

Full Length Research Paper

The effect of spiritual leadership on organizational learning capacity

Bulent Aydin* and Adnan Ceylan

Department of Business Administration, Gebze Institute of High Technology (GYTE), Turkey.

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In this original paper, we aimed to find the impact of spiritual leadership (SL) on organizational learning capacity (OLC), which may then improve the organizational development. To perform the study, we conducted research with 578 employees in metalworking manufacturing. We measured SL in dimensions of vision, hope/faith, altruistic love, meaning/calling and membership. After the data analysis, we determined that OLC has positive significant correlation with each of SL dimensions (at 0.000 level), however, the total explained variance of OLC - depending on SL- has come out a very low value (0.09), which the businesses should consider while planning their development processes.

Key words: Spiritual leadership, organizational learning capacity, metalworking industry.

INTRODUCTION

This paper is a research report, based on the development of organizations. The last global crisis which has started in 2008 has shown that it is necessary for the organizations to focus on development concept as a continuous process and make more detailed analyses in case of industry shakeouts. In the context of continuous development process, our research question is about increasing the development of the organizations through spiritual leadership (SL) and organizational learning capacity (OLC).

We believe that OLC gets crucial importance to compete in the global business. The businesses should follow the new improvements in their sector and adapt them to their organizations in order to survive in the market. OLC will assist in organizations when adapting new improvements into their businesses and by this way they will gain a new eye. To contribute to organizational development, we made a literature survey and recognized that there is not any study analyzing the relationship between OLC and SL. For this purpose, we constructed an original model, which investigates whether there is significant relationship between SL and OLC and besides that, we searched whether SL affects OLC. This is the main question

of our study. SL is a newly concept in the literature and the relationships between SL and other disciplines should be by all means scientifically investigated in order to contribute to the businesses as well as academic researchers. We are in doubt about spirituality, as to bring a new aspect to learning concept, which will in turn reveal the factors that hinder the learning activity. At the same time, the results of organizational behavior researches may differ from business to business. For instance, the employees in the service sector may be fully motivated by their salary whereas it may not become an important motivator for the employees in the production area. On account of this, we wanted to apply our research on a considerable area, to maximize the number of employees who will benefit from the results of this study. After a detailed investigation, we recognized that, this kind of study has not been undertaken before, in any industrial area. Key manufacturing activities, such as automotive industry, building industry, packaging, infrastructure or white goods production are derived from metalworking manufacturing. The other factors that influenced us to select the metal industry are the importance of the metal sector in the global economy, the significant number of metal sector employees all over the world and lack of researches related with the development of metalworking firms. In addition to these, to connect the importance of learning and metal industry, it has been concerned by Pitarch and Marhuenda (2002) that, the mentality of work on metal

*Corresponding author. E-mail: bulentaydin@kibarholding.com.
Tel.: +90 532 7777 131. Fax: +90 216 3891372.

sector does require high educated personnel. This is the other reason why we researched the metal sector and consumed our effort and time on this area. The metal industry is one of the key manufacturing sectors in the region both in terms of production and employment (Hanzl and Havlik, 2004). Metalworking firms are generally globally acting organizations, whose products may be demanded by the international customers (Akyildiz and Gungor, 2007). In this manner, our study may contribute to other global organizations outside the metalworking sector that are facing similar problems. To perform our study, we conducted a scientific research with 578 employees of the related sector, entered the data into SPSS (Statistical package for the social sciences), then analyzed the results by correlation and regression analyses and came to a conclusion. Thus, we believe that the gap between SL and OLC will be fulfilled and the businesses will gain an extensive vision in planning their development processes.

Organizations are boundary maintaining, goal directed and socially constructed systems of human activity, which focuses attention on various processes (Aldrich, 1999). In some cases, the complexity of these processes force organizations to search more efficient operational exploration to improve their effectiveness. In this study as we specified above, we investigated the organizational development from the stand point of OLC. For Senge (2006), organizational learning has crucial importance to create the future that the organization wants. Additionally, Sveiby (1992) stated that as the organizations enhance their learning potential, they will better create organizational strategies. Besides these, Berkout et al. (2006) imply that; the organizations should learn more and more to adapt to sudden changes becoming in the sector. These statements make us conclude that, increasing the OLC will affect the organizational development. On the other hand, there may be many factors influencing the OLC. For instance, education level of the members, cultural properties and demographic, political or social factors may affect the OLC. The organization members need a motivator or need to be inspired to enhance their stock of knowledge. These factors may differently affect the members and hence, organizations (Senge, 2006). As an original study, we investigated the OLC from the SL perspective in metalworking organizations.

Spiritual leadership

In the rapidly changing global world, the persons need for leadership ethics more than they've needed before. Thus, investigating the leadership in a deeper manner comes into question. A narrower concept, 'spiritual leadership' is a type of leadership and will be researched in our study. The notion of spirituality in the workplace has come into a considerable prominence in the last decade (Gibbons, 2000). It becomes in the mind (Maxwell, 2003) and has the property of inspiring. Spirituality should be thought as an integral component of leadership in today's busines-

ses. This integration is a leading factor for development in order to shift to higher levels of internal and external success (Sanders et al., 2003). SL is related with the member's inquiring, thinking, perceiving, valuing, and acting in the community with the team spirit rather than acting individually (Eggert, 1998). This means that teamwork is more supported in SL rather than individual work. The spirituality provides an inner knowing through a common consciousness with a higher power (Cook-Greuter, 2002). This also requires a deeper intuition and emotional activity. Goertzen and Barbuto (2001) state that spiritual leaders ensure some important properties for their organizations, such as self-actualization and meaning in life, which may then provide health and wellness as outcomes in the workplace (Dent et al., 2005). Some famous scholars such as Fairholm (1998), Fry (2003), Strack (Fotter), Wheatley and Sodomka (2002), link spirituality to leadership, inasmuch as spirituality facilitates reaching productivity, provides ethicality and hinders stress in the organizations (Giacalone and Jurkiewicz, 2003). This statement explains that, spiritual leaders play an important role for organizational effectiveness. On the other hand, they hinder mental escape from the work environment and try to find better ethical ways for their followers. Moreover, spiritual leaders harmonize the expression of compassion and wisdom (Maxwell, 2003) and make their followers share the responsibilities more willingly. Besides that, spirituality may have an effect to enhance the organizational learning and it encourages the organizational members about organizational learning rather than individual learning (Bierly et al., 2000). Organizational learning is a wide concept and many authors emphasized on it on reaching better and healthier organizations. For this purpose, to contribute to business development, the strategy planners should take into consideration the spiritual leaders (and focus on them) in providing organizational learning in metalworking area (which is also the main question of this paper).

Quimet (2003) states that as the spiritual leaders get older, the power of them on the organization members also increases. This is to mean that the followers (may) display higher commitment to the older spiritual leaders. The mature leaders are believed to have more ethical values and therefore, are respected better in comparison to younger leaders (the age business in spiritual leaders is an important point, which should be investigated by the researchers in further studies). Therefore, we may conclude that SL is concerned with moral, transformational and ethical leadership and it defends integrity, goodness, honesty, teamwork, knowing, congruency, wholeness and interconnectedness (Dent et al., 2005). Additionally, Kakabadse et al. (2002) also commented that, the spiritual leaders often espouse the values such as harmony, love, compassion, unity, peace, truth or honesty. In spiritual environment, by the effects of these values, the members share the responsibilities more willingly and this facilitates the leader's role. Thus, cynicism, impatience,

greed, envy or moral decline will be avoided in the businesses. As a matter of fact, these values are all for the welfare of the workplace, which is -then- to provide a better work environment. On the strength of these explanations, as a general definition, SL may refer as the behaviors, values and attitudes that motivate the organizational members to have a sense of spiritual survival through the organizational membership (Maddock and Fulton, 1998).

After a general look to SL, we had investigated the literature to find out a SL model which best fits to our research model. Eventually, we decided to apply the model of Fry et al. (2005) for our research analysis. According to Fry et al. (2005), the theory of SL is developed within an intrinsic motivation model that incorporates leader and follower values (such as vision, hope, faith, altruistic love, creating a meaning and being a loyal member of the organization) in order to contribute to organizational commitment and productivity as the outcomes. Due to this statement, we may consider that the followers are strictly motivated with the spiritual leaders. There comes a different atmosphere, which has been created by the spiritual leaders. This positive atmosphere composes coherence between the leader and the followers. To accommodate the theory of Fry et al. (2005), our research model will investigate the SL in terms of vision, hope/faith, altruistic love, meaning/calling and membership. 'Vision' defines the attractive future for an organization, which is also in motivator role. It is in the future, not in present. The vision aims to bring out the best in the members. The leader has a crucial role in creating the vision and supervising. The second dimension of the SL is 'hope/faith', which keeps followers looking forward to the future and provides the desire and positive expectation that ensures to create effort through intrinsic motivation (Fry et al., 2005). The members set challenging goals as well as persevere for their job and faith helps for it. The third dimension of SL is 'altruistic love', which is to love everybody with no exception. Altruistic love makes people prefer to suffer themselves instead of suffering the others. Being self-centered is avoided by altruistic love. The other dimension is 'meaning/calling', in which the organization members believe that the job they do is important and meaningful for them. In addition, they believe that their job makes difference in the people's lives. As the last dimension, 'membership' means that the organization understands its members and appreciates them, so the employees become loyal members of the organization.

Organizational learning capacity

Learning at the organizational level is becoming greater in importance for businesses and is a complex process. Organizational learning, that is, developing and applying new knowledge, has the potential to change employees' behavior (Škerlavaj et al., 2007), which implies that it will strengthen the organization to achieve improved results,

ensure adaptability to change, grow through innovation and create result-oriented employees. However, OLC goes one step further in that it is an organization's capacity to develop the capabilities to acquire new information and convert that information into knowledge. These activities are vital for businesses to remain competitive. For Millward (2006), in order to survive in the global business, organizations need to develop their productive learning capacity, which is related with how more they can learn.

OLC is thought to have four components, systems orientation, organizational climate for learning orientation, knowledge acquisition and utilization orientation and information sharing and dissemination orientation (Teo et al., 2006). We therefore investigated OLC from these four standpoints. 'Systems orientation' makes the person a systems thinker and provides identifying the problems and solving them faster. 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 and Hulthb, 2004). The other component 'organizational climate for learning orientation' analyzes how the organization members' learning is affected by the environmental conditions. Changing the conditions to improve the learning activities will facilitate the organization's members to acquire new skills. The following component is 'knowledge acquisition and utilization orientation', where knowledge acquisition represents the extent to which an organization is skilled in obtaining knowledge and utilization orientation is making that knowledge a part of the organization that is necessary for improvement and innovation (Choo, 1998). As the last component, 'information sharing and dissemination orientation' facilitates reaching the information within the organization. Information sharing helps the colleagues to gain new knowledge and hence, the members of the organizations will better meet the needs of the organization. According to Schein (1992), without sharing and dissemination, knowledge would reside only in specific individuals or groups and, this will not create synergy, which is very important for the organizations to increase their core competencies and competitiveness.

The research model

Related to our subject, we have constructed a relationship between the two concepts SL and OLC and created a model (Figure 1).

According to this model, we see that SL is composed of the values of vision, hope/faith, altruistic love, meaning/calling and membership. We calculated SL value by the subtotal of these five values. Additionally there is a link from SL to OLC. We referred the OLC by the factors of systems orientation, organizational climate for learning orientation, knowledge acquisition and utilization orientation and information sharing and dissemination orientation. We calculated the OLC value by the subtotal of

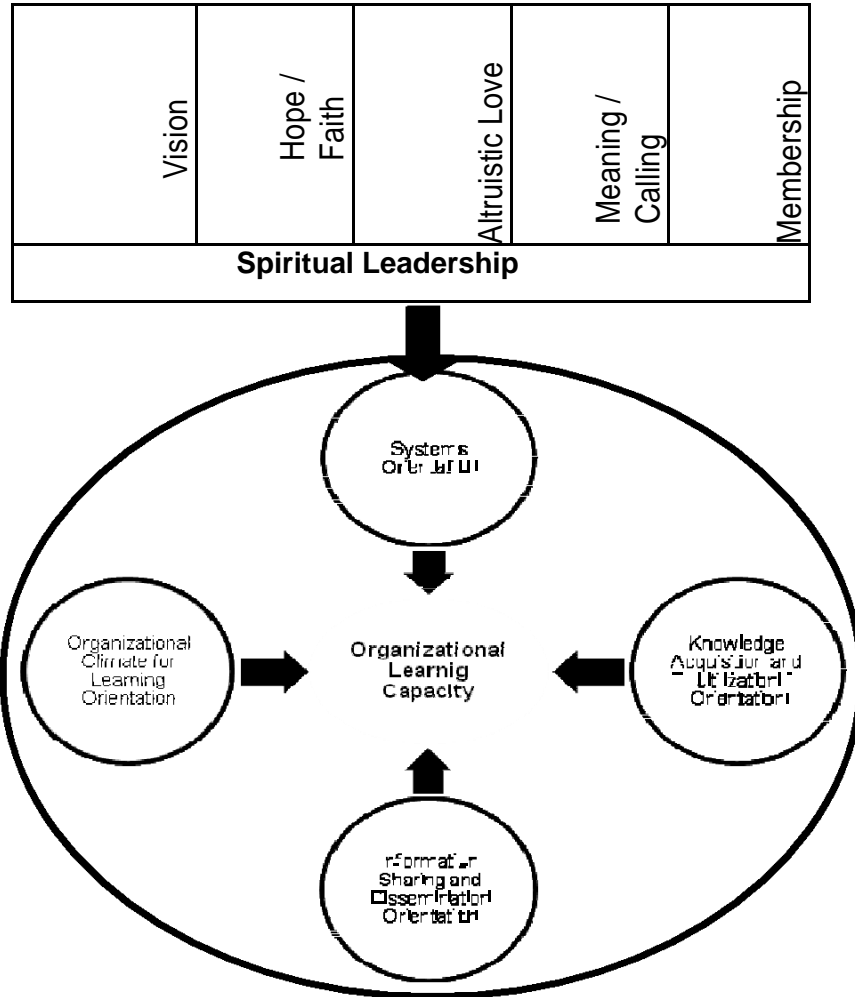


Figure 1. The model.

these four factors. The big circle minus the four smaller circles represents that there may be other factors affecting OLC, however we selected these four which best fit metalworking area.

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, measuring the data and analyzing the data.

Scales

2 different scales were used to gather data. There are 6 descriptive items for the first type of questions. The second type of questions (44 items) is about the dimensions of SL (25 items) and OLC (19 items). 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. 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. The survey items of SL have been obtained from Fry et al. (2006) and the OLC survey items have been obtained from

Teo et al. (1993).

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 640 surveys returned, however, about 60 of them had excessive missing values and were excluded from the analysis. Finally, the valid responses have reached to 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 8 months, in the year of 2008.

Results of the analyses

After gathering the data, we have first entered them in

MsExcel for descriptive statistics. Next we have used SPSS version 11.5 to perform reliability analysis, factor analysis, correlation analysis and regression analysis.

Results of the descriptive statistics

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 current employer is 7.69 (Mean = 7.69, standard deviation = 6.21). 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 university (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 people in management roles made up 7% of total number of responses (40/578). The employees working on the production department are 56% (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 current 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).

Results of the SPSS analysis

We reached the following results after we analyzed the data using some of SPSS tools. Through reliability analysis statistical test, we have found that our results are reliable and we may trust our data. Through factor analysis statistical test, we had an adequate number of factors for both SL and OLC. The 'Bartlett's test of sphericity', which implies the significance of the factor analysis has been verified at 0.000 level. The goal of our factor analysis is to find the smallest number of interpretable factors that explain the correlations among the set of variables. In the factor analysis that we have applied, the factor loadings show, what percent of each question has been loaded to 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. According to the results of the factor loadings of SL items, hope/faith and membership had the same meaning for the respondents whereas vision, altruistic love and meaning/calling had different meanings. This outcome implies 'when the members deeply feel that they are a part of the organization, they become more hopeful and faithful as well. According to the results of the factor analysis of OLC items, 'knowledge acquisition and

utilization orientation and 'information sharing and dissemination orientation' have gone to same factor, however, 'systems orientation' and 'organizational climate for learning orientation' have gone to different factors. This referred for the respondents that acquiring the knowledge, utilizing it, sharing the information and disseminate through the organization are not discriminated in the respondents' mind. The 'Kaiser-Meyer-Olkin test', which inform the researchers about the adequacy level of the scales has come out as 0.93 for SL and 0.96 for OLC. These values are above a good limit and prove that the survey items have a great capability to measure the SL and OLC concepts. Through correlation analysis statistical test, we have found that there are positive significant correlations (at 0.000 level) between OLC and each SL dimensions (vision, hope/faith, altruistic love, meaning/calling and membership). The correlation analysis gives the result about the variables that they tend to vary together and implies that as the vision, hope/faith, altruistic love, meaning/calling and membership varies, the learning capacity of the organization also changes. Therefore, if the managerial level employees need to make sense on OLC, they should try to focus on the values of SL. Nevertheless, correlation analysis gives only the result of changing together or not. To measure the intensity of this variation, we should perform the regression analysis and find how more the level of OLC has increased up by SL. Through a regression analysis, we have found that our model is significant at the level of 0.000. This means that constructing a link between SL and OLC is meaningful to the employees of the metalworking organizations and 'what we search for' is valuable. Additionally, SL dimensions can explain 9% of the total variance of OLC. This is the R square value of the regression output. Table 1 shows the other technical findings of the regression analysis (Table 1).

The R square refers the dependency of SL on OLC. Since the R square value is 0.09, our model is not adequate enough to explain the dependence of OLC on SL. We may deduce from the R square value that a big part of OLC is dependent on other factors in metalworking organizations. However, at least, this study shows that the organizations should not construct their organizational learning plans only by spiritual leaders. The other important result is that, the researchers should find other factors which will make the R Square value approach 1.

CONCLUSION AND DISCUSSIONS

In the global business, know-how is gaining more importance, which requires knowledge based activities such as, research and development (R and D) activities, engineering activities, technology following activities. The organizations should increase their learning capacity to be successful in these activities. It is obvious that enhancing the learning capacity will make the organizations utilize from the learning opportunities which may then improve the organizational development. Our paper researched

Table 1. Regression analysis.

Model Summary						
R	R Square	Adjusted R Square	Std. Error of the Estimate			
0.299 ^a	0.090	0.082	0.53245			
ANOVA ^b						
Model		Sum of Squares	df	Mean Square	F	Significant
1	Regression	15.960	5	3.192	11.259	0.000 ^a
	Residual	162.166	572	0.284		
	Total	178.126	577			

a Predictors: (Constant), vision, hope/faith, altruistic love, meaning/calling and membership. b Dependent Variable: Organizational learning capacity.

researched the organizational development from the point of OLC, moreover, how OLC is affected by SL in metalworking organizations. By the results, although we may conclude that each SL dimensions (vision, hope/faith, altruistic love, meaning/calling and membership) have positive significant relationships with OLC, the total explained variance of OLC depending on SL dimensions is around a very low level (0.09). This is the regression value which clarifies that the below points inspire the learning capacity of the organizations, however not at a considerable level:

- i) Acting as a systems-thinker and seeing the big-picture in organizational learning processes.
- ii) Creating a climate that facilitates organizational learning.
- iii) Increasing the skill of employees in knowledge acquisition and utilizing that knowledge in their work,
- iv.) Sharing information, trying to convert it into knowledge and disseminating that knowledge through the organization.

We found that spiritual leaders have very low impact on OLC in the metal industry. This finding may refer that metalworking manufacturing is heavy industry and trading in this sector requires great monetary power. Therefore, these businesses may be more finance-focused rather than spiritualism. As another reason, metal industry is more related with global business and the customers or the employees may be from different cultures, where SL values may not make sense for these mixed cultured customers or the employees. Eventually, the spiritual leaders should more focus on organizational learning concept and try to find the factors that hinder or facilitate the learning business.

The other discussion point is about the results of the factor analysis. The researchers should investigate why - knowledge acquisition and utilization orientation and information sharing and dissemination orientation have gone to same factor. They are definitely different concepts, however had the same meaning for the organization members. As a matter of fact, acquiring the know-

ledge, utilization orientation, sharing the information and disseminating through the organization are value chain activities and each should have different mission for the respondents. Nevertheless, the members may be thinking that whenever a new knowledge comes into the organizations it must be shared rapidly. Besides that, for the results of the factor analysis of SL, hope/faith and membership has gone to the same factor. This is meaningful and refers that being a loyal member of the organization requires strict membership and this carries hope for the organization members.

The correlation analysis results imply that each SL values are positively related with OLC. However the researchers should discuss whether which of SL values affect OLC in more depth. This is to connect the interdependent parts of the mechanism between leadership and organizational learning. In this way, the organizations will decide which strategic direction they will follow to maximize their learning capacity.

As another discussion point, the researchers should discuss why the R square output of regression analysis is very low and how to find out the exact factors which will increase this value up to 1. We concluded from this study that the businesses should not trust only the spiritual leaders to increase the learning capacity. At the same time, it should also be discussed that SL may have a greater effect when joining the model with the other factors. In such a case, we may come to conclusion and discuss that SL has a synergetic effect that speeds up in reaching great learning capacities and hence do not have significant meaning stand alone.

The results of this study have original implications for businesses as well as academic researchers. We believe that the managerial level employees will consider the findings of this research when improving their organization's productivity. Further study to include different sectors, other organizations, other OLC factors would allow a comparison of results and contribute further evidence on the organizational impact of SL. In addition, it would be interesting to discover whether each SL factor separately influences each of the OLC factors. To reveal this, a complex model could be constructed for inferences that are

more detailed. Moreover, as a leadership study, the researchers may investigate the influence of other leadership types on OLC and compare the results for a high level of productivity in the businesses.

REFERENCES

- Aldrich H (1999). *Organizations Evolving*. London: Sage Publications.
- Akyildiz H, Gungor H (2007). Analysis of the practice of job evaluation in the metal industry in Turkey. *The Inter. J. Human Res. Manag.* 18 (8): 1539-1556.
- Berkout F, Hertin J, Gann D (2006). Learning to adapt: Organizational adaptation to climate change impacts. *Climatic Change.* 78 (1): 135-156.
- Bierly P, Kessler E, Christensen E (2000). Organizational learning, knowledge and wisdom. *J. Organizational Change Manag.* 13 (6): 595-618.
- Choo CW (1998). *The Knowing Organization: How Organizations Use Information to Construct Meaning, Create Knowledge and Make Decisions*. New York. Oxford University Press.
- Cook-Greuter S (2002). A detailed description of the development of nine action logics. Retrieved January 15, 2009 from <http://www.harthillusa.com/thedevelopmentofactionlogics.pdf>.
- Dent E, Higgins M, Wharff D (2005). Spirituality and leadership: An empirical review of definitions, distinctions and embedded assumptions. *Leadersh. Q.* 16 (1): 625-653.
- Eggert N (1998). *Contemplative leadership for entrepreneurial organizations: Paradigms, metaphors and wicked problems*. Quorum Books, Greenwood Publishing Group, Inc.
- Fry L, Vitucci S, Cedillo M (2005). Spiritual leadership and army transformation: Theory, measurement, and establishing a baseline. *Leadersh. Q.* 16(1): 835 - 862.
- Giacalone R, Jurkiewicz C (2003). *Handbook of Workplace Spirituality and Organizational Performance*. Armonk, NY: M.E. Sharpe Publ.
- Gibbons P (2000). *Spirituality at Work: Definitions, Measures, Assumptions, And Validity Claims*. In Biberman And Whitty. *Work And Spirit: A Reader of New Spiritual Paradigms for Organizations*. Tonawanda: University of Toronto Press.
- Hanzl D, Havlik P (2004). Metal sector in Ceecs and Russia: A comparative analysis in the European context. *J. Econ. Bus.* 7(1): 81 - 99.
- Kakabadse N, Kouzmin A, Kakabadse A (2002). Spirituality and leadership praxis. *J. Managerial Psychol.* 17(1): 165 - 182.
- Kandemir D, Hult GT (2004). A conceptualization of an organizational learning culture in international joint ventures. *Industrial Marketing Management.* 34(5): 430 - 439.
- Maddock RC, Fulton, RL (1998). *Motivation, Emotions, and Leadership: The Silent Side of Mmanagement*. Westport: Quorum Books.
- Maxwell T (2003). Considering spirituality: Integral spirituality, deep science and ecological awareness. *Zygon.* 38(2): 257 - 276.
- 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.
- Ouimet JR (2003). *The Golden Book: Reconciliation of Human Well-being with Productivity and Profits*. Translated from the French by Steven R. Bigham. Montreal, Quebec, Canada: Ouimet-Cordon Bleu Inc.
- Pitarch M, Marhuenda F (2002). Identity, flexibility and mobility in the metal sector: The case of the automobile-related industry. The perspective of employers. Retrieved January 5, 2009 from <http://www.uv.es/~fame/docs%20pdf/ArtMetal.pdf>.
- Sanders J E, Hopkins W E, Geroy G D (2003). From transactional to transcendental: Toward an integrated theory of leadership. *J. Leadersh. Organ. Stu.* 9(4): 21-31.
- Schein EH (1992). *Organizational Culture and Leadership*. San Francisco: Jossey-Bass Publishers.
- Senge P (2006). *The Fifth Discipline: The Art and Practice of the Learning Organization*. New York, Doubleday Business.
- Škerlavaj M, Štembergera MI, Škrinjara R, Dimovskia V (2007). Organizational learning culture - the missing link between business process change and organizational performance. *Inter. J. Produc. Econ.* 106(2): 346 - 367.
- Sveiby, K E (1992). *The Knowledge Company: Strategy Formulation in Knowledge-Intensive Industries*. International Review of Strategic Management, 3. New York: John Wiley and Sons.
- Teo H, Wang X, Wei K, Sia C, Lee M (2006). Organizational learning capacity and attitude toward complex technological innovations: an empirical study. *J. Amer. Society for Info. Sci. Technol.* 57(2): 264 - 279.