

## Role of Individual as a “Knowledge Holder Identity” In Knowledge Processes

Rauf F<sup>1\*</sup>, Xu J<sup>1</sup> and Yasmeen G<sup>2</sup>

<sup>1</sup>School of Management, Xi'an Jiaotong University, Shaanxi, China

<sup>2</sup>Schools of Business and Economics, University of Management and Technology, Lahore, Punjab, Pakistan

### Abstract

Knowledge management is recently emerged field concerned with creating, sharing and applying intellectual asset reside in human mind “*knowledge*”. Literature on knowledge management processes is more focused on organizational context rather than individual. As individual human being is central source for holding, sharing and applying knowledge so it is important to understand knowledge processes at individual level in social context along with organizational. This paper aims to define the role of individual as knowledge holder identity at three levels: *personal identity, role identity and social identity* in social context and to examine the important elements associated with knowledge creation and his behavior toward knowledge sharing and applying. This paper evaluates the factors influencing the behavior of an individual while he is involved in knowledge processes (creation, sharing and application of knowledge) and categorized these factors into three main categories: *personal factors, social factors and economic factors*. Author developed a framework to present the knowledge processes of individual knowledge holder identity and showed the effect of above factors on different processes of knowledge and also evaluated the impact of different identities on knowledge holder individual.

**Keywords:** Knowledge processes; Identity theory; Knowledge holder identity

### Introduction

Knowledge is defined as “justified true belief” of a reality by Plato but it is more than presenting a reality. It is collected concepts, relationships and actions which are viable to attain desired goal [1]. Knowledge resides in individual human mind developed through long term memory based on the self-constructed environment [1]. Knowledge can be differentiated into two types: tacit and explicit Polanyi [2]. Nonaka and Takeuchi [3] defined explicit knowledge as articulated knowledge and tacit knowledge as non-articulated knowledge and developed the SECI model to convert tacit knowledge into explicit knowledge which initiated to emerge the field of knowledge management.

Knowledge management is recently emerged discipline of explicit area. It is a collaborative and integrated approach of creation, capture, organization and application of intellectual asset [4]. Knowledge management is the process of managing the human centered knowledge. Knowledge management processes can be categorized into four main processes: knowledge creation, knowledge storing, and knowledge sharing and knowledge application.

Knowledge is a valuable economic [5] and social resource and intellectual property as well which resides, store and holds by human minds. As knowledge resource is created and holds by individual human beings so individuals play the role of knowledge holders. Identity theory can helps to explain the individual role as a knowledge holder and his knowledge sharing behavior. Identity theory focuses on three levels to explains or define the identity: individual/personal identity, relational/role identity and collective/social identity [6]. So to better understand the identity of knowledge holder, it is need to see the identities associated with knowledge holder individual at these three levels.

Knowledge processes of creation, sharing and application at individual level are affected by many internal and external factors but in this paper I categorized these all factors into three main categories: *personal factors, social factors and economic factors*. In this paper,

I discussed the three processes of knowledge by knowledge holder and examined the effect of knowledge holder identities and factors influencing the behavior of individual and developed a conceptual framework to better understand the entire procedure executing by individual knowledge holders.

### Definition of Knowledge

It is bit difficult to define knowledge in a broader accepted definition. First knowledge was described philosophically by Plato as “justified true belief” which is required feature for knowing the reality. But knowledge is more than representing the reality. Knowledge is a collected concepts, relationships and actions which are viable to attain desired goal [1]. Knowledge at individual level is the content of human mind developed through long term memory which are based on the self-constructed environment that vary person to person [1].

The study of Knowledge management remained more focused on the concept and processes of knowledge at organizational level rather than individual level. But individual knowledge is prerequisite and foundation for the creation of organizational knowledge. Individual knowledge has same psychological functioning and mental capabilities as organizational knowledge and capable to enhance organizational learning as well by capturing the central role in the process of organizational knowledge [1]. So to better understand the processes of knowledge management, it is essential to consider the knowledge processes at individual level in social context beyond the organization.

**\*Corresponding author:** Rauf F, School of Management, Xi'an Jiaotong University, No. 28, Xianning West Road, Xi'an, Shaanxi, China, Tel: 13096958195; E-mail: [fawadrauf1989@yahoo.com](mailto:fawadrauf1989@yahoo.com)

**Received** November 14, 2018; **Accepted** December 31, 2018; **Published** January 08, 2019

**Citation:** Rauf F, Xu J, Yasmeen G (2019) Role of Individual as a “Knowledge Holder Identity” In Knowledge Processes. J Entrepren Organiz Manag 8: 255. doi: [10.4172/2169-026X.1000255](https://doi.org/10.4172/2169-026X.1000255)

**Copyright:** © 2019 Rauf F, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Sometimes, actions are performed but individuals are unable to explain those actions similarly some time individual can explain actions but unable to perform them. This phenomenon was explained by Polanyi [7,8] as non-articulated and silent dimension of knowledge. Spender [9] explained the knowledge as implicit (shaped by actions) and explicit (formed through communication). Further, Polanyi [2] differentiated knowledge as tacit and explicit on the bases of “knowing” and “known”. Nonaka and Takeuchi [3] defined explicit knowledge as articulated knowledge and tacit knowledge as non-articulated knowledge and developed the SECI model to convert tacit knowledge into explicit knowledge which initiated to emerge the field of knowledge management.

### Methodology

Ackoff [10] proposed hierarchal pyramid of knowledge which convert data into wisdom through a hieratical procedure. Pyramid illustrate that data is basic element which generate information and information leads to create knowledge which further develop wisdom.

Tuomi [11] countered the traditional view of knowledge pyramid and argued that data doesn’t provide the foundation for the generation of information, knowledge and wisdom. Data is not collected in vacuum away to human efforts and human understanding with its knowledge and wisdom guides to collect specific required information. Collected data is based on facts relevant to our understanding, basic knowledge and wisdom. According to this view hierarchy of knowledge will be top to bottom rather than bottom to top (Figure 1).

### Knowledge management

Knowledge management is recently emerged discipline of explicit area and a well-known term defined as a process to identify, organize and manage knowledge resources [12]. It is a collaborative and integrated approach of creation, capture, organization and application of intellectual asset [4]. Knowledge management is the process of managing the human centered knowledge in different ways. It is involved with creating, acquiring, storing, sharing and using/applying the knowledge which enhance individual level performance [13,14].

### Knowledge management processes

Knowledge management is defined as the process of managing the knowledge as knowledge is a process. Davenport et al. [15] proposed

four key processes to manage the knowledge: exploring or finding the existing knowledge, new knowledge creation, storing or packing that created knowledge and application of existing knowledge. Alavi [16] presented seven processes of knowledge management which are knowledge creation, knowledge application (within the organization), knowledge exploitation (outside the organization), knowledge sharing, and knowledge encapsulation, knowledge sourcing and learning. But Teece [17] concluded the management into eight processes: new knowledge creation, accessing knowledge from outsourcing, application of knowledge, embedding knowledge, knowledge presentation, promoting knowledge growth culture, transformation of knowledge, measurement of knowledge value.

Another study on knowledge management processes [18] categorized ten processes for managing knowledge: knowledge creation, finding internal knowledge, acquiring external knowledge, having or owning knowledge, knowledge processing, knowledge reuse, knowledge application, knowledge updating, internally knowledge sharing and externally knowledge sharing. By considering these all studies, knowledge management processes further can be categorized into four main processes: knowledge creation, knowledge storing, knowledge sharing or transformation of knowledge and knowledge use or application.

**Knowledge creation:** Knowledge creation is a process of improving and extending the existing level of tacit and explicit knowledge [19]. Nonaka [20] discussed the social aspects of knowledge creation with its tacit and explicit dimensions. According to Nonaka’s model, knowledge is created, shared, improved and justified through the individual’s cognitive and their social and collaborative processes. He identified the four modes of knowledge creation (socialization, externalization, internalization, and combination) which involves the role of tacit and explicit dimensions and flow of knowledge from individual to group to organizations.

At socialization level, tacit knowledge is converted into new tacit knowledge involving social interactions and shared experiences. Combination mode refers to applying, merging and synthesizing existing explicit knowledge into new explicit knowledge. Externalization process involves in converting tacit of internalization, new tacit knowledge is created from explicit knowledge. These four modes or processes emphasize on conversion of existing knowledge

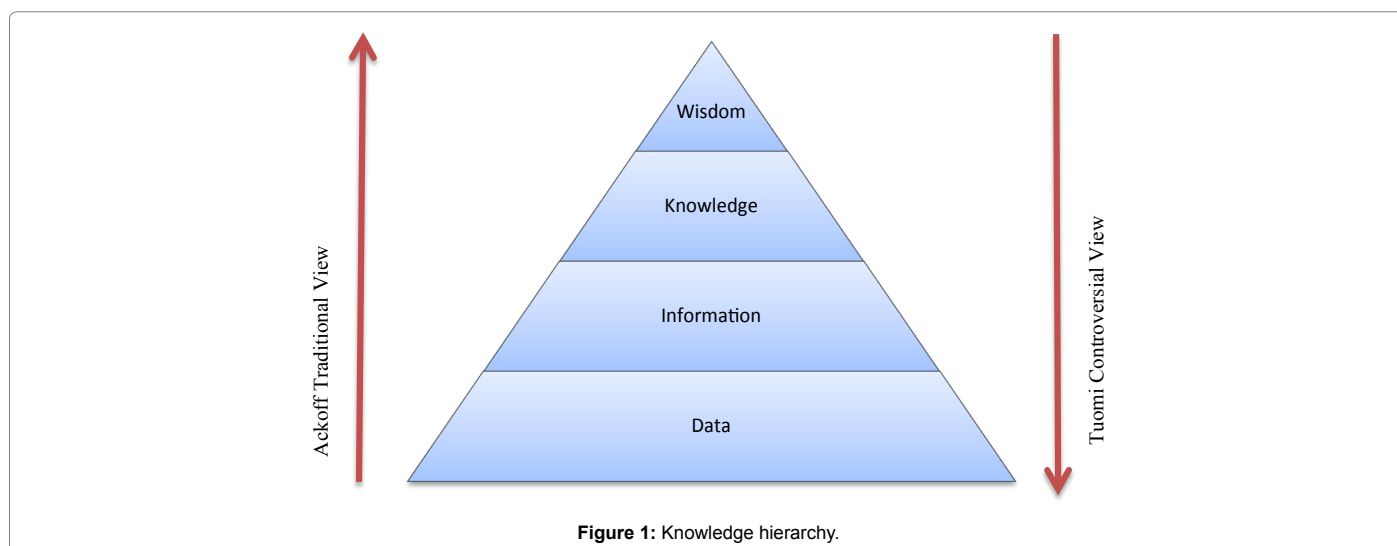


Figure 1: Knowledge hierarchy.

into creation of new knowledge from one source (individual, group, and organization) and state (tacit and explicit) to another.

Nonaka and Takeuchi [21] argued that knowledge creation is associated with establishing organizational “ba”. Ba is defined as context, place and space which need to create knowledge. Knowledge creation models are corresponding to four types of ba: originating ba, interacting ba, cyber ba and exercising ba. Knowledge creation process begins with organizing ba which is a common place for face to face interactions of individuals to share experiences and it involves with socialization. Externalization mode is associated with interacting ba. Interacting ba is the space where tacit knowledge converts into explicit knowledge and shared through dialogues and collaboration among individuals. Cyber ba is a virtual space to interact and correspond to combination mode. Exercising ba refers to converting explicit knowledge into tacit knowledge for active and continuous individual level learning and involves with internalization mode. It is important to understand the characteristics of different types of ba and their relationships with different modes of knowledge creation [22] (Figure 2).

**Knowledge storing:** One important process in managing the knowledge is to store knowledge. It is empirically proved that organizations may forget the acquired knowledge if it is not stored or memorized properly for further utilization [23,24]. Storing or retrieving the organizational knowledge is named as organizational memory [25,26].

Knowledge can be stored in different forms like written documents, electronic database, and expert system based on codified human knowledge, organizational process and procedure and networking [27].

But usually big portion of explicit knowledge in organization is found in unstructured documents like memos, meeting notes and designs [28]. While discussing the storage of knowledge, it is important to create a distinction between organizational and individual knowledge. Initially, individuals acquire and hold knowledge by using their brains and cognitive abilities. Further memory is developed on the base of their experience, observations and actions [29-31]. Individual

memory embedded in people reflects their specific past experiences and collective or organizational memory includes individual’s memories, shared knowledge and interpretation from social interactions.

Stein and Zwass [26] defined organizational memory as “the means by which knowledge from the past, experience, and events influence present organizational activities”. Organizational activities are defined as planning, coordinating, organizing, controlling, decision making, problem solving and implementing decisions about production of product and service. Organizational memory is broader than individual including the organizational culture, transformation, structured norms and rules and ecology [25].

Organizational memory further can be categorized into two types: semantic memory and episodic memory [26,32]. Semantic memory is a general memory based on explicit and articulated knowledge and episodic memory is situated knowledge related to a specific context.

**Knowledge sharing:** Knowledge sharing is considered as one of the important processes in knowledge management processes [14]. Knowledge is transferred from one individual to another [33] in a deliberate process which makes knowledge reusable [34]. Through the knowledge sharing process, individuals exchange their knowledge (tacit and explicit) to generate new knowledge [35]. Knowledge sharing is a provision of information with collaborative purpose of helping others to resolve issues, generating new ideas and their implementation. The process of knowledge sharing occurs with written, verbal and non-verbal communication through documentation, knowledge capturing and networking [36,37].

Usually terms of knowledge sharing, knowledge transformation and knowledge exchange creates confusion and seems and discussed as substitute but these are differ from each other. Knowledge transfer includes knowledge sharing, its acquisition and application and it is used to describe the flow of knowledge at organizational level [38]. Knowledge exchange remained in use identical with knowledge sharing but it includes knowledge seeking as well as knowledge sharing [39].

Knowledge sharing occurs at individual and organizational

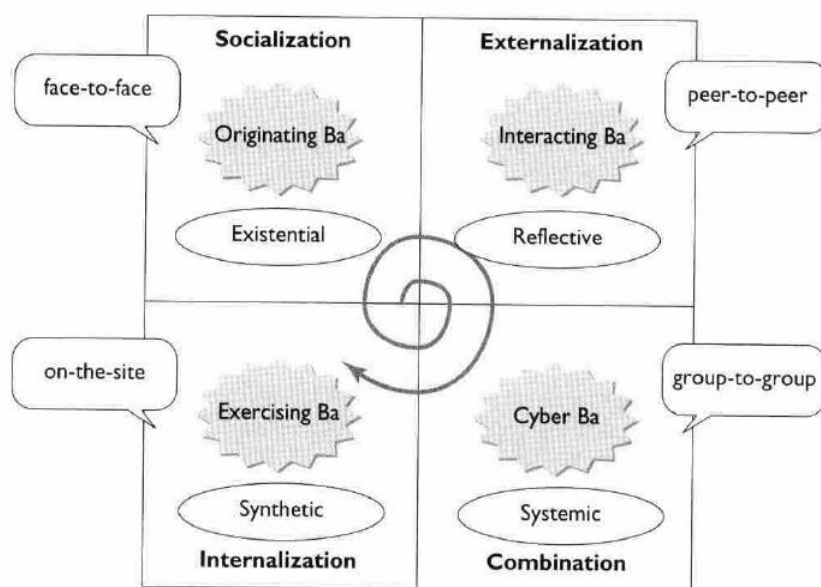


Figure 2: The concept of “ba”: Building a foundation for knowledge creation.

levels. Literature examined the impact of organizational culture on knowledge sharing practices [40,41]. Taylor and Wright [42] proved that organizational culture which encourages innovation, new ideas and lesson learns from failure, has direct positive relation with effective knowledge sharing. Management support and attitude [43,44], rewards and incentives system [45-47] and less centralized organizational structure [48] are basic factors to develop and enhance knowledge sharing culture within the organization.

Individual level knowledge sharing is most important in organizational as well social context as knowledge resides and hold by individual human being. Individual ties with social network [49-51], individual personality characteristics like their expertise and positive attitude [52], intentions and level of engagement [39,53] and knowledge sharing behavior [54] highly influence individual decisions of knowledge sharing.

Sense of knowledge ownership [52,55], perceived benefits and cost associated with knowledge [56,57], interpersonal trust and justice [58,59] and beliefs and attitudes of people [60,61] are other motivational factors influence the knowledge sharing behavior of individual in social and organizational context.

**Knowledge application:** The process of applying knowledge is most important part of knowledge management as attaining the competitive advantage for an organization is associated with the application and use of knowledge rather than having or storing knowledge. Development of collective minds and central memory system in an organization is a challenging task in applying the knowledge. Limited cognitive abilities prevent to transfer all knowledge to individuals and it is also difficult to determine that what knowledge is needed in which situation [62].

When knowledge is distributed among members within a time and space, knowledge begins to apply through its integration. Organizational capacity based on the individual efforts to integrate their specialized knowledge to create value through product and service by converting inputs into outputs [63]. He further described three mechanisms involves in knowledge integration to develop organizational capacity: (1) directives, (2) organizational routines and (3) self-contained task teams. Specific standard, set of rules, instructions, process and procedures developed by converting tacit into explicit and integrating, are refers to "directives" [64]. Organizational routine is concerned with developing task performance, coordinating patterns, interactions and processes which make individuals able to integrate and apply their specialized knowledge without articulation. Routine mechanism can be occurred simple or highly complex due to difference in nature and context of routine activities. Third level of integration is concerned to create self-contained task team. Organizations may face the situations, when uncertain task and its complexity prevent the requirement of directives and organizations routine, self-contained team will resolve the issue. Coordination, collaboration and intense communication are required to resolve the team issues which are hidden in their frequent interactions and exchange of knowledge [62].

## Identity Theory

Identity theory discusses the different roles associated with an individual and how individual generate and maintain meanings with these multiple roles. In identity theory self is exposed through social interactions and represented identities in that specific context. Identity theory emphasis (1) on the relationship among social structure, identities and behavior and how different identities are organized in *salience hierarchy* [65], (2) *internal dynamics* within the self-influence behavior [66-68] and (3) examining role identities.

According to identity theory, self is consisted of multiple identities. Individual contains different identities according to different position hold by him/her in a social structure [69]. Identities determine and regulate the behavior of individuals self, played role and social actions. Identities can be categorized into three types: *person identities*, *role identities*, and *group Identities* [70,71].

Individual/Personal identity describes the self-meaning of an individual that provide a sense of individuality like commitment, honesty, credibility or dominancy [72]. Role identities are defined as the meaning which an individual assign him/her-self while performing any role like father, student, teacher, etc. These meaning are emerged by individual assessment of role, culture and socialization. Relational/ Role identities are combination of *shared* and *idiosyncratic* meanings developed over time through interactions [70]. Social/group identities refer to the meaning identified with group and social circle. Collective/ Social identities create bonding and sense of unity and provide mutual strength to act. These three types of identities act simultaneously, in different situation and context.

Stryker's hierarchical approach to identity explains that an individual behave in a situation based on matching the identity meaning with situation [71]. Behavior depends on *salient* and *committed* identities [73].

*Identity salience* refers to the chances of invoking the identity by individual self and others in a social context and *identity commitment* mentions the dependency of individual's relationships on specific roles and identities. More committed identity will behave to more salient. And more salient identity will perform roles as per expectation associated with identity.

## Knowledge Holder Identity

Knowledge is a valuable economic [5] and social resource basically resides in human minds. As knowledge resource is created and holds by individual human beings so individuals play the role of knowledge holders. Identity theory helps to explain the individual role as a knowledge holder and his knowledge sharing behavior. Identity theory focuses on three levels to explains or define the identity: individual/personal identity, relational/role identity and collective/social identity [69]. So to better understand the identity of knowledge holder, we will see the identities associated with knowledge holder individual at these three levels.

### Personal identity of knowledge holder

To review personal identity of a knowledge holder individual, it is need to describe set of meaning which are tied to individual self. Personal identity may form a perception of having valuable knowledge resource and can lead to develop a submissive attitude of holding a unique and imitable resource in the form of knowledge. Personal identity produces the meaning of power of knowledge ownership and invokes to perform the role of knowledge holder, knowledge distributor or knowledge integrator in a specific situation and context. Personal identity of knowledge holder is consisting of having specific value and belief especially concerned with holding, sharing and applying knowledge. Like ethical value system will lead individual to deal knowledge ethically and if someone have belief of to be involved in well-being and benefits of others then he will prefer to share knowledge to get intrinsic gains rather than economic or extrinsic benefits. Expectation of future self also play a vital role in developing personal identity and individual perceive, evaluate and act to develop himself as per expected future self.



### Role identity of knowledge holder

Role identity contains the meaning associated with role performed by an individual knowledge holder. Individual being a knowledge holder identity play different roles according to situations and context. When he/she is engage in creating the new knowledge through intuitions, past experience, competences and rationality, role of *knowledge acquire or knowledge generator* is performed. When individual is present in a social context and sharing or integrating his acquired knowledge then he play the role of *knowledge distributor or knowledge integrator*. Different roles enforce him to present different attributes of his personality as per requirement and individual may contain different behavior as well.

### Social identity of knowledge holder

Social identity of an individual knowledge holder is associated with the meaning of creating bonding and sense of unity, and provides mutual strength to act within a group or in a social context. Knowledge holder shows his social identities in the form of affiliation, association and commitments with social, racial or religious groups. Social identity influence the knowledge sharing behavior of knowledge holder as affiliation or association with a specific group or organization will motivate to share his specific piece of knowledge to strengthen the unity of group and to attain recognition within the group. He develops self-recognition among the group of people or friends. Social identity of knowledge holder is also dependent to the situation or context in which individual is present at a specific time.

### Factors Influencing Knowledge Processes at Individual Level

Riege [74] proposed seventeen potential individual factors which inspire people to hold back their knowledge and avoid sharing. But this study categorized these factors into three broad categories: *personal factors, social factors and economic factors* which influence the entire process of knowledge (creation, sharing and application) at individual level. Factors which highly influence knowledge sharing decisions and motivate individuals to distribute or hold their knowledge are following.

#### Personal factors

Knowledge is a source of power for individuals [75-77] which provide them sense of ownership, value and uniqueness [78]. Individuals have their belief system for the ownership of knowledge [52,55]. Fear of losing ownership, power and uniqueness force to show the reluctant behave toward knowledge sharing [79,80].

Intrinsic rewards are concerned with personal factors as these include personal achievements, self-growth, sense of pleasure and accomplishment. Individual can be motivated to share knowledge by offering intrinsic rewards [81]. If knowledge holder identity perceive that creation, sharing and application of knowledge helps in attaining his self-achievements and pleasures then he will show positive behave toward knowledge acquiring and sharing. Importance of self-realization, personal goals and desires, competences and skills and personal attributes of an individual personality may affect individual behavior toward knowledge creation, sharing and application.

#### Social factors

Individual knowledge is created and expended when people socially interact to each other involving their creative activities [3]. Knowledge sharing is involved in the socially interactions of individuals [82,83].

Communication is vital element of social interactions. Interactions involve verbal and non-verbal communications to acquire and transfer knowledge to get maximum benefits from knowledge exchange. Social interactions for knowledge sharing are based on attaining the personal gains and self interest of both knowledge holder and knowledge taker. This argumentation can be supported by the social exchange theory which explains the social behavior of human beings in the context of social rewards. Individuals or knowledge holders and knowledge takers exchange their knowledge and skills for the reciprocal exchange of knowledge and gets mutual benefits [84].

Culture is the key factor to develop or generate the knowledge sharing behavior. It injects specific elements derived from society norms and value to make an individual more individualistic or more social. While establishing social interactions, level of trust and mutual goals play important role in establishing a knowledge sharing behavior. If individual is more concerned about his social status then he will behave in a specific way and social context and situation attain central role in establishing knowledge sharing behavior.

#### Economic factors

According to economic exchange theory, human behavior is rationally attractive toward personal gain and self-interest so individual will behave to toward knowledge sharing when he/she perceive to get maximum benefits or reward rather than its cost [52,85]. So there is need to propose some extrinsic rewards to individual knowledge holders to motivate to exchange their knowledge. Extrinsic rewards can initiate to agree knowledge holder to share knowledge but these incentives can't attract knowledge holder for a long time and can only facilitate for temporary purposes [86]. Economic value of knowledge and risk factor associated with that knowledge also influence individual behavior toward knowledge sharing and application.

### Knowledge Processes at Individual Level

In organizational context knowledge management processes execute at four levels: knowledge creation, knowledge storing, knowledge sharing and knowledge application but at individual level knowledge processes in social context and usually covers three levels: knowledge creation, knowledge sharing and knowledge application because knowledge is not stored in the documents, data base and other explicit forms. So while examining the knowledge processes at individual knowledge holder level, this paper views these three processes with the influencing impact of personal, social and economic factors and knowledge holder identities.

#### Knowledge creation

Knowledge holder individual combine and configure existing holding knowledge (embedded and inherit), core competences, expertise and past experience to create new knowledge. This process is occur sometime at individual level and some time with the interaction of other but processing of creation occurs in mind in the form of tacit. Knowledge creation gives the satisfaction, motivation and inspiration to individual for holding a new set of knowledge (self-esteem and self-retaliation) and provides a chance to play important role/identity of knowledge holder and knowledge integrator further. If created knowledge is realized as valid, valued and important than it motivate individual to share and apply it. Validity of knowledge is dependent on its matching with existing realities and based on the question that how much it can explain existing phenomenon.

Rewards and personal gains link with holding a new knowledge

motivate individuals to do efforts to create new knowledge. Social factors like culture and values, beliefs and norms attached with individual identity directed the way to create specific kind of knowledge like in cooperative mind set society and collaborative belief set of individual will causes to create collectively beneficial knowledge.

Created knowledge can be categorized into two types: (1) intuition based knowledge and (2) experience based knowledge. Intuition based knowledge is emerged from knowledge exploration and experience based knowledge is derived from knowledge exploitation. New knowledge is generated or created through intuitions, core competences and problematization. Further this created knowledge is shared and applied and during the application of knowledge, past experience and specialized skills helps to resolve the issues and this process of exploitation of knowledge causes to generate more knowledge which is called experience based knowledge.

### Knowledge sharing

Al-Hawamdeh [12] suggested focusing the research emphasis on individual perspectives and approach rather than organizational view. Nonaka and Konno [54] defined the Knowledge sharing behavior of individuals which motivate or prevent to share his/her knowledge to others. It is difficult to change individual behavior toward sharing knowledge especially in organizational environment [84]. Studies shows the people reluctant behave in sharing knowledge in spite of providing knowledge sharing practices in organizational culture [87].

Knowledge becomes more valuable when it is share. Knowledge in mind doesn't have any price till it is share and offer to apply. Knowledge sharing is process to in which an individual knowledge holder share or expose his/her acquired or created unique piece of knowledge to others. Knowledge sharing may be based on demand or need of others (knowledge takers) or may be based on self-interest or personal gain of knowledge holder (perceived value or self-esteem). Individual usually don't prefer to share knowledge as they consider it their own valuable resource [88] and like to hold it. They cannot be enforced but to motivate [89] to share their holding knowledge.

Knowledge sharing behavior is derivative of knowledge sharing intention and knowledge sharing intention dependent upon sharing

attitude, norms and perceived behavioral control [90]. In spite of having knowledge sharing attitude and intention, individual have behavior of lack of knowledge sharing because knowledge sharing behavior is also influenced by many other external factors like intrinsic and extrinsic rewards [86] and socio-psychological factors [91] (Figure 3).

Knowledge sharing gets motivation from economic incentives, social status and self-realization. Interaction of individual knowledge holders and their integration of holding knowledge convert knowledge into information (tacit to explicit). Communication plays the vital role (verbal and non-verbal) in the process of knowledge sharing. In social context knowledge is usually shared in informal way. Social ties get importance in knowledge sharing. Strong social connections motivate to share created knowledge more frequently. Like knowledge holder individual is motivated to share and transfer his knowledge toward his blood relation, peer group (transferring expertise from father to son). Flow of knowledge sharing is more within the horizontal stream of ties like peer group, same age group and social friend circle rather than horizontal ties like senior to junior, father to son etc. Level of trust and mutual goals leads to share knowledge [92].

In the process of knowledge sharing, individual knowledge holders interact with each other through value proposition. Value may be proposed in the form of intrinsic and extrinsic rewards, mutual goals, self-realization etc. and knowledge are shared for reciprocal exchange of knowledge. Knowledge sharing is not a one way process but two ways. If one individual knowledge holder is presenting his specific knowledge to share than reciprocally he/she is also getting some piece of knowledge from knowledge taker. So in social context expectation of mutual value also enforce individuals to share their knowledge.

### Knowledge application/utilization

Knowledge application is the way to make knowledge more active and supportive the value creating procedure [93]. Knowledge is used for well-being of individual self and others. Knowledge is used in the process of knowledge creation. Knowledge is applied in day to day activities to get solutions for common issues. Knowledge application generates building blocks for the procedure of knowledge creation as applying a new or previous knowledge provide new sort of experience

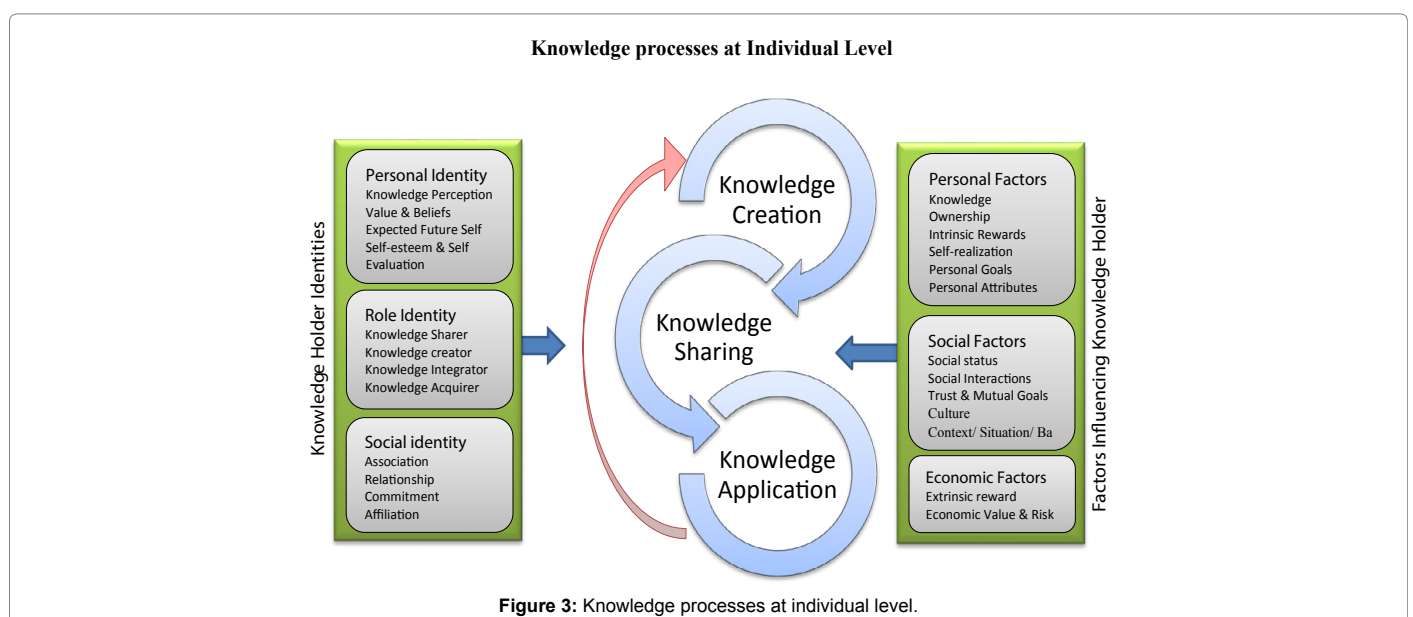


Figure 3: Knowledge processes at individual level.

and enhance competences of individuals which play vital role in generating new knowledge. Knowledge application is not a static process but dynamic. It also causes to generate new knowledge during the process of application or leads to exploration from exploitation of knowledge.

By keeping in view the concept of service dominant logic [94], where service is defined as the application of competences and skills (knowledge can also be defined as competences and specialized skills) for the benefits of others, knowledge application can be defined as service (applying knowledge) as knowledge is used for well-being of self and others [95]. During the process of knowledge application, individual knowledge holders integrate their operant resources (knowledge) to co-create mutual beneficial value through reciprocal exchange of knowledge [96,97].

## Conclusion

Knowledge reside, store and hold in human minds so individual play the role of knowledge holder. It is important to understand the processes of knowledge creation, sharing and application at individual level in social context along with considering the knowledge management processes at organizational level. Knowledge processes are influenced by number of factors but in this paper I categorized these into three main categories: personal, social and economic which affect the process of knowledge creation, sharing and application in different ways. While studying the knowledge processes at individual level, it is also essential to consider the importance of different identities associated with individual. I included the three levels of individual's identity (personal identity, role identity and social identity) while examining the role of knowledge holder in knowledge processes. This paper concludes that knowledge processes at individual level is highly influenced by three factors (personal, social and economic) and by three levels of identities (personal, role and social).

## References

1. Meyer B, Sugiyama K (2007) The Concept of Knowledge in KM: A Dimensional Model. *J Knowl Manag* 1: 17-35.
2. Polanyi M (1985) *Implizites Wissen* (in German). Frankfurt Am Main: Suhrkamp.
3. Nonaka I, Takeuchi H (1995) *The knowledge-creating company: How Japanese Companies Create the Dynamics of Innovation*. Oxford University Press. New York.
4. Grey D (1996) What is knowledge management? *The Knowledge Management Forum*.
5. Blumentritt R, Johnston R (2010) Towards a Strategy for Knowledge Management. *Technol Anal Strateg* 11: 287-300.
6. Sedikides C, Brewer MB (2001) *Individual Self, Relational Self, Collective Self*. Philadelphia: Psychology Press.
7. Polanyi M (1958) *Personal Knowledge*. London: Routledge & Kegan Paul.
8. Polanyi M (1966) *The Tacit Dimension*. Garden City, NY: Doubleday.
9. Spender JC (1996) Making Knowledge the Basis of a Dynamic Theory of the Firm. *Strategic Manage J* 17: 45-62.
10. Ackoff RL (1989) From Data to Wisdom. *Journal of Applied Systems Analysis* 16: 3-9.
11. Tuomi I (2000) Data is More Than Knowledge: Implications of the Reversed Knowledge Hierarchy for Knowledge Management and Organizational Memory. *Journal of Management Information Systems* 16: 103-117.
12. Al-Hawamdeh S (2003) *Knowledge Management Cultivating Knowledge Professionals*. Chandos Publishing. Oxford.
13. Kinney T (1998) Knowledge Management, Intellectual Capital and Adult Learning. *Adult Learning* 10: 2-5.
14. Davenport TH, Prusak L (1998) *Working Knowledge: How Organizations Manage What They Know*, Harvard Business School Press. Boston Massachusetts.
15. Davenport TH, Jarvenpaa SL, Beers MC (1996) Improving Knowledge Work Processes. *MIT Sloan Management Review* 37: 53.
16. Alavi M (1997) *KPMG Peat Marwick US: One Giant Brain*. Harvard Business School Pub.
17. Teece D (1998) Capturing Value from Knowledge Assets: The New Economy, Markets for Know-How, and Intangible Assets. *Calif Manage Rev* 40: 55-79.
18. Cranfield University (1998) *The Cranfield/Information Strategy Knowledge Survey: Europe's State of the Art in Knowledge Management*. The Economist Group.
19. Pantland BT (1995) Information Systems and Organizational Learning: The Social Epistemology of Organizational Knowledge Systems 5: 1-21.
20. Nonaka I (1994) A Dynamic Theory of Organizational Knowledge Creation. *Organization*.
21. Nonaka I, Takeuchi H (1998) A Theory of the Firm's Knowledge-Creation Dynamics. *The Dynamic Firm, The Role of Technology, Strategy, Organization, and Regions*.
22. Alavi M, Leidner DE (1998) *Knowledge Management and Knowledge Management Systems: Conceptual Foundations and an Agenda for Research*. INSEAD.
23. Argote L, Beckman SL, Epple D (1990) The Persistence and Transfer of Learning in Industrial Settings. *Manage Sci* 36: 140-154.
24. Darr ED, Argote L, Epple D (1995) The Acquisition, Transfer, and Depreciation of Knowledge in Service Organizations: Productivity in Franchises. *Manage Sci* 41: 1750-1762.
25. Walsh JP, Ungson GR (1991) Organizational Memory. *Acad Manage Rev* 16: 57-91.
26. Stein EW, Zwass V (1995) Actualizing Organizational Memory with Information Systems. *Information Systems Research* 6: 85-117.
27. Tan S, Teo HH, Tan B, Wei KK (1998) Developing a Preliminary Framework for Knowledge Management in Organizations. *AMCIS 1998 Proceedings* 211.
28. Dworan G (1998) *Discovering Patterns in Organizational Memory*. Massachusetts Institute of Technology.
29. Argyris C, Schon DA (1978) *Organizational Learning: A Theory of Action Perspective*. Reading, MA: Addison-Wesley.
30. Nystrom PC, Starbuck WH (1981) *Handbook of Organizational Design: Remodelling Organizations and Their Environments (Vol 2)* Oxford University Press, USA.
31. Sandelands LE, Stablein RE (1987) The Concept of Organization Mind. *Research in the Sociology of Organizations* 5: 135-161.
32. El Sawy OA, Gomes GM, Gonzalez MV (1986) Preserving Institutional Memory: The Management of History as an Organizational Resource. *Acad Manage J*: 118-122.
33. Park HS, Im BC (2003) A Study on the Knowledge Sharing Behavior of Local Public Servants in Korea.
34. Lee CK, Al-Hawamdeh S (2002) Factors Impacting Knowledge Sharing. *J Inf Knowl Manag* 1: 49-56.
35. Van den Hooff B, Elving W, Meeuwssen JM, Dumoulin C (2003) Knowledge Sharing in Knowledge Communities. *Communities and Technologies* 119-141.
36. Pulakos ED, Dorsey DW, Borman WC (2003) *Hiring for Knowledge-Based Competition*. San Francisco: Jossey-Bass 155-176.
37. Cummings JN (2004) Work Groups, Structural Diversity, and Knowledge Sharing in a Global Organization. *Manage Sci* 50: 352-364.
38. Szulanski G, Cappetta R, Jensen RJ (2004) When and How Trustworthiness Matters: Knowledge Transfer and the Moderating Effect of Causal Ambiguity. *Organization Science* 15: 600-613.
39. Cabrera A, Collins WC, Salgado JF (2006) Determinants of Individual Engagement in Knowledge Sharing. *International Journal of Human Resource Management* 17: 245-264.



40. De Long DW, Fahey L (2000) Diagnosing Cultural Barriers to Knowledge Management. *Academy of Management Executive* 14: 113-127.
41. Kankanhalli A, Tan BC, Wei KK (2005) Contributing Knowledge to Electronic Knowledge Repositories: An Empirical Investigation. *MIS Quarterly* 29: 113-143.
42. Taylor WA, Wright GH (2004) Organizational Readiness for Successful Knowledge Sharing: Challenges for Public Sector Managers. *Inf Resour Manag J* 17: 22-37.
43. Connelly CE, Kelloway EK (2003) Predictors of Employees' Perceptions of Knowledge Sharing Cultures. *Leadership Org Dev J* 24: 294-301.
44. Lin CP (2007) To Share or Not to Share: Modeling Knowledge Sharing Using Exchange Ideology as a Moderator. *Personnel Review* 36: 457-475.
45. Hansen MT, Nohria N, Tierney T (1999) What's Your Strategy for Managing Knowledge? *Harvard Business Review* 77: 106-116.
46. Liebowitz J (2003) A Knowledge Management Strategy for the Jason Organization: A Case Study. *Journal of Computer Information Systems* 44: 1-5.
47. Nelson A, Sabatier R, Nelson W (2006) Toward an Understanding of Global Entrepreneurial Knowledge Management (EKM) Practices: A Preliminary Investigation of EKM in France and the U.S. *J Appl Manag Entrep* 11: 70-89.
48. Kim S, Lee H (2006) The Impact of Organizational Context and Information Technology on Employee Knowledge-Sharing Capabilities. *Public Administration Review* 66: 370-385.
49. Hansen MT (1999) The Search-Transfer Problem: The Role of Weak Ties in Sharing Knowledge Across Organization Subunits. *Administrative Science Quarterly* 44: 82-111.
50. Reagans R, McEvily B (2003) Network Structure and Knowledge Transfer: The Effects of Cohesion and Range. *Administrative Science Quarterly* 48: 240-267.
51. Cross R, Cummings JN (2004) Tie and Network Correlates of Individual Performance in Knowledge-Intensive Work. *Academy of Management Journal* 47: 928-937.
52. Constant D, Kiesler S, Sproull L (1994) What's Mine is Ours, or is it? A Study of Attitudes about Information Sharing. *Information Systems Research* 5: 400-421.
53. Lin HF (2007) Knowledge Sharing and Firm Innovation Capability: An Empirical Study. *International Journal of Manpower* 28: 315-332.
54. Nonaka I, Konno N (1998) The Concept of "ba": Building a Foundation for Knowledge Creation. *California Management Review* 40: 40-54.
55. Kolekofski JKE, Heminger AR (2003) Beliefs and Attitudes Affecting Intentions to Share Information in an Organizational Setting. *Information & Management* 40: 521-532.
56. Blau PM (1964) *Exchange and Power in Social Life*. New York: Wiley.
57. Emerson RM (1981) *Social Exchange Theory*. *Social Psychology: Sociological Perspectives* NY: Basic Books.
58. Organ DW (1990) Motivational Basis of Organizational Citizenship Behavior. *Research in Organizational Behavior*. Greenwich: JAI Press 43-72.
59. Robinson SL (1996) Trust and Breach of the Psychological Contract. *Administrative Science Quarterly* 41: 574-599.
60. Fishbein M, Ajzen I (1975) *Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research*. Reading, MA: Addison-Wesley.
61. Davis FD (1989) Perceived Usefulness, Perceived Ease of Use, And User Acceptance of Information Technology. *MIS Quarterly* 13: 318-340.
62. Alavi M, Leidner DE (1999) *Knowledge Management Systems: Issues, Challenges, and Benefits*. *Communications of the AIS*.
63. Grant RM (1996) Prospering in Dynamically-Competitive Environments: Organizational Capability as Knowledge Integration. *Organization Science* 7: 375-387.
64. Demsetz H (1988) The Theory of the Firm Revisited. *Journal of Law, Economics, & Organization*.
65. Stryker S (1980) *Symbolic Interactionism: A Social Structural Version*. Benjamin-Cummings Publishing Company.
66. Stets JE, Carter MJ (2011) The Moral Self Applying Identity Theory. *Social Psychology Quarterly* 74: 192-215.
67. Burke P (1980) The Self: Measurement Implications from a Symbolic Integrationist Perspective. *Social Psychology Quarterly* 43: 18-29.
68. Burke PJ, Reitzes DC (1981) The Link Between Identity and Role Performance. *Social Psychology Quarterly* 44: 83-92.
69. William J (2013) *Principles of Psychology*. Harpress Limited.
70. Stets JE (2006) *Identity Theory and Emotions*. In *Handbook of the Sociology of Emotions*. Springer US.
71. Carter MJ (2007) *Identity Theory*. Blackwell Encyclopedia of Sociology, Blackwell Publishing 2008.
72. Stets JE, Carter MJ (2006) The Moral Identity: A Principle Level Identity. Purpose, Meaning, and Action.
73. Owens TJ (2006) *Self and Identity*. In *Handbook of Social Psychology*. Springer US.
74. Riege A (2005) Three-Dozen Knowledge-Sharing Barriers Managers Must Consider. *Journal of Knowledge Management* 9: 18-35.
75. Bartol KM, Liu W, Zeng XQ, Wu K (2009) Social Exchange and Knowledge Sharing Among Knowledge Workers: The Moderating Role of Perceived Job Security. *Management & Organization Review* 5: 223-240.
76. Sulin BA, Stallaert J, Whinston AB (2001) Research Commentary: Introducing a Third Dimension in Information Systems Design-The Case for Incentive Alignment. *Information Systems Research* 12: 225-239.
77. Gray PH (2001) The impact of knowledge repositories on power and control in the workplace. *Information Technology and People* 14: 368-384.
78. Chow CW, Deng JF, Ho JL (2000) The Openness of Knowledge Sharing Within Organizations: A Comparison Study of the United States and the People's Republic of China. *Journal of Management Accounting Research* 12: 65-96.
79. Szulanski G (1996) Exploring Internal Stickiness: Impediments to the Transfer of Best Practice Within the Firm. *Strategic Management Journal* 17: 27-43.
80. Bartol KM, Srivastava A (2002) Encouraging Knowledge Sharing: The Role of Organizational Reward Systems. *Journal of Leadership & Organizational Studies* 9: 64-76.
81. Blau PM (1964) *Exchange and Power in Social Life*. Transaction Publishers.
82. Zack HM (1999) *Developing a Knowledge Strategy*. California Management Review.
83. Lang CJ (2001) Managerial Concerns in Knowledge Management. *Journal of Knowledge Management* 5: 43-57.
84. Bock GW, Zmud RW, Kim YG, Lee JN (2005) Behavioral Intention Formation in Knowledge Sharing: Examining the Roles of Extrinsic Motivators, Social-Psychological Forces, and Organizational Climate. *MIS Quarterly* 29: 87-111.
85. Kelly HH, Thibaut JW (1979) *Interpersonal Relations-A Theory of Interdependence*. Applied Ergonomics.
86. Bock G, Kim Y (2001) Breaking the Myths of Rewards: An Exploratory Study of Attitudes about Knowledge Sharing. *PACIS Proceedings*.
87. Lu L, Leung K (2003) A Public Goods Perspective on knowledge sharing. *Center for Innovation Management and Organizational Change*.
88. Davenport TH (1995) *Some Principles of Knowledge Management*. *Business and Strategy* 34-41.
89. Gibbert M, Krause H (2002) *Practice Exchange in a Best Practice Marketplace, in Knowledge Management Case Book: Siemens Best Practices*. Publicis Corporate Publishing, Erlangen, Germany.
90. Rehman M, Mahmood AKB, Salleh R, Amin A (2011) Review of Factors Affecting Knowledge Sharing Behavior. In *2011 International Conference on E-business, Management and Economics IPEDR*, Hong Kong: IACSIT Press.
91. Bock G, Kim Y, Lee J (2005) Behavioral Intention Formation in Knowledge Sharing: Examining the Roles of Extrinsic Motivators, Social-Psychological Forces, and Organizational Climate. *MIS Quarterly* 29: 87-111.
92. Chow WS, Chan LS (2008) Social Network, Social Trust and Shared Goals in Organizational Knowledge Sharing. *Information & Management* 45: 458-465.
93. Ganesh DB (2001) Knowledge Management in Organizations: Examining the Interaction between Technologies, Techniques, and People. *Journal of Knowledge Management* 5: 68-75.



94. Vargo SL, Lusch RF (2004) Evolving to a New Dominant Logic for Marketing. *Journal of Marketing* 68: 1-17.
95. Kelman CH (1958) Compliance, Identification, and Internalization: Three Processes of Attitude Change. *Journal of Conflict Resolution* 2: 51-60.
96. Nonaka I, Konno N (1995) The Concept of 'Ba': Building a Foundation for Knowledge Creation. *California Management Review* 40: 40-54.
97. Williamson OE, Winter SG, Coase RH (1991) *The Nature of the Firm: Origins, Evolution, and Development*. Oxford University Press, New York.