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The Role of Collaborative Culture in Knowledge Sharing and Creativity among Employees

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Abstract

Employees' knowledge sharing and creativity are two important zones of an organization's concern. While extant literature sheds some light on this area, there is paucity of research which looks into different facets of knowledge sharing and the mechanism through which it enhances employees' creativity. This study conceptualizes and empirically validates the role that collaborative culture can play in boosting two processes of knowledge sharing i.e. knowledge donation and knowledge collection which eventually enhances employees' creativity in the organization. Quantitative research strategy and cross-sectional survey method were adopted for the collection of data. A self-administered questionnaire was used to collect data from 189 managers working in 87 business organizations listed in Lahore Stock Exchange of Pakistan. Confirmatory factor analysis and structural equation modeling found out a significant and positive impact of trust, teamwork, and empowerment (facets of collaborative culture) on both knowledge donation and knowledge collection (dimensions of knowledge sharing). Cultural diversity was found to have insignificant impact on both knowledge-sharing dimensions. However, both knowledge sharing dimensions were having significant positive impact on employees' creativity. Findings of this research substantiate the current body of knowledge by identifying the role of

collaborative culture in enhancing organizational creativity through different knowledge sharing dimensions.

Keywords: knowledge sharing; collaborative culture; creativity; knowledge management; Pakistan.

1. Introduction & Literature Review

The role of knowledge in providing organizations with sustainable competitive advantage and resultant superior performance has gained central attention of the researchers and practitioners (Massey, Ramesh, & Montoya-Weiss, 2007; Bajwa, Kitchlew, Sair, & Shahzad, 2015). As the economies around the world are becoming more knowledge-based, organizations' inclination toward knowledge-based designs and innovation has become the central element of competitiveness (Nonaka, Kodama, Hirose, & Kohlbacher, 2014). However, an organization's capacity to innovate largely depends on its ability to make an effective use of its knowledge-based resources to develop and leverage its knowledge-based competencies in order to develop and sustain innovative capabilities (Kankanhalli, Tan, & Wei, 2005; Nonaka, 1994). Researchers believe that an organization's capacity to be creative and innovative depends on the knowledge sharing that takes place within and across the departments and divisions (Bock, Zmud, Kim, & Lee, 2005; Cabello-Medina, López-Cabrales, & Valle-Cabrera, 2011; Marouf & Khalil, 2015).

The role of organizational culture in promoting knowledge sharing behaviors has received considerable attention in recent times (Ismail Al-Alawi, Yousif Al-Marzooqi, & Fraidoon Mohammed, 2007). Previous researchers have identified a significant impact of organizational culture on knowledge sharing behaviors (Alavi, Kayworth, & Leidner, 2006; Reid, 2003), innovation (Spencer, 2003), creativity (Gilson, Lim, Luciano, & Choi, 2013), and organizational performance (Law & Nagi, 2008). Current stream of organizational research recognizes culture as a strong enabler of knowledge sharing which further enables organizations to be creative and innovative (Nonaka & Takeuchi, 1995; Shahzad, Bajwa, Siddiqi, Ahmid, & Sultani, 2016). An organization's ability to create, disseminate and leverage knowledge relies heavily on its practices and shared values and beliefs that shape its culture and members' knowledge sharing behaviors (Lau & Ngo, 2004). Organizational culture and knowledge sharing strongly correlate as cultural values influence the patterns of organization member cognitive frameworks and knowledge sharing attitudes and behaviors (Cheng, Yeh, & Tu, 2008).

However, it is pertinent to mention that knowledge sharing has always been a difficult task as it involves both the 'giving' and 'receiving' of knowledge from multiple social actors (Cleveland & Ellis, 2015). van den Hooff and De Ridder (2004) have termed these processes as knowledge donation and knowledge collection in the organizations. Since, according to mostly contemporary scholars, knowledge is embedded in people (Sveiby & Simons, 2002) and the interaction among people holds the key for knowledge sharing process, the role of organizational culture becomes instrumental to promote and foster the donation and collection of knowledge among organization members by promoting trust (Cheng et al., 2008), harmony, teamwork, and collaboration (López, Peón, & Ordás, 2004). Moreover, organizations being social entities (McHugh, 1968) make employees interaction inescapable (Taormina, 2009); and thus facilitate knowledge sharing behaviors (Firth, 2004) like knowledge donation and knowledge collection (ven den Hooff & Ridder, 2004).

Organizational culture may hold a varying impact on knowledge sharing as previous studies have identified both positive and a negative impact on knowledge sharing behaviors in organizations. For instance, in a study undertaken by Jen-Te (2007) organizational culture was found as an enabler whereas McDermott & O'Dell (2001) in their study reported that the sampled organizations despite having no alignment between their cultural and knowledge management processes were achieving good performance in their market segments. These varying findings provide a clue that certain types of cultures are supportive for knowledge sharing initiatives whereas others are not. Although literature has identified different kinds and types of organizational culture, there exists a consensus that for knowledge sharing, creativity, and innovation, a collaborative culture that promotes social harmony, mutual support teamwork, trust, empowerment, risk taking and diversity is more appropriate i.e. see (López et al., 2004; Noor, Hajar, & Idris, 2015; Nonaka & Takeuchi, 1995; Shahzad et al., 2016; Shin, Kim, Lee, & Bian, 2012). The role of collaborative culture does not end with knowledge sharing as it also fosters organizational creativity and innovation. Organizational members' creativity and innovation depends on the context and settings in which they perform their jobs (Perry-Smith & Shalley, 2003). Since collaborative culture serves as an enabling climate for employees, its implications towards organization members' creativity and innovation cannot be undermined (Simonin, 1997). Collaborative culture embraces employees' diversity which is very vital for producing and sharing heterogeneous knowledge that is the key for new ideas generation and innovative working (Rodan & Galunic, 2004).

Although previous research appraises the nexus between organizational culture and knowledge sharing practices (Islam, et al., 2011; Reid, 2003; Taormina, 2009; Usoro & Kuofie, 2006; Yang, 2007), the empirical findings for the particular impact of collaborative culture on knowledge sharing and creativity is limited in organizational context. Moreover, there are few articles that have examined knowledge sharing in terms of its micro-processes such as knowledge donation and knowledge collection. Most of the researchers have analyzed the impact of antecedents and consequences towards knowledge sharing by considering knowledge sharing as a single construct. Literature has identified that knowledge sharing comprises of two distinct dimensions i.e. knowledge collection and knowledge donation (van den Hooff & De Ridder, 2004); however to the best of our knowledge, no efforts have been made to examine the impact of collaborative culture on both of these dimensions. Similarly, there is a dearth of research on the creativity of organizations with respect to its link with collaborative culture, knowledge donation, and knowledge collection. Furthermore, most studies in knowledge sharing area have been undertaken in Western and South-East Asian countries, and very few studies exist in Pakistani context. Pakistani context is significantly different in term of its national cultural dimensions and thus a research on knowledge sharing and creativity will explore some fruitful implications for both research and practice. This research therefore bridges this gap, and intends to examine the role of collaborative culture in enhancing organizational creativity through different knowledge sharing dimensions.

2. Theoretical Framework and Hypotheses Development

2.1 Collaborative Culture and Knowledge Sharing

Organizational culture refers to the values, beliefs, and behaviors that are widely shared by members of the organization (Schien, 1985). A belief that individuals' knowledge should be shared in groups and teams can set cultural support for knowledge sharing (Khalil &

Seleim, 2010; McDermott & O'Dell, 2001). For organizations, in order to take benefits from its knowledge-based resources, it is imperative to nurture a culture that will foster knowledge transfer activities (Barratt-Pugh, Kennett, & Bahn, 2013). A collaborative organizational culture facilitates the transformation of individuals and groups' knowledge, skills, and experiences into organizational knowledge through continuous learning and knowledge sharing (Jen-Te., 2007). People with strategic positions always realize that underutilization of knowledge held by the people and cultural dissonance can create impediments for organizational success (Barratt-Pugh et al., 2013). Since knowledge sharing has profound implications for individual as well as organizational creativity, innovativeness, success and performance, the absence of knowledge transfer will be simply lethal for any organization. Therefore, organizations set cultural values that are supportive of knowledge donation and collection. Over the course of their life, organizations adopt certain values and rituals that represent dominant culture. The organizations that adapt values of trust, cooperation, open communication, and embrace diversity represent collaborative culture and gain an early creative repute and superior performance (López et al., 2004; Sveiby & Simons, 2002).

Organizational culture with dominating collaborative orientation holds important implications for knowledge sharing (Greiner, Böhmann, & Krcmar, 2007) and most particularly for knowledge donation and knowledge collection (ven den Hooff & Ridder, 2004) by promoting patterns of interaction and communication that foster employees learning and creativity (Pinjani & Palvia, 2013). Previous research reveals that knowledge resides in organizational culture (Grant, 1996), and thus recognizing culture as a vital element in knowledge sharing process is important in developing interaction among the source and receiver of the knowledge (Pinjani & Palvia, 2013). Other researchers have also given central premise to organizational culture for effective conduct of knowledge sharing. For example, Davenport & Prusak (1998) suggest that a culture which encourages collaboration among employees facilitates behaviors that are suitable for knowledge sharing dimension. Collaborative Culture is built on the philosophy of people orientation through cooperation, mutual trust and team spirit (Guerra, Martínez, Munduate, & Medina, 2005). Moreover, Denhardt (1984) suggests that employees in collaborative culture make collective efforts for building cohesion and teamwork and see each other as helpful, considerate, sensitive, open, approachable, and fair. An investigation of cultural values revealed that collaborative culture positively influenced multiple knowledge management practices (López et al., 2004).

Following subsections discuss the relationship between various dimensions of collaborative culture and knowledge sharing.

2.2 Teamwork and Knowledge Sharing

Teamwork facilitates frequent interaction among members which increases the likelihood that employees will be sharing know-how on different matters (Avnet & Weigel, 2012; Bijlsma-Frankema, de Jong, & van de Bunt, 2008). Organizations that rely on teamwork are considered more suitable for dissemination of knowledge among its workforce compared to those where work is done individually (Fong, 2003). For instance, team characteristics such as agreeableness and eagerness of knowledge sharing strongly influence the donation and collection of knowledge among its members (De Vries, Van den Hooff, & de Ridder, 2006). Teamwork gives an opportunity to work collectively and with greater harmony which eventually encourages behaviors of knowledge exchange

(Jane Zhao & Anand, 2009). An interesting example comes from Toshiba, where teamwork amassed technical (information technology) knowledge and marketing knowledge (Pollitt, 2006) which indicated the pertinence of teamwork and diversity for better performance. Some individuals donate knowledge because they are excited to share (Reid, 2003) and teamwork provides excellent conditions to fulfill this excitement. Teamwork also encourages knowledge seeking behaviors for those who want to augment their professional competencies and performance (Yan, Davison, & Mo, 2013). Thus the good teamwork provides environment for fruitful knowledge sharing by combining knowledge donors and recipients in teams. It is therefore expected that teamwork will positively impact knowledge sharing behaviors;

- **H_1a:** Teamwork influences (a) knowledge donation and (b) knowledge collection positively

2.3 Empowerment and Knowledge Sharing

According to Fernandez and Moldogaziev (2013a) the level of empowerment that is given to employees by an organization describes and influences the way flow of information and resources is managed and influenced in the organization. Employee empowerment is believed to increase job related knowledge (Leach, Wall, & Jackson, 2003) because it enables employees to share information, resources and know-how related to their jobs. Empowerment has positive effect on knowledge sharing because employees devise means and methods to donate their ideas to colleagues. Likewise empowerment also encourages employees to share resources, information and know-how with colleagues to cover their deficiency (Spreitzer, 1996; Carmeli & Paulus, 2015).

Empowered employees freely make their choices to perform tasks and completing jobs by interacting and sharing their experiences with coworkers (Tang & Naumann, 2016). In management literature, empowerment is defined in terms of delegation of power to appropriate levels so that people could make quick and appropriate decisions within their domain and according to the situations (Conger & Kanungo, 1988). In the context of knowledge sharing and creativity, empowerment allows employees to share and receive knowledge with each other to enhance their knowledge and skills to bring creativity in their roles and jobs (Fernandez & Moldogaziev, 2013a). Most importantly, empowerment encourages the pursuit of creative ways of correcting errors and redesigning work processes (Fernandez & Moldogaziev, 2013b), therefore enabling voluntary transfer of knowledge (Yang, 2007). In summary, employees that are empowered to perform their jobs are expected to feel more in control and more excited about their jobs. Such employees in pursuit of excellence are more eager to learn from others and impart their knowledge to other knowledge seekers. Therefore, we hypothesize;

- **H_1b:** Employees' empowerment influences (a) knowledge donation and (b) knowledge collection positively

2.4 Trust and Knowledge Sharing

Trust is an integral part of collaborative culture and has been found as one of several antecedents of the knowledge sharing behaviors (Taormina, 2009). Since lack of trust leads employees to drift away from each other, any opportunity to leverage knowledge depends largely on mutual trust (Ribiere & Tuggle, 2005). Employees trust on coworkers for feedback, knowledge, information and resource sharing is embedded in culture (Sveiby & Simons, 2002) and thus is necessary for knowledge exchange to occur. Collaborative

culture is built on the basis of employee trust; consequently, employee trust facilitates knowledge donating as well as knowledge collection behaviors. In this relational interdependency, trust functions as a social lubricant that reduces perceived threats and thus encourages employees to donate and receive knowledge without any perceived harm (Rempel, Holmes, & Zanna, 1985). Without developing a strong element of mutual trust between knowledge seekers and sources, organizations cannot fully take advantage of the knowledge of employees (Levin, Cross, Abrams, & Lesser, 2002). Since, the trust seems to play an important and positive role in shaping employees' knowledge related behaviors (Cheng et al., 2008), it is expected that trust will positively influnce employees' tendency to get into knowledge donation and collection behaviors.

- **H_1c:** Trust influences (a) knowledge donation and (b) knowledge collection positively

2.5 Diversity and Knowledge Sharing

When organizations are hosting diverse workforce, then the probability of diverse knowledge also increases. Employees' diversity means that there are multifarious skills and knowledge at the disposal of a firm that spurs knowledge heterogeneity facilitating higher creativity and innovation (Rodan & Galunic, 2004). Research reveals that knowledge sharing increases with the diversity of group members (Shin et al., 2012). Structurally diverse work groups increase knowledge sharing within as well as across the work group (Cummings, 2004) which hosts mix of ideas and skills in an organization. Work force diversity, in presence of employee involvement, will have a positive impact on the creation and sharing of different ideas and creative solutions (Horwitz & Horwitz, 2007).

- **H_1d:** Diversity influences (a) knowledge donation and (b) knowledge collection positively

2.6 Knowledge Sharing and Creativity

The ability to perform tasks and jobs in a novel way or generating new ideas and developing novel solutions to problems is called creativity in organizations (Yang & Choi, 2009). Knowledge sharing is a social process where employees continuously donate and collect ideas and solutions of problems with each other. They share their work experiences, technical skills and technological know-how with other organizational members (Lin, 2007), thus paving the path for creativity, innovation, and performance. Knowledge sharing process stimulates idea generation and novel thinking when members are exposed to new ways of performing work (Haris, Shahzad, Syed, & Ramish, 2013).

Knowledge sharing increases creativity-relevant skills (Perry-Smith & Shalley, 2003) and thus increases the propensity of employees to be more creative and innovative in their jobs and roles. It is also reported that avenues for knowledge sharing in an organization can increase probability of idea generation and creativity among the employees (De Jong & Den Hartog, 2007). Similarly, Gardner (1993) summarized that acquisition of knowledge and skills enhances creativity. Reychav, Stein, Weisberg, and Glezer (2012) in a study found a positive mediating role of tacit knowledge sharing in translating creativity into task related innovativeness. Since collaborative cultural values set a stage, where organizational members can leverage learning and experiences by identifying knowledge sources, therefore these individuals learn way to perform activities in novel ways (Chow, 2012).

Knowledge donation represents an employee's communication of personal intellectual capital to other colleagues (ven den Hooff & Ridder, 2004). Knowledge donation is part of larger knowledge sharing construct and facilitates creation and sharing of new knowledge (Aslam, Siddiqi, Shahzad, & Bajwa, 2014). The behavior of knowledge donation aids knowledge utilization in the organization, which paves ways to use knowledge to bring improvement and creativity in employees' jobs and roles (Chih-Jou & Hung, 2010; Yan et al., 2013). Knowledge donation has also been found to stimulate employees' creativity and resultant innovative capabilities (Ologbo, Nor, & Okyere-Kwakye, 2015). The act of knowledge donation represents high self-efficacy, (Lee-Endres, Endres, Chowdhury, & Alam, 2007) which in turn enhances confidence of using knowledge in creative fashions (Tierney & Farmer, 2002). Extant research therefore predicts a positive relationship between knowledge donation and creativity.

Knowledge collection involves the interaction of employees to seek advices and learn from experiences of fellow-workers. Knowledge collection behavior induces creative thinking and spurs creative intentions of employees (Amin, et al., 2013). It is therefore assumed that through active knowledge collection employees can become more able to be creative and innovative in their relative domains (Ologbo et al., 2015). The research therefore points out a positive relationship between knowledge collection and creativity.

- **H_2a:** Knowledge donation influences employees' creativity positively
- **H_2b:** Knowledge collection influences employees' creativity positively

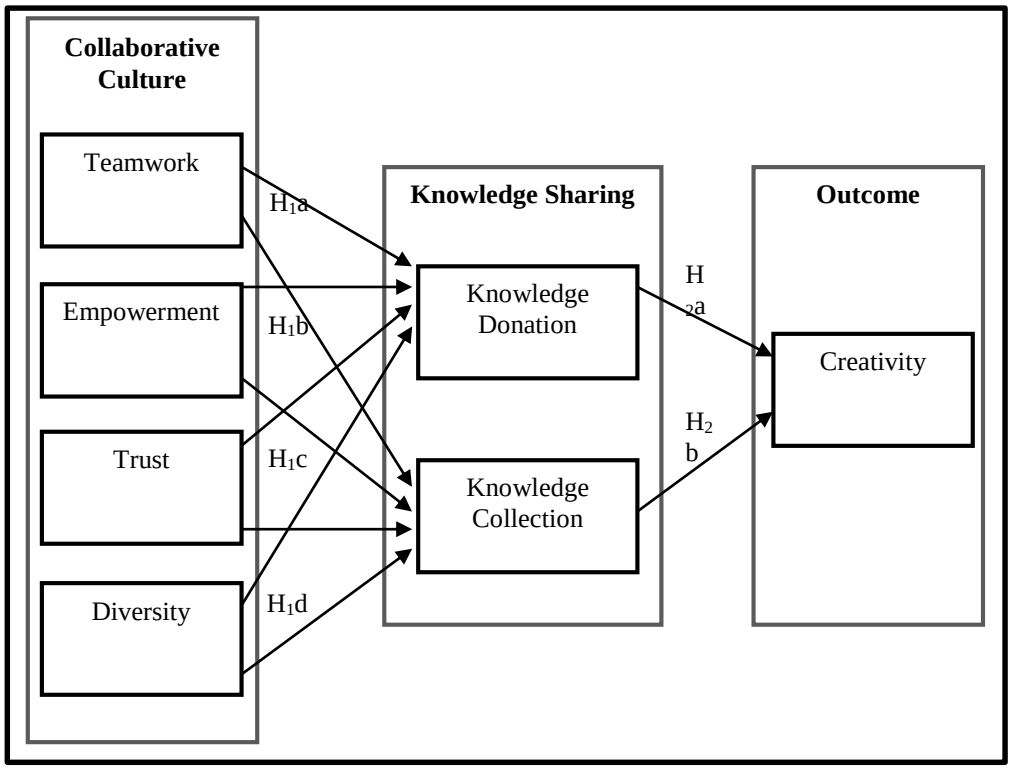

Figure 1: Hypothesized Model of Collaborative Culture, Knowledge Sharing, and Creativity

3. Methodology

This study used quantitative strategy and cross-sectional survey method for the collection and analysis of data. In management studies, quantitative approach with cross-sectional survey is most commonly used approach due to its pure objective and value-free orientation (Henn, Weinstein, & Foard, 2005). Data for this research was collected from managerial-level employees from a wide range of manufacturing and services organizations. Selection of managerial staff was made mainly because of their propensity of performing knowledge-work and being knowledge-worker as they are highly qualified and perform brainwork, actively participate in decision making, and receive and process information directly from multiple sources(Amar, 2004; Davenport, 2013). On the other hand evidences show that the inclusion of managerial and qualified staff in surveys can generate a higher and accurate response rate, especially when researchers tend to collect data by using instruments in their non-native language. In this study the instrument used was in English and the context of study was knowledge management, therefore it was most appropriate to receive information from those who had better understanding and capability to respond to knowledge-oriented questions in English. A list of privately run companies having contact details was prepared from the websites of stock exchanges of Pakistan. In light of sampling guidelines given by Hair, Anderson, Tatham, and Black (1995) a sample size 5 to 7 times higher than the number of items in the survey seems plausible for producing reliable results; thus this study needed to obtain 150+ filled questionnaires. With an expected response rate of 15-20%, 740 questionnaires were distributed to managerial staff of around 200 randomly selected organizations operating in major industrial cities of Pakistan. Organizations were initially contacted through emails and phone calls and then questionnaires were sent through emails and mail service. Over the period of one month and after several reminders, 197 questionnaires were received (27% response rate) out of which 189 responses were found complete to be used in proceeding steps (25.5% final response rate). Since, this study intended to deploy advanced statistical analysis tools such as factor analysis and structural equation modeling, the sample size of 189 was considered sufficient as Tabachnick and Fidell (2001) (cited 50,000 times) have recommended a sample size of 150 responses and Hutcheson & Sofroniou (1999) (cited 1025 times) used only 43 responses to carry out empirical studies by using advanced analysis tools such as factor analysis. This study therefore shows a similarly defensible solution with 189 responses.

3.1 Measures

All items used a Likert-type scale anchored at 1 =“strongly disagree” and 5 = “strongly agree”. Collaborative culture was measured on four dimensions i.e. teamwork, empowerment, trust, and diversity with 17 questions. Selection of four dimensions and items to measure collaborative culture was based on the literature review and the use of the existing instruments in the context of knowledge management.In the literature there is no formal, consensus, and operationalizable definition and construct available for collaborative culture. Although there are few scales available that could be used to measure collaborative culture, these scales have few shortcomings. For instance, an 8 items scale was designed by López et al. (2004). The scale comprises of items which represent values traditionally associated with collaborative culture. However, all the items in the scale are not representative of key values like, risk taking, value diversity, trust, empowerment etc. Moreover, the items in the scale attempt to assess collaborative cultural values through

single item. Sveiby and Simons (2002) have also presented a scale to measure collaborative climate. Although this scale includes the dimensions of culture to measure collaborativeness, but the focus of scale is much broader. In fact the scale measure organizational climate which incorporates internal as well as external factors related to collaboration. Since the focus of this research is only the internal organizational values forming collaborative ties among its members, the available scales do not seem to furnish the aim of this research. Therefore, this study has used valid measures of dimensions of collaborative culture and an average value for all these items to assess the prevalence of collaborative culture in the organization. Studies specifically relevant to knowledge management and creativity have identified different dimensions and facets of collaborative culture that mainly focuses on the collaborative working (teamwork), leadership (empowerment), reciprocity of relationship (trust), and inclusion of different people (diversity) on among members, groups and functions. Therefore, this study deployed the dimensions of collaborative culture that have been commonly used by various researchers i.e. see (Barczak, Lassk, & Mulki, 2010; Cleveland & Ellis, 2015; Endres & Chowdhury, 2013; Hargreaves & Dawe, 1990; Jen-Te., 2007; Khalil & Seleim, 2010; Leveson, Joiner, & Bakalis, 2009; Marshall & Association, 1995; Pérez López, Manuel Montes Peón, & José Vázquez Ordás, 2004; Usoro & Kuofie, 2006).Diversity was measured through 5 items scale developed by Leveson et al. (2009), team work and empowerment were measured through 3 and 4 items respectively by using the scales proposed by Jun, Cai, and Shin (2006). Trust was measured through 3 items scale as proposed by Chow and Chan (2008). Knowledge sharing was measured through its two distinct dimensions i.e. knowledge donation (6 items) and knowledge collection (4 items) by using the scale developed by van den Hooff and De Ridder (2004). Creativity was measured through 5 items scale developed by Scott and Bruce (1994). The final questionnaire was discussed with academic experts to ensure the relevance of dimensions and items especially with Pakistani context. After minor changes and the approval of experts, the questionnaire was finalized to be used in subsequent survey (see Appendix-1).

4. Data Analysis

Table 1 summarizes respondents' profile with respect to their gender, experience, education level and nature of industry. The data was collected from 189 respondents from 87 companies. The respondents belong to diverse industries, with 55% belonging to software industry. Majority of managers who participated in this study were male members and having minimum Master degree (51%). Moreover, 55% managers have experience of 10 years.

Table 1: Respondents Profile

Industry (Number of respondents and %)
Software (N=55) 29%; Engineering (N=43) 23%; Media (N+29) 15%; Telecom (N=26) 14%; Others (N=36) 19%
Gender (Number of respondents and %)
Male (N=160) 80%; Female (N=38) 20%
Experience (Number of respondents and %)
Upto 10 years (N=105) 56%; 11-20 Years (N=45) 24%; More than 20 (N=20) 11%
Education (Number of respondents and %)
Bachelors (N=63) 33%; Masters (N=96) 51%; MPhil/PhD (N=11) 6%

Table 2 presents Means, Standard Deviations, Correlations and Cronbach Alpha Coefficient values for the different scales used in the study.

Table 2: Mean, Standard Deviation, Correlation and Cronbach's Alpha

No	Variable	Cronbach α	M	SD	1	2	3	4	5	6
1	**TW**	0.85	4.24	0.46						
2	**Emp**	0.88	3.86	0.63	0.499**					
3	**KD**	0.79	3.65	0.70	0.311*	0.351*				
4	**KC**	0.73	4.08	0.75	0.332*	0.149	0.206			
5	**CD**	0.74	1.68	0.83	0.108*	0.533	0.258	0.232		
6	**Trust**	0.81	3.76	0.62	0.287*	0.421**	0.568**	0.370**	0.450**	
7	**Creativity**	0.86	3.35	0.75	0.217	0.356**	0.373**	0.052	0.460**	0.579**

**. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed). TW (Teamwork), Emp (Empowerment), KD (Knowledge Donation), KC (Knowledge Collection), CD (Cultural Diversity)

4.1 Validity and Reliability

Confirmatory Factor Analysis (CFA) was applied for assessing construct validity of the scales used in this research. Factor loadings for all items exceeded the benchmark value of 0.60 (Nunnally & Bernstein, 1994) indicating high convergent validity except for two items of knowledge donation. These two items were dropped from further analysis. Factor loadings are reported in Figure 2. Similarly, model fit indices for the measurement model were found to be adequate (Bagozzi & Yi, 1988; Browne & Cudeck, 1993). Selected model fit indices are provided in Table 3. Based on factor loadings and model fit indices, validity of scales was ascertained. Reliability of the scales was assessed through Cronbach's Alpha (Cronbach, 1951). Alpha coefficient ranges in value from 0 to 1 where higher value shows more reliability of the obtained data. However, Nunnaly (1978) has indicated 0.7 score as an acceptable reliability value although in some cases lower value has been endorsed by the literature. All Alpha coefficients were above the minimum threshold of 0.7 with Teamwork (0.85), Empowerment (0.88), Knowledge Donation (0.79), Knowledge Collection (0.73), Cultural Diversity (0.74), Trust (0.81) and Creativity (0.86).

4.2 Hypothesis Testing

Structural Equation Modeling (SEM) was used to test the hypothesized relationships. Figure 3 provides the results of the structural model. Model fit indices are provided in Table 3. The results of the model show that all the dimensions of collaborative culture have a significant impact on the dimensions of knowledge sharing except for cultural diversity. Hence H_1(a,b,c) are supported. Similarly both the dimensions of knowledge sharing i.e. donation and collection have a significant impact on creativity. Hence H2 (a,b) are supported. These results are discussed in the following section.

4.3 Hypothesized Model

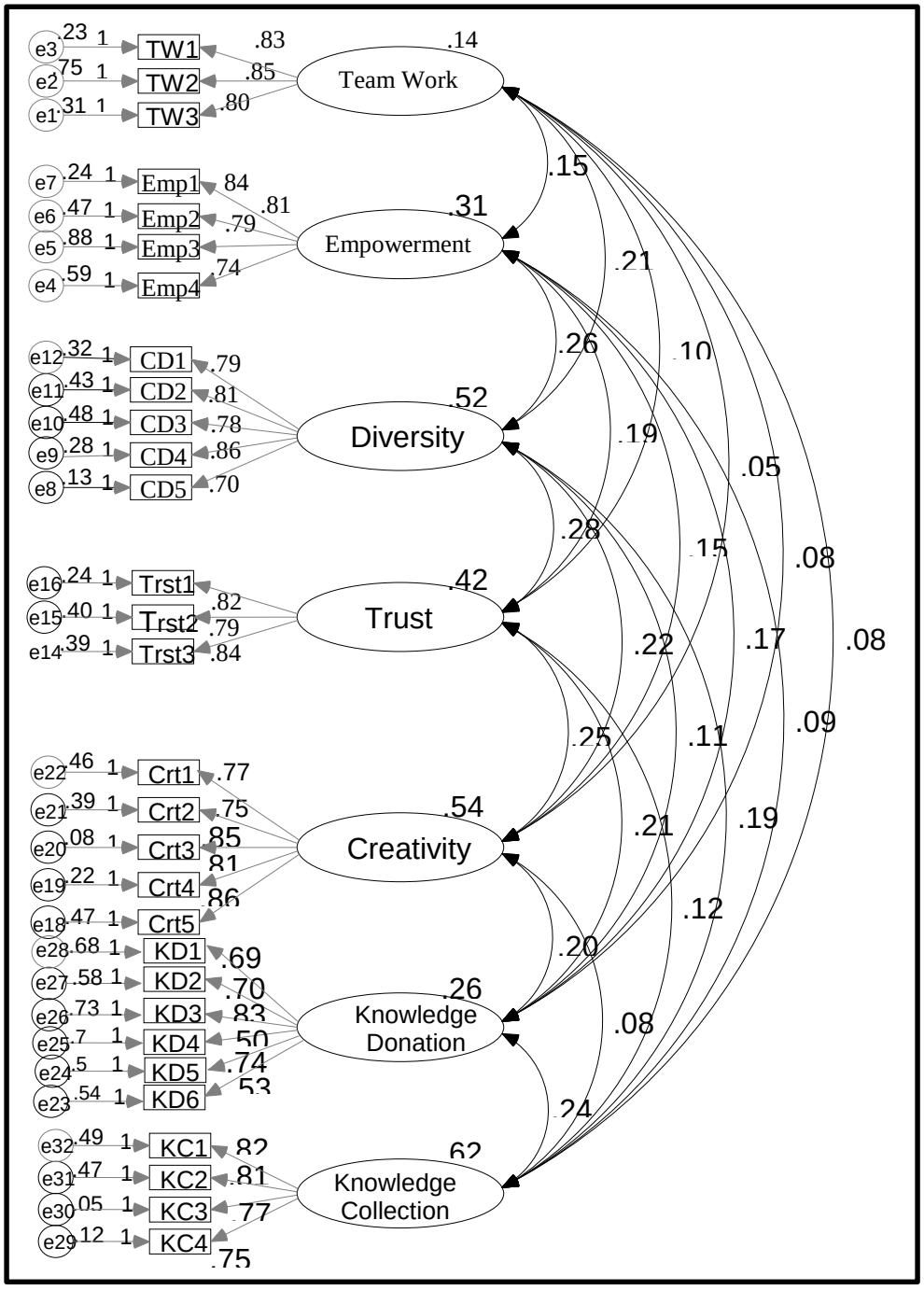

Figure 2: Confirmatory Factor Analysis: Path Estimates of Hypothesized Model

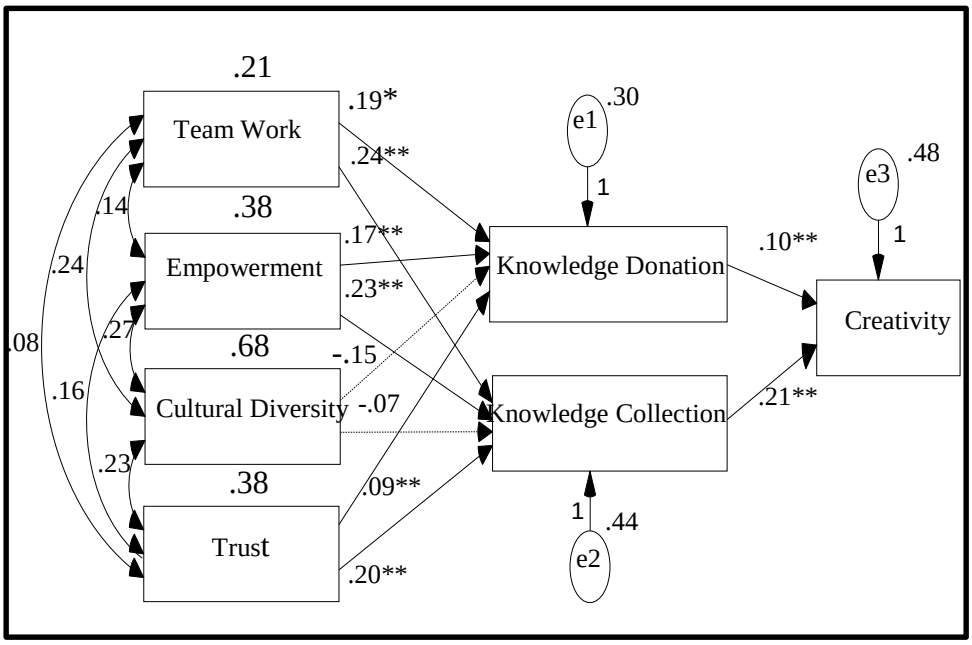

Figure 3: Structural Model

Table 3: Model Fitness Ratios

Model	Incremental Fit Indices		Absolute Fit Indices			
	NFI	CFI	CMIN	CMIN/df	GFI	RMSEA
CFA	0.820	0.837	942.807	1.473	0.889	0.073
Structural Model	0.832	0.846	21.166	4.233	0.912	0.083

*P<0.01; **P<0.05

5. Discussion

This study reveals the intricate interplay among the dimensions of collaborative culture, knowledge sharing and employee creativity. The results of this study point towards the importance of collaborative culture in achieving higher employees' creativity through donation and collection of knowledge in the organization. Structural Equation Modeling provides detailed insights about the nature of relationships between variables of interest in this study.

Teamwork has a positive impact on both knowledge donation and knowledge collection. Previous research has revealed that teamwork facilitates frequent interaction among

members and certainly increases the likelihood of knowledge sharing and resultant positive organizational outcomes (Chih-Jou & Hung, 2010; Chuang, Jackson, & Jiang, 2016). Organizations are social entities that can host multiple formal and informal teams (Firth, 2004). A culture of team work provides settings for accumulating variety of knowledge where each team member contributes through his/her expertise and skills to create new ideas and then utilizes those ideas to produce innovative products and services. Similarly, various individuals working in teams collect knowledge and know-how for areas where they carry relative deficiency. Teams facilitate knowledge donation and knowledge collection because its members have eagerness to share knowledge mainly because of its expected positive and enduring impact on their performance (De Vries et al., 2006).

The results also reveal that empowerment positively influences both knowledge donation and knowledge collection. Previous research indicates that employee empowerment is believed to increase job related knowledge (Leach et al., 2003) because it enables employees to share information, resources and know-how related to their jobs. An employee empowerment approach that encourages sharing information, sharing rewards, sharing job-related knowledge, and sharing authority positively influences knowledge sharing (Fernandez & Moldogaziev, 2013a) and encourages voluntary transfer of knowledge (Yang, 2007). Through this research, it is found that empowerment dimension of collaborative culture is instrumental towards knowledge collection and knowledge donation. Empowered employees use their authority, organizational resources and informal networking to locate and obtain knowledge that resides in organizational systems, personnel and procedures (Chen, Kirkman, Kanfer, Allen, & Rosen, 2007). This relationship ascertains that empowerment leads to freedom of doing work and freedom to share the results with colleagues. Employees tend to seek advice/help from those who have access to information and are resourceful and independent in decision making. Consequently, in a culture where empowerment is high, knowledge collection behavior will be quite evident. On the other hand, employees also enjoy sharing knowledge because they receive admiration of their knowledge and skills, having felt of; self-esteem boosted and self-worth heightened. If a culture welcomes individuals willing to share knowledge, knowledge donation in the organization will definitely increase.

Cultural diversity has been found to have no impact on either knowledge donation or knowledge collection. The mean value of diversity reports that there is low level of diversity prevalent in organizations that are studied. Consequently, the low level of diversity has been found to be insignificant predictor of knowledge donation and knowledge collection. The sample organizations from which data is collected are fairly homogeneous in terms of employee composition. Although diversity leads to heterogeneous knowledge (Rodan & Galunic, 2004), this has not been the case in this study.

Trust, as a component of collaborative culture, is also significantly related to both dimensions of knowledge sharing. Previous researches indicate that trust is integral part of collaborative culture (Taormina, 2009) that fosters interactive and networked relationships (Cheng et al., 2008) that eventually facilitate knowledge collection and knowledge donation in the organization. It has also been clearly identified by previous researchers that creativity and innovations enhances only when employees get into learning and knowledge sharing behaviors. Trust is significant predictor of knowledge collection as well as knowledge donation as it enables people to put their faith in others and they do not feel

vulnerable by revealing their deficiencies. As a result, trust engenders an attitude of inquiry without any hesitation and employees can freely send and receive information within groups and departments. Over the period of time, trust develops dependencies of people on each other and they start counting on each other to seek help or information whenever and wherever needed. In organizational settings, employees discuss various problems, challenges and short comings with trusted colleagues and learn different methods, skills and techniques to resolve their work challenges and hone their competencies (Levin et al., 2002).

Lastly, it was also found that both knowledge donation and knowledge collection have positive impact on creativity. This is concurrent with prior research which indicates that knowledge sharing increases creativity-relevant skills (Perry-Smith & Shalley, 2003) which eventually increases the propensity of employees to be more creative and innovative in their roles and tasks (Amabile & Kramer, 2011). It is also reported that avenues for knowledge sharing in an organization can increase probability of idea generation and creativity among its employees (De Jong & Den Hartog, 2007). In organizational settings where employees are faced with multiple challenges, they can solve problems through various technical skills by sharing and using each other's tried-and-tested creative ideas. This gives a fresh perspective and opens ups new avenues in creativity and problem solving.

6. Managerial Implications

In light of the study's findings and aforementioned discussion, it seems that for firms, in order to establish an effective collaborative culture and foster knowledge sharing and creativity, organizational leaders and management professionals need to understand the following points.

First, there is clear evidence that an organization culture having elements of teamwork, empowerment, trust, and diversity fosters knowledge sharing processes i.e. knowledge donation and collection, which positively influences creativity in the organization. It should also be noted that, with respect to this study's context — which is Pakistan, the higher mean scores of teamwork, trust and empowerment dimensions of collaborative culture show that Pakistani organizations have largely adopted the collaborative management orientation, and that has brought positive results as well. This finding provides a logical reference to organizational leaders and management professionals to justify investment in human capital and knowledge management infrastructure.

Having said so, top management needs to undertake promising steps to recognize and encourage self-motivated employees to share valuable knowledge with peers and in organizational networks (Kogut, 2000). This can be done by giving them required training, resources, and substantial tacit and/or explicit rewards especially at early stages so that other member could understand the possible benefits of getting into knowledge sharing and creative behaviors. However, it is pertinent to understand that knowledge sharing and creativity is hard to sustain through explicit or financial rewards instead this requires an internal motivation and element of reciprocity as well (Bock et al., 2005). This can be done by top management by bringing all organizational members on a collective platform and to promote a shared sense of harmony, reciprocity and collective purpose (Barratt-Pugh et al., 2013). It is pertinent to understand that any knowledge-centered initiative cannot succeed in the organization unless members collectively agree to unconditionally leverage

their experiences, intuitions, and insights to other members (Brown & Duguid, 2001). This is where the role of collaborative culture becomes vital as top management can empower people and promote teamwork and trust to foster organizational learning and resultant creativity (Barczak et al., 2010).

7. Conclusion

This research probed into the relationship between collaborative culture, knowledge sharing dimensions and employee creativity. The research findings have confirmed that collaborative culture positively influences knowledge sharing behaviors in organizations which further help employees to produce creative ideas and solutions. It is also evident from the analysis that knowledge donation and knowledge collection have significant impact on employee creativity and thus it can be concluded that organizations should establish systems and means to incorporate collaborative culture so than employees will donate and collect ideas and information to bring improvements and creativity in their tasks and roles. Collaborative culture establishes mutual trust and strong social networks which facilitate transfer of knowledge as employees can seek knowledge and put forward their own knowledge and experience to get the benefits. Therefore, management in organizations should cater to the cultural values while devising and implementing knowledge management processes, especially knowledge sharing activities.

Since, creativity has been found significantly influenced by knowledge collection and knowledge donation; organizations can leverage the benefits of these behaviors to gain advantage on the basis of creative and innovative products and services. Organizations can place systems and structures that facilitate donation and collection of knowledge so that employees can refine their ideas and help colleagues to perform their jobs in innovative ways. Organizational leaders and mangers can lead their subordinates by actively sharing knowledge, information and resources that directly contribute towards betterment of subordinates' knowledge-based capabilities (Shahzad, Zia, Aslam, Syed, & Bajwa, 2013). In this way, organizations can create values and support norms of doing jobs in mutual and novel way by incorporating unique knowledge obtained from other employees and by providing unique insights to one's colleagues.

8. Limitation and Future Research Directions

Although this research well-explains the nature of relationship between dimensions of collaborative culture, dimensions of knowledge sharing and employee creativity, there are number questions left unattended by this study. For instance, there are many other factors such as leadership, rewards, management practices, and individuals' own characteristics that could explain knowledge donation and knowledge collection behaviors. It is possible that due to these reasons even while working in pure collaborative culture employees do not get into knowledge sharing behaviors. Previous researchers have identified several factors that have influence on people's choice to share or not to share. Inclusion of those factors in this study's model can provide a comprehensive and richer understanding of the way collaborative culture works to stimulate knowledge sharing behaviors and resultant creativity among employees. Similarly, the link between knowledge sharing behaviors and creativity could be influenced by multiple factors so understanding of the influence of those factors on knowledge sharing-creativity relationship can help decision makers devise and implement more robust and informed knowledge management programs and practices. The role of organizational structure and nature of rivalry may also have impact on the intention

of members to be creative for which knowledge sharing could be an effective instrument. This research focused only on internal organizational factors, thus future research may also incorporate external environmental factors to capture their role in the culture-knowledge-creativity framework. With a larger sample size and inclusion of other relevant variables there is also a possibility to explore more unique insights. Another limitation to the causal relationships studied in the present research is its cross-sectional design. Future studies may consider longitudinal design to better understand the causal relationships between the variables.

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Appendix-1

Variables	Survey Items
Team Work	Team work is common in this organization
	Product/Service related teams are working for long time in this organization
	I think that teamwork is effective for quality product/service in this organization
Empowerment	I am provided with substantial autonomy and responsibility
	I am encouraged to develop new ways to provide better products and services
	I am not punished for unsuccessful quality improvement ideas in my organization
	I am provided with sufficient information to arrive at good quality suggestions
Knowledge Donation	When I've learned something new, I see to it that colleagues in my department can learn it as well
	I share the information I have with colleagues within my department
	I share my skills with colleagues within my department
	When I've learned something new, I see to it that colleagues outside of my department can learn it as well*(Deleted due to low factor loading score)*
	I share the information I have with colleagues outside of my department
	I share my skills with colleagues outside of my department*(Deleted due to low factor loading score)*
Knowledge Collection	Colleagues within my department tell me what they know, when I ask them about it
	Colleagues with in my department tell me what their skills are, when I ask them about it
	Colleagues outside of my department tell me what they know, when I ask them about it
	Colleagues outside of my department tell me what their skills are, when I ask them about it
Diversity	I believe this organization has a culturally diverse workforce
	My team/unit is composed of culturally diverse employees
	I believe that my organization encourages cultural diversity in the work place
	I believe management supports cultural diversity in the workforce
	I believe cultural diversity is promoted in the organization
Trust	My organizational members will always try and help me out if I get into difficulties
	I can always trust my organizational members to lend me a hand if I need it
	I can always rely on my organizational members to make my job easier
Creativity	I always develop adequate plans/schedules for implementation of new ideas
	I always promote and champion ideas to others
	I always search out new technologies, processes, techniques, and product ideas
	I always generate creative ideas
	I always investigate and secure funds needed to implement new ideas