

When Diversity Becomes Determinant of the Individual Creativity: The role of Task Complexity

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ABSTRACT: *Using moderated mediation, this study aims to synthesize the literature showing relationship of group diversity and its impact on individual creativity. This article explores how positive effects of social diversity involving age and gender result into negative effects on the individual creativity after interaction between age and gender diversity, and task complexity (as a moderator). Total 1036 employees consisting 196 groups working in banking and telecom sector in Pakistan and China participated in this study. Data was collected through online structured survey forms. Results suggested that informational elaboration mediates the effects interaction of gender diversity in groups on individual creativity. Indirect relationship of task complexity at low level with gender diversity highlighted significant positive effects on individual creativity in presence of information elaboration.*

KEYWORDS - *Individual creativity, information elaboration, age and gender diversity, and task complexity.*

I. Introduction

Business organizations are stressing on improved decision making through hiring diverse workforce (Kozlowski & Bell, 2003). Work groups in terms of demographic composition are becoming diverse day by day (Williams & O'Reilly, 1998), and proper management of diverse workforce with creative ideas can contribute to the success of any organization. It has been suggested that individual creativity being a backbone for the organizational effectiveness, innovation and survival can boost hope that those ideas would be transferred to other members in the development process (Nonaka, 1991) only through the interaction process. Similarly, presence of groups gives organization an opportunity to properly manage issues like coordination, motivation, and conflicts within groups (Gladstein, 1984). Considering the evidence from previous study of Williams & O'Reilly (1998), positive or negative effects of diversity can be explained by information elaboration and similarity-attraction or categorization perspective. In line with this, we argue that people categorize themselves based on similarities criterion; however when they feel value in diversity, start learning from each other, supporting the social learning theory (SLT). Founder of Social learning theory, Bandura elaborated SLT as individuals' learn from the consequences of action, and they behave accordingly based on observation of other people and its consequences (Bandura, 1977).

Various studies have been conducted and trend is increasing to study age and gender diversity through its mechanisms and contexts which affect the outcome (Wegge et al., 2008). Differences in the effects of diversity such as Zenger and Lawrence (1989) suggested that all types of the diverse workforce give same effects; whereas, others have shown negative relationship of age diversity with performance. Diversity variables have been used differently; few studies used it as an independent variable. On the other hand, it has been used as a contextual variable such as Wang and Nayir (2006) have used gender as a control variable for expatriates' adjustments. Moreover, Van Knippenberg, De Dreu, and Homan (2004) have stressed on need of studying moderators' as contextual factors engender positive effects to diversity. According to researchers, age diversity can generate positive effects, however ways for examining these effects with the combination of potential moderators are lacking. It has also been supported by Joshi & Roh (2009), who proposed that contextual variables have association with diversity and team performance. However, a path through which contextual variables first effect on team processes and later on outcomes have not been assessed systematically throughout the literature (Jackson et al., 2003). In this connection to advance understanding regarding diversity's effects on individual creativity, we introduce moderated mediation model. That entails to examine how accurately within a group age and gender diversity under the contextual conditions of task complexity from one's group influences individual creativity. We argue that although people have a lot of diversity characteristics but when they work

together, can learn through direct experiences. According to SLT, contingent reinforcement might bring changes in a behavior which can be achieved through three processes: informative consequences, motivating consequences and reinforcing consequences. Fear of punishment and attaining reward brings people to learn. Actual and perceived experiences give individuals' ability to control future situations (Bandura, 1977). In this process, information elaboration affects as a mediator that has been defined theoretically and empirically. Model in this study represents diversity as a group level variable (Van der Vegt and Janssen, 2003), whereas information elaboration and individual creativity are individual variables.

This study contributes diversity and creativity literatures in several ways. First, we provide directions to better understand and having more clarity on the conditions and processes through which social diversity engender different effects on individual creativity. Second, we suggest role of information elaboration among groups to stimulate creativity in order to manage the diverse workforce. As previous researches have suggested that diversity and outcome relationship can be best understood under the information or decision making perspective which on one side, predicts positive effects of diversity; on the other hand, social categorization perspective suggests negative results as a result of subgroups (Van Knippenberg, De Dreu, & Homan, 2004; Williams and O'Reilly, 1998). Third, this study also answers to previous calls relating diversity research on management under the contextual settings (Wegge et al., 2008).

II. Literature Review and Hypothesis Development

2.1. Group Diversity and Individual Creativity

Diversity being a team characteristic can be defined as an extent of any given attribute in which group members vary that may lead the feeling to be different among the group members (Joshi and Roh, 2009; Jackson et al., 2003; Williams and O'Reilly, 1998). Diversity may involve various dimensions like age, gender, nationality, educational background, functional background and task skills (Van Dijk et al., 2009; Van Knippenberg, De Dreu, and Homan, 2004). It can be conceptualized containing dual effects as a source of information that intends to maintain the inclusive environment where competencies of the members can be utilized (Herring, 2009) as well as a factor that invites to the subgroups within a team (Harrison and Klein, 2007). According to the categorization perspective subgroups within groups feel comfortable with similar groups and show more willingness to collaborate with the similar rather than dissimilar one (Brewer and Brown, 1998). On the other hand, creativity being multi-faceted concept (Houghton & DiLiello, 2010) referred as ideas based on novelty and usefulness that aims to solve problems and improve effectiveness (Oldham & Cummings, 1996). Prior research has revealed the effects of diversity on creativity and those dissimilar effects consist on "similarity attraction perspective" and "value in diversity perspective" (Shin et al., 2012). According to the Similarity-attraction perspective, differences stimulate a feeling among the group members to be apart within a group and cooperate with others based on similarity in beliefs, norm, values and attitudes that results into better understanding, group cohesion, improved communication and performance. Whereas under the social categorization process, group members make distinction between us and them; less likely to appreciate others strengths based on dissimilar characteristics (Byrne's, 1971; Williams & O'Reilly, 1998). In this way, differences within groups influence negatively to the creativity by provoking conflicts (Mannix & Neale, 2005).

Moreover, literature also suggests that similarity attraction and social categorization perspective is closely related to demographic diversity (Shin et al., 2012) such as age, gender, race etc. Because these attributes are cognitively accessible and used for categorization throughout life (Van Knippenberg, De Dreu, and Homan, 2004). When differences among individuals are recognized and proper management of these differences hence can benefit creativity. Therefore, strong inputs to the creativity can be provided through variation in perception, ways to handle problems and differences in abilities to perceive (Stahl et al., 2010). However, social categorization being focal to relational aspects, findings of De Dreu & Weingart (2003) have suggested reduced output due to low group cohesion that was caused by within group conflicts and relational aspects.

On the contrary, value in diversity suggests that different perspectives and knowledge sharing gives support to creative performance (McLeod et al., 1996). Thus team based on creativity initiatives provides team members with the potential to share ideas and knowledge in such a way that results into positive relationship of diverse team and links to the individual creativity (Shin et al., 2012). In addition, creative conflict provides group member with the deep examination of assumptions along with the complex learning environment that leads to the better decision making to a particular problem (Gurin, Nagda, and Lopez 2004). A study of Shin et al., (2012) noted that value in diversity relates closely to the cognitive diversity as it provides individuals' an ability to recognize the variations in perspectives against to social categorization underlying demographic diversity.

However, we argue that when context demands creativity and individuals identify the salience of categorization (Van Knippenberg et al., 2011) stimulates communication process. Individuals through interactions and deeper understanding with others can perform better in a demographic diversity. In line with this, according to SLT individual's behavior is developed through the process of observation accompanied by the role model. Thus, SLT emphasizes on both antecedent learning as well as consequence learning (Decker, 1986).

Prior researches have also shown the relationship of diversity with performance. Such as findings of Harvey (2014) suggested that surface level diversity enhances group member's interaction and helps to understand each other's deep level differences. Similarly, a study conducted on moderated mediation by Kearney, Gebert & Voelpel (2009) has also shown the influence of the age and educational diversity on team performance. Extending above relationship to the individual creativity, it is proposed that:

H1. Within a group, (a) age diversity and (b) gender diversity has positive relationship with the individual creativity.

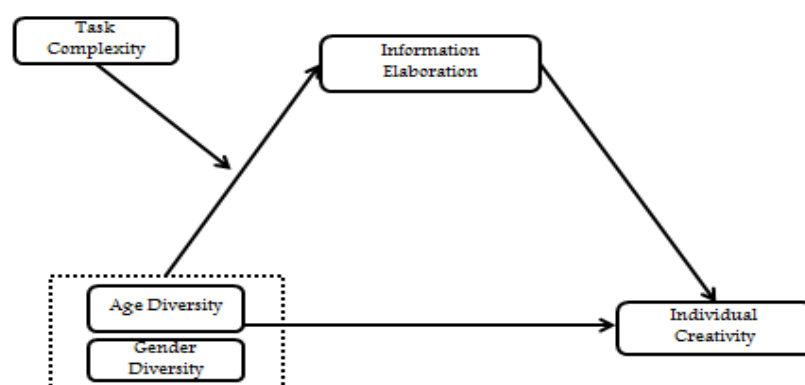


Figure 1. Research model with interaction between workforce diversity (age and gender) and task complexity, and its influence in individual creativity

2.2. Information Elaboration as a Mediator

Previous researches have given evidence that information elaboration drives positive effects of diverse workforce through balancing different perspectives and knowledge (Homan et al., 2008; Van Knippenberg, De Dreu, and Homan, 2004). Although, Information sharing doesn't ensure the benefits of the diversity; however, it can create integration process that doesn't guarantee information sharing interactions (Okhuysen & Eisenhardt, 2002). Although, direct relationship of information elaboration and individual creativity is missing, this study has used informational elaboration that is based on the CEM (categorization elaboration model) which has been suggested by Van Knippenberg, De Dreu, & Homan (2004). According to CEM, elaboration of the information is a key mediator between the interaction of age and gender diversity and individual creativity. Kearney, Gebert & Voelpel (2009) have also used task based information elaboration and team collective identification that mediates the negative effects of age and educational diversity to performance with the high level of team's need for cognition as moderator. Hoever et al., (2012) have shown the interactive relationship of diversity and perspective taking with the creativity where information elaboration being a mediator captures the whole process (Hoch, 2014). Extending above proposition, this study assumes:

H2. Within a group, the association between (a) age diversity and (b) gender diversity with individual creativity will be mediated by information elaboration.

2.3. Task complexity and individual creativity

Individual creativity compared with team diversity (based on the team convergence process), without having high level of interpersonal interactions can benefit individuals' from team member's different perspectives and knowledge (Shin et al., 2012). Thus, differences in knowledge of members are pooled to a group (Hoever et al., 2012), that depends on the group members to handle the task according to its nature of complexity. Task

complexity can be defined as abilities of a task doer (March and Simon, 1958). Prior evidence suggests that as compared to the routine task, non-routine tasks have less negative effects of diversity on performance (Stewart, 2006). When group members belong to different demographics characteristics, they might debate over the task content and processes (Jehn et al., 1999). A study conducted by Pelled (1996a), shows positive relationship of social category diversity with performance where task issues and disagreements mediate effects.

Task complexity as a Moderator

Several researches have stressed on the need for identification of moderators those are linked with the positive and negative effects of diversity. Thus, effective performance depends on the nature of complex task containing different perspectives (Stahl et al., 2010; Kearney, Gebert & Voelpe, 2009; Wegge et al., 2008; Van Knippenberg, De Dreu, and Homan, 2004; Jehn et al., 1999). Showing importance of age with the work experience Wegge et al., (2008) have distinguished the effects of complex task and routine tasks. Researchers concluded that in complex settings, older employees have time and experience to facilitate younger employees in decisions making. However, in routine tasks age diversity does not benefit knowledge sharing.

A study conducted by Warr (1994) reveals that positive effects of age diversity are associated with performance in knowledge based task settings, in a condition when individuals are free from the time pressures. In such type of task, performance might be influenced by the work experience. Further, findings didn't relate essential role of increasing age with information processing. Similarly, Stahl et al., (2010) have also shown the positive association of diversity with creativity which results as a consequence of the divergent thinking.

A meta-analysis study by Van Dijk et al., (2009) have also stressed that heterogeneity does not necessarily associated with the positive and negative effects to specific diversity dimensions, rather identification of moderators is important to those are influencing to it. Seong et al., (2012) have shown the association of age and gender diversity with group performance, suggesting initial categorization based on perceived values and norms might have long term effects within the group members. Joshi & Roh (2009) proposed that negative effects of the age and gender diversity become weaker in age and gender balanced settings. Similarly, Hackman (1990) suggested that when group members have realization about the similarities in values and goals can enhance interpersonal relationships.

Group with gender salience depends on the variations in the number of male and female, dyadic interaction exists where same gender dominates (Wegge et al., 2008). Being affected by surrounding, women are more involved in the social relationship (Turner, Wheaton, & Lloyd, 1995). Prior study has also shown the association of gender diversity with group performance and this relationship was moderated by the large group size (Wegge et al., 2008). Extending above relationship to the individual creativity it is proposed that:

H3. Within a group, task complexity moderates the association between (a) age diversity and (b) gender and individual creativity.

Particularly, the association between age diversity in groups and individual's creativity is expected to be strong in the groups facing complex task against to groups, are not engaged into complex jobs. A study of Mischel and Northcraft (1997) revealed that success of any group does not just depend on the abilities of a task doers but it also needs proper management of interaction collectively. Task based information elaboration stimulate the positive effects of diversity. This process of interaction point outs various moderators that are loosely defined to the information or decision making processes due to relational conflicts and debates (Van Knippenberg, De Dreu, and Homan, 2004).

Under the CEM, process of exchange and integration of the information within subgroups is disturbed due to non-routine work or the task that demands knowledge intensive work (van Knippenberg et al., 2004a). Hence; complex tasks invite more extensive information elaboration that drives the positive effects of diversity. However, routine task could result into counterproductive results (De Dreu & Weingarten, 2003); individuals may follow work procedures and are less willing to share the information. Van Knippenberg, De Dreu, and Homan (2004) have used task complexity as moderator in order to get the positive effects of diversity on performance in a situation, appropriate information processing and potential decision making is needed. Further, researchers also proposed that diversity will engender information elaboration where individuals have higher task ability and motivation. Hence, it is proposed:

H4. Within a group, task complexity will moderate the association between (a) age diversity and (b) gender diversity and information elaboration.

Furthermore, model of our study proposes the complete mediation of information elaboration with the association of group composition to the individual creativity in a condition when task complexity is low. This model with aggregated group composition may promote individual creativity. However, group composition might have indirect effects on the outcome (Somech & Drach-Zahavy, 2013). The indirect effects may be conditional at different levels of task complexity by passing through information elaboration to the individual creativity. In this connection we propose that:

- H5. The conditional indirect effect of (a) age diversity and (b) gender diversity as moderated by task complexity on individual creativity through information elaboration is stronger when the task complexity is low than rather high.

III. Method

3.1. Sample and Data Collection

The sample is based on 196 groups of the service sector from two Asian countries: Pakistan and China. Data was collected from two cities in each country: Pakistan (Karachi and Islamabad) and China (Shanghai and Beijing) that was based on convenient sampling from people working in Telecom and Banking sector. Online structured survey forms were sent to the employees working in both sectors and 1036 individuals' responded to the survey form. Survey forms were translated into two languages: English and Chinese. Group ranged from size 3 to 10 members ($M = 2.61$, $SD = 1.21$). 61 survey forms contained missing values for the group size thus nearby mean was calculated for those values 2.59 (5.9%). Mean age of 196 groups was 2.93. Out of 1036 respondents, men were 62% and women were 38 %. 40 percent employees had master's degree, whereas 54.2% participants belonged to the bachelor's degree level of education.

3.2. Measures

Workforce diversity: Age and gender diversity were measured by following (Seong et al., 2012; Kearney, Gebert & Voelpel, 2009). As our sample consisted variability; therefore, we applied index of Heterogeneity ($1 - \sum p_i^2$) that is suggested by Blau (1977) to measure the gender diversity. In this formula p indicated the proportion of a group in gender diversity; however, i represent to the different categories in the group. Index varies from 0 to 1, results showing 0 would be considered as no diversity whereas going to 1 indicates diversity (Seong et al., 2012). To measure age diversity this study used within group standard deviations suggested by Bedeian and Mossholder (2000).

Informational elaboration: To analyze the information elaboration among groups, procedure of Kearney, Gebert & Voelpel (2009) was applied. Five point likert scale was used that ranged from 1 (strongly disagree) to 5 (strongly agree), containing four items. Wording of items was following : knowledge sharing by complementing, generation of new solutions through considering different team members perspectives, analyzing uniqueness of information and developing team based ideas ($\alpha = .84$).

Individual creativity: We measured employee's creativity with five items scale containing 5 points likert scale that has been used in the study of Suleiman Awwad & Kada Ali, (2012). These five items focused on improving efficiency following: practicality of ideas, targeting new ways, considering human capital, revealing creativity based on opportunity, and management of complex problems with the creative solutions. All items were scored from strongly disagree (1) to strongly agree (5) ($\alpha = .95$).

Task complexity: Following Stahl et al. (2010), this study assessed four task characteristics of task complexity including ambiguity and structuredness of task, routine and interdependence. Bimodal values were used to make interpretation and analysis easier ($\alpha = .67$). However, reliability of the scale is justifiable as it exceeded benchmark .60 (Bagozzi and Yi, 1988).

3.3. Data aggregation, reliability, and confirmatory factor analysis (CFA)

To check the appropriation of individual responses to aggregation level, within group agreement (median r_{wg}) was calculated for the age and gender diversity (James, Demaree, & Wolf, 1984). Overall aggregation of responses got justified results for group level by obtaining median values of age diversity, .65 (r_{wg}) and gender diversity, .97(r_{wg}).

Prior to testing our hypothesis, we checked distinctiveness of the data through confirmatory factor analyses of three variables: information elaboration, individual creativity, and task complexity. Model fit is considered to be supportive When value of the root mean square error of approximation (RMSEA) is less than 0.08, values of Tucker Lewis index (TLI) and comparative fit index (CFI) exceed 0.90 (Ngo, Foley, & Loi, 2009). CFA results for information elaboration were: CFI = .99, TLI = .99 and RMSEA = .025. Individual creativity model fit also got support for the results involving CFI = 1.000, TLI = 1.006, and RMSEA = .000. Whereas for task complexity showed results as: CFI = .99, TLI = .96, and RMSEA = .046.

IV. Results

Descriptive Statistics: Results of means, standard deviation and correlations among the study variables are present in Table 1. Age diversity showed negative association with the task complexity; whereas, gender diversity was positive. The relationship of information elaboration with gender and task complexity was positively significant. Gender diversity was significant at 5% alpha; whereas, task complexity got strong association at 1%. Nevertheless, age diversity was negatively related. Moreover, gender diversity, task complexity, and information elaboration were positive as well as significantly associated with the individual creativity.

TABLE 1
Descriptive Statistics and Correlations

Variables	Mean	Std. D.	1	2	3	4
1. Age Diversity	1.21	.66				
2. Gender diversity	.31	.19	.01			
3. Task Complexity	3.01	.79	-.01	.03		
4. Information Elaboration	3.28	1.05	-.02	.06*	.56**	
5. Individual Creativity	2.91	1.11	.00	.12**	.58**	.74**

Note. N = 1036, * $P < .05$. ** $P < .01$

4.1. Hypothesis testing

To test the hypothesis for overall model in figure 1, we followed Preacher et al. (2007) to test the conditional indirect effects that cover moderated mediation (Eisenbeiss, van Knippenberg and Boerner, 2008). Moderated mediation occurs when interaction of moderator changes the effects of mediator (Edwards and Lambert, 2007). In order to assess the magnitude of indirect effects, this study used non parametric bootstrapping method including the sample of 5000 bootstraps with bias corrected confident interval at 95%. Conditional indirect effects were considered to be significant if 95% confidence interval excluded zero (Hoefer et al., 2012).

The effect of age diversity on individual creativity: Direct effects of age diversity showed positive and significant relationship with the individuals creativity ($b = .46$, $SE = .13$, $p < .01$) therefore hypothesis 1a moderately supported statistically.

The effect of gender diversity on individual creativity: Hypothesis 1b also obtained statistical proof by revealing highly positive significant results ($b = 2.05$, $SE = .44$, $p < .01$).

Mediating role of information elaboration: For hypothesis 2a and 2b information elaboration predicted individual creativity highly significant with the age diversity ($b = .64$, $SE = .02$, $p < .01$). Simple slope for the age diversity also showed positively significant results without considering task complexity ($b = .46$, $SE = .13$, $p < .01$). Similarly, for gender diversity information elaboration predicted individual creativity highly significant ($b = .63$, $SE = .02$, $p < .01$). However, boot strapping indirect effects showed variation in the results. For the H2b gender diversity showed partial mediation with the negative and significant results ($b = -.07$, 95% CI [.28, .16]); whereas, insignificant results were predicted for the age diversity in H2a.

The effect of age diversity and task complexity on individual creativity: For the interaction effect of age diversity and task complexity on individual creativity, overall model showed positive and significant results ($R^2 = .59$, $p < .01$); nevertheless, an interaction between age diversity and task complexity predicted individuals creativity negatively significant ($b = -.14$, $SE = .04$, $p < .01$). Conditional boot strapping results for the direct

effect of interactions on individuals creativity also supported this hypothesis with low level of task complexity ($b = .14$, 95% CI [.05, .24]). Hence, Hypothesis 3a got statistical evidence for the age diversity.

The effect of gender diversity and task complexity on individual creativity: In this model ($R^2 = .60$, $p < .01$) coefficients also revealed negative and significant relationship of the interaction between gender diversity and task complexity on individual creativity ($b = -.55$, $SE = .14$, $p < .01$). Thus, this hypothesis 3b obtained statistical support with the boot strapping results ($b = .81$, 95% CI [.50, 1.11]) only in low level of task complexity.

The effect of age diversity and task complexity on information elaboration: Overall model for the interaction between age diversity and task complexity on information elaboration revealed positive and significant result of explained variance ($R^2 = .32$, $p < .01$). However, coefficient for the interaction was negative and insignificant to the information elaboration ($b = -.05$, $SE = .05$, $p = .33$). In sum, hypothesis 4a did not get statistical support.

The effect of gender diversity and task complexity on information elaboration: Interaction between the gender diversity and task complexity did not get significant association on information elaboration.

Conditional indirect effects: Conditional indirect effects of gender diversity showed positive and significant results of the interaction between gender diversity and task complexity through information in a condition when the task complexity was low at 90% CI ($p < .10$, $z = 1.66$). On the contrary to it, age diversity did not get statistical support for the conditional indirect effects.

TABLE 2
Regression Results for the Moderated Mediation (Model for Age Diversity)

Predictor	<i>b</i>	<i>SE b</i>	<i>t</i>	<i>R</i> ²
<i>Information elaboration (Step 1)</i>				.32**
Age Diversity	.12	.16	.74	
Task Complexity	.81	.07	11.19	
Age Diversity x Task Complexity	-.05	.05	-.97	
<i>Individuals creativity (Step 2)</i>				.59
Information elaboration	.64	.02	25.27**	
Age Diversity	.46	.13	3.45	
Task Complexity	.50	.06	8.04	
Age Diversity x Task Complexity	-.14	.04	-3.27**	
<i>Level of the task complexity</i>	<i>Task Complexity</i>	<i>Indirect Effect</i>	<i>SE</i>	<i>z</i>
Information elaboration				
-1 SD	2.22	.00	.04	.00
Mean	3.01	-.02	.02	-.1
+1 SD	3.81	-.04	.03	-1.3

Note. N = 1036, * $P < .05$, ** $P < .01$.

TABLE 3
Regression Results for the Moderated Mediation (Model for the Gender Diversity)

Variable	<i>b</i>	<i>SE b</i>	<i>t</i>	<i>R</i> ²
<i>Information Elaboration (Step 1)</i>				.32**
Gender Diversity	.55	.54	1.01	
Task Complexity	.78	.066	11.74	
Gender Diversity x Task Complexity	-.10	.17	-.59	
<i>Individual creativity (Step 2)</i>				.60
Information Elaboration	.63	.02	25.23**	
Gender Diversity	2.05	.44	4.63	
Task Complexity	.51	.05	8.91	

Gender Diversity x Task Complexity	-.55	.14	-3.87**	
Predictor	Task Complexity	Indirect Effect	SE	z
Information elaboration				
-1 SD	2.22	.20	.12	1.66 [†]
Mean	3.01	.15	.08	1.87
+1 SD	3.81	.09	.11	0.81

Note. N = 1036, [†] P < .10. * P < .05. ** P < .01.

V. Discussion

We theorized and found that task complexity has moderating effect between workforce diversity and individual creativity in such a way that gender diversity has positive effect on the individuals creativity when the level of complex task is low. In addition, our findings got partial support for the proposed moderated mediation that information elaboration mediates the moderation effects of gender diversity with task complexity on individuals creativity those results are consistent with Hoeber et al., (2012) .

VI. Theoretical implications

This study makes several Contributions to the diversity and creativity literatures. First, it shows the relationship between group diversity and individual creativity empirically by comparing the age and gender diversity. Few studies have shown the Multi-level analyses of data considering both variables in team settings (Choi, 2007; Shin et al., 2012) and reported positive relationship between team diversity with the individual creativity. Second contribution of the study is the mediating role of information elaboration between age diversity, gender diversity and individual creativity (Seong et al., 2012; Van Knippenberg et al., 2004). This study has shown process of information elaboration as a crucial activity (Li et al., 2015) among group members to benefit the individual creativity. Third, this study has used task complexity as a contextual variable that describes the effects of diversity (Stahl et al. 2010), theoretically as well as empirically. Fourth, it contributes by answering the various call of the previous literature on task and information processing (Van Knippenberg, De Dreu, & Homan, 2004) as well as moderated mediation (Yukl, 1999; Hunt and Conger, 1999).

VII. Practical implications

This research will be helpful in composition of groups, specially developing exception among team members that differences and ideas might take place. However, improved information elaboration with the integration of information is needed (Harvey, 2014). It helps not only motivating group members to integrate the information and share each other's information; but, also can stimulate decision making power individually. Managers also can improve the process of information elaboration through analyzing the value of creative and diverse ideas (Homan, Van Knippenberg, Van Kleef, and De Dreu, 2007). In work contexts, management of diversity at group level becomes problematic; diversity intervention helps to remove stereotype thinking and biasness against underrepresented groups and attempts to ensure higher level representation in order to reverse the negative effects of diversity into positive outcome (Joshi & Roh, 2009). Contextual factors have important role in creative performance. Managers according to the needs of follower must give an opportunity to individuals' who have thoughtful and vigilant ability for decision making in different situations (Van Knippenberg et al., 2004).

VIII. Social implications

Results of this study may help to reduce age and gender discrimination at the work place. Societies where male dominancy exists, females get less chance to interact. Information elaboration in a condition of complex task plays important role to reduce conflict and improve efficiency. As a result employee's wellbeing is sustained through more interaction.

IX. Limitations and future directions

Primary aim of this research is to highlight the benefits of workforce diversity in groups and its impact on individual creativity that would be helpful in enhancing effectiveness of diversity management practices. Future

research should focus on the process of information elaboration, considering CEM to this analysis. Data was collected within single time period; multiple points of time could provide robust results because the difference between initial composition and later interaction can influence results. Results of this study can be taken as generalizability to other types of diversity. There could be chances of the common method variance because target group for this study was the middle managers to respond. Future research can collect the data from different sources (supervisors and middle managers) separately to benefit with more accurate results. This study has used contextual variable in the context of collecting sample from two counties, this study can be replicated into multinational organizations in different contexts and cultures. For example influence of diversity might be more pronounced in some cultures whereas negligible on others (Stahl et al. 2010). The final limitation could be the uniqueness of the sampled organization namely service sector including banking and telecom. The targeted sector pertains to the knowledge workers and their task involves interdependence among group members. Future research Based on these characteristic can be replicable in other fields as well.

References

- [1] Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the academy of marketing science*, 16(1), 74-94.
- [2] Bandura, A., & Walters, R. H. (1977). Social learning theory.
- [3] Bedeian, A. G., & Mossholder, K. W. (2000). On the use of the coefficient of variation as a measure of diversity. *Organizational Research Methods*, 3(3), 285-297.
- [4] Blau, P. M. (1977). Inequality and heterogeneity.
- [5] Brewer, M. B., & Brown, R. J. (1998). *Intergroup relations*. McGraw-Hill.
- [6] Byrne, D. E. (1971). *The attraction paradigm* (Vol. 11). Academic Pr.
- [7] Choi, J.N., (2007). Group composition and employee creative behavior in a Korean electronics company: Distinct effects of relational demography and group diversity. *Journal of Occupational and Organizational Psychology*, 80(2), pp.213-234.
- [8] De Dreu, C.K. and Weingart, L.R., (2003). Task versus relationship conflict, team performance, and team member satisfaction: a meta-analysis. *Journal of applied Psychology*, 88(4), p.741.
- [9] Decker, P.J., (1986). Social learning theory and leadership. *Journal of Management Development*, 5(3), pp.46-58.
- [10] E. Hoch, J. (2014). Shared leadership, diversity, and information sharing in teams. *Journal of Managerial Psychology*, 29(5), 541-564.
- [11] Edwards, J.R. and Lambert, L.S., (2007). Methods for integrating moderation and mediation: a general analytical framework using moderated path analysis. *Psychological methods*, 12(1), p.1.
- [12] Eisenbeiss, S.A., van Knippenberg, D. and Boerner, S., (2008). Transformational leadership and team innovation: integrating team climate principles. *Journal of applied psychology*, 93(6), p.1438.
- [13] Gladstein, D.L., (1984). Groups in context: A model of task group effectiveness. *Administrative science quarterly*, pp.499-517.
- [14] Gurin, P., Nagda, B.R.A. and Lopez, G.E., (2004). The benefits of diversity in education for democratic citizenship. *Journal of social issues*, 60(1), pp.17-34.
- [15] Hackman, J.R., (1990). *Groups that work and those that don't* (No. E10 H123). Jossey-Bass.
- [16] Harrison, D.A. and Klein, K.J., (2007). What's the difference? Diversity constructs as separation, variety, or disparity in organizations. *Academy of management review*, 32(4), pp.1199-1228.
- [17] Harvey, S., (2014). When Accuracy Isn't Everything The Value of Demographic Differences to Information Elaboration in Teams. *Group & Organization Management*, p.1059601114561786.
- [18] Herring, C., (2009). Does diversity pay?: Race, gender, and the business case for diversity. *American Sociological Review*, 74(2), pp.208-224.
- [19] Hoever, I.J., Van Knippenberg, D., van Ginkel, W.P. and Barkema, H.G., (2012). Fostering team creativity: perspective taking as key to unlocking diversity's potential. *Journal of Applied Psychology*, 97(5), p.982.
- [20] Homan, A.C., Hollenbeck, J.R., Humphrey, S.E., Van Knippenberg, D., Ilgen, D.R. and Van Kleef, G.A., (2008). Facing differences with an open mind: Openness to experience, salience of intragroup differences, and performance of diverse work groups. *Academy of Management Journal*, 51(6), pp.1204-1222.
- [21] Homan, A.C., Van Knippenberg, D., Van Kleef, G.A. and De Dreu, C.K., (2007). Bridging faultlines by valuing diversity: diversity beliefs, information elaboration, and performance in diverse work groups. *Journal of Applied Psychology*, 92(5), p.1189.

- [22] Houghton, J.D. and DiLiello, T.C., (2010). Leadership development: The key to unlocking individual creativity in organizations. *Leadership & Organization Development Journal*, 31(3), pp.230-245.
- [23] Hunt, J. G., & Conger, J. A. (1999). From where we sit: An assessment of transformational and charismatic leadership research. *Leadership Quarterly*, 10(3), 335-343.
- [24] Jackson, S.E., Joshi, A. and Erhardt, N.L., (2003). Recent research on team and organizational diversity: SWOT analysis and implications. *Journal of management*, 29(6), pp.801-830.
- [25] James, L.R., Demaree, R.G. and Wolf, G., (1984). Estimating within-group interrater reliability with and without response bias. *Journal of applied psychology*, 69(1), p.85.
- [26] Jehn, K.A., Northcraft, G.B. and Neale, M.A., (1999). Why differences make a difference: A field study of diversity, conflict and performance in workgroups. *Administrative science quarterly*, 44(4), pp.741-763.
- [27] Joshi, A. and Roh, H., (2009). The role of context in work team diversity research: A meta-analytic review. *Academy of Management Journal*, 52(3), pp.599-627.
- [28] Kearney, E., Gebert, D. and Voelpel, S.C., (2009). When and how diversity benefits teams: The importance of team members' need for cognition. *Academy of Management Journal*, 52(3), pp.581-598.
- [29] Kozlowski, S.W. and Bell, B.S., (2003). Work groups and teams in organizations. *Handbook of psychology*.
- [30] Mannix, E. and Neale, M.A., (2005). What differences make a difference? The promise and reality of diverse teams in organizations. *Psychological science in the public interest*, 6(2), pp.31-55.
- [31] March, J.G. and Simon, H.A., 1958. Organizations.
- [32] McLeod, P.L., Lobel, S.A. and Cox, T.H., (1996). Ethnic diversity and creativity in small groups. *Small group research*, 27(2), pp.248-264.
- [33] Mischel, L.J. and Northcraft, G.B., (1997). "I think we can, I think we can...": The role of efficacy beliefs in group and team effectiveness.
- [34] Ngo, H.Y., Foley, S. and Loi, R., (2009). Family friendly work practices, organizational climate, and firm performance: A study of multinational corporations in Hong Kong. *Journal of Organizational Behavior*, 30(5), pp.665-680.
- [35] Nonaka, I., (1991). The Knowledge-Creating Company Harvard Business Review November-December.
- [36] Okhuysen, G.A. and Eisenhardt, K.M., (2002). Integrating knowledge in groups: How formal interventions enable flexibility. *Organization Science*, 13(4), pp.370-386.
- [37] Oldham, G.R. and Cummings, A., (1996). Employee creativity: Personal and contextual factors at work. *Academy of management journal*, 39(3), pp.607-634.
- [38] Pelled, L.H., (1996). Demographic diversity, conflict, and work group outcomes: An intervening process theory. *Organization science*, 7(6), pp.615-631.
- [39] Preacher, K.J., Rucker, D.D. and Hayes, A.F., (2007). Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate behavioral research*, 42(1), pp.185-227.
- [40] Seong, J.Y., Kristof-Brown, A.L., Park, W.W., Hong, D.S. and Shin, Y., (2012). Person-group fit diversity antecedents, proximal outcomes, and performance at the group level. *Journal of Management*, p.0149206312453738.
- [41] Shin, S.J., Kim, T.Y., Lee, J.Y. and Bian, L., (2012). Cognitive team diversity and individual team member creativity: A cross-level interaction. *Academy of Management Journal*, 55(1), pp.197-212.
- [42] Somech, A. and Drach-Zahavy, A., (2013). Translating team creativity to innovation implementation the role of team composition and climate for innovation. *Journal of Management*, 39(3), pp.684-708.
- [43] Stahl, G.K., Maznevski, M.L., Voigt, A. and Jonsen, K., (2010). Unraveling the effects of cultural diversity in teams: A meta-analysis of research on multicultural work groups. *Journal of international business studies*, 41(4), pp.690-709.
- [44] Stewart, G.L., (2006). A meta-analytic review of relationships between team design features and team performance. *Journal of management*, 32(1), pp.29-55.
- [45] Suleiman Awwad, M. and Kada Ali, H., (2012). Emotional intelligence and entrepreneurial orientation: The moderating role of organizational climate and employees' creativity. *Journal of Research in Marketing and Entrepreneurship*, 14(1), pp.115-136.
- [46] Turner, R.J., Wheaton, B. and Lloyd, D.A., (1995). The epidemiology of social stress. *American Sociological Review*, pp.104-125.
- [47] Van der Vegt, G.S. and Janssen, O., (2003). Joint impact of interdependence and group diversity on innovation. *Journal of management*, 29(5), pp.729-751.
- [48] Van Dijk, H., van Engen, M.L. and van Knippenberg, D., (2009). Work group diversity and performance: A meta-analysis. In *Academy of Management Annual Meeting, Chicago, IL*.
- [49] Van Knippenberg, D., Dawson, J.F., West, M.A. and Homan, A.C., (2011). Diversity faultlines, shared objectives, and top management team performance. *Human Relations*, 64(3), pp.307-336.

- [50] Van Knippenberg, D., De Dreu, C.K. and Homan, A.C., (2004). Work group diversity and group performance: an integrative model and research agenda. *Journal of applied psychology*, 89(6), p.1008.
- [51] Van Knippenberg, D., De Dreu, C.K. and Homan, A.C., (2004). Work group diversity and group performance: an integrative model and research agenda. *Journal of applied psychology*, 89(6), p.1008.
- [52] Wang, X. and Nayir, D.Z., (2006). How and when is social networking important? Comparing European expatriate adjustment in China and Turkey. *Journal of International Management*, 12(4), pp.449-472.
- [53] Warr, P., (1994). Age and employment.
- [54] Wegge, J., Roth, C., Neubach, B., Schmidt, K.H. and Kanfer, R., (2008). Age and gender diversity as determinants of performance and health in a public organization: the role of task complexity and group size. *Journal of Applied Psychology*, 93(6), p.1301.
- [55] Williams, K.Y. and O'Reilly III, C.A., (1998). A review of 40 years of research. *Res Organ Behav*, 20, pp.77-140.
- [56] Yukl, G., (1999). An evaluation of conceptual weaknesses in transformational and charismatic leadership theories. *The leadership quarterly*, 10(2), pp.285-305.
- [57] Zenger, T.R. and Lawrence, B.S., (1989). Organizational demography: The differential effects of age and tenure distributions on technical communication. *Academy of Management journal*, 32(2), pp.353-376.