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Roles of Communities of Practice for the Development of the Society

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Abstract

At present one of the most important concepts in social learning theory is the idea of communities of practice (CoP), which describes a learning theory with a strong relationship to the social construction of knowledge. A CoP is a collection of people who engage on performing a common activity for the welfare both of members of the community and the society. In modern society, it is used in some form of high levels of skills, knowledge and proficiency to perform the jobs properly. It plays an important role in the sharing of knowledge and creating value for both their members and organizations. A CoP is composed of three crucial characteristics: domain, community, and practice, which provide a guide to the development of community. The paper describes structural components, basic characteristics, and essential elements of a CoP. It also highlights benefits, importance, and the challenges and barriers of a CoP. In addition, it describes virtual CoP in brief. The main aim of this study is to explore the ins and out of a CoP in some details.

Keywords: *Communities of practice, knowledge management, social learning, virtual communities.*

JEL Classification: M1

1. Introduction

A communities of practice (CoP) is a group of people who share a passion, a concern or a set of problems regarding a particular topic, and who interact regularly in order to deepen their knowledge and expertise, and to learn how to do things better. A CoP is characterized by mutual learning, shared practice, inseparable membership and joint exploration of ideas. For example, a tribe learning to survive in any situation is a CoP (Wenger, 2004; Ranmuthugala et al., 2011). Some more examples of the knowledge-based social structures are; back when humans lived in caves, the corporations in ancient Rome, physicians and nurses, priests and nuns, etc. (Agrifoglio, 2015). It can be found in schools, universities, research institutes and business organisations (Nistor et al., 2012).

The US Agency of International Development (USAID) defines CoP as (USAID, 2004): “*Informal groups (organized around specific Agency functions, roles or topics such as Program Planning and Strategic Planning, Contracting Officers, Gender) of USAID practitioners able to share the knowledge and expertise needed to more effectively perform their jobs.*” In brief, a CoP

is a group of people who share a common pursuit, activity or concern. Members of a CoP do not necessarily work together, but form a common identity and understanding through their common interests and interactions (Oreszczyn et al., 2010).

The term *community* suggests that the group is not constrained by typical geographic, business unit or functional boundaries but rather by common tasks, contexts, and interests. In other words, a community can be composed of people with similar enthusiasms, interests and purpose, and this type of community is said to possess internalized ‘shared understandings’, and ‘tacit and codified understandings’ (Allen, 2000). The word *practice* implies knowledge in action; how individuals actually perform their jobs on a day-to-day basis as opposed to more formal policies and procedures that reflect how work should be performed. Together the terms *community* and *practice* refer to a specific type of social structure with a specific intended purpose (Wenger et al., 2002). Hence, a community consists of a collection of individuals that are oriented to each other and share or refer their activities to norms of the collective (Morgan, 2010).

Defining CoP is not an easy task. Many academics and practitioners have addressed this issue, defining the concept in different ways (Agrifoglio, 2015). The idea of a CoP was originated in the 1980s at the Institute for Research on Learning, which was funded by the Xerox Corporation (Daniel et al., 2004). The term Communities of Practice was coined by Jean Lave (a cognitive anthropologist) and Etienne Wenger (an educational theorist and computer scientist) in their landmark book on *Situated Learning*, in the context of five apprenticeships: Yucatan midwives, Vai and Gola tailors, naval quartermasters, butchers, and nondrinking alcoholics. They emphasized that learning is not simply the acquisition of propositional knowledge, but rather occurs through certain forms and types of social co-participation, is contextual, and embedded within both a social and physical environment (Lave and Wenger, 1991). Although Lave and Wenger (1991) are recognized as the pioneers of CoP research, the phenomenon was simultaneously investigated by Brown and Duguid (1991), and even earlier by Orr (1990), by Constant (1987) and by Lave (1988) herself. The CoP, despite being a term of relatively recent invention, has become increasingly utilized by organizations as a means of improving performance. A CoP is known as various names, such as, learning networks, thematic groups, or tech clubs (Wenger & Wenger, 2015). Collier and Esteban (1999) define the CoP as “*Practice employ active participation and decision-making by individuals, as opposed to separated decision-making that is present in traditional organizations. The CoP is the sum of both stakeholder interest and the development of individuals within the community.*”

Over time, the concept of CoP has advanced from a descriptive one to a more prescriptive one (Lave & Wenger, 1991; Wenger et al., 2002). Later Wenger (1998) developed a detailed understanding of the dynamic operation of a CoP and he expressed that a CoP is an important place of negotiation, learning, meaning, and identity. Three dimensions of a CoP are: (a) members interact with one another, establishing norms and relationships through mutual engagement, (b) members are bound together by an understanding of a sense of a joint enterprise, and (c) members produce over time a shared repertoire of communal resources through language, routines, artifacts and stories (Wenger, 1998). Although CoP was first mentioned by Lave and Wenger (1991), but the idea has existed since Homo sapiens evolved 50,000 years ago and the phenomenon has been investigated with reference to research on the relationship between knowledge and work practice (Agrifoglio, 2015). At present there has been

a growing research involved in the literature emphasizing the importance of CoP as a hub for information exchange, knowledge creation and organizational innovation (Daniel et al., 2004).

A CoP is not merely a club of friends or a network of connections between people. It has a long history of successful use to equip communities for designing their own programming, manage external resources, and promote learning. Not everything called a community is a CoP. For example, a neighborhood is often called a community, but is usually not a CoP (Wenger, 1998). In a CoP a newcomer learns from old-timers by being allowed to participate in certain tasks that relates to the practice of the community (Lave & Wenger, 1991). No one can force people in a CoP to learn together or to share information (Stamp, 1997).

A CoP may be co-located, online or a mixture of both. A co-located CoP indicates that it is largely offline and geographically connected. An online CoP refers that it has a significant online component where members are most often geographically unconnected (Lai et al., 2006).

At present organizations are simultaneously incorporating CoP into internal knowledge management systems and spanning elements from the external environment (Kerno, 2008). Theories about CoP are useful for understanding the social processes of learning and identity formation, local practice, tacit learning, sense making and indigenous knowledge (John, 2005). A CoP is an intrinsic, essential condition for the existence of knowledge (Lave & Wenger, 1991).

A CoP has become more common in recent years because of the way they provide structural support and consistent avenues for contact among experts, as well as their overall service to surrounding communities (Wenger & Wenger, 2015). Purposes of a CoP are to create, expand, and exchange knowledge to develop individual capabilities (Wenger et al., 2002). At present in many organizations, a CoP becomes an integral part of the organization structure (McDermott & Archibald, 2010).

2. Literature Review

Etienne Wenger stated that the structure of the CoP is based on three components; domain, community and practice, and the CoP unifies three components: knowledge, people and experience (Wenger, 1998).

T.M. Schwen and N. Hara (2003) outlined four stages of design necessary to ensure that a CoP is properly designed for an online environment: phase 1) possible design interventions, phase 2) analysis, phase 3) design, and phase 4) evaluation and revision.

C. J. Bonk, R. A. Wisner and M. L. Nigrelli (2004) listed ten key principles of a CoP as; sharing goals, trust and respect, shared history, identity, shared spaces for idea negotiation, influence, autonomy, team collaboration, personal fulfillment, and events embedded in real world practices, and rewards, acknowledgements, and fulfilling personal needs.

Thomson et al. (2013) and Lees and Meyer (2011) demonstrated that social networks are a foundational aspect of CoP models and CoP can support boundary crossing and access to other networks.

N. Hara and R. Kling (2002) have studied two public defender offices and have revealed that a CoP displays a sense of shared vision, a supportive culture when problems or issues arise, a great deal of worker autonomy, professional identity, a common practice or set of work procedures, and opportunities to share meaning and collectively build knowledge. Buckley et al. (2017) emphasize on exploring students' preliminary attitudes towards CoP to determine to what extent are learners willing or prepared to share knowledge within institutions of higher education to empower learning and knowledge sharing within those institutions. They investigate the concept of CoP and the potential for their usage in the higher educational institutions environment. But, the specific guidance to form CoPs in higher educational institutions does not exist.

Selyf Morgan has applied a CoP approach to social learning processes among farmers in Wales, and considers how, or whether, this approach may be useful for state extension services. He has wanted to show the CoP framework has been used in differing circumstances to attempt to extract value from extant social capital, to manage dispersed expertise, and to enable more efficient and coherent development. He has also emphasized that a CoP framework applied to processes of social learning within relatively unstructured and dispersed communities, such as those of organic farmers, places a focus on the intangible definition and benefits of community development (Morgan, 2010).

Geetha Ranmuthugala, Jennifer J. Plumb, Frances C. Cunningham, Andrew Georgiou, Johanna I. Westbrook and Jeffrey Braithwaite have discussed the information on the purpose of establishing a CoP, its composition, methods by which members communicate and share information or knowledge, and research methods used to examine effectiveness was extracted and reviewed. They also have examined evidence of whether or not a CoP leads to a change in healthcare practice (Ranmuthugala et al., 2011). Andrew M. Cox offers a more critical review of four seminal works in different ways in which the term CoP can be interpreted (Cox, 2005). Steven Walczak elaborately discussed the necessity of a CoP in a healthcare organization (Walczak, 2010).

Barab et al. (2004) certified a CoP as a “*Persistent, sustained social network of individuals who share and develop an overlapping knowledge base, set of beliefs, values, history, and experience focused on a common practice and/or mutual enterprise.*”

E. Lesser and J. Storck (2001) have suggested that the obligations, norms, trust, and identification that come with being a community member enhance the members' ability to share knowledge with and learn from community participants.

Botha et al. (2008) summarize the key factors regarding a CoP as follows:

- learning is a social phenomenon,
- knowledge is integrated into the culture, values, and language of the community,
- learning and community membership are inseparable,
- we learn by doing and therefore knowledge and practice are inseparable, and
- the best learning environments are created when there are real consequences to the individual and his/her CoP.

3. Methodology

This is a review study. The paper is prepared on the basis of secondary data. We have used websites, books, previous published articles, conference papers, case studies and various research reports to prepare this paper. In this study we have tried to provide an analysis of a CoP and also a virtual CoP by indicating the importance, challenge and barriers of a CoP.

4. Types of a CoP

Wenger et al. (2002) and Dubé et al. (2006) provided the types of a CoP as: small/big, short-lived/long-lived, co-located/distributed, homogeneous/heterogeneous, inside boundaries/across boundaries, spontaneous/intentional, unrecognized/institutionalized and a specific type of CoP, virtual CoP. To identify the various forms of a CoP, R. Agrifoglio (2015) and some other scholars have select the nine most meaningful structural features of a CoP and classify them into four categories as: i) demographic, ii) organizational, iii) individual, and iv) technological.

4.1 Demographic Category

Demographic category is identified in the following three types of communities:

Young or old: Age defines the period of time and we can place the duration of the CoP along a continuum from young to old. Dubé et al. (2006) distinguish five stages of development of a CoP as; potential, coalescing, maturing, stewardship and transformation. They assume that young communities are usually in the early stages, while old communities are in later stages.

Small or big: A CoP is considered small or big depending on the number of members involved in them. Wenger et al. (2002) assume that small communities involve only a few specialists, while big communities consist of hundreds of people.

Short-lived or long-lived: The lifespan of a CoP varies from short-lived (temporary) to long-lived (permanent). Artisans, boat makers, etc., exist over centuries and they are of course long-lived, because they are created on a permanent basis with no definite time frame in mind. On the other hand, COBOL programmers are gathered on a temporary basis to accomplish a specific purpose and they are of course short-lived (Wenger et al., 2002; Dubé et al., 2006).

4.2 Organizational Category

Organizational category is identified in the following three types of communities:

Spontaneous or intentional: A CoP has existed for ages, born in response to people's spontaneous need to group, share ideas, and be helped. For example, artisans, boat makers, violin makers, gangs of street cleaners, etc. are spontaneous communities (McDermott, 1999). Sometimes communities are launched to meet the needs of organizations for specific knowledge and skill resources, which may be intentionally established by management (Dubé et al., 2006).

Inside boundaries or across boundaries: A CoP often exists either entirely within organizations (inside boundaries), and in particular within a business unit or across business units, or across organizational boundaries (across boundaries). Across-boundaries communities allow a greater number of people to join in the community (Wenger et al., 2002).

Unrecognized or institutionalized: Workers may join in the communities that are completely formalized, less formalized or not formalized within organizations. With reference to the degree of institutionalized formalism, a CoP varies in its relationships to organizations, ranging from unrecognized (invisible to the organization), bootlegged (visible only to certain groups), legitimized (taken into account by the organization), supported (receiving direct resources) to institutionalized (given an official status and function in the organization) (Wenger et al., 2002).

4.3 Individual Categories

Individual category is identified in the following two types of communities:

Co-located/distributed: Communities are co-located when members usually meet at the same place or live nearby. When members of a CoP increase then they are not physically located in the same place, but scattered around the world. For example, communities of scientists whose members work for different organizations around the world, regular meet to discuss specific research topics thanks to seminars, conferences and ad hoc meetings held at the same building. But, when communities are distributed, then face-to-face meetings and chances to exchange ideas and share knowledge, become more complicated and expensive for members (Wenger et al., 2002).

Homogeneous or heterogeneous: Communities can be distinguished on the basis of members' cultural background (Wenger et al., 2002). Communities are often composed of people from the same discipline or function (homogeneous) but, sometimes they are composed of members with different backgrounds (heterogeneous). According to Dubé et al. (2006), cultural influence in national, organizational and professional terms is evaluated along a continuum from homogeneous to heterogeneous. Communities are homogeneous where members have similar backgrounds because they come from the same organization, or different organizations with similar cultures, and live in a country with a strongly localized culture. On the other hand, communities are heterogeneous where members have different backgrounds because they come from various organizations and live in a country with a more open culture or with different cultures (Agrifoglio, 2015).

4.4 Technological Category

In this category, it is possible to distinguish face-to-face and virtual communities based on the degree of reliance on Information and Communication Technology (ICT). The ICT has reduced the spatial and temporal distances, enabling people from anywhere and at any time to join the community and perform their practice. When a community uses ICT mostly it can be called virtual, but otherwise face-to-face (Wenger et al., 2002; Metallo, 2007).

5. Essential Elements of a CoP

A CoP structure, as developed by Wenger, is typically devised with three key elements: domain, community, and practice. These three fundamental elements are useful to distinguish a CoP from communities (Wenger et al., 2002).

Domain: It is a shared understanding of what is important to individuals and the society. It is the area of knowledge that brings the community together, gives it an identity, and defines the key issues that its members collectively want to address. It explores and develops the activities of the community, not a task. It also facilitates the learning process among people (Wenger, 2004). It indicates that the members involved in a CoP will have a shared domain of interest which include general knowledge of a subject or of a troublesome problem happened in their community, which must be strong enough for members to stay committed to the topic. The members in the CoP will have a shared competence in the domain, either from the same discipline or multiple disciplines or from practice (Wenger and Wenger, 2015). Hence, membership implies a commitment to the domain, and a shared competence that distinguishes members from other people. Members value their collective competence and learn from each other, even though few people outside the group may value or even recognize their expertise (Cummings and van Zee, 2005). The domain of knowledge is what creates the common ground among community members. The domain of a community affirms its purposes and value to its members and stakeholders. Without a commitment to a domain, a community is just a group of friends (Lamontagne, 2005). For example, the shared domain is the role of strengthening local communities who are facing disasters like an earthquake or typhoon, corruption or terrorism. Hence, the domain creates “*The common ground (i.e., the minimal competence that differentiates members from non-members) and outlines the boundaries that enable members to decide what are worth sharing and how to present their ideas*” (Li et al., 2009).

Community: In pursuing their interest in their domain, members of a CoP are engaged in joint activities and discussions, help each other, and share information (Wenger, 1998). The community refers to the social structures that encourage learning through interaction and relationships among members. It is a crucial element for an effective knowledge structure, and it is a place in which people help each other to augment their knowledge about a specific practice (Wenger et al., 2002). The members of a CoP do not necessarily work together on a daily basis (Cummings & van Zee, 2005). It is the group of people for whom the domain is relevant, the quality of their relationship, and how the boundary between the group and the wider world is defined. A CoP can develop from a small community whose members work together on various activities, engage in discussions, help each other attend to different tasks, and share information with each other. This community builds relationships collectively among the involved individuals who stand for the same cause and learn from each other. These members interact and work together to learn about a shared domain. It is a community, which is much more than a website or a library. A website in itself is not a CoP (Lave & Wenger, 1991). For example, members of a CoP from three districts of Bangladesh work on ten districts together to prevent addiction of smoking.

Practice: A CoP requires its members to share a common practice. In a CoP the practitioners (members of a CoP) have a shared collection of resources such as, stories, experiences, tools,

cases, documents, and problem solving methods, i.e., they share practice. They interact and share with each other to learn how to perform their various tasks efficiently. This takes time and sustained interaction. A CoP brings together practitioners who are involved in doing something. For example, CoP members of an educational institute take aims to learn and improve the quality of education in all educational institutes (Wenger, 2004; Daniel et al., 2013). A group of people who like certain kinds of movies is not a CoP (Wenger, 1998). For a CoP to be an effective knowledge building structure, the practice of the community must not only explore traditional bodies of knowledge, it must also explore the latest advances in the field. It also includes the less tangible principles, rules and frameworks such as a way of behaving, a thinking style and perhaps an ethical stance (Lamontagne, 2005).

The combination of domain, community, and practice enable a CoP to collectively manage and build knowledge. The domain provides a shared focus; community supports and builds relationships that enable learning; and practice grounds the learning and knowledge in what people do (Briard & Carter, 2013). A typical CoP comprises a group of practitioners focusing on a specific subject field, facilitating sharing of information and skills (Cummings & van Zee, 2005).

Corradi et al. (2010) identify four labels with reference to practice as a way of seeing as: i) practice lens or practice-oriented research (Østerlund & Carlile, 2005), ii) knowing-in-practice (Gherardi, 2000; Orlikowski, 2002), iii) practice-based perspective (Sole & Edmondson, 2002), and iv) practice-based approach (Carlile, 2002).

6. Structural Components of a CoP

Structural components of a CoP are as follows (Wenger, 1998; Wenger et al., 2002; Scott, 2003):

Population size: A CoP can vary from a few specialists to thousands of members. As population size increases, so does the likelihood of subdivision along related characteristics, such as geographic region or subtopic, to optimize membership activity and experience (Scott, 2003). Some CoPs are quite small; some are very large, often with a core group and many peripheral members. Some are local and some cover the globe. Some meet mainly face-to-face, some mostly online. Some are within an organization and some include members from various organizations. Some are formally recognized, often supported with a budget; and some are completely informal and even invisible (Wenger & Wenger, 2015).

Location: A CoP may be co-located or distributed, boundaries may be within businesses, across business units, across organizational boundaries, and formality may be spontaneous or intentional, unrecognized or institutionalized (Wenger et al., 2002).

Longevity: A CoP may be long-lived or short-lived. Development of practice takes time but can vary from a few years to several centuries.

Means of member interaction: Membership in a CoP may be homogeneous or heterogeneous. Oftentimes start among individuals who are acquainted with one another and are collocated, as a CoP requires regular interaction. However, as new communication technologies allow for

quicker information exchange, richer media content, and seamless integration of geographically distant members, distributed CoP is rapidly becoming the standard, not the exception.

Product vs. process: A CoP is easier to form with individuals possessing similar information coordinating responsibilities (engineering, marketing, human resources, etc.), as their knowledge and backgrounds are often very similar. However, a CoP can also be formed along product lines, as well, where people with different functional responsibilities, but sharing a common product responsibility, interact.

Intra- vs. inter- organizational: A CoP often arises as a recurring problem is addressed by those who are affected by it within an organization, public or private. A CoP is frequently a useful tool in an inter-organizational setting by assisting individuals employed in fluid, rapidly changing industries. By allowing the exchange of relevant information and technologies among organizations that, individually, might not have the time, resources, or manpower to remain current, employees are able to access a knowledge base of peers.

Wenger describes the structure of a CoP consisting of three interrelated terms as: i) mutual engagement, ii) joint enterprise, and iii) shared repertoire (Wenger, 1998).

Mutual engagement: It consists of through participation in the community. The members establish norms and build collaborative relationships. These relationships are the ties that bind the members of the community together as a social entity.

Joint enterprise: It consists of through the interactions of members. They create a shared understanding of what binds them together. It is renegotiated by its members and is sometimes referred to as the *domain* of the community.

Shared repertoire: It is as a part of its practice, the community produces a set of communal resources, which is used in the pursuit of their joint enterprise and can include both literal and symbolic meanings.

7. Characteristics and Key Components of a CoP

Some common characteristics of a CoP are as follows (Wenger, 1998; Lai et al., 2006; Roberts, 2006; Nickols, 2007):

- Continuity of mutual relationships; may be harmonious or conflicting. Including work-related relationships; may be collegial or strained.
- Practice as the unifying feature of the community.
- Shared ways of engaging in common activities, best practices.
- Membership ranging from novices to old-timers.
- Jargon and shortcuts to communication as well as the ease of producing new ones.
- Rapid flow of information and innovation among community members.
- Absence of introductory preambles as if conversations and interactions were merely the continuation of an ongoing process or ceremonial speech.
- Conversations and other interactions often have the character and feel as if they are simply being continued from where they stopped.

- Problems and other issues quickly framed; little necessity of providing extensive background.
- Shared learning, which may also occur effectively at the boundaries/peripheries of the community.
- Common consensus regarding membership, and belonging.
- Awareness of others' competencies, strengths, weaknesses, where contributions can be maximized.
- Relationships that are grounded in information exchange and knowledge creation.
- Very quick setup of a problem to be discussed.
- Local lore, shared stories, inside jokes, knowing laughter.
- The ability to assess effectiveness and appropriateness of actions taken and products produced.
- Substantial overlap in participants' descriptions of who belongs.
- Common tools (physical and cognitive), methodologies, techniques, representations, and artifacts.
- Common stories, legends, lore, inside jokes, humor, etc.
- A shared and evolving language, including jargon, acronyms, and unique terminology.
- Nature of the group also facilitates the creation of language shortcuts to increase communication efficiency.
- Specific tools, representations, and other artifacts.
- The ability to assess the appropriateness of actions and products.
- Behavioral patterns and interactions recognized as signifying membership.
- Common perception, viewpoint, or vantage point of relevant external environment.
- Knowing what others know, what they can do, and how they can contribute to an enterprise.
- Mutually defining identities.
- A shared discourse reflecting certain perspective on the world.

Five key components are needed for a CoP as (Nemec & LaMaster, 2014): focus, leadership, input, commitment, and open forums.

Focus: The focus is important to the community members to choose the relevant practice, such as, community research.

Leadership: To choose a focused domain in the community the CoP members need a leader. For a successful CoP, a leader is main body to initiate and develop personal relationships and trust among committed community members. Also for creating a collaborative and comfortable environment where information and ideas can be shared openly, a leader can show them right path.

Input: When the members of a CoP share and grow a stock of knowledge for community growth, they must receive fresh input from multiple arenas.

Commitment: For the maintaining a CoP, a core group of members must be established to motivate and sustain CoP practice. They must be committed to the CoP to develop it.

Open forums: Open forums allows communities to gather knowledge from among the members of the CoP. Some can create in-person local community meetings, gatherings, and workshops for the connection between the community and the members in a CoP. Some can develop CoP website, Facebook or blogs, or sharing video testimonies in a shared online video library (Anderson-Carpenter et al., 2014).

8. Learning Communities

A CoP is a learning community whereas some other online groups, for example, interest groups, are not. A learning community is “*A group of people who share a common interest in a topic or area, a particular form of discourse about their phenomena, tools and sense-making approaches for building collaborative knowledge, and valued activities*” (Fulton & Riel, 1999). There are three types of learning communities as follows (Riel & Polin, 2004):

Task-based learning communities: They are similar to teams or project groups, where people are organized around a task and who “*Work intently together for a specified period of time to produce a product*” (Riel & Polin, 2004).

Practice-based learning communities: In this community “*There is a focus on continually improving one’s practices so as to support the effective functioning of the activity system*” (Riel & Polin, 2004). Members of the community are predominantly concerned with refining procedures and developing tools for their practice, not generating knowledge for the future generation of practice.

Knowledge-based communities: They focus on the “*Deliberate and formal production of external knowledge about the practice*” (Riel & Polin, 2004).

9. Virtual CoP

An online CoP, also known as a virtual CoP that is developed on, and is maintained using the internet i.e., a virtual CoP (VCoP) is a network of individuals who share a domain of interest about which they communicate online (Curran et al., 2009; Chin & Chignell, 2007). Hence, when the members of a CoP do not have to be co-located is called VCoP when they collaborate online, such as within discussion boards and newsgroups Dubé et al., 2005), or a mobile community of practice (MCoP) when members communicate with one another via mobile phones and participate in community work on the go (Kietzmann et al., 2013). Gannon-Leary and Fontainha (2007) describe VCoP as a “*Network of individuals who share a domain of interest about which they communicate online.*” The practitioners share resources such as, experiences, problems and solutions, tools, methodologies, etc., which improve the knowledge of each participant in the community and contribute to the development of knowledge within the domain. A VCoP may share news and advice of academic/professional interest but are unlikely to undertake joint projects together (Bos et al., 2008). Some other terms used of VCoP are online (Cothrel & Williams, 1999), computer-mediated (Etzioni & Etzioni, 1999), electronic (Wasko & Faraj, 2000) and distributed CoP (Hildreth et al., 1998). A VCoP is a particular area of social media named Usenet, which is a discussion network and also the largest discussion area of the

internet (Murillo, 2008). It is a vehicle for more effective virtual team working (Tárnăveanu, 2012).

Virtual communities do not need formal boundaries for they can be fluid. They exist according to identification to an idea or task, rather than place. The Internet, or the World Wide Web (www), becomes the place for the community; thus networked communication has increased the parameters of what is known as a community (Squire & Johnson, 2000).

The life cycle of traditional or virtual community development in five stages is as (Palloff & Pratt, 1999): forming, norming, storming, performing, and adjourning. The phases of building a VCoP are as follows (Palloff & Pratt, 1999): the initial, the conflict, the intimacy and work, and the termination.

A virtual learning community may involve the conduct of original research but it is more likely that its main purpose is to increase the knowledge of participants using formal education or professional development. Knowledge development in a VCoP is continuous, cyclical and fluid with no clearly defined beginning or end (Gannon-Leary & Fontainha, 2007). A VCoP encompasses that people learn better in social settings and through social interaction which can establish a networked environment (Wenger et al., 2002).

The concept of a CoP has been given currency in higher education discourse by practitioners in emergent areas of networked learning (White & Pagano, 2007). The interactions within the communities focus around knowledge sharing within the membership, who may range from experts through to novices which reiterates the model of apprenticeship or learning in social and situated contexts in the workplace (Lave & Wenger, 1991; Fox, 2000).

A VCoP needs to make good use of Internet standard technologies such as listserv, bulletin boards, and accessible web technology. It needs to ensure that participants have the technological provision and necessary IT skills to support mutual engagement (Moule, 2006).

Quentin Jones characterized 'virtual settlement' and online communities as a cyber-place with associated group computer-mediated communication (CMC) featuring as follows (Jones, 1997):

- minimum level of interactivity,
- variety of communicators,
- minimum level of sustained membership, and
- virtual common-public-space where a significant portion of interactive group-CMCs occurs.

Online communities rely on CMC. But face-to-face communication is a richer medium than CMC (Daft & Lengel, 1986). The main activities for the creation of a successful virtual community are as follows (Lima et al., 1010):

Membership development: It is the need to promote the growth of the community and replace the members that leave.

Content management: It is related to information content, alliances and infrastructure. It must create the members' profile, divide them in sub-communities according to specific topics, capture, disseminate knowledge and create processes that facilitate members' involvement.

Relationships management: It must be developed based on explicit general rules that help members to solve conflicts that often arise, on their own or with the help of moderators.

The phases of building a virtual community are as follows (Palloff & Pratt, 1999):

- the initial phase,
- the conflict phase,
- the intimacy and work phase, and
- the termination phase.

The discipline is a barrier to the VCoP. In some areas of the sciences, knowledge sharing may be difficult for the lack of experts (Bos et al., 2008). A VCoP may be weak where there is a strong community of people (Smith et al., 2005). Shifting membership of a VCoP is another barrier and shifting members need to work hard to maintain energy and a high degree of participation (Ellis et al., 2004; Gibson & Manuel, 2003).

10. Distinguish between Online CoP and Co-Located CoP

Online CoP and co-located CoP share similar characteristics as they are both learning communities with members who are mutually engaged in shared practice aiming to develop a repertoire of communal resources (Wenger et al., 2002). But they are also differing in several aspects as follows (Lai et al., 2006):

Design: Online CoP is usually designed top-down (Saint-Onge & Wallace, 2003) as the technological infrastructures are needed to enable communications in CoP (Barab et al., 2004). Members of the CoP first belong to a local community before belonging to the global one. The co-located CoP is usually emerging from existing groups (Wenger et al., 2002).

Membership: Online CoP is usually open. Members do not necessarily know each other before becoming the CoP members. A critical mass is needed for the CoP to function properly and a structure is needed to support both local and global groupings (Lai et al., 2006). Co-located CoP is usually closed. Members know each other, at least for the core group members. It is mostly organizationally based and consists of mainly by local sub-groups (Lai et al., 2006).

Leadership: The leaders of online CoP are recruited. The leaders in co-located CoP can emerge from the community.

Form of communication: In online CoP communication is primarily text-based, computer-mediated, ideally supplemented by face-to-face meetings. In co-located CoP communication is primarily face-to-face, supplemented by computer-mediated communication.

Time to develop the community: It takes longer time to develop an online CoP. A co-located CoP can be developed in a shorter time period.

Technological support: It is essential for online CoP but not for co-located CoP.

Modern Technology for CoPs among Graduate Youngsters

At present knowledge can be shared by the medium of Web 1.0 and Web 2.0 tools which include blogs and wikis in which technologies are used (Buckley et al., 2017). Web 1.0 consisted of static web pages that were filled with information but users could not interact with the site except download a document or an application. On the other hand, Web 2.0 enabled people to connect with others through the Web by using social networking sites like LinkedIn or Facebook (Gelin & Milusheva, 2011). CoP can perform by Wikipedia or YouTube by Web 2.0. The graduate youngsters acquire knowledge using both the classical academic learning and community learning. The classical academic learning is the process of acquire knowledge through class room, and consulting through the referenced and other related books and printed devices. In this method a learner can acquire knowledge without discussing with other learners. On the other hand the community learning is the methods of learning with discussing with a group of learners. They can take help of Web 2.0 tools to know more. In this method the learners can share knowledge to develop new knowledge.

11. Benefits of a CoP

A CoP establishes trust between the practitioner and the community, promotes recognition, builds community practitioner confidence, increases work satisfaction, and acts as an effective way to meet individual goals for the improvement of community (Wilding et al., 2012; Daniel et al., 2013; Friberger & Falkman, 2013). Cohesion between members affects the willingness to spent time, effort, and energy on interacting with other community members (Holland et al., 2000). Communication climate is considered as an important feature of interaction in a CoP and interaction frequency characterizes interaction processes (Bogenrieder & Nooteboom, 2004). Members of a CoP use community knowledge to solve their own problems and share the solution with the community. As a result, the more its knowledge grows, and the more it becomes attractive to new members (Lima et al., 2010).

Organizations have begun to implement a large number of CoPs into achieving benefits as follows (Dalkir, 2005):

- Building loyalty and commitment among stakeholders.
- Improving efficiency of processes.
- Promoting innovation through better sharing of best practices.
- Decreasing employee turnover and attrition.
- Generating greater revenue and revenue growth.

A CoP offers a valuable tool for organizations in hope to take advantage of its knowledge and information assets (Hinton, 2003).

12. Importance of a CoP

In recent years CoP becomes an important issue in education, economics, business, computer science, healthcare, and KM within organizations. The activities of a CoP are found in business,

organizational design, government, education, professional associations, development projects, and civic life (Lesser et al., 2000; Koliba & Gajda, 2009). The role of CoP in the process of learning and knowledge generation has become an essential element in the context of intra- and inter-organizational knowledge transfer to policy makers and social scientists concerned with economic development (Cohendet et al., 2013). By sharing knowledge, a CoP can be useful in developing new ideas and new strategies.

CoP members can practice through the written archives, proceedings, experiences, documents, policies, rituals, specific idioms, blogs, wikis, forums and chats (Târnavăanu, 2012). An important aspect and function of a CoP is to increase organizational performance. Lesser and Storck (2001) identify four areas of organizational performance that can be affected by a CoP as follows:

- decreasing the learning curve of new employees,
- responding more rapidly to customer needs and inquiries,
- reducing rework and preventing *reinvention of the wheel*, and
- generating new ideas for products and services.

13. The Challenges and Barriers of a CoP

Wenger and Snyder (2000) noted that “*Communities of practice give you not only the golden eggs but also the goose that lays them the challenge for organizations is to appreciate the goose and to understand how to keep it alive and productive.*”

Tremblay (2004) shows three major challenges for the implementation of a CoP as follows:

- to motivate individuals to participate in the project,
- to find the means to sustain the interest of participants but also of the organization which supports the learning project through the CoP, and
- to establish a form of recognition of the participation of individuals.

One of the barriers in implementing a CoP is related to sharing knowledge between institutions and regards legal issues as data protection, intellectual property, copyright and confidentiality (Abuelmaati & Rezgui, 2008). A CoP can fail due to the lack of a common, shared identity, the lack of consensual knowledge, the uncertainty factor, geographical distance, cultural factors and loose opportunity for collaboration and sharing informal knowledge (Davidson & Tay, 2003).

Mutual trust is another barrier in a CoP. Along with trust, communication allows the CoP to grow, change and achieve its objectives. Trust building is vital for sharing and a trust primarily develops through face-to-face interactions and a shared understanding (Ellis et al., 2004; Gibson & Manuel, 2003).

14. Conclusion

In this study we have tried to present aspects of a CoP. Actually the main aim of a CoP is to work together for the benefit of the members of that community and the society, and we have tried to represent it here. We describe in brief, a virtual CoP, a network of individuals who share a domain of interest about which they communicate online. At present every nation is using virtual CoP for their welfare. Its activities save both time and cost to perform the work

efficiently. In this article we give the distinction between a CoP and a virtual CoP. Finally we have highlighted the importance, challenges and barriers of a CoP.

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