Group Diversity, Information Elaboration, and Individual Creativity

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[Abstract] This study examined the role of group size through moderated mediation where information elaboration was used as a mediator. A total of 1036 respondents were used to collect the data from Pakistan and China. With regard for age diversity, full mediation was observed for education diversity. The large group size showed significant relationship of conditional direct effects for both types of diversity on individual creativity. However, conditional indirect effects of the interaction were only significant for education diversity.

[Keywords] diversity, information elaboration, individual creativity and group size

Introduction

The trend of working in collaborative groups is increasing day by day and most organizations are hiring a diverse workforce. Many tasks based on reasonable assumptions require people with multiple skills and the application of the innovative knowledge. A concept value in diversity exists when a diverse force is properly managed, and it can produce tangible and positive outcomes for the organization (ethnic diversity paper). Furthermore, group members rate their previous experiences quite positively (Kramer, Kuo, & Dailey, 1997). Research on group task performance has demonstrated difficulties faced by the groups (McGrath, 1984); however, groups with the proper information elaboration and coordination can enhance each individual's creativity (Oad & Niu, 2017). Prior literature suggests that interaction between group members inhibits the creativity, which is dependent on many factors (groups teams and creativity). The main focus of this paper is to see the role of information elaboration with the moderating effects of group size. Two categories of diversity have been used (social and informational) to compare the effects on the individual creativity. Application of new ideas and knowledge becomes a crucial aspect in the information era (Purser). Moderated mediation has been operationalized to check the conditional direct and indirect effects of the group size.

Literature Review

Diversity and Individual Creativity

The concept of diversity denotes individual differences on any characteristic that leads to the categorization process. It may distinguish group members between we and us (Van Knippenberg, De Dreu, &Homan, 2004). Practically, literature on diversity has focused on demographic characteristics, including age, gender, race, ethnicity, educational background, functional background, and tenure (Williams & O'Reilly, 1998).

Due to inconsistent evidence from meta analytic studies about diversity attributes at the team level outcomes (Williams & O'Reilly, 1998), scholars have tried to categorize diversity at the surface level. Demographic characteristics have been categorized into two categories: social and informational or functional diversity. The social category of diversity is not directly related to the task, like age, gender, race, and nationality; informational/functional diversity is related to the task directly (Jackson et al., 2003). In the social category, people seem similar on the surface-level attributes, but there is a competing factor among teams' to complete the team's task regarding its demands (Seong et al., 2012). Two main traditions have been identified showing relationship of group diversity and outcome: the social categorization

perspective and the information /decision-making perspective. In similarity/attraction research (social categorization perspective), people prefer to categorize themselves due to similar and different aspects (Williams & O'Reilly, 1998). In the information/decision-making perspective, diverse groups have distinct characteristics and different opinions that provide the largest pool of resources; if group members utilize it properly, being a homogenous group can result in positive effects (Van Knippenberg, De Dreu, & Homan, 2004). The process of categorization might result in sub groups, leading to higher member commitment (Tsui et al., 1992); more cohesion among group members (O'Reilly, Caldwell, & Barnett, 1989) and less relational conflicts take place (Jehn et al., 1999). People trust and feel more satisfied within a similar group as compared to people in out–groups, which occurs due to favoritism within a group (Brewer, 1988). In addition, people are positively inclined to the group that is similar in nature (Williams & O'Reilly, 1998).

Moderating Role of Group Size, Information Elaboration and Individual Creativity

Group size can be defined as a total number of persons working under one group. In this study, group size has been used because various researches have shown a positive influence on a team's outcomes (Kearney, Gebert & Voelpel, 2009). Enhanced productivity can be achieved as a big group can access the wide range of resources easily, like time, energy, money, and expertise if group members exchange information. To the contrary, it is generally assumed that large groups reduce the quality of performance and productivity by influencing the quantity of the outcome (Steers & Rhodes, 1978). Particularly, when a group grows in a size, it can face different problems, like communication, coordination (Blau, 1977), lower cohesion (Steers & Rhodes, 1978), and the hazard of social loafing (Mullen, Johnson, & Drake, 1987). Previous research has shown the positive result of a small group with the group performance. Compared to the large groups, small groups have a higher and percentage of shared information, more information sharing, and better decision-making (Cruz, Boster, & Rodrı´guez, 1997). Moreover, Dahlin et al. (2005) used team size as a control variable because in diverse teams it can effect outcomes due to large size.

There are few theoretical considerations on the group size influence showing diversity's impact on creativity; Stahl et al. (2010) proposed that through divergence and convergence, group size results in both process gains and process losses on the effects of diversity. Moreover, an integral part in the creative process is risk-taking, and creativity entails to change existing situation; however, few obstacles hold linkage on the place. These obstacles involve group thinking at the organizational level (Jalan & Kleiner, 1995), time, space, resource limitation, habits, and routines at the individual level (Thompson, 1991).

In a few settings, diversity may create hindrances in elaborating information. Deep-level dissimilarities, like education or functional backgrounds, may not only give the opportunity for information elaboration and also create barriers to the group level information elaboration (Harvey, 2014). Indeed, information elaboration requires all group members to empathize their perspectives with others and bring together each other's ideas (Homan et al., 2007). The more variations in perspectives will be hard to coordinate. Group members might not be able to recognize different perspectives and try to make adjustments in communication in order to overcome these perspectives (Harvey, 2014).

Hypothesis 1: Within a group, information elaboration mediates the effect of age, education, and diversity on individual creativity in non-group size condition.

Eriksen and Beauvais (2000) examine the creative potential of teams composed of three heterogeneous members and three homogenous members. Final findings of the study showed that working independently and team interaction vary according to the diversity of schemata -- thinness of mental boundaries (flexibility) and thickness of mental boundaries (rigidity) among the team members. In a condition of homogenous team members having 75 similar schemata, members' interaction got the same result because members did not feel the need of interaction due to existing similarities; 25 schemata (heterogeneous teams) resulted in unique ideas after interaction. Heterogeneous team members proved 1096 times more creative due to flexibility to interact. Therefore, Hypothesis 2 is proposed:

Hypothesis 2: Within a group, group size moderates the effect of age and education diversity on

individual creativity when group members engage in large groups.

Creativity can be enhanced through different leadership styles. The use of proper information sharing and group efficiencies may contribute to increased creativity (Zhang et al., 2011). Exchange of information within a group broadens the cognitive resources and reduces unnecessary learning. Simply, it can be said that new information, consideration and ideas enable group members to be involved in the creative process, including identifying a problem, generating ideas based on collected information and evaluating the output (Amabile, 1996).

Hypothesis 3: Within a group, group size moderates the effect of age and education diversity on information elaboration, such that diversity has strong effects on information elaboration when group members engage in large groups.

Individual members working together may bring different beliefs, which might become a barrier or strength in the creative process. Fruitful interaction among group members helps to judge their own creative abilities and build collective confidence for creative performance (Mumford, 2000).

Hypothesis 4: Within a group, the conditional indirect effects age and education diversity as moderated by the group size on individual creativity are stronger through information elaboration only in large groups.

Method

Research Sites and Sample

Prior to data collection, a pilot study was conducted on a sample of 49 students. All the students, who were from the Master's degree program in International Economic Cooperation (MIEC), were targeted to check the reliability of scales. Most of these respondents were professionals in their countries and had a good exposure to the working environment. All items got justified results for Cronbach's coefficient alpha (Information Elaboration = .74, Work Flexibility = .75, Task Complexity = .85, Emotional Intelligence = .69, Individual Creativity = .73 and Task Interdependence = .79).

Proposed Model for the Moderated Mediation
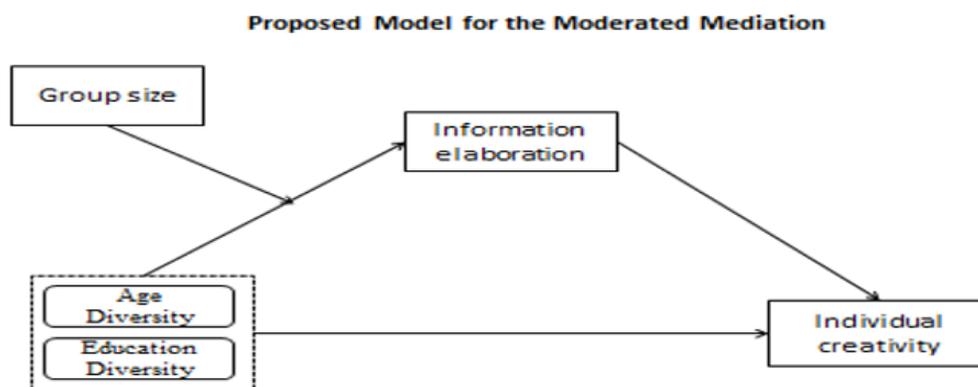
Figure . Research model with the interaction between age, education diversity, information elaboration and group size on individual creativity .

For this research, convenient sampling was used to collect data from the service sector involving banks and telecoms. Location of targeted organizations was in two countries involving Pakistan (Karachi and Islamabad) and China (Shanghai and Beijing). From the four cities, primary data was collected by the means of web-based self-administered questionnaire. In order to get the degree of differences, all respondents who were performing jobs in the working unit were requested to fill out the questionnaire. The survey was assigned in groups; with the approval of managers, employees were contacted to fill out the survey forms.

Invitations for the participation were sent via email, an online survey link with underlying information, motive for this research, and ensuring the confidentiality.

The total number of employees chosen to participate in the survey was 1036. Overall, valid responses per city were: Beijing (20.8%), Islamabad (33.8%), and Karachi (21.4%) and Shanghai (23.9%), given in (Table 1). The response rate from the banking sector was 55.3%; the telecom sector reported 44.7 %. Out of the total responses, 65.5% of the respondents were working in the organizations where the number of employees is more than 500. In employees' demographic characteristics most of the participants were men (62%) compared to females (38%). Similarly, four categories were used to get the information about educational background (diploma, bachelor, master, and Ph.D.). Most of the employees were bachelor (45.2%) or master degree programs (40%).

Diploma and Ph.D. holders were comparatively less, just 8.9% and 6 %. Respondents' age in years was also divided into 6 groups. Findings of each category by percentage was less than 25 (16.8%), 26 - 30 (27.6%), 31 - 35 (24.9%), 36 - 40 (13.8%), 41 - 45 (10.6%) and 46 and above (6.3%). Moreover, responses about employees' work experience were also collected in years. Categories involved: less than 1- 3, 4 - 6, 7 - 9 and 10 and above years of experience. Results showed that most of the employees had less than 3 years of work experience (32.1%). Other categories were as follows: 4 - 6 (27.5%), 7 - 9 (17.2 %) and 10 and above (23.2 %), respectively. A total of 196 groups, were comprised of 3 to 9 and above people, which suggested a valid response from banks (108 groups) and telecom sector (88 groups). The findings were as follows for each group: 3 - 4 (25.6%), 5 - 6 (21.0%), 7 - 8 (14.1%) and 9 and above (33.4%). Questionnaires having missing values (61), nearby mean were calculated (5.9%).

Reliability and Validity

Reliability of scales was assessed through Cronbach's Alpha. Construct validity was measured, including Bartlett's test of Sphericity and the Kaiser–Meyer-Olkin measure of sampling adequacy in order to assess correlation matrices for the factor analysis.

 For the information elaboration, Cronbach's Alpha was .84. In addition, all other measures for this scale got significant proof, including KMO-measure of sampling adequacy (.78), Bartlett's test of Sphericity sig (.00), Variance explained in total and percentage were 2.71 and 67.7 %, respectively. Furthermore, the principal component analysis for four items was IE_1 = .83, IE_2 = .74, IE_3 = .86 and IE_4 = .86.

Reliability results for the task complexity through Cronbach's Alpha was .67. Fields (2002) has also used a .67 alpha coefficient for the complexity; hence, finding of this study is justifiable as it exceeds the benchmark of .60 (Bagozzi & Yi, 1988). Validity of the responses was KMO-measure of sampling adequacy = .68, Bartlett's test of Sphericity sig =0.00. In addition, variances explained in total and percentages were 2.04 and 51.05 %. Likewise, observed results for the principal component analysis of the four items were also significant (TC1 = .75, TC2 = .78, TC3 = .57 and TC4 = .74).

Individual creativity findings were Cronbach's Alpha (.95), KMO-measure of sampling adequacy (.87), Bartlett's test of Sphericity sig (.00). Principal component analysis for five items also revealed satisfactory results (IC1 = .89, IC2 = .93, IC3 = .94, IC4 = .92, IC5 = .86). Variance explained in total and percentage was 4.13 % and 82.59 %, respectively. Cronbach's Alpha for Task interdependence was .80. Other results were: KMO-measure of sampling adequacy (.75), Bartlett's test of Sphericity sig (.00). Variance explained in total and percentage was 2.82 and 56.44%. Principal component analysis for five items was: TI1 = .77, TI2 = .61, TI3 = .79, TI4 = .91 and TI5 = .65.

Measures

Workforce Diversity: This study assessed social categorization diversity by age as the primary social categorization within organizations (Seong et al., 2012; Kearney, Gebert, & Voelpel, 2009). In informational diversity, educational background was considered because this category contains more fluid dimensions (information, opinions, and expertise). Age diversity reflects variety in resources (experience, perspectives and social network ties). To reflect the age diversity within groups, the standard deviations

within the groups as suggested by Bedeian and Mossholder (2000).

Informational category diversity involved the level of education and work experience (Seong et al., 2012; Kearney, Gebert & Voelpel, 2009). This study followed Seong et al. (2012), and little change was made. The level of education was measured by using four categories: Diploma, Bachelor's Degree, Master's Degree and Ph.D. However, researchers have measured the level of education using 4 categories: High School, Two-Year College, Four-Year College, and Graduate School. Blau's (1977) index of heterogeneity $(1 - \Sigma\, p^2_i)$ was operationalized for major diversity in education.

Information Elaboration: This scale was computed by following the procedure of team-based study (Kearney, Gebert, & Voelpel, 2009) that was applied to groups. Four items have been used to measure this variable; a five-point Likert scale was operationalized to check the response rate ranging from 1 (strongly disagree) to 5 (strongly agree). Wording of the scale involved knowledge sharing by complementing, generation of new solutions through considering different team member's perspectives, analyzing uniqueness of the information, and developing team-based ideas.

Individual Creativity: Individual creativity was measured by using a 5-point Likert employee creativity scale following Suleiman, Awwad, & Kada Ali (2012). Five items contained questions on the practicality of ideas, targeting new ways, considering human capital, revealing creativity based on opportunity, and management of complex problems with the creative solutions.

Table 1
Descriptive Statistics and Correlations

Group Size: Group size means the strength of a group, either small or large. This study measured group size by taking bimodal values, which were created on coder rating for the analysis and interpretations purpose. Stahl et al. (2010) used this scale on teams; however, this study has applied to groups.

Variables	Mean	S.D.	1	2	3	4	5
1. Age Diversity	1.21	0.66					
2. Education Diversity	0.40	0.21	0.09**				
3. Info. Elaboration	3.28	1.05	-0.02	0.03			
4. Individual Creativity	2.91	1.11	0.00	0.07*	0.74**		
5. Group Size	2.61	1.21	0.10**	0.31**	0.29**	0.45**	
6. Organizational size	1.65	0.47	0.08**	0.19**	0.12**	0.34**	0.49**

* $p < 0.05$, ** $p < 0.01$ level (Two-tailed tests) where N =1036

Control Variable: Organizational size has been used as a control variable because it may have impact on the performance. Since previous studies have given evidence that organizational size is linked to the numerous attitudes and behaviors within firms (Pierce & Gardner, 2004). Therefore, organizational size was operationalized as the total number of workforce members performing duties within an organization (Huselid, 1995). This scale was also divided into two categories: less than 500 employees and above 500.

Data Aggregation, Reliability, and Confirmatory Factor Analysis

CFA Analysis: Prior to testing the hypotheses, this study measured a series of analyses in order to confirm the distinctiveness of the data. CFA was performed on the measures, including information elaboration and individual creativity, to check the convergent and discriminant validity by using Amos 18. Model fit is considered to be supportive when the observed values are less than the bench-marked values, such as the Tucker-Lewis Index (TLI) and the Comparative Fit Index (CFI) values that exceed .90 (Ngo, Foley, & Loi, 2009). In addition, root-mean-square error of approximation (RMSEA) should be less than .08. CFA for all items got justified results: Information elaboration (CFI = .99, TLI = .99 and RMSEA = .02), and Individual Creativity (CFI = 1.00, TLI = 1.00 and RMSEA = .00). For both types of diversity, within group agreement (median r_{wg}) was calculated in order to check the appropriateness of the

individual responses to the aggregation level (Shin et al., 2012). This study got justified results for the aggregation by obtaining median values of age diversity, .65 (r_{wg}), and education diversity .96 (r_{wg}).

Results

Data Analysis

Descriptive Statistics: Table 4 shows descriptive elements, including means, standard deviations, and correlations, of all variables. Results of the mean and standard deviation relating all of the items were as follows: independent variables (Age Diversity: M = 1.21 and SD = .66 and Education Diversity: M = .40 and SD = .21), dependent variable (Individual Creativity: M = 2.91 and SD = 1.11), and moderator (Group Size: M = 2.61 and SD = 1.21). Information elaboration as a mediator (M = 3.28 and SD = 1.05) and Organizational Size (M = 1.65 and SD = .47) as a control variable were used; the total number of respondents was 1036.

Hypothesis Testing

To test the hypotheses, this study applied the method developed by Edwards and Lambert (2007) to analyze the conditional effects, which also has been used in innovation and diversity researches (Somech, & Drach-Zahavy, 2013; Hoever et al., 2012; Eisenbeiss et al., 2008). However, for the conditional indirect effects through a mediator for the proposed Hypothesis 4, the method of Preacher and Hayes (2008) was followed. A conditional indirect effect involves moderated mediation, as well mediated moderation (Somech, & Drach-Zahavy, 2013). With the moderated mediation, this study was able to analyze the indirect effects of the workforce diversity on individual creativity by passing through information elaboration that was conditional on the magnitude of moderators.

In order to assess the extent of the conditional indirect effects, relying on bias-corrected confidence intervals with 95% confidence level, 5000 bootstrap samples were used. Individual creativity was regressed on the workforce diversity, moderators, and their interactions and information elaboration. Conditional indirect effects were considered to be significant if they had a 95% confidence interval and excluded zero (Hoever et al., 2012). However, this study took in account all conventional significance levels involving 1, 5, and 10 percent. In addition, interactions for conditional indirect effects have been reported through interaction plots (Aiken & West, 1996).

Table 2
Interaction of Age diversity and Group Size

Variable	B	SE b	t	R²
Information elaboration (Step 1)				*0.09***
Constant	2.80	0.17	16.60	
Age Diversity	-0.10	0.12	-0.82	
Group size	0.27	0.06	4.80	
Age Diversity x GS	0.00	0.04	0.08	
Organizational size	-0.06	0.08	-0.81	
Individual creativity (Step 2)				*0.64***
Constant	-0.66	0.13	-5.03	
Information elaboration	0.71	0.02	34.87	
Age Diversity	0.14	0.08	1.82	
Group size	0.23	0.04	5.97	
Age Diversity x GS	-0.06	0.02	-2.37*	
Organizational size	0.40	0.05	7.56	
Levels of standard deviation	**Conditional Direct Effect**	**SE**		**Z**
–1 SD	0.06	0.05		1.2
Mean	-0.01	0.03		-0.33
+1 *SD*	-0.08	0.04		-2*
Variable	**Conditional Indirect Effect**	**SE**		**Z**
Information elaboration				
–1 SD	-0.07	0.05		-1.4
Mean	-0.06	0.03		-2
+1 *SD*	-0.06	0.04		-1.5

Mediation of Information Elaboration: For Hypothesis 1 age diversity (Table 2) showed the model explained variance (R^2 = .64, p < .001); IE positively and significantly predicted the individual creativity (b = .71, SE = .02, p < .001). In social diversity, bootstrapping conditional indirect effects for age diversity were insignificant (b = .00, 95% CI-.05; .06]). For education diversity in Table 3, the model explained variance (R^2 = .64, p < .001), positively and significantly demonstrated the relationship of information elaboration with the individual creativity (b = .70, SE = .02, p < .001). Furthermore, results did not reveal the direct association of education diversity with the individual creativity (b = .06, SE = .03, p = .79). Bootstrapping indirect effects for the information diversity showed significant results for education diversity (b = -.34, 95% CI [-.50; -.18]).

Table 3

Interaction of Education Diversity and Group Size

Bootstrap results of indirect effects	Effect	SE	Z
Indirect effect of education diversity on individual creativity	-0.34	0.08	-4.25**
Levels of standard deviation	*Conditional Direct Effect*	*SE*	*Z*
–1 SD	-0.12	0.14	-0.86
Mean	-0.28	0.10	-2.8
+1 *SD*	-0.44	0.15	-2.93**
Variable	*Conditional Indirect Effect*	*SE*	*Z*
Information elaboration			
–1 SD	0.05	0.13	0.38
Mean	-0.37	0.10	-3.7
+1 *SD*	-0.78	0.16	-4.9**

The Effect of Interaction between Group Size and Diversity on Individual Creativity: Adding interaction between education and group size (R^2 = .64, p < .001) for Hypothesis 2, model predicted negatively insignificant results to the individual creativity (b = -.13, SE = .09, p = .12). Based on the slope analyses that showed positive insignificant results for education diversity (b = .06, SE = .23, p = .79). Informational diversity got significant association of organizational size in the model of education diversity (b = .40, SE = .05, p < .001). In a contrast, interaction of age diversity with the group size in a model (R^2 = .64, p < .001) predicted a negative significant relationship with the individual creativity (b = -.06, SE = .02, p = .02). Moreover, slope analyses for age diversity anticipated an insignificant result (b .14, SE = .08, p = .07). Bootstrapping conditional direct effects got significant results for both types of diversity at the high level of group size involving age diversity (b = -.08, 95% CI [-.16; -.01]), and education diversity (b = -.44, 95% CI [-.75; -.14]). In line with these results of age and education, diversity showed significant moderation effects for Hypothesis 2.

The Effect of Interaction between Group Size and Diversity on Information Elaboration: Hypothesis 3 proposed that group size moderates the effects of diversity on information elaboration when group members perform tasks in large groups. For age diversity, adding interaction between the age diversity and group size model explained the variance was (R^2 = .09, p < .001). However, the coefficient of interaction was insignificant (b = .00, SE = .04, p = .93). Furthermore, slope analysis for the age diversity was negative and insignificant in a condition not considering group size (b = -.10, SE = .12, p = .41). Similarly, adding interaction between the education diversity and group size, model explained variance was (R^2 = .09, P < .001). The coefficient of interaction was negative and significant (b = -.48, SE = .12, P < .001). Hypothesis 3 showed partial statistical support for the moderation effects on information elaboration.

The Conditional Indirect Effects: For conditional Indirect effects for group size, moderation with the age diversity was insignificant. For informational diversity, conditional Indirect effects of the education diversity with increased group size were negatively significant (b = -.78, 95% CI [-1.09, -.47]). The figure for the interaction also supported education diversity (Education: C.1).

Discussion and Conclusion

This study tried to measure conditional direct and indirect effects of social category diversity; age diversity failed to get the support for the mediation in the context of group size. However, in informational diversity, education diversity showed full mediation with the individual creativity. Furthermore, within a group, both types of diversity showed significant relationship of the interaction on individual creativity

when the level of the group size was high. As compared with age, education diversity enhanced individual creativity when group size was high. Results also demonstrated that group size influenced the association of education diversity and information elaboration process in such a way that education diversity was negatively related to the information elaboration. The findings are consistent with the results of However et al. (2012). Researchers also couldn't get significant results for the association of moderation effects of perspective taking with diversity on creativity. Moreover, conditional indirect effects of education diversity with group size were significantly associated on individual creativity in large groups.
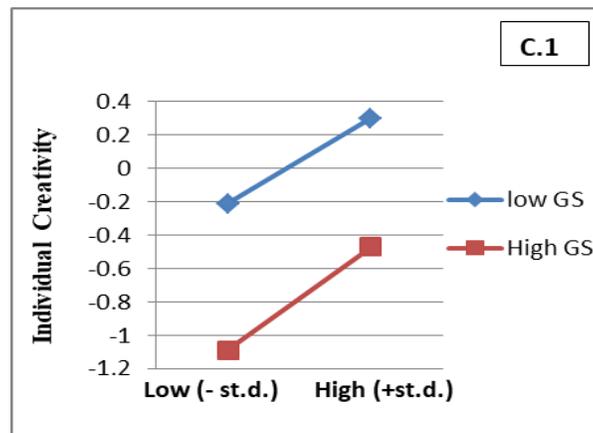

Figure 1. Conditional Indirect effects - Interaction Plots Education Diversity and group size

Theoretical Implications

This study makes several contributions to the diversity and creativity literature. First, it provides deeper understanding of when and how group diversity is associated with individual creativity. Although many researches have been conducted, showing relationship of team members with the team creativity (Gilson & Shalley, 2004; Hoever et al., 2012); however, studies on the effects of group diversity on individual creativity are lacking, except for Shin et al. (2012) who found cognitive team diversity is positively related to the individual creativity. Similarly, Choi (2007) showed the relationship of the functional diversity with the individual creativity. Hence, for more examination of group diversity (Biemann & Kearney, 2010), this study reveals empirical evidence of the relationship between group diversity and individual creativity. Second, diversity within groups gives an opportunity to capitalize the potential benefits for individual creativity.

Value in diversity promotes teams' performance (Homan et al., 2007) by identifying the task-based value similarity among group members. The findings of this study also add to the categorization elaboration model (CEM). This study has used group size in order to clarify the inconsistent effects of diversity considering conditional direct and indirect effects. Particularly, the effects of diversity in the context of moderators have been identified on information elaboration and individual creativity separately (Kearney, Gebert, & Voelpel, 2009). Assessing separately the effects of conditional direct and indirect effects of moderators is also another contribution to the literature. Findings of this study also suggest that when individuals view value similarity, they try to learn and understand each other's perspective. Therefore, value similarity and conditional factors become relevant in a situation when an outcome demands integration of all diverse resources. Finally, this study extends the previous literature by showing the indirect relationship of information elaboration as a mediator in the presence of moderators.

Implications for the Diversity Management

This study provides practical implications aimed at better outcomes for diversity and creativity management. At present, most of organization attempt to hire a diverse workforce, although diversity doesn't guaranty to boost creativity until management is aware of the process of information elaboration

underlying different contextual factors that can increase or decrease the creativity. In this context, this study's findings suggest that member of diverse groups, when working together, learn from each other, and individual creativity is enhanced only under the contextual variables. The set of conditions makes them interact more. Managers must ensure that working conditions are suitable enough to achieve better targets. Managers can also train the employees on information elaboration in such a way that they can increase individual creativity.

Limitations and Future Directions

Along with the theoretical and practical implication, this study has some limitations. Although this research used simply social versus informational category diversity, this dichotomy is persistent with the categorization versus information elaboration processes. The main purpose of this research is to highlight the potential benefits of workgroup diversity that can be achieved through proper information elaboration among group members. This study can be replicated in other fields like manufacturing. Data for this study has been collected in a single time period. In order to get the robust results, future research can use multiple points of time.

Differences between initial stages of composition and later stages of interaction can influence the results. Future research can use CEM in this analysis by focusing process of information elaboration. Data collection from middle managers could be another limitation that can lead to the common method variance, which future research can avoid by getting responses from supervisors and middle managers separately. This study can also be replicated showing comparative results of different countries from the same continent. Future research can also be conducted showing interaction of the leader's emotional intelligence and information elaboration and its impact on individual creativity.

As this research targeted banking and telecom sectors, those come under the service industry. Hence, uniqueness of the sampled organizations can also be limitation to this study. Although targeted respondents involve the knowledge of workers, their tasks involve group members' dependency. Future research can be replicated in other fields based on these characteristics.

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