

# The effects of knowledge management and self-organization on organizational creativity: The mediating roles of corporate innovativeness and organizational communication

Tuna Uslu<sup>1\*</sup>, Duygu Çubuk<sup>2</sup>

<sup>1</sup> Gedik University, Occupational Health and Safety Program, Istanbul

<sup>2</sup> Beykent University, Printing and Broadcasting Technologies, Istanbul

## ABSTRACT

### Keywords:

Knowledge Management,  
Self-organization,  
Corporate Innovativeness,  
Organizational  
Communication,  
Organizational Creativity

### Correspondence:

tunauslu@gmail.com

Creativity and innovation are very important to achieve successful performance results in the organizations. Even there is a common view about the effects of the environment to increase creativity; there are limited studies about the institutions how to use corporate tools for this purpose. This study aims to determine the factors behind organizational creativity and evaluate the effects of these factors on organizational creativity within a model demonstrating structural relations. The rapid development of information and communication technologies have been changing the organizational structure, business and work methods, manager and employee profile, and in general work life, and have been bringing out new models particularly in communication in inside and outside the organization. Institutions aim to strengthen their employees with a positive approach by infusing them with concepts such as creativity, and flexibility and supporting them. In this study we examine the effects of these organizational predictors like knowledge management and self-organization on the employee creativity through innovativeness and communication. In our survey we used questionnaire method to the convenient sampled 227 employees in Turkey. Factor analysis towards findings and progressive intermediary variable tests are carried out by verifying different models. It was found that knowledge management and self-organization are effective on organizational creativity, but the most important factor determining organizational creativity is organizational communication followed by corporate innovativeness. We suggest the managers, in order to increase organizational creativity in their institutions; they should use knowledge management and corporate innovativeness effectively, so they can increase the efficiency of organizational communication.

## **Introduction**

Development policies that were effective in production based economies until 1970s regarded regional problems as a resource distribution problem and argued that these problems would automatically disappear when free market conditions were achieved. These policies ignore technological developments and the importance and added value of factor quality that has a significant function in development by focusing on numeric values of production factors (Drabenstott, 2005). However, this approach was replaced by a sustainable development oriented innovation culture based on mutual dependencies following the improvements in information communication technologies and networks. The dynamics of the new regional development models created against the changes of the twentieth century consist of environmentalism, innovation systems, unwritten information, organizational learning and learning organization, research and development, and culture theory and governance.

In this context, a new development policy attributes great importance to the creation and implementation of national innovation systems and underlines the importance and interaction of mutual relations of several actors rather than a single actor in the innovation process. As elements like rapid technological changes and competition underline creative thinking as a management concept, companies take as an obligation to set up a creative work environment which will be able to generate new ideas, make inventions, and to convert these ideas to useful products (Mumford, 2003).

Together with this new paradigm and changing understanding of development, Weber's bureaucracy concept evolving in the industrial society based on piece work production is today inadequate to define postmodern organization types and network structures that attempt to keep pace with the changing environment under the effect of globalization and technology. Therefore, new concepts were suggested in the literature (Bolin & Härenstam, 2008) like network type organizations, postmodern organizations, flexible companies, self-organization, and post-bureaucracy. Formal, hierarchical, and central bureaucratic organizations are replaced by flat and decentralized structures that act flexibly instead of following rules. However, the differences between bureaucracy and post-bureaucracy and even the possibility of their co-existence are still discussed. In addition, there is no definition yet on which sector or organization is or should be closer to the concept since there aren't sufficient empirical studies. The lack of clear definitions of present organizations and sectorial requirements with respect to this distinction brings together the necessity to conduct empirical researches (Uslu & Çam, 2011).

## **The Literature Review**

Creativity and innovation are very important to achieve successful performance results in the companies. Even there is a common view about the effects of the environment to increase creativity, there are limited studies about the companies how to use their corporate tools for this purpose. Working conditions, values, relations, authority links that are the structure of social forms in organizations plays an effective role in the development of individuals' creativity (Ansburg & Hill, 2003). Even individuals with special skills will not accomplish without assistance, freedom, and knowledge. All people have some level of capability to make innovations, create changes in perceptions, solve problems, and explain themselves.

Creative thinking is a skill that can be learned. It develops if individuals are supported, encouraged, and suitably rewarded while it gets blunt if not used (Williamson, 2001; Malaga, 2000).

Self-evaluation of the employees does not just provide the employees to reach more knowledge about their works, but also helps to improve creative ideas in their working area indirectly through increasing their intrinsic motivation (Chiang, Hsu, & Hung, 2014). According to Edmund Phelps who won the Nobel Prize in economics in 2006, modern economic growth is an indirect result of human creativity and enlightened politics should be applied as feeding and improving this creativity. In that way also the satisfaction of the human being is increasing (Godley, 2014).

Individuals with creative thinking are people who try to achieve the same goal through different ways (Fisher & Specht, 1999). Creative individuals are motivated to study unusual duties and conditions. Creativity is an indicator of open mindedness (Harris, 2003). Researchers of creativity agreed that the creative individual has to be knowledgeable (Carlsson, Wendt, & Risberg, 2000). Creative individuals have intense, enhanced, and extraordinary knowledge and have their education in their hands (Dasgupta, 2003). If the tasks provide using and learning several skills, besides, they can create important effects for the others. Skill variety, importance of the task, job description, royalty and feedback are the preliminary conditions for creativity about work (Anderson, Potočnik, & Zhou, 2014).

### **Knowledge Management**

The rapid development of information and communication technologies have been changing the organizational structure, business and work methods, manager and employee profile, and in general work life, and have been bringing out new models particularly in communication in inside and outside the organization. Knowledge management is defined as the management function responsible for systematic and efficient selection, administration and assessment of knowledge strategies that focus on creating an environment to support work with knowledge inside and outside of the organization to enhance organizational performance (Maier, 2005).

In the knowledge management activities, communication methods, techniques, and channels are heavily utilized and because of this reason, it is emphasized that the communication aspect has a stronger influence than the management aspect of knowledge management, meaning that knowledge management applications especially through communication influences outcomes. As a result of this, for the information to be shared in the institutions, managers who understand the importance of social interactions and communication with the employees and an institutional management are needed (Nonaka & Takeuchi, 1995).

In the study, for analysing the influence of knowledge management on organizational entrepreneurship, a significant relationship is found. Except knowledge applications, the other elements, namely knowledge acquisition, knowledge conversion, knowledge protection, culture, structure, and technology had highly significant relationship with organizational entrepreneurship (AbdeAli & Moslemi, 2013). The effects of knowledge management, self-organization, environmental graphic, and information design on corporate innovativeness and organizational communication reflect to the organizational creativity positively (Uslu &

Çubuk 2015).

### **Self-Organization**

Self-trust, self-efficacy, emotional consistency, and being controlled are the building stones of self-evaluation as individual value and skills. Self-evaluation is also relevant to individual satisfaction, initiativeness, and popularity. Emotional consistency is being calm and being controlled is the belief that the wanted results are achieved through own behaviours rather than the external factors (Chiang et al., 2014).

While complex tasks under one's self control aim creative results by encouraging the employees to focus on different dimensions of the work at the same time, simple and routine tasks do not aim such results. When individuals feel integrated to their work inherently, all their cares and efforts are concentrated on their works. So this leads them to have a highly creative structure by being more insistent and choosing between different alternatives (Joo, Yang, McLean, 2014). Self-management and adaptive organizations are the sub-dimensions of self-organization.

### **Self-Management**

Self-management is on the agenda of organizational scholars and managers as newly emerging organizational designs demand self directed working behaviour. Self management is composed of three practices including goal setting, monitoring the behaviours against these goals, and operating on her/his self and the environment to reach these goals (Renn, Allen, & Huning, 2011).

Self-regulation theories stress on goal selection and goal pursuit. These components are also establishing self management. Self management strategies are analysed on three levels, namely general, domain-specific and career-specific (Abele & Wiese, 2008). The goals of self management are cost reduction and control of complex operations (Carofiglio, Peloso, Pouyllau, 2010).

### **Adaptive Organization**

Organizational survival depends on adaptation, so people have to change. Survival is observing the whole picture, not just the experiences to create an adaptive organization. All companies face uncertainty and chaos, so organizational goals and actions should be reexamined. Ignoring the rules and keeping adaptability is the key for survival in today's ambiguous working environment (Bedison, 2004).

Organization as a complex adaptive system which has to deliver rapid and qualified responses to the social, media-related and technological improvements in the working environment is linked to effective knowledge management in the organizations (Shoham & Hasgall, 2005). Types of a natural selection, the companies which adapt the changes survive, and adaptive organization is one step beyond the learning organizations in the evolution of the organizations (Stephanus, 1997).

### **Organizational Innovativeness**

Drucker (1984) defined the concept of innovation as the useful information that provides first

chance to ensure efficiency of employees working together in an organization having different knowledge and skills. Innovation is an instrument of entrepreneurship and an action that provides necessary sources in creating a new capacity (Drucker, 1984, 1986).

Organizational innovativeness is explained as an organization's general innovative capacity of presenting new products to the market or opening up new markets by combining strategic orientation with innovative behaviour and process (Wang and Ahmed, 2004). As implied by this definition, organizational innovativeness is a multidimensional construct (Salavou, 2004). Although the components mentioned above might remind us the end-product which is the innovation itself, organizational innovativeness reflects an approach rather than an outcome.

One of the early definitions of innovativeness involved willingness to change (Hurt, Joseph, & Cook, 1977). Goldsmith and Hofacker (1991) defined innovativeness as an attitude as well as a behavior. The conceptualization proposed by Berthon, Hulbert, & Pitt (1999) has several components such as open-mindedness, willingness to change, and ability to innovate. Therefore, as an organizational attitude directly related to dealing with and making use of available information with an open-minded approach, organizational innovativeness can be conceptualized as a specific organizational approach to information processing. In this respect, knowledge management practices in the organization constitute one of the likely antecedents of organizational innovativeness.

### **Organizational Communication**

The rapid development of information and communication technologies have been changing the organizational structure, business and work methods, manager and employee profile, and in general work life and have been bringing out new models particularly in communication in inside and outside the organization (Uslu, 2014). Moreover, methods towards providing a participatory work environment such as authentic decision making from the lower section to the upper section in businesses and establishing communication, empowerment and increasing authority permit employees to be freer, stronger, and making authoritative decisions, thus recognize alternative ways to accomplish goals and be motivated (Uslu, 2014).

The information being relayed to all the employees to make business more competitive is provided by an effective communication model with a feedback mechanism and infrastructure (Uslu & Demirel, 2003). In the knowledge management activities, communication methods, techniques, and channels are heavily utilized and because of this reason, it is emphasized that the communication aspect has a stronger influence than the management aspect of knowledge management, meaning that knowledge management applications especially through communication influences outcomes (Uslu, 2014).

Vertical communication is formed by a hierarchic information system flow in communication is provided first from top to bottom then from bottom to top (Özarallı & Uslu, 2009). The leadership and governance as well as top-down communication effectiveness are understood to increase innovation. Improvement of management skills and increase of entrepreneurs with employees in small enterprises have important effects to create an environment which cause the emergence of new ideas in the business (Uslu, 2012). In

another study (Goris, Vaught, & Pettit, 2000) the effects of communication direction on employee-work adaptation and job satisfaction has been examined. Job satisfaction is a result of need for personal development and adaptation to work features. How the employees perceive the institutional management are a determining factor for job satisfaction (Zhui, May, & Rosenfeld, 2004). They emphasized that valid and reliable information provided to the employee does not always positively impact job satisfaction. Job satisfaction could only be improved if the information provided was adequately designed and suitable with the objectives. With top-down and bottom-up management of organizational communication, it is also aimed that both the organizational and individual creativity are improved.

Through the corporate applications and information systems, the employees who have been sufficiently enlightened of the institution's activities and enterprises feel stronger and achieve their individual and organizational objectives. Sharing information and increasing cooperation, employees with more authority and autonomy, mutual communication opportunities, eased down organizational learning processes, increasing quality of work life and the balance of work-private life with the employees switching to their own autonomy, the destruction of traditional walls, and the formation of the sharing, cooperation and innovation culture have positive impacts on the employees. The most important and critical resource of organizations in a rapidly changing environment of business, competition, and entrepreneurship is the qualified, knowledgeable, and competent man force (Drucker, 1986). Therefore, organizations direct to make stronger their employees with a positive perspective by inspiring them with concepts, namely autonomy, creativity, and flexibility and supporting them (Uslu, 2014).

### **Research Hypothesis**

The following hypothesis guided the study:

Respectively, corporate innovativeness and organizational communication will function as mediating variables between organizational creativity with knowledge management and self-organization.

### **Method**

The studies about the impacts of corporate predictors on organizational creativity are limited in the literature. In our survey, we used questionnaire as the main instrument and 227 employees in Marmara Region participated in the study. A Likert type scale was presented to the respondents that would allow them to conduct evaluations regarding each entry (1 = totally disagree, 5 = totally agree). Demographic analysis for the findings, factor and reliability tests, and regression analyses were performed with SPSS 18.0 statistical software package.

The instruments of survey were knowledge management scale from Uslu, Aydođdu, Gündođdu Şanlı, and Çam (2010), self-organization scale from Vergiliel (2001), and organizational creativity scale from Çavuş (2006). The scale used to assess corporate innovativeness was designed by Hurt et al. (1977) to measure the level of organizational innovativeness and organizational communication was assessed by the scale developed by Postmes, Tanis, & Wit (2001).

Factor analysis towards findings and progressive intermediary variable tests were carried out by verifying different models. For the purpose of determining the intermediation roles of the intermediary variables in our hypothesis, three-step method proposed by Baron and Kenny (1986) was adapted to our research.

## Results

Demographic characteristics of the sample used in this study consisted of 50% of female respondents and 50% of males and the mean age was 35. Of 84% bachelor's degree and the remaining 16% portion of the participants were the elementary, middle school, and high school graduates. The average working time among the participants was approximately 7 years in this business and they have been in working life for an average of 14 years.

In order to determine the sub-dimensions of our variables, with varimax torsion in SPSS, exploratory (descriptive) factor and internal consistency analyses were performed. Each scale was run through the factor analysis separately and their reliability was tested with Cronbach's alpha values, and the scales were translated in the following tables. Cronbach's alpha reliability coefficients of the scales were 0.70 and higher; therefore, the scales were found to be reliable. Explanatory factor value for self-organization which is composed of two factors as self-management and adaptive organization was %73.

Progressive intermediary variable tests towards the team performance are performed with verification of different models with SPSS and it is shown in Table 1. Knowledge management and self-organization increase the effectiveness of corporate innovativeness (model 1), organizational communication (model 2) and organizational creativity (model 4). Corporate innovativeness is also effective on organizational communication (model 3) and organizational creativity (model 5). Organizational communication has also strong positive effect on organizational creativity (model 6), it is also mediating between corporate innovativeness and organizational creativity. Our hypothesis was supported (Table 1).

Table 1

*Impact of Knowledge Management, Self-Organization, Corporate Innovativeness, and Organizational Communication on Organizational Creativity*

	Dependant Variables					
	Corporate Innovativeness	Organizational Communication			Organizational Creativity	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Knowledge Management	.837*** (.054)	.916*** (.077)	.381*** (.106)	.733*** (.070)	.248* (.096)	.085 (.089)
Self-Organization	.306*** (.082)	.341** (.110)	.134 (.101)	.450*** (.100)	.262** (.092)	.205* (.082)
Corporate Innovativeness			.639*** (.056)		.580*** (.089)	.307** (.063)
Organizational Communication						.427*** (.069)
Adjusted R <sup>2</sup>	.774	.692	.763	.683	.756	.809
F	250,997***	158,195***	151,605***	151,673***	145,832***	148,893***

\*\*\* p < 0.001, \*\* p < 0.01, \* p < 0.05 significant value, standard errors in parentheses

## Discussion and Conclusion

The dynamics of the new development models against the changes in the twentieth century consist of ecological structures, corporate governance, interaction between actors, innovation

system, covered information, organizational learning, and research-development activities. These dynamics are intended to create a production structure in the industry that uses advance technology, produces high added value, and employs qualified labour to adapt vocational training in line with the needs of labour market, to match labour supply and demand, and to ensure transformation of labour force in parallel to the changing economic structure. The success of this transformation depends on the capacity of implementers to collect information from outside, to adapt, and internalize this information.

However, it is observed that the businesses in Turkey don't give adequate information to the innovation and creativity which are regarded as the most important elements of competition in this period and are not able to grasp what they need to care most about. Improvement of competitive environment of businesses and increasing competitive power largely depend on the mental process development of knowledge management. There is very strong relation between the knowledge sharing and creation of competitive advantage by businesses. Therefore, it seems compulsory to ensure gaining of regional, local, and micro information and to use knowledge and communication management methods.

The synergy thus to be obtained would bring organizational benefits that are far more superior than the benefits which may take place as a result of individual creativity. The present study examined the effects of these organizational predictors like knowledge management and self organization on the employee creativity through communication. It was found that the most important factor determining organizational creativity was organizational communication support followed by corporate innovativeness. The positive effect of knowledge management and self-organization on corporate innovativeness and organizational communication reflected to the organizational creativity positively. Organizational creativity, self-organization, team perception had direct positive effects on team performance. It was suggested that the managers in Turkey to increase creativity in their organizations should use knowledge management effectively, so they can increase the efficiency of organizational communication.

## References

- AbdeAli, G., & Moslemi, R. (2013). Analyzing the impact of knowledge management on organizational entrepreneurship in Isfahan Alfa Sam Company. *International Journal of Management Academy*, 1(1), 49–57.
- Abele, A. E., & Wiese, B. S. (2008). The nomological network of self-management strategies and career success. *Journal of Occupational & Organizational Psychology*, 81(4), 733–749.
- Anderson, N., Potočník, K., & Zhou, J. (2014). Innovation and creativity in organizations: A state-of-the-science review, prospective commentary, and guiding framework. *Journal of Management*, 40(5), 1297–1333.
- Ansburg, P. I., & Hill, K. (2003). Creative and analytic thinkers differ in their use of attentional resources. *Personality & Individual Differences*, 34, 1141–1152.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality & Social Psychology*, 51, 1173–1182.
- Bedison, N. L. (2004). Shaping the adaptive organization: Landscapes, learning and leadership in volatile times. *AORN Journal*, 80(4), 761.
- Berthon, P., Hulbert, J. M., & Pitt, L. F. (1999). To serve or create? Strategic orientations toward customers and innovation. *California Management Review*, 42(1), 37–58.
- Bolin, M., & Härenstam, A. (2008). An empirical study of bureaucratic and post-bureaucratic characteristics in 90 workplaces. *Economic & Industrial Democracy*, 29(4), 541–564.



- Carofiglio, G., Peloso, P., & Pouyllau, H. (2010). Realizing self-management via self-optimization in dynamic networks: Two examples of dynamic resource allocation. *Bell Labs Technical Journal*, 15(3), 177–192.
- Carlsson, I., Wendt, P. E., & Risberg, J. (2000). On the neurobiology of creativity: Differences in frontal activity between high and low creative subjects. *Neuropsychologia*, 38, 873–885.
- Chiang, Y., Hsu, C., & Hung, K. (2014). Core self-evaluation and workplace creativity. *Journal of Business Research*, 67(7), 1405–1413.
- Çavuş M. F. (2006). *İşletmelerde Personel Güçlendirme Uygulamalarının Örgütsel Yaratıcılık ve Yenilikçiliğe Etkileri Üzerine İmalat Sanayinde Bir Uygulama* (Unpublished doctoral dissertation). Konya Selçuk Üniversitesi Sosyal Bilimler Enstitüsü İşletme Anabilim Dalı.
- Dasgupta, S. (2003). Multidisciplinary creativity: The case of Herbert A. Simon. *Cognitive Science*, 27(5), 683–707.
- Drucker, P. F. (1984). Our entrepreneurial economy. *Harvard Business Review*, 62(1), 59–64.
- Drucker, P. F. (1986). *Innovation and entrepreneurship: Practice and principles*. New York: Simon and Schuster.
- Godley, A. C. (2014). Creativity and growth in: Edmund Phelps (2013), Mass flourishing, How grassroots innovation created jobs, challenge and change. *International Journal of the Economics of Business*, 21(2), 255–260.
- Goldsmith R. E., & Hofacker C. F. (1991). Measuring consumer innovativeness. *Journal of Academy of Marketing Science*, 19(3), 209–221.
- Goris, J. R., Vaught, B. C., & Pettit, J. D. (2000). Effects of communication direction on job performance and satisfaction: A moderated regression analysis. *Journal of Business Communication*, 37(4), 348–368.
- Fisher, B. J., & Specht, D. K. (1999). Successful aging and creativity in later life. *Journal of Aging Studies*, 13(4), 457–472.
- Harris, J. A. (2003). Measured intelligence, achievement, openness to experience, and creativity. *Personality & Individual Differences*, 36, 913–929.
- Harvey, S. (2014). Creative synthesis: Exploring the process of extraordinary group creativity. *Academy of Management Review*, 39(3), 324–343.
- Hurt, H. T., Joseph, K., & Cook, C. D. (1977). Scales for the measurement of innovativeness. *Human Communication Research*, 4, 58–65.
- Joo, B. K., Yang, B., & McLean, G. N. (2014). Employee creativity: The effects of perceived learning culture, leader-member exchange quality, job autonomy, and proactivity. *Human Resource Development International*, 17(3), 297–317.
- Maier, R. (2005). Modeling knowledge work for the design of knowledge infrastructures. *Journal of Universal Computer Science*, 11, 429–451.
- Malaga, R. A. (2000). The effect of stimulus modes and associative distance in individual creativity support systems. *Decision Support Systems*, 29(2), 125–141.
- Mumford, M. D. (2000). Managing creative people: Strategies and tactics for innovation. *Human Resource Management Review*, 10(3), 313–351.
- Nonaka, I., & Takeuchi, H. (1995). *The knowledge creating company: How Japanese companies create the dynamics of innovation*. New York: Oxford University Press.
- Özarallı, N., & Uslu, T. (2009). Public and private sector information sharing and analysis of communication channels. *International 7th Knowledge, Economy & Management Congress Proceedings*, Yalova Üniversitesi-İstanbul Üniversitesi, FSM-İstanbul, 1528–1541.
- Postmes, T., Tanis, M., & De Wit, B. (2001). Communication and commitment in organizations: A social identity approach. *Group Processes & Intergroup Relations*, 4(3), 227–246.
- Renn, R. W., Allen, D. G., & Huning, T. M. (2011). Empirical examination of the individual-level personality-based theory of self-management failure. *Journal of Organizational Behavior*, 32(1), 25–43.
- Salavou, H. (2004). The concept of innovativeness: Should we need to focus? *European Journal of Innovation Management*, 7(1), 33–44.
- Shoham, S., & Hasgall, A. (2005). Knowledge workers as fractals in a complex adaptive organization. *Knowledge & Process Management*, 12(3), 225–236.
- Stephanus, T. L. (1997). The adaptive organization: A step beyond learning. *Employment Relations Today*, 24(2), 65–76.
- Uslu, Ş., & Demirel, Y. (2003). Kobi'lerde Çalışanların Sorunları Üzerine Bir Araştırma. *Erciyes Üniversitesi Sosyal Bilimler Entitüsü Dergisi*, 12, 173–184.

- Uslu, T., Aydođdu, C., Gündođdu Őanlı, Z., & Őam, E. M. (2010). The mediating effect of psychological empowerment and positive organizational behaviors between organizational accreditation standards and individual performance. *International 8th Knowledge, Economy & Management Congress Proceedings, Istanbul*, 1426–1439.
- Uslu, T., & Őam, E. M. (2011). Information and communication technology (ICT) use in Turkish service sectors and long distance health care practices. *The Knowledge Economy, Istanbul*, 347–361.
- Uslu, T. (2012). KOBİlerde Yönetimin Dikey Örgütsel İletişim Aracılıđıyla Girişimcilik ve Yenilikçilik Üzerindeki Etkisi, 8. *KOBİ'ler ve Verimlilik Kongresi Bildiri Kitabı*, ed. Müge İşeri, *Istanbul Kültür Üniversitesi Yayınları*, 182, 25–30.
- Uslu, T. (2014). *Perception of organizational commitment, job satisfaction and turnover intention in M&A process: A multivariate positive psychology model* (Unpublished doctoral dissertation) Marmara University, Istanbul, Turkey.
- Uslu, T., & Őubuk, D. (2015). Organizational predictors of creativity by the mediating effect of corporate innovativeness and organizational communication. *Future Challenges in Management and Business Conference Proceedings, Istanbul*, 87.
- Vergiliel, T. M. (2001). *Kaos Ortamında Self Organizasyon Davranışı*. Istanbul: Alfa Yayınları.
- Wang, C. L., & Ahmed, P. K. (2004). The development and validation of the organisational innovativeness construct using confirmatory factor analysis. *European Journal of Innovation Management*, 7(4), 303–313.
- Williamson, B. (2001). Creativity, the corporate curriculum and the future: A case study. *Futures*, 33(6), 541–555.
- Zhui, Y., May, S. K., & Rosenfeld, L. B. (2004). Information adequacy and job satisfaction during merger and acquisition. *Management Communication Quarterly*, 18(2), 241–270.