Eurasian Journal of Educational Research, Issue 53, Fall 2013, 131-150

Virtual Communities Of Practices (VCoPs) for Ensuring Innovation at Universities -Fırat University Sample

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Suggested Citation:

Özmen, F. (2013). Virtual communities of practices (VCoPs) for ensuring innovation at universities - Fırat university sample. *Egitim Arastirmalari-Eurasian Journal of Educational Research*, 53, 131-150.

Abstract

Problem Statement: In our era, to generate innovative and strategic knowledge and use it to produce new products and services bears the utmost importance in terms of providing improvement, innovation, and thus competitiveness for organizations. Higher education institutions are considered prominent organizations leading the change for innovation by producing new knowledge and new know how(s). However, universities generally fall short in meeting these expectations and are very slow in generating new knowledge. Meanwhile, ever-evolving information and communication technologies (ICT) offer various opportunities in terms of knowledge utilization and the knowledge generation field. In this context, virtual communities of practices (VCoPs) have drawn attention due to their collaborative knowledge producing potential, which fosters organizational learning and improvement.

Purpose of The Study: The goal of this research is, based on the views of senior administrators at Fırat University and in the scope of the literature review, to determine the importance of and barriers to VCoPs, as well as determine the leadership roles for the constitution and utilization of VCoPs at the university setting.

Method: In this study, the opinions of 21 administrators were gathered via semi-structured interviews and the data obtained were analyzed through content analysis method. The views of each respondent were written down, listed, and coded. Then, according to the meanings of the codes, categories were determined and analyzed while taking into consideration the iterative procedure.

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Findings and Results: The findings revealed that VCoPs were thought to be important for ensuring improvement and innovation by the majority of the administrators; however, some barriers, such as distrust and insecurity, lack of leadership, and lack of knowledge and skills existed. In order to achieve effective utilization results for VCoPs, greater leadership roles, such as opportunity enhancement, staff encouragement, knowledge utilization, and monitoring developments, were proposed by the administrators.

Conclusion and Recommendations: VCoPs were thought to be important by almost all of the university administrators for ensuring improvement and innovation. However, there were serious barriers which hindered the utilization of VCoPs. To overcome these barriers and in order to make the university staff eager to participate in VCoPs, certain leadership roles were seen as necessary.

Keywords: Higher education, VCoPs, improvement, innovation, tacit knowledge.

Introduction

Rapid developments in information and communication technologies (ICT) and technology in general have put great pressure on higher education institutions for pursuing new developments to produce new knowledge that will foster innovation. Most universities are generally far from meeting these expectations and are very slow to pursue new developments and produce new knowledge and products (Kidwell, Linde, & Johnson, 2000; Buckley & Toit, 2010, p. 493; Kumar, 2005, p. 27). They are not successful in addressing new issues, leading cross-cultural environments, or managing virtual teams (OECD, 2011, p. 106). As Akbulut (2012) stated in his report, in Turkey, a few universities have found themselves placed in among the 500 most prominent universities in the world.

Organizational innovation is largely connected with organizational learning, which has roots in the interaction between tacit and explicit knowledge (Ardichvili, Page, & Wentling, 2003; Bueno, Aragon, Salmador, & Garcia, 2010, p. 318). Tacit knowledge is embedded in the minds of individuals. It is "know how" and is shaped by intuition, experiences, feelings, thoughts, and similar inner strengths (Bueno, et al. 2010, p. 318; Byrosiere, Luethge, Vas & Salmador, 2010, p. 40). Therefore, it is rather difficult to explicate and imitate it (Alwis, et al 2004, p. 7; Bueno, et al. 2010, p. 31), and that property makes it strategic, especially for ensuring innovation and competitiveness (Bueno, et al. 2010, p. 318; Byrosiere, et al, 2010, p. 404).

The most suggested ways to explicate tacit knowledge are face-to-face interactions (Nelson & Hsu, 2011, p. 828; Ardichvili, et al. 2003, p. 65). However, ensuring face-to-face interactions are not always easy in terms constraints such as time and location (Nelson & Hsu, 2011, p. 828) in today's globally dispersed companies (Ardichvili et al. 2003, p. 65). Therefore, virtual communities of practices (VCoPs) have been proposed as the viable alternatives to face-to-face interactions (Ardichvili

et al. 2003, p. 65) and are thought to have the potential for sharing and generating knowledge (Hagel, Brown, & Davison, 2010; Buckley & Toit, 2010, p. 494). Since universities are assigned with the task of transmitting, sharing, and creating knowledge, it is stated that the university setting is an appropriate place for "breeding of VCoPs" (Buckley & Toit, 2010, p. 494).

The goal of this research is, based on the views of senior administrators at Fırat University and in the scope of the literature review, to determine the importance of and barriers to VCoPs, and the leadership roles for the constitution and utilization of VCoPs at the university setting.

Virtual *Communities of Practices (VCoPs)*

In reference to community networks, the term community of practices (CoPs) was used first by Lave and Wenger in 1991 to describe the collaborative studies of informally established teams (Ardichvili, et al. 2003, p. 65; Buckley & Toit, 2010, p. 496). According to Wenger (2001), 'community of practice' is a specific kind of community focusing on a domain of knowledge and accumulating expertise, so as to "develop their shared practice by interacting around problems, solutions, and insights, and building a common store of knowledge."

The rapid diffusion of internet based networking and growing internationalization has brought about the need for constituting online CoPs (Kimble, Hildreth & Wright 2000, p.224). Virtual community is defined as a social network of individuals who interact online across geographical and political boundaries to pursue mutual interests and goals (Chiu, Wang, Shih, & Fan, 2011, p. 135; Wikipedia, 2011; Porter, 2004). They are seen as among the few viable alternatives for achieving the exchange of knowledge (Hagel et al. 2010; Buckley & Toit, 2010, p. 496).

Factors Affecting The Formation and Utilization of VCoPs

Various factors, which may hinder or promote the formation and utilization of VCoPs have been put forth by experts. Hew and Hara (2007) adduce six broad types of barriers, including lack of technology, lack of knowledge to share (not to be confident about), competing priorities (lack of time, etc.), quality of community, personal attitudes (big egos, desire for hoarding knowledge, and fear for losing competitive edge), and confidentiality considerations (pp. 2312-2013). In higher education, a number of barriers are mentioned by Buckley and Toit (2010) as to why academics have not utilized VCoPs. Time, heavy workloads, administrative commitments, incentive expectations, and mistrust are the most mentioned barriers (p. 498). According to some research results, security and trust considerations are the ones, which are the top of the obstacles (Ardichvili et al. 2003, p. 71), or, one of the important issues (OEAS, 2012, p. 3) that constitute barriers to CoPs. Related to security considerations, knowledge theft, sexual exploitation (Wikipedia, 2011), unreliability of information and knowledge, and "knowledge is power, "attitude are frequently mentioned obstacles in organizations (Byrosiere, et al., 2010, p.402).

On the other hand, various motivating factors, which encourage people to participate in VCoPs and share their knowledge, have also been articulated. In the research done by Hew and Hara (2007), the most common motivators were found to be reci-

procity, collectivism, personal gain, respectful environment, altruism, and technology (p. 2318). Ardichvili, et al. (2003) found that people would share their tacit knowledge easily if they were the members of a study team, viewed it as part of the public good, and if the knowledge was reliable and objectively held (p. 71-73).

Innovativeness of Higher Education Institutions

It has been explored in literature that organizational competitiveness is ensured by providing organizational learning and innovation through explicating and sharing tacit knowledge in turn generating new knowledge and skills. There is a positive relationship between tacit knowledge and organizational learning (Bueno, et al. 2010, p. 331; Cho, et al. p. 264); tacit knowledge, organizational learning, and innovation (Nonaka, 1994, p. 15; Bueno, et al. 2010; Alwis, p. 18); and innovation and gaining competitive advantages (Bueno , et al. 2010, p. 319, 332; Buckley & Toit, 2010, p. 495).

Byrosiere et al. (2010), in referring to the views of several authors, define organizational innovation as the "adoption of a behavior or an idea which is new to the firm or organization." It is stated that organizational innovation is examined generally in regards to new products, new technologies, new services, or new administrative processes (p. 405).

It is stated by OECD (2011) that a number of countries have prepared national innovation strategies; and without exception, these strategies have highlighted the importance of human capital in meeting goals for innovation and development (p.105). Higher education institutions are the top-level organizations for educating higher level skilled and knowledgeable individuals. However concerns have been voiced about the supply of the skillful people especially in science, technology, engineering, and mathematics (STEM). And, the gaps in soft skills and capacity to address new issues are common. Therefore, the OECD countries have sought to link the developmental capacities of tertiary education to market demands in a knowledge economy to ensure innovation (OECD, 2011, p. 105, 111).

VCoPs are deemed as possible vehicles to spur the organizational learning and innovation. They are seen as especially effective within the STEM disciplines, and can bring very separated researchers and practitioners together for working collaboratively on the innovative issues (OEAS, 2012, p. 4). Buckley and Toit (2010) state that due to the advent of Internet, the universities have lost their 'ivory tower' status. And by encouraging the formation of CoPs, face-to-face universities will create a competitive sustainable advantage and this should be the way forward to the twenty-first century (p.495).

Related to the most innovative and entrepreneurial universities index in Turkey, Middle East Technical University, Sabancı, and Bilkent rank as the top three, respectively. Fırat University ranked 34 among the top 50 universities (TUBITAK, 2013). To enhance the research and development activities and the quality of education, which will contribute to the improvement of the country, The Scientific and Technological Research Council in Turkey (TUBITAK, 2011) made a decision about the development of policy to trigger innovation and entrepreneurship at universities.

Method

Research Design

A qualitative research method was used in this study. Data were collected through semi-structured interviews. The questions were developed based on the review of the literature and the situation at Fırat University. The questions asked to the interviewees were:

1. Do you believe in the importance of VCoPs for providing innovation at the university? Why or why not, could you explain the reasons?
2. What are the barriers that prevent the staff from utilizing VCoPs?
3. What leadership roles do you think university administrators can play in the constitution and utilization of VCoPs?

The study group consisted of 21 academics who are responsible for senior level managerial tasks (1 ex-rector, 2 vice rectors, 12 deans, and 6 directors) at Fırat University. This group was specifically chosen because they hold major influence on making decisions and developing organizational policies.

To enhance the validity of the research, during the interviews an informal conversation setting was used so views could be stated easily. Each interviewee was given information about VCoPs in order to avoid false notions of the concept. All of the conversations were recorded and some of the views of each respondent were reconfirmed at the end of the interview. Therefore, it was conceived by the researcher that the questions were understood precisely and the replies were related to the questions. In addition, it was observed that the responses of the interviewees matched those found in the literature. Therefore, all of these were considered as indicators of maintaining research validity.

To examine the coding reliability, the interview transcripts were read and coded independently by the researcher and an expert. Then, taking into consideration the coded results, an inter coder agreement rate was computed based on the Miles and Huberman (1994) formula given below, it was found that there was consistency between the coders.

[Coder Reliability (96.77 %)=Number of agreements (90)/[Number of Agreements (90) + Number of Disagreements (3)] X 100]

In addition to it, to enhance the validity and reliability of the research, some quotations were given related to the interviewee opinions throughout the analyses of the data.

Data Analyses

In this study, the obtained textual data was analyzed using a content analysis method. As a scientific study, content analysis is described as the study of content with reference to the meanings, context, and intentions contained in messages (Prasad, 2008). As the researcher had held assumptions related to the current situation with regards to the research topic at Fırat University, a deductive approach was well

suited for the study. However, since the researcher intended to generate coding categories from the ideas mentioned in the responses, an inductive approach also emerged as necessary. Therefore, both deductive and inductive approaches were adopted as part of the research.

Even if the researcher detected the codes manually, the codes were also provided through NVivo Qualitative Analysis Program, and both code lists were checked in order to avoid the possibility of having irrelevant codes or missing codes (Hughes & Silver, 2010; Welsh, 2002). In the analysis of the data, in order to discover the relevant responses to each question, not only were the response segment to each question took into consideration, but the data set as a whole was also taken into consideration.

It was proposed that in order to achieve the best results in the qualitative analysis, instead of relying only on either electronic or manual methods, the researchers should combine the best features of each (Welsh, 2002). Therefore, in order to give detailed information related to the codes and categories, the distribution of the data is provided in the given tables. In addition, with a purpose of achieving clarity and understandability, and in order to facilitate generalizability of the research results, frequencies for the codes and frequencies and percentages of the categories are provided in the tables as well (Hughes & Silver, 2010; Yıldırım & Şimşek, 2006, p. 243, 244). As the frequency of each category is the sum of the iterated codes, it sometimes may be more than the respondents' number. The percentages indicate the rate of the frequency of a single category with regards to the total frequencies of the other categories in each table. To quote the views of the respondents, R1, R2… and R21 identifiers were used to indicate each respondent.

Results

The results obtained from the analysis of the data are provided below.

Importance of Virtual CaPs in Providing Innovation

Related to the question of whether the administrators believed in the importance of VCoPs for providing innovation, the views of the respondents indicated some differences (Table 1). While the great majority of the respondents emphasized the importance of VCoPs for providing innovation (f-25, 83%) (Table 1), three were neutral (10%), and two were against it (7%). The views of some respondents who thought VCoPs to be important are given below:

> R19: "Our era entails the utilization of virtual social networks. VCoPs are gaining increasing importance and the ways of making use of them effectively should be sought."
>
> R21: "VCoPs create an incomparable environment for sharing and generating knowledge. It is important, of course."

On the other hand, even if three people acknowledged the importance of VCoPs, they still preferred to remain neutral, as they felt unfamiliar to the details associated with virtual communities. One of these views is as follows:

R12: "Our generation is not used to computers and the internet. VCoPs may be useful for the ones who are thoroughly occupied with the electronic world, but this kind of work does not relate to us. However, the next generation can utilize it."

In addition, two administrators did not think VCoPs are important for ensuring innovation at universities. One of them pointed out the existence of other vehicles, and the other emphasized the phrase "knowledge is power" to indicate his unwillingness for sharing knowledge. The following two views are given:

R3: "Sharing the new knowledge is a bit distressful. Knowledge can not be shared in a non-refereed environments; the proven knowledge has already been published in the scientific journals and presented at conferences. Therefore, there is no need for VcoPs."

R18. "Knowledge means money and power. I don't want to share my knowledge if there is no personal gain."

Table 1

Distribution of the Views Indicating the Importance of VCoPs

Views Towards the Importance of VCoPs				
Respondents and Summary of Their Views			*f*	%
		Importance of VCoPs		
Emphasis on the importance of VCoPs (R1, R2, R4, R5, R6, R7, R8, R9, R10, R11, R13, R15, R17, R19, R20, R21).	Codes	Important	25	83%
Neutral for being unaccustomed with VCoPs (R12, R14, R16)		Neutral	3	10%
Rejection to the formation and utilization of VCoPs (R3, R18)		Unimportant	2	7%
		Total	30	100%

Reasons That Makes VCoPs Important for Ensuring Innovation

Related to the question of why administrators think VCoPs are important (Table 2), it was detected that the functionalities of sharing and generating knowledge, providing improvement, triggering innovation, and ensuring motivation are what make VCoPs important. It can be seen that the "Providing improvement" (f=23, 33%) category was the most articulated, and comprised the 'socialization,' 'wellness,' and 'achievement' codes. According to the administrators, knowledge sharing and generation through VCoPs can contribute to the wellness of the organization and can promote a certain level of success and socialization. Some of the quotations are given below:

> R1: "VCoPs facilitate the socialization of the people, in addition to knowledge sharing."
>
> R7: "Sharing knowledge promotes the success and improvement of the organization. Everyone can benefit from it and this is essential for the wellness of the organization."

The "Sharing/generating knowledge" (f=21, 30%) and "Triggering Innovation" (f=21, 30%) categories, with equal iteration and percentage rates, indicate the other most articulated reasons as to why VCoPs are thought to be important. The majority of the respondents stated that through VCoPs knowledge would be more effectively shared than the methods actualized in traditional work settings in which it is difficult to come together with the people working in the dispersed units. In a similar way, four views pointed out the importance of VCoPs in generating knowledge.

The category of "triggering innovation" includes the codes such as project development, creativity, innovative ideas and implementations, and strategic value. The respondents assumed that VCoPs have the capacity for triggering innovation through the cited functions above. The views of two respondents are as follows:

> R2: "Academics wrote thesis', dissertations, and conducted projects in the past which have not been shared effectively. In this way, the results of this type of research can be shared more easily, so as to generate new knowledge and innovation."
>
> R4: "In a virtual community mainly based on the exchange of scientific knowledge, just like an engineering community, tacit knowledge may more easily be shared. Since this will promote innovative and creative ideas, it will contribute to the competitiveness of the organization."

"Providing motivation" (f=5, 7%) was the least articulated category which comprised the codes 'sense of belonging' and 'eagerness'. It is said that VCoPs can create a positive atmosphere in which useful ideas and implementations can be shared easily, and therefore, a sense of belonging can be developed. One of the respondents cited his thoughts in the following:

> R21:"A virtual community of practices has a unique atmosphere which facilitates the exchange of knowledge. This peculiarity makes people more eager to participate in it."

The findings related to the reasons that make VCoPs important reveal that the great majority of respondents believe VCoPs can be effective in sharing and generating knowledge, providing improvement, accelerating innovation, and providing motivation.

Table 2

Distribution of Views for the Reasons That Make CoPs Important

Reasons That Make VCoPs Important

Respondents and Summary of Their Views		*Categories*	*f*	*%*
Emphasis on convenient environment for sharing and generating knowledge (R2, R4, R5, R6, R7, R8, R9, R10, R11, R13, R15, R16, R17, R19, R20, R21)		*Sharing/Generating Knowledge*		
	Codes	Sharing Knowledge	17	
		Generating Knowledge	4	
		Sub Total	21	30%
Stress on outcomes that provide innovation (R4, R5, R15, R17, R18, R19, R20, R21)		*Triggering Innovation*		
	Codes	Creativity	4	
		Project Development	7	
		Strategic Value	1	
		Innovative ideas/ Implementation	9	
		Sub Total	21	30%
Statement on outcomes which provide organizational improvement (R1, R2, R5, R6, RR9, R21)		*Providing improvement*		
	Codes	Socialization	6	
		Wellness	8	
		Achievement	9	
		Sub total	23	33%
Emphasize on feelings of motivation (R1, R14, R19, R20, R21)		*Providing motivation*		
	Codes	Sense of belonging	3	
		Eagerness	2	
		Sub Total	5	7%
		Total	70	100%

Barriers for the Utilization of VCoPs

In relation to the barriers that hinder the utilization of VCoPs, codes were gathered under the categories of "insecure environment," "lack of leadership," and "lack of knowledge and skills" (Table 3).

"Insecure environment"(f=30, 44%) was the most mentioned category. It includes the codes of 'lack of trust,' 'misuse of knowledge,' and 'ineffective regulations'. Almost all of the respondents stated their concerns about maintaining security. Admin-

istrators thought that issues such as theft of identification, theft of knowledge, misuse of knowledge and knowledge pollution create an insecure environment. In addition, ineffective regulations and difficulty in executing these regulations were stated as some other inhibitors of sharing knowledge.

This situation implies that even if a great majority of administrators believe in the importance of VCoPs for ensuring innovation, they are timid about the utilization of VCoPs in relation to security issues. One quotation is as follows:

> R1. "An increase in unnecessary and wrong knowledge can be seen easily in the virtual arena. Most shared knowledge is incorrect or inadequate. It is always risky to entirely rely on people or communities in virtual environments."

"*Lack of leadership*" (25, 36%) was one of the other barriers to VCoPs encompassing 'organizational inefficiencies' and 'lack of administrative competency.' Organizational inefficiency is related mainly to organizational structure and functioning. On the other hand, a lack of administrative competency is related to the absence of certain managerial knowledge and skills, such as having perspective, goal attainment, planning ability, etc. Some of the related thoughts are as follows:

> R21: "Unless the university administrators are transformational leaders, these kinds of initiatives will hardly be realized. The administrators generally do not have perspective or adequate level of commitment for ensuring the effective utilization of VCoPs in the university setting."

> R4: "The administrators are not open to new ideas, and academics are timid to share knowledge."

"*Lack of knowledge and skills*" (14, 20%) was seen as a barrier by some of the administrators. In this regard, the opinions of two respondents are given below:

> R21: "I think most of the academics and even administrators do not have adequate skill levels and knowledge in terms of utilizing new technology."

> R4: "Unawareness of new knowledge sharing ways constitutes the main barrier."

Also, a few administrators mentioned unfamiliarity to virtual environments, and this situation is considered a barrier as well.

Table 3

Distribution of Views Regarding the Barriers of VCoPs

Barriers of VCoPs				
Respondents and Summary of Views			*f*	%
Emphasis on insecure environment that creates distrust (R1, R3, R4, R5, R6, R7, R8, R9, R10, R11, R13, R15, R16, R17, R18, R19, R20, R21)	Codes	*Insecure Environment*		
		Lack of Trust	17	
		Misuse of Knowledge	9	
		Ineffective Regulations	4	
		Sub Total	30	44%
Emphasis upon lack of leadership (R1, R4, R5, R6, R8, R9, R14, R15, R16, R21)	Codes	*Lack of Leadership*		
		Organizational Inefficiencies	10	
		Lack of Admin. Competence	15	
		Sub Total	25	36%
Deficiencies in knowledge and skills (R2, R6, R14, R16, R21)	Codes	*Lack of Knowledge and Skills*		
		Lack of Knowledge	5	
		Lack of Skills	5	
		Unfamiliarity to Virtual World	4	
		Sub Total	14	20%
		Total	69	100%

Leadership Roles of University Administrators for the Constituting and Utilization of VCoPs

Taking into consideration the leadership roles of administrators for the constituting and utilization of VCoPs, the codes were grouped under "opportunity enhancement," "knowledge utilization," "staff encouragement," and "development monitoring" (Table 4).

The "Opportunity enhancement" (f=65, 51%) category attracted the most views. It consisted of codes such as 'security building,' 'central management formation,' 'team building,' 'access facilitation,' and 'financial support.' Almost all of the administrators thought that without creating the appropriate conditions at the university, it was rather difficult to constitute and utilize VCoPs. Some of their views are given below:

> R1: "The University should spearhead the establishment of formal VCoPs which welcome academics from divergent disciplines. A cen-

tral management agent responsible for the operation of the virtual community should be had."

R9: "Financial support should be provided, and generated knowledge should be utilized so as to maintain competitiveness."

R18. "Legal procedures should be developed for sharing and making use of knowledge easily."

"Knowledge utilization" (f=26, 21%) was the second most articulated category and includes the codes 'products' and 'processes.' The respondents emphasized that university administrators should play leadership roles for utilization knowledge through VCoPs so as to provide projects, patents, and services that contribute to innovativeness. In addition, they also stated that the generated products could also be used for supporting instructional and managerial processes. On that subject, two quotations are given below:

R2: "Ways of generating new knowledge may be sought through VCoPs. New knowledge should be used for producing new products and for strengthening instructional processes. New knowledge should be valued and the case of Doctor "Zakkum Ziya" should not be forgotten."

R20: "Each institution should analyze its data base, web platforms, and knowledge banks through data mining methods in order to support data processing and facilitate the utilization of knowledge."

The "Staff encouragement" (f=21, 17%) category consists of codes such as 'rewards,' 'moral support,' 'voluntary basis,' and 'success stories.' The administrators thought that motivation could be ensured through various vehicles. The opinions of some of the administrators are as follows:

R2: "Rewards should be given for new and registered knowledge. The new knowledge should also be identified with the name of the person who generated it."

R18. "VCoPs should be seen as one of the most important structures for encouraging organizational innovation. For the best utilization of VCoPs, communication should be improved, and administrators and academics should be motivated towards building and utilizing such community networks."

The "Monitoring developments" (f=14, 11%) category includes the codes 'constant evaluation' and 'audit system.' Respondents emphasized that for the successful utilization of VCoPs, constant evaluation and an audit system throughout the organization should be provided. Two quotations are as follows:

R19. "New knowledge should be evaluated in the organization in terms of providing innovation."

R11: "Internal control mechanisms should be integrated in an automated manner. An audit system should be built for the organization."

Table 4

Distribution Of Views Towards the Leadership Roles Of Administrators

Leadership Roles of Administrators				
Respondents and Summary of Views		*Categories*	*f*	*%*
Shedding light on opportunities which facilitate utilizing VCoPs (R1, R2, R4, R5, R6, R7, R8, R9, R10, R11, R13, R15, R16, R17, R18, R19, R21)	Codes	*Opportunity Enhancement*		
		Security Building	17	
		Central Management	14	
		Team Building	14	
		Access Facilitation	11	
		Financial Support	9	
		Sub total	65	51%
Emphasis on the outputs for the utilization of knowledge (R1, R2, R4, R5, R6, R8, R10, R11, R13, R 14, R15, R17, R18, R19, R21)	Codes	*Knowledge Utilization*		
		Products (patents, projects, services, etc.)	20	
		Processes (Communication, instruction, etc.)	6	
		Sub total	26	21%
Ways for the encouragement of staff for the utilization of VCoPs (R1, R2, R4, R5, R8, R10, R11, R15, R17, R18, R21)	Codes	*Staff Encouragement*		
		Rewards	7	
		Moral Support	8	
		Voluntary Basis	3	
		Success Stories	3	
		Sub total	21	17%
Emphasis on monitoring the developments for the effective utilization of VCoPs (R5, R9, R10, R11, R14, R15, R16, R17, R19, R20, R21)	Codes	*Monitoring Development*		
		Constant Evaluation	10	
		Audit system	4	
		Sub total	14	11%
		Total	126	100%

Discussion and Conclusion

Based on the analysis of the data, it can be concluded that VCoPs are seen as effective tools for the exchange and generation of knowledge, enhancing motivation, proving improvement, and innovation. The review of the literature also proves that VCoPs provide various benefits by promoting knowledge sharing and generation (Ardichvili et al. 2003; Hagel et al, 2010; APQC, 2010), enhancing motivation (Hew & Hara, 2007), ensuring improvement (Fontaine & Millen, 2004; Davenport & Hall, 2002; APQC, 2010), and triggering innovation (Cho et al. 2009). Therefore, the results obtained in our research are consistent with the ones held in the literature.

However, in terms of the importance of VCoPs, there are a few neutral and negative views as well. These views mainly stem from individual attitudes and behaviors, such as being unfamiliar to the virtual world, hoarding knowledge in hope of not losing competitiveness and gains, and making use of alternative sources. There are many ideas related to individual attitudes for hoarding knowledge due to fear of losing power and status, in the literature, and this manner constitutes an important barrier for not sharing knowledge (New & Hara, 2007; Brysiere et al. 2010, p. 402; Buckley & Toit, 2010, p. 500).

Insecurity of the virtual environment has been found as the most cited barrier in the research. Lack of trust, misuse of knowledge, and ineffective regulations are the most prevalent matters set forth. Security issues are stated as the most important barriers in the literature as well. The exploitation of knowledge (Ardichvili et al, 2003; Hew & Hara, 2007; Wikipedia, 2011; Buckley & Toit, 2010, p. 499), knowledge pollution, and unreliability of knowledge (Byrosiere et al. 2010) are among the most cited barriers.

A lack of leadership is another important barrier to VCoPs found in the research. It appears in the literature that the success of VCoPs in an organization is largely due to the top managements' support and commitment (Conley & Zheng, 2009; Buckley et al. 2010; Bueno et al. 2010). Insufficient technology and lack of infrastructure should be dealt with by managers, and this is one of the stated barriers in the literature (Ardichvili et al. 2003; Hew & Hara, 2007; Bueno et al. 201; Buckley & Toit, 2010, p. 500). This situation proves again that the results of that research are consistent with the literature as well.

A lack of knowledge and skills is another barrier detected in the research. The capability of academics and administrators for utilizing the new knowledge and technology in a way that enables the generation of new knowledge, products, and services is seen as essential for providing innovation and competitiveness (Nonaka, 1994; Bueno et al. 2010).

Related to the leadership roles of administrators, opportunity enhancement, staff encouragement, and the development monitoring roles of the leaders have been put forth by the administrators. Byrosiere et al. (2010) draws attention to new technology, ideas, services, products, and new administrative processes for ensuring innovation.

Knowledge utilization is as another leadership role stated by the respondents. Assuring people utilize new knowledge for generating patents, projects, and new and striking implementations and services can be cited. With regards to VCoPs, all these issues are the prominent topics of discussion in the literature as well (Buckley & Toit, 2011; Anthony, Rosman, Eze, & Gan, 2009).

The leadership roles were emphasized in the research. These roles are generally related to the soft skills of administrators such as providing moral support, encouraging new and divergent ways of working, giving incentives and rewards, and promoting communication facilities, etc. To ensure the willingness of people for sharing knowledge through VCoPs is crucial for improvement and innovation (Shu & Chuang, 2011; Hew and Hara, 2007, p.2323).

Implications

Our era is characterized by knowledge. To share and generate new knowledge and to use it for producing new and demanding products and processes are the paramount goals of today's organizations for ensuring sustainable growth, innovation, and competitiveness. In that context, sharing tacit knowledge is seen as a key concept for ensuring innovation. VCoPs are seen as sources and vehicles for sharing tacit knowledge due to their facilitative, collaborative, goal oriented, and participative nature. Higher education institutions should utilize the opportunities offered by the digital world. Along with the results obtained from this research project, the recommendations below are made:

The commitment of senior administrators for establishing and utilizing VCoPs in an intra- and inter-university manner is essential. Therefore, administrators should adopt a facilitative and supportive leadership approach for ensuring the constitution and utilization of VCoPs. The constitution and utilization of VCoPs should be encouraged via enhancing the opportunities. Moral, financial, and technical support should be provided. In this way, tacit knowledge sharing can be facilitated via various interactions through VCoPs, and producing new knowledge, products, and processes can be accelerated.

Monitoring for the developments should be realized at every level and effective solutions should be sought for the problems. An audit system should be built, for ensuring effective functions of VCoPs. Security problems are major issues to be dealt with. Teams of knowledgeable and skillful people should be built and ways for handling security problems should be sought effectively and continuously. Projects, patents, new know-how(s), and new implementations and services should be encouraged and supported; and they should be connected to the instructional and managerial processes and further R&D activities so as to ensure organization-wide innovation.

The R&D activities should also be integrated with the labor market. That is essential for the development and innovation of both higher education institutions and firms in the labor market. Thus, the demands of the labor market will be met more effectively, the entrepreneurship and innovative implementations will be fostered, and regional growth will be triggered.

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Üniversitelerde Yenileşmeyi Sağlamada Sanal Uygulama Toplulukları Fırat Üniversitesi Örneği

Atıf:

Özmen, F. (2013). Virtual communities of practices (VCoPs) for ensuring innovation at universities - Fırat university sample. *Egitim Arastirmalari-Eurasian Journal of Educational Research*, 131-150.

Özet

Problem Durumu: Bilişim teknolojisindeki gelişmeler ve küreselleşme etkisi ile örgütler, varlıklarını etkili şekilde sürdürebilmek ve rekabet avantajı yakalayabilmek için, yeni bilgi ve ürünü yaratmanın uğraşını vermektedirler. Bilgi sermayesi örgütler için artık yenilik sağlama ve gelişme yönünde sahip oldukları en önemli unsur haline gelmiştir. Özellikle, açığa çıkarılmamış, kişiye özgü bir bilgi olan ve farklı iş yapma yolları, teknikler, beceriler ve anlayışları içeren örtülü bilgiyi elde etmek, ve bundan yeni bilgi ve ürün geliştirmede yararlanmak, rekabet avantajı elde etmede oldukça önemli görülmektedir. Ancak, örtülü bilgiyi açığa çıkarmak oldukça zordur. Kişiler, kendilerine has farklı bilgi ve becerilerini ancak güven duydukları, paylaşımlı ve uygulamalı ortamlarda ve ortaklaşa yarar elde edebilecekleri durumlarda, yüz yüze etkileşim ile paylaşabilirler. Bu ise, zaman, yer, ulaşım, emek, para, vb. kaynakların temin edilmesindeki güçlükler ve sınırlılıklar nedeniyle oldukça zordur.

"Sanal uygulama toplulukları" denilen ve çeşitli alanlardan uzmanların, paylaşılan amaçlar doğrultusunda, sorunlara ortak çözümler bulmak için bilgi ve becerilerini paylaştıkları ağlar, örtülü bilgiyi açığa çıkarmak ve yenileşme ve gelişme sağlamak bakımından oldukça etkili görülmektedirler. Araştırmalar, bu topluluklarda kişiler arasında etkileşimin arttığını, örtülü bilginin daha kolay paylaşılabildiğini, motivasyonun arttığını, işbirliği içinde yeni ve çarpıcı uygulamaların geliştirilebildiğini göstermektedir.

Üniversitelerin bilgiyi işleyen, üreten; ve bu bilgilerin yeni ürün ve hizmete dönüştürülmesine katkı sağlayan yerler olması toplumsal bir beklentidir. Bununla birlikte, üniversiteler kendilerinden beklenileni yeterince ve etkili şekilde ortaya koyamamaktadırlar. Bu nedenle gelişme ve yenileşme sağlama yönünde üniversiteler üzerindeki toplumsal baskı gün geçtikçe artmaktadır. Bu bağlamda, yenileşme, gelişme ve rekabet avantajı elde etmede, sanal uygulama toplulukları önemli bir araç olarak görülmekte; ve üniversitelerin bu topluluklar için en uygun alanlar olduğu uzmanlar tarafından dile getirilmektedir.

Araştırmanın Amacı: Bu araştırma, literatür bilgisi ve Fırat Üniversitesi'ndeki üst düzey yönetici konumundaki akademisyenlerin görüşleri çerçevesinde, üniversite ortamlarında, sanal uygulama toplulukları oluşturulmasının önemini, bu alandaki engelleri, ve sanal uygulama topluluklarından etkili şekilde yararlanabilmek için, yöneticilerin liderlik rollerini belirlemek amacını taşımaktadır.

Metot: Niteliksel bir çalışma olarak bu araştırmada denek görüşleri yarı yapılandırılmış görüşme yöntemi aracılığı ile elde edilmiştir. Sorulara verilen yanıtlar, araştır-

macı tarafından kaydedilmiş ve içerik analizi yöntemi ile belirlenen kodlar ve kategoriler eşliğinde çözümlenmiştir.

Bulgular: Ulaşılan bulgular, sanal uygulama topluluklarının, bilgi paylaşma ve üretme, gelişme ve yenileşme sağlama ve güdüleme bakımlarından önemli görüldüğü sonucunu ortaya koymuştur. Bununla birlikte, az sayıda da olsa, üniversitelerde üretilen bilgilerin zaten yayınlandığı; ancak gelecek nesillerin bundan yararlanabileceği; veya bilginin stratejik olarak önemli bir güç olduğu ve paylaşılamayacağı yönünde görüşler de ortaya çıkmıştır. Bunun yanı sıra, güvensizlik, etkisiz liderlik, bilgi ve beceri noksanlığı, örgütleme noksanlığı, alanlarında engeller bulunduğu belirlenmiştir.

Sanal uygulama topluluklarından etkili şekilde yararlanabilmek için, üniversite yöneticilerinin, olanakları geliştirmeleri, kişileri cesaretlendirmeleri, bilgiden yararlanma ve bilgi geliştirme yollarının araştırılmasını sağlamaları; ve gelişmeleri izlemeleri ve değerlendirmeleri şeklindeki liderlik rolleri belirlenmiştir.

Sonuç ve Öneriler: Fırat Üniversitesi'nde görev yapan üst düzey yöneticilerin görüşleri çerçevesinde, ulaşılan sonuçlar, üniversite ortamında sanal uygulama topluluklarının önemli görüldüğünü ortaya koymuştur. Önemli görülme nedenleri olarak, sanal uygulama topluluklarının bilgi paylaşma ve bilgi üremeyi temin etmesi, yenileşmeyi hızlandırması, ilerleme sağlaması motivasyon yaratması gibi nitelikleri ön plana çıkarılmıştır.

Diğer yandan,sanal uygulama topluluklarının oluşturulması ve bu topluluklar aracığıyla yenilikçiliğin artırılması yönünde birtakım engeller de bulunduğu tespit edilmiştir. Bu engeller, güvensiz ortam, bilgi ve beceri noksanlığı, etkili liderlik noksanlığı olarak belirlenmiştir.

Üniversite yöneticilerinin liderlik rollerine ilişkin ulaşılan sonuçlar, olanakların artırılması, cesaretlendirici tutum ve eylemlerin gerçekleştirilmesi, bilgiden etkili şekilde yararlanmanın sağlanması, gelişmelerin izlenmesi hususlarını ön plana çıkarmıştır. Bu liderlik rollerinin layıkıyla gerçekleştirilmesi, sanal uygulama topluluklarının önündeki engellerin yok edilmesini de sağlayacak, böylece gelişme ve yenileşme hız kazanacak ve rekabet avantajı elde edilecektir.

Ulaşılan sonuçlar eşliğinde birtakım önerilerde bulunulmuştur. Üst yönetimin konunun önemine inanması ve destekleyici ve kolaylaştırıcı bir liderlik yaklaşımı sergilemesi önemli görülmektedir. Sanal uygulama topluluklarının oluşturulması ve bu topluluklardan etkili şekilde yararlanılması için örgütsel olanakların artırılması; teşvikler sunulması, güvenlik ile ilgili sorunların sürekli izlenmesi ve önlemlerin alınması, gelişmelerin izlenmesi ve yeni bilgi, beceri ve ürünlerin öğretim ve yönetim süreçleriyle lişkilendirilmesi önerilmiştir. Aynı zamanda, sanal uygulama toplulukları aracılığı ile elde edilen yenilikçi bilgi ve uygulamalardan, üniversite ve iş dünyasının işbirliğinde bölgesel kalkınma yönünde yararlanılması önerilmiştir.

Anahtar Sözcükler: Yükseköğretim, sanal uygulama toplulukları, yenileşme, örtülü bilgi, gelişme