in metalworking manufacturing: How do organizational culture and   153
organizational learning capacity jointly affect it?

B. Aydin; A. Ceylan

4 Methodology

The research plan has been stated as; researching for the survey questions on the literature, constructing the best fitting survey from the alternatives, reaching the participants and informing them for the survey, gathering the data, refining the data, and measuring and analyzing these data.

4.1   Scales

Two different scales were used to gather data. There are six descriptive items for the first type of questions. The second type of questions (49 items) is about the dimensions of 'organizational culture', 'organizational learning capacity' and 'employee satisfaction'. In the second type of questions, the respondents have filled the statements in -Likert response categories- ranging from 1 to 5, which (1) is strongly disagree and (5) is strongly agree.

Employee satisfaction value has been calculated as the sum of organizational culture and organizational learning capacity. Additionally, the value of organizational culture and organizational learning capacity has been calculated as the sum of their own sub-dimensions. To perform our research, we have searched for the related scales in the literature. The scales have been obtained after a detailed investigation of the literature. We adapted the organizational culture scale from Ginevičius & Vaitkūnaitė (2006), the organizational learning capacity scale from Teo & Wang (2006) and the employee satisfaction scale from Quareo, a company that designs and implements customer relationship management solutions, which has been quoted in Michelman (2003).

We have not differentiated the core meanings of the survey items, but changed some parts of the items to adapt the metal sector employees. This helped us to prepare more custom oriented survey items and have more sincere responses.

The organizational culture and organizational learning capacity dimensions have been mentioned in the literature review part. Additionally, to measure the employee satisfaction, we asked to respondents; if they plan to work on the current organization for at least the next two years, if they recommend their organization to friends as a good place to work, if the company values are consistent with their personal values and if the employees' duties are meaningful for them. Besides these items, the employees filled the perceived level of their

The employee satisfaction in metalworking manufacturing: How do organizational culture and   154
organizational learning capacity jointly affect it?

B. Aydin; A. Ceylan

organization's leadership capabilities and how more the managers trust the employees.

4.2 Sample and data collection

We drew our sample from the employees of metalworking firms in Turkey. The selected firms have had manufacturing process. They are all profit organizations. After specifying the sample, we have formed the survey instrument and searched for the potential participants to send the questionnaire. More than 1000 contacts were made or attempted. Some of them were ineligible, some of them refused to participate in the survey, some of them did not respond although they accepted to participate. A total of more than 600 surveys returned, however, some of them had excessive missing values and were excluded from the analysis. Finally, the valid responses have reached to a number of 578. The participants joined to the research by clicking the link of the survey on the internet, which was developed by a web programmer. In addition to this way of collecting the data, we have sent the questionnaire to the participants via electronic mail. In some occasions, we telephoned to the firms to inform about the survey and requested to join it. The data were collected within about eight months, between the autumn of 2007 and spring of 2008.

Analysis and results

After gathering the data, we have entered them in SPSS (Statistical Package for the Social Sciences) version 11.5. These entered data have been analyzed by some of SPSS tools. As the first analysis, we have described the basic features of the data with the descriptive statistics to provide simple summaries about respondents. Out of 578 respondents, the average age of individuals who joined the survey is 32.75 (Mean=32.75, Standard Deviation =7.94); the average of total working year is 11.01 (Mean=11.01, Standard Deviation =7.91); the average of working year on their today's firm is 7.69 (Mean=7.69, Standard Deviation =6.21). As descriptive findings, 8% of 578 employees are graduated from primary school (44/578), 67% of them are graduated from high school (387/578), 25% of them are graduated from college (147/578). The respondents who are between the age of 19 and 25 are 20% (116/578), between 26 and 35 are 47% (272/578), between 36 and 45 are 24% (141/578), older than 46 are 8% (49/578). The managers consist of 7% of total (40/578). The employees working on the production department are 56%

The employee satisfaction in metalworking manufacturing: How do organizational culture and   155
organizational learning capacity jointly affect it?

B. Aydin; A. Ceylan

(322/578) and the other departments are 44% (256/578). The rate of the respondents whose job-life is between 1 and 10 years is 54% (314/578); 11 and 20 years is 32% (183/578); more than 20 years is 14% (81/578). The rate of the respondents who have been working on their today's firm for 1 to 10 years is 71% (410/578); for 11 to 20 years is 24% (138/578); for more than 20 years is 5% (30/578).

The second applied analysis at SPSS was the reliability analysis. The computation of Cronbach's alpha on the reliability of a test is a good alternative in SPSS (Hatcher, 1994). For organizational culture questions, the Cronbach's alpha value has come out as 0.78. For organizational learning capacity questions, we wanted the respondents to answer 21 questions. According to the reliability analysis of these 21 questions, the Cronbach's alpha value has come out as 0.67. For Vavra (1999), a scale is reliable if its Cronbach's alpha value is equal or above the value of 0.70 (Ozdogan & Tuzun, 2007). Therefore, we have made analyses to reach a reliable value by deleting some of the items. When we have deleted the sixth and seventh items, the Cronbach's alpha value has ascended to 0.73. For the results of reliability analysis of the employee satisfaction items, the Cronbach's alpha value has come out as 0.99. All the Cronbach's alpha values have proved that the scales we used for our research are reliable since they are above 0.70.

The third analysis is the factor analysis in order to specify a set of observed variables in terms of a small number of factors. In the factor analysis, -the factor loadings- show, what percent of each question has been loaded to the factors. By the help of factor analysis, reducing a large amount of data to identify the common characteristics of a group of variables will facilitate to interpret the results of the research. Furthermore, the total explained variance (which we have calculated by the factor analysis tool on SPSS) shows the capacity of questions whether they have been able to measure the items (organizational culture, organizational learning capacity and employee satisfaction).

For the results of the factor analysis of organizational culture items, the factor loadings of every item may be seen on (table 1). In factor analysis, it is a common rule that the values above 0.50 are acceptable (Albayrak, 2005). We will analyze the results due to this statement. Therefore, according to the table 1, involvement and collaboration, communication, coordination and integration have gone to the first factor. Learning, reward and incentive system, and system of control have

The employee satisfaction in metalworking manufacturing: How do organizational culture and   156
organizational learning capacity jointly affect it?

B. Aydin; A. Ceylan

gone to the second factor. Care about clients and strategic direction have gone to the third factor and transmission of information has gone to the fourth factor.

	Items	Component			
		1	2	3	4
Involvement	Item01	0.842			
	Item02	0.821			
	Item03	0.853			
Cooperation	Item04	0.832			
	Item05	0.836			
	Item06	0.832			
Transmission of information	Item07				0.955
	Item08				0.961
	Item09				0.949
	Item10				0.964
Learning	Item11		0.910		
	Item12		0.869		
	Item13		0.907		
	Item14		0.831		
Care About Clients	Item15			0.912	
	Item16			0.903	
	Item17			0.917	
	Item18			0.924	
	Item19			0.892	
Strategic Direction	Item20			0.926	
	Item21			0.928	
	Item22			0.938	
	Item23			0.925	
	Item24			0.943	
Reward and Incentive System	Item25		0.945		
	Item26		0.959		
	Item27		0.966		
	Item28		0.952		
	Item29		0.971		
System of Control	Item30		0.918		
	Item31		0.871		
	Item32		0.846		
Communication	Item33	0.870			
	Item34	0.877			
	Item35	0.821			
	Item36	0.840			
Coordination and Integration	Item37	0.842			
	Item38	0.868			
	Item39	0.890			

Table 1. "Factor Analysis (Rotated Component Matrix / Organizational Culture)". (Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.)

The employee satisfaction in metalworking manufacturing: How do organizational culture and organizational learning capacity jointly affect it?   157

B. Aydin; A. Ceylan

By the factor analysis, the extraction and rotation sums of squared loadings of 'organizational culture' items also helped us to determine the cumulative explained variance of this dimension, which has come out as 0.936.

According to the results of the factor analysis of organizational learning capacity items, the factor loadings of every item may be seen on (table 2). As seen on (table 2), every item has gone to different factor and has come out as different meanings for the respondents.

	Items	Components		
		1	2	3
Systems Orientation	Item01			0.951
	Item02			0.947
	Item03			0.952
Organizational Climate for Learning Orientation	Item04		0.897	
	Item05		0.903	
	Item06		0.894	
	Item07		0.885	
	Item08		0.927	
Knowledge Acquisition and Utilization Orientation	Item09	0.897		
	Item10	0.912		
	Item11	0.917		
	Item12	0.915		
	Item13	0.931		
Information Sharing and Dissemination Orientation	Item14	0.939		
	Item15	0.908		
	Item16	0.902		
	Item17	0.925		
	Item18	0.922		
	Item19	0.937		

Table 2. "Factor Analysis (Rotated Component Matrix / Organizational Learning Culture)".
(Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 5 iterations.)

The employee satisfaction in metalworking manufacturing: How do organizational culture and   158
organizational learning capacity jointly affect it?

B. Aydin; A. Ceylan

The cumulative explained variance of organizational learning capacity items has been calculated as 0.938. This value specifies the total measuring capacity of the 'organizational learning capacity' items.

The employee satisfaction has been measured as one-dimensional and as expected, we have had only one factor for this variable (See table 3). Moreover, the cumulative explained variance of 'employee satisfaction' items is 0.954.

	Items	Component
		1
Employee Satisfaction	Item01	0.981
	Item02	0.983
	Item03	0.978
	Item04	0.964
	Item05	0.980
	Item06	0.982
	Item07	0.972
	Item08	0.975

Table 3. "Factor Analysis (Component Matrix / Employee Satisfaction)". (Extraction Method: Principal Component Analysis. 1 component extracted)

The next analysis that we have applied to our research is to find out the results of 'Kaiser-Meyer-Olkin (KMO) test' and 'Bartlett's Test of Sphericity'. These tests inform the researchers about the adequacy level of factor analysis (Semerci, 2004). We calculated the values of these tests to conclude whether the amount of data is sufficient to measure our research and adequate for the factor analysis. The results of Bartlett's test are significant (at the 0.000 level) for all of the three variables and the measures of Kaiser-Meyer-Olkin test are; 0.972 for organizational culture, 0.965 for organizational learning capacity and 0.939 for employee satisfaction. Kaiser-Meyer-Olkin test result is adequate above the value of 0.5 and the result is to be considered better as this value approaches to 1 (Aydin, 2007). Therefore, results of these tests indicate that our scale is sufficient to measure the items.

After proving that the scales are reliable and sufficient to measure our data, we may search for the correlation analysis. The correlation analysis gives the result about the variables whether they tend to vary together or not. The results of the correlation analysis of our research variables may be seen on (table 4). As seen on

The employee satisfaction in metalworking manufacturing: How do organizational culture and   159
organizational learning capacity jointly affect it?

B. Aydin; A. Ceylan

table 4, there is significant correlation (at the 0.000 level) between organizational culture and employee satisfaction. Additionally, the relationship between organizational learning capacity and employee satisfaction is also significant (at the 0.000 level).

		Employee Satisfaction
Organizational Culture	Pearson Correlation	0.720*
	Sig. (2-tailed)	0.000
	N	578
Organizational Learning Capacity	Pearson Correlation	0.481*
	Sig. (2-tailed)	0.000
	N	578

*Correlation is significant at the 0.01 level (2-tailed).

Table 4. "Correlation Analysis".

As another analysis, we have tried to find out how different groups affect the level of satisfaction. We have compared the means of different groups and applied one-way ANOVA (analysis of variances) tests. For the results of these tests, we have detected that the satisfaction level has grown up as the education level has risen. The variances between -university and primary school graduates- and -university and high school graduates- are significant (at the 0.000 level). Additionally, we have indicated that the satisfaction level of the managerial level employees is greater than other employees. Unlike the education and state of position, we detected that; age, working year and working department did not have any significance with the level of satisfaction.

As the other statistical tool, we have used the regression analysis for our research. We have investigated whether the constructed model is significant or not. In addition, the regression analysis tool in SPSS has calculated the 'total explained variance' of our model. We have formed an equation from the model summary table (in the output of regression analysis), which expresses the mathematical relation between the dependent variable (employee satisfaction) and independent variable (organizational culture and organizational learning capacity). This is one of the important analyses of our research as it informs us what percent of the

The employee satisfaction in metalworking manufacturing: How do organizational culture and   160
organizational learning capacity jointly affect it?

B. Aydin; A. Ceylan

employee satisfaction can be explained by organizational culture and organizational learning capacity. Since the research questions have the capacity of measuring the variables, we will be able to investigate the significance of the model. According to the results of the regression analysis (see table 5), our model is significant (at the 0.000 level).

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.748[a]	0.559	0.557	0.794

a Predictors: (Constant), Organizational Learning Capacity, Organizational Culture

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	459.441	2	229.720	364	0.000[a]
	Residual	362.782	575	0.631		
	Total	822.223	577			

a Predictors: (Constant), Organizational Learning Capacity, Organizational Culture

b Dependent Variable: Employee Satisfaction

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-3.671	0.252		-14.547	0.000
	Organizational Learning Capacity	0.471	0.065	0.219	7.198	0.000
	Organizational Culture	1.723	0.083	0.630	20.683	0.000

a Dependent Variable: Employee Satisfaction

Table 5. "Regression Analysis Results".

The organizational culture and organizational learning capacity can explain 56% of the total variance of employee satisfaction. This value (56%) is the adjusted R square value that may be seen on model summary part of (table 5).

By analyzing the coefficients part in (table 5), the equation is formed as:

The employee satisfaction in metalworking manufacturing: How do organizational culture and   161
organizational learning capacity jointly affect it?

B. Aydin; A. Ceylan

(Employee Satisfaction)=-3.67 + 1.723 x (Organizational Culture) + 0.471 x (Organizational Learning Capacity)

Equation 1. "Employee Satisfaction depending on organizational culture and organizational learning capacity".

This equation informs the audiences about the importance level of the variables as; how to maximize the employee satisfaction in metalworking manufacturing, depending on organizational culture and organizational learning capacity.

5   Conclusion and discussion

Our study is based on organizational behavior. The term social system refers to large aggregates of human relationships such as organizations, neighborhoods or society itself (Hoy & Forsith, 1986). In organizations, people come together and try to connect the interdependent parts of the mechanism for the social system to improve the efficiency for organizational development. Organization concept is being used in a wide field and it is getting great importance day by day. This is why many researchers study this concept. Most of the studies indicate that the results of an 'organizational behavior research' may vary from one sector to another even if these sectors show close similarities. This refers to the sensitivity of the organizational concepts.

An industry shakeout can be explained as the solidification of an industry, and it requires the smaller and weaker organizations either to be acquired or driven out of business (Kim & Park, 2006). Occasionally this shakeout occurs in the industry and, in order not to be driven out of business; the organizations have to know the ways of effectiveness. Organizational effectiveness has a complex structure. There may be many factors affecting it. In this paper, we have investigated the employee satisfaction and we have aimed to find out how to maximize the employee satisfaction in metalworking manufacturing depending on the factors of organizational culture and organizational learning capacity. Organizational learning capacity is related with the knowledge intensive activities whereas organizational culture is a wider concept covering the shared beliefs and behaviors. The results of this study have original implications for businesses as well as academic researchers. As the summary of our research analysis, we may conclude that employee satisfaction is dependent on organizational culture and organizational learning capacity; and, there are positive significant correlations between the

The employee satisfaction in metalworking manufacturing: How do organizational culture and   162
organizational learning capacity jointly affect it?

B. Aydin; A. Ceylan

dependent and independent variables. Moreover, we may consider that the total explained variance (0.56) is not sufficient; and it should be better to discuss and find out other factors to join the model and increase the total explained variance of the employee satisfaction. These factors may be more specific (for the employees) like career and educational opportunities or salary benefits. In this sense, the effects of culture and learning may probably get bigger with the synergetic effect of these specific factors.

We have concluded from the study that; the organizational culture gets more importance than organizational learning capacity in satisfying the employees. For the managerial practices, knowledge based activities do not have considerable effects on employee satisfaction in metalworking area. There may be many factors causing this. This is an important discussion area. Know-how is very important for metal industry and the research & development activities need great financial resources. The employees may believe that; the technical knowledge can be bought from outside, whereas a strong organizational culture cannot be bought and it can only be created within the organization by the efforts of its own members. As the managerial implication, buying the technology from a bigger firm (namely being a technology follower) may cause better results. However the managers cannot buy a culture from a different firm and hence, they should always try to create their own way for culture.

The managerial level and human resource department employees should know that; organizational culture, organizational learning capacity and employee satisfaction are related items and should be fully analyzed when constructing the organizational strategies. As a managerial practice, in the employee selection processes, the organizations had better hire more educated personnel in order to reach a high satisfaction level. Besides, we have determined that managerial level employees are easier to be satisfied. This indicates that (as another managerial practice) career development is important in the organizations for satisfaction, which the managers should construct a well designed career-plan for each of the employees. This may provide to build more sensible and healthy organizations.

These types of researches will also contribute to carry out successful businesses in the global area. However, as another discussion area, we suggest the researchers to study on the other international business areas to compare the results and reach a detailed and sensible conclusion. For instance, industrial accidents may cause

The employee satisfaction in metalworking manufacturing: How do organizational culture and   163
organizational learning capacity jointly affect it?

B. Aydin; A. Ceylan

death or big injury in metal sector whereas they cause smaller effects in the food industry. Metalworking manufacturing has hard working conditions and the employee satisfaction may vary in this sector depending on these hard working conditions. Furthermore, technological firms require continuous learning processes to increase their learning capacities and the employees may be more satisfied as they develop their talents. This is the reason why the authors should perform research analyses on different sectors and compare the results.

The other important point is about the survey instrument. While preparing the survey items for other sectors, some patterns should be differentiated depending on the applying sector. Besides, the cultural or regional differences must be taken into consideration for the survey items. The results according to the different sectors could change and organizational learning capacity may be more important for some organizations (e.g. in technological firms). In contrary to technological firms, culture may get more significance in some other firms like service industry. These are about how different the employee satisfaction results could change depending on various sectors.

References

Albayrak A.S. (2005). *SPSS uygulamali cok degiskenli istatistik teknikleri*. Ankara, Asil Yayin Dagitim.

Aldrich, H. (1999). *Organizations evolving*. London: Sage Publications.

Alegre, J., & Chiva, R. (2007). Management of Technology and Innovation. Working Paper, retrieved May 27th, 2008, from http://sloanreview.mit.edu/smr/issue/2007/fall/07/ .

Applewhite, P. B. (1965). *Organizational behavior*. International Series in Industrial Engineering and Management Science. Engelwood Cliff, New Jersey. Prentice Hall.

Armstrong, M. (2000). *Strategic human resource management: A guide to action*. London, Kogan Page Publishers.

Aydin, B. (2007). Faktor analizi yardimiyla performans olcutlerinin boyutlarinin ortaya konulmasi. *The 8th Econometrics and Statistics Congress of Turkey*, May, 2007, University of Inonu Malatya Turkey.

The employee satisfaction in metalworking manufacturing: How do organizational culture and   164
organizational learning capacity jointly affect it?

B. Aydin; A. Ceylan

Bhatti, K., & Qureshi, T. (2007). Impact of employee participation on job satisfaction, employee commitment and employee productivity. *International Review of Business Research Papers*, 3(2), 54 – 68.

Cranny, C.J., Smith, P.C., & Stone, E.F. (1992). *Job satisfaction: How people feel about their jobs and how it affects their performance*. New York: Lexington.

Cyert, R.M., & March, J.G. (1963). *A behavioral theory of the firm*. NJ:Prentice-Hall, Englewood Cliffs.

Ginevičius, R., & Vaitkūnaitė, V. (2006), Analysis of organizational culture dimensions impacting performance. *Journal of Business Economics and Management*, 7(4), 201–211.

Hatcher, L. (1994). *A step-by-step approach to using the SAS(R) system for factor analysis and structural equation modeling*. Cary, NC: SAS Institute Publishing.

Hoy, W., & Forsith, P. (1986). *Effective supervision theory into practice*. NY, McGraw-Hill Companies.

Hunter, T. (1997). *Business to business marketing: Creating a community of customers*. Lincolnwood-Illinois, McGraw-Hill Professional.

Janz, B. D, Prasarnphanich, & Pattarawan (2003). Understanding the antecedents of effective knowledge management: The importance of a knowledge-centered culture. *Decision Sciences*, 34(2), 351-384

Kandemir, D., & Hult, G. T. (2004). A conceptualization of an organizational learning culture in international joint ventures. *Industrial Marketing Management*, 34(5), 430-439.

Kelley, T. (2005). Employee satisfaction results in improved profitability, retrieved April 4th, 2008 from http://www.indiangaming.com/istore/Nov05_Kelley.pdf.

Kim, B., & Park, K. (2006). Dynamics of industry consolidation and sustainable competitive strategy: Is birthright irrevocable? *Journal of Long Range Planning*, 39(1), 543-566.

The employee satisfaction in metalworking manufacturing: How do organizational culture and   165
organizational learning capacity jointly affect it?

B. Aydin; A. Ceylan

Lederach, J.P. (1995). *Preparing for peace: Conflict transformation across cultures*. (Syracuse Studies on Peace and Conflict Resolution). NY: Syracuse University Press.

Michelman, P. (2003). Your new core strategy: Employee retention. *Harvard Business School Working Knowledge*, Nov.26,2003.

Miles, R., &Snow, C. (2007). Organization theory and supply chain management: An evolving research perspective. *Journal of Operations Management,* 25, 459–463.

Millward, P. (2006). *Organisational learning facilitated by the analysis of student achievement information*. Faculty of Education, the University of Auckland. New Zealand. Doctorate degree thesis.

Morgan, G. (1997). *Images of organization*. Thousand Oaks, CA: Sage Publications.

Moyes, G. D., Shao, L. P., & Newsome, M. (2008). Comparative Analysis Of Employee Job Satisfaction In The Accounting Profession. *Journal of Business & Economics Research*, 6(2), 65:81.

O'Cass A., & Ngo L.V. (2007). Balancing external adaptation and internal effectiveness: Achieving better brand performance. *Journal of Business Research*, (60), 11–20.

Ozdevecioglu, M. (2000). Orgutsel vatandaslik davranisi ile universite ogrencilerinin bazi demografik ozellikleri ve akademik basarilari arasindaki iliskilerin belirlenmesine yonelik bir arastirma. *Erciyes Universitesi Iktisadi ve Idari Bilimler Fakultesi Dergisi*, 20(1), 117-135.

Ozdogan, F.B., & Tuzun, I. (2007). Ogrencilerin universitelerine duyduklari guven uzerine bir arastirma. *Kastamonu Egitim Dergisi*, 15 (2), 639-650.

Potterfield, T. (1999). *The business of employee empowerment: Democracy and ideology in the workplace*. Westport, Conn, Greenwood Publishing Group.

Prieto, I., & Revilla, E. (2003). How learning capacity influences on performance: An empirical evidence. IE Working Paper, retrieved May 14th, 2008, from http://latienda.ie.edu/working_papers_economia/WP03-06.pdf (accessed 14 May, 2008).

The employee satisfaction in metalworking manufacturing: How do organizational culture and   166
organizational learning capacity jointly affect it?

B. Aydin; A. Ceylan

Schein, E.H. (1992). *Organizational culture and leadership*. San Francisco: Jossey-Bass Publishers.

Semerci, C. (2004). Ilkogretim turkce ve matematik ders kitaplarini genel degerlendirme olcegi. *Cumhuriyet Universitesi Sosyal Bilimler Dergisi*, 28(1), 49-54.

Senge, P. (2006). *The fifth discipline: The art and practice of the learning organization*. New York, Doubleday Business.

Singh, A.K., & Sharma V. (2008). Knowledge Management and Employee Satisfaction: A Comparative Study on Indian Telecom & Software Sector. *The eight international conference on knowledge, culture and change in organizations*, 5-8 August 2008, Cambridge University, United Kingdom. Retrieved Nov 28th, 2008, from http://m08.cgpublisher.com/proposals/159/index_html .

Škerlavaj, M., Štembergera, M. I., Škrinjara, R., & Dimovskia, V. (2007). Organizational learning culture —the missing link between business process change and organizational performance. *International Journal of Production Economics*, 106(2), 346-367.

Teo, H., Wang, X., Wei, K., Sia, C., & Lee, M. (2006). Organizational learning capacity and attitude toward complex technological innovations: An empirical study. *Journal of the American Society for Information Science and Technology,* 57(2), 264–279.

Wallace, C., Eagleson, G., & Waldersee, R. (2000). The Sacrificial HR Strategy in Call Centers. *International Journal of Service Industry Management*, 11(2), 174-185.

Wang, X., Yang, B., McLean, & Gary, N. (2007). Influence of demographic factors and ownership type upon organizational learning culture in Chinese enterprises. *International Journal of Training and Development*, 11(3), 154-165.

Wikstrom, S., & Normann, R. (1994*). Knowledge and value: A new perspective on corporate transformation*. London: Routledge.

The employee satisfaction in metalworking manufacturing: How do organizational culture and   167
organizational learning capacity jointly affect it?

B. Aydin; A. Ceylan

The employee satisfaction in metalworking manufacturing: How do organizational culture and organizational learning capacity jointly affect it?

168

B. Aydin; A. Ceylan