



## **Do Different Levels of Management Impact Employee Intrapreneurial Behavior Independently? A Multi-Mediation Analysis**

Wasim Abbas Awan<sup>1</sup>, Mahrukh Askari<sup>2</sup>, Hina Amin<sup>3</sup>

<sup>1</sup> Shaheed Zulfiqar Ali Bhutto University of Law, Karachi, Pakistan. Email: Wasimabbas0092@outlook.com

<sup>2</sup> Khadim Ali Shah Bukhari (KASB) Institute of Technology, Karachi, Pakistan. Email: mahrukh@kasbit.edu.pk

<sup>3</sup> Khadim Ali Shah Bukhari (KASB) Institute of Technology, Karachi, Pakistan. Email: Hina.amin@kasbit.edu.pk

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### **ABSTRACT**

Emerging trends and economic growth have given managers possibilities while posing challenges to conventional management practices. Managers must develop innovative approaches to coping with these difficulties. They may be able to overcome new obstacles and foster a creative workplace where workers are inspired to come up with fresh ideas with the aid of these new ways of working. Thus, enabling intrapreneurial conduct. This study looks at the characteristics that new ways of working create to drive employees to engage in intrapreneurial conduct, as mediated through social interaction and transformational leadership. Collecting a sample of 300 respondents from the informational technology industry, this study tested a multi-mediation model using PLS-SEM. The study concluded that combined social interaction and transformational leadership partially mediates the relation between new ways of working and employee intrapreneurial behavior. The study also focused on the moderating role of each management level and found that middle-level management foster employee intrapreneurial behavior stronger than first and top level. This study further paves the way for practitioners and researchers by presenting implications and providing future directions.



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**Corresponding Author's Email:** [Wasimabbas0092@outlook.com](mailto:Wasimabbas0092@outlook.com)

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## **1. Introduction**

The introduction of new technology and continuous developments in the global setting has created a demanding environment for enterprises. Firms are leveraging and improving their capacities to generate new values and competitive work environments to drive their people to investigate and capture the prospects of technical breakthroughs and intellectual growth (Rigtering & Weitzel 2013). This organizational growth and opportunity-seeking activities need organizations to encourage their staff to engage in creative entrepreneurial activity.

Intrapreneurs work in organizations to innovate and generate new ideas (Gerards et al., 2021; Rigtering et al., 2019; Rigtering & Weitzel, 2013). Intrapreneurs generate new ideas and devise innovative methods in the best interests of their organizations (Gawke et al., 2019; Jong et al., 2015). Today, with the advancement of management practices, many organizations are implementing new ways of working to save time and address mobility issues. Several researchers (Gerards et al., 2018, 2021; Hornsby et al., 2002; Jong et al., 2015; Kuratko et al., 1990) have demonstrated that adopting contemporary working practices, i.e., new ways of working, in an organization stimulates intrapreneurial behavior.

Intrapreneurial activities among employees do not mature in isolation. Therefore, organizations that wish to capitalize on their employees' ideas must provide an atmosphere that fosters creativity and entrepreneurial abilities (Kuratko et al., 1990; Mustafa et al., 2018). According to Kingma (2019), adopting new ways of working is equivalent to developing new types of social workspaces. In these workspaces, technical and architectural aspects are integrated and displayed systematically.

According to Peters et al. (2014), new ways of working aim to promote autonomy, flexibility, trust relationships, and independence through interactive computer technology. However, firms' escalating mobility, flexibility, and IT integration problems have diminished employee connection among colleagues, seniors, and juniors at various hierarchical levels. It has posed a new challenge for corporations and limits intrapreneurial behavior development.

Since intrapreneurial behavior among employees in an integrated approach— in a way that pluralism and social exchange among employees help generate novel ideas (Bouncken et al., 2018; Gerards et al., 2018; Heinze & Weber, 2015). Therefore, organizations are highly concerned about exploring how new ways of working help organizations attain intrapreneurial goals (Badoiu et al., 2020; Gerards et al., 2018). Given this concern, this study attempts to identify the mechanism to foster employee intrapreneurial behavior. Following Blanka (2019), this study considers intrapreneurial behavior as an individual-level construct and analyzes the role of transformational leadership and social interaction using parallel mediation (Gerards et al., 2021). Previously, several studies have suggested investigating the role of vertical social exchange among different levels of management (Gerards et al., 2021). For that reason, this study probes the moderating role of different levels of management in a moderated mediation relation between new ways of working and employee intrapreneurial behavior (Blanka, 2019; Hornsby et al., 2002; Kuratko et al., 1990).

Consequently, this study has four purposes. First, examine the effect of new ways of working on employee intrapreneurial behavior. Second, to identify whether leadership style helps to attain intrapreneurial behavior. Third, to evaluate the role of social interaction in reaching intrapreneurial goals. Last, to analyze if different levels of management foster intrapreneurial behavior among employees differently.

## **2. Literature Review**

### **2.1. Employee intrapreneurial behavior (EIB)**

Intrapreneurial conduct is employees' inventive, proactive, and risk-taking behavior within a company. The term intrapreneurship refers to a process of entrepreneurship within organizations that leads to innovative activities such as starting new business ventures, introducing new products and services, introducing new technology in the workplace, new administrative techniques, and devising competitive strategies (Gerards et al., 2021; Jong et al., 2015; Mustafa et al., 2018; Rigtering & Weitzel, 2013). Similarly, it is an act of discovering possibilities, generating ideas, developing new goods, and developing new business lines within a company (Hornsby et al., 2009; Kuratko et al., 1990)

Several authors explain intrapreneurs as corporate entrepreneurs in the context of creative idea generating and product creation. However, both the concepts are distinctively different, and literature explains both concepts contrarily. It contrasts with the latter in that corporate entrepreneurship is delegated from higher levels of management, whereas employees begin intrapreneurial conduct at the lower levels (Gawke et al., 2017, 2019; Gerards et al., 2021). Even though some academics believe that companies are the ones that launch intrapreneurship, others contend that it is an individual attribute that leads to innovation (Hughes et al., 2018; Kuratko et al., 1990; Mustafa et al., 2018; Rigtering & Weitzel, 2013). In this research, following the latter, we conceptualize intrapreneurial behavior as an individual's discretionary behavior initiated by employees working at lower levels of management.

## 2.2. New Ways of Working (NWW)

New Ways of Working is a combination of time and space arrangement in an organization to cope with new challenges (Nijp et al., 2016). The virtual world and IT has raised the need to synchronize and mobilize the employees, thus enhancing the necessity of NWW (Duque et al., 2020). Several researchers have generalized NWW towards different aspects of leadership (De Leede & Heuver, 2016; Stoffers et al., 2015) and Intrapreneurship (Duque et al., 2020; Gawke et al., 2017; Gerards et al., 2018, 2021; Hornsby et al., 2009; Nijp et al., 2016; Peters et al., 2014).

Initially, de Leede & Heuver (2016) explained NWW in terms of three main facets of flexibility, work from home and distant teamwork. Further, Hoendervanger and Van der Blonk (2013) gave four significant classifications of NWW: flexibility, production independence, time and location, and access to organizational knowledge. These four facets, however, do not cover the relationship aspect associated with NWW (Christersson et al., 2017). The researchers have established and used five facets of NWW (Gerards et al., 2018, 2021). These are (i) time and location independent work, (ii) management output, (iii) access to organizational knowledge, (iv) flexibility in working relations, and (v) freely accessible open workplace.

## 2.3. Development of Hypotheses

This study is based on Homans' (1958) social exchange theory, further advanced by Blau (1964). Blau (1964) added organizational support's role in explaining social exchange theory in the corporate context. Cropanzano and Mitchell (2005) empirically evaluated the hypothesis and established these interactions as interdependent partnerships based on trust, loyalty, and mutual commitment. White et al. (2020) later merged social exchange theory and signaling theory to explain flexible leave and the employee-employer interaction. Cook et al. (2013) described social exchange theory as individual or group interaction.

Based on the social exchange theory, the argument posits that employees' behaviors are reciprocal. This exchange may have tangibility, i.e., employees reciprocate in exchange for a reward. Social exchange theory also discusses the effectiveness of relationships and explains that effective relations among employees lead to confidence building and promote risk-taking behavior among them (Hughes et al., 2018; Rigtering & Weitzel, 2013). Based on the postulate mentioned earlier, this study develops that NWW creates a dynamic environment that leads to psychological freedom and initiates risk-taking behavior. Consequently, it motivates employees to embrace innovativeness in the workplace and depict intrapreneurial behavior (Cook et al., 2013; Homans, 1958). Therefore, this study hypothesizes that:

**H<sub>1</sub>:** New Ways of Working (NWW) is positively related to employee intrapreneurial behavior

The implementation of NWW has brought challenges for managers in various ways. For example, time and location independence, management by output, and flexibility have confronted managers with non-physical and indirect interaction that requires dynamic leadership qualities that encourage responsibility, flexibility, and innovation (De Leede & Kraijenbrink, 2014). Here, the communication is based on IT (Avolio et al., 2008), and the role of the leader becomes essential in a way that leaders facilitate their employees to generate new ideas for the organization (De Leede & Heuver, 2016). In this scenario, the role of transformational leaders gets attention. Transformational Leaders are always attentive and responsible for employees' well-being and esteem. They support their employees to the extent that they are relieved of job stress. In return, it eliminates employees' fears and helps generate new ideas (Bass, 1999; Baudewijns et al., 2015).

Transformational leadership can be explained as managers who inspire their employees to enhance their vision and horizon and initiate new endeavors. They do it to achieve organizational goals, seize opportunities, and integrate efforts for the organization's future success (Bass, 1999). It reciprocates in inculcating intrapreneurial behavior among employees (Gerards et al., 2018, 2021). Transformational leaders appreciate new ideas,

delegate authority, create passion, and provide complete support in implementing novel solutions (Moll & de Leede, 2016). Therefore, they play a supporting role in displaying intrapreneurial behavior among employees. In this view, this study hypothesizes that:

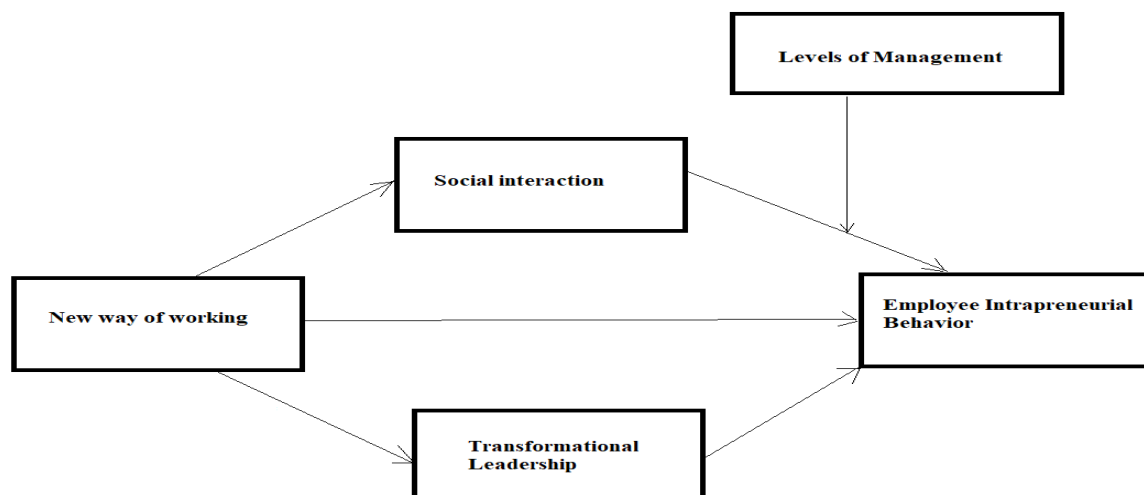
- H<sub>2a</sub>:** Transformational Leadership is positively related to employee intrapreneurial behavior.
- H<sub>2b</sub>:** Transformational Leadership positively mediates the relationship between new ways of working and employee intrapreneurial behavior.

The virtual work environment and reduced conventional work routines have changed working relationships among employees (Kingma, 2019). These relationships result in trust, individual networking, and informal group building. A number of researchers (Baudewijns et al., 2015; Gerards et al., 2018) have examined the relation between NWW and social networking. However, the results are inconsistent (Gerards et al., 2021; Kotera & Correa Vione, 2020; Morganson et al., 2010).

The literature discusses that combining social interaction and networking nurtures innovative ideas and the desire to take risks. A highly integrative communication system may help form a co-competitive environment among employees working from a distance. It facilitates knowledge sharing, formally and informally, to create, transfer, improve and integrate innovative ideas (Bouncken et al., 2018). Therefore, developing such organizational pluralism promote new ideas (Eckhardt & Shane, 2003) that helps in developing intrapreneurial behavior (Gerards et al., 2021; Rigtering & Weitzel, 2013). In this view, this study hypothesizes that:

- H<sub>3a</sub>:** Social interaction is positively related to employee intrapreneurial behavior.
- H<sub>3b</sub>:** Social interaction positively mediates the relationship between new ways of working and employee intrapreneurial behavior

Intrapreneurship is a bottom-up approach that initiates innovative ideas from an organization's platform (Deprez et al., 2018; Kuratko et al., 2005; Rigtering & Weitzel, 2013). Hayton & Kelley (2006) and Kuratko et al. (2005) defined intrapreneurship as a multi-level behavior in an organization. Similarly, Blanka (2019) states that any employee can initiate intrapreneurial behavior at any level. Also, Kuratko et al. (2005) elucidate that interaction at all levels is essential to begin intrapreneurial behavior. In contrast, Hornsby et al. (2002) explain the impact of middle managers' innovative behavior and interactions with their supervisors and subordinates. They discuss that middle managers' interaction with different hierarchical levels makes it convenient for them to initiate, communicate and implement new ideas in an organization. Their encouragement inspires managers at other levels to generate new strategic alternatives. On the other hand, Quin (1983) recommended that intrapreneurial behavior is encouraged when top-level managers' interaction with different levels is encouraging. Based on the above discussion, this study hypothesizes that:



**Figure 1: Research model**

**H4:** Different levels of management moderate the positive relationship between social interaction and employee intrapreneurial behavior differently.

### 3. Methodology

The study is quantitative and uses a cross-sectional design to collect data. The study utilizes a survey method to collect data using pen and paper. Questionnaires were given out to the respondents to collect the empirical data for this study. This study utilizes non-probabilistic sampling—convenience and snowball—to collect data. The questionnaire was divided into two sections. The first section was regarding demographics, including managerial levels to which they belonged. This question aided us in developing our fourth hypothesis. The second section was related to variables—new ways of working, social interaction, transformational leadership, and employee intrapreneurial behavior. All items of the variables were measured using five points Likert scale, where one strongly disagrees, and five strongly agree.

This study analyzes data in two steps. Initially, structural equation modeling was developed to identify direct and indirect relations. Later, in the second step, ANOVA is run to see the effect of each managerial level on the relation between social interaction and employee intrapreneurial behavior.

The demographics of the sample are given in Table 1a. The data was collected from the services sector, particularly software houses in Karachi. A total of 850 questionnaires were distributed, and 340 were returned. The response rate was 40%; twenty questionnaires were incomplete, and twenty were eliminated during the data screening process. Therefore, 300 questionnaires were considered for further statistical analysis. Table 1a shows that most of the sample consists of male respondents, i.e., 56%. Most respondents' age group is 31-40 years and constitutes 44% of the sample. The educational level of respondents is divided into undergrad and grad, comprising 78% of the sample. In terms of experience, our sample consists of 40% of the respondents having 2 to 4 years of experience. Considering the levels of management, nearly 48% of the respondents are working at the first level of management. Table 1b shows the inter-correlation, mean and standard deviation (SD).

**Table 1**  
**Demographics**

<b>Gender</b>	<b>Frequency</b>
Female	132
Male	168
Age	
20-30	128
31-40	134
41-50	25
51 or above	13
Education	
Undergraduate	235
Graduate	65
Year in Organization	
Less than 2 years	114
2-4 years	122
5-7 years	20
More than 7 years	44
Working at	
First Level of Management	143
Second Level of Management	129
Top-level of management	28

Table 2 displays the sources from where the items are adopted and reveals that all items are statistically reliable. Each item of the respective construct meets the criteria of more than 0.7 (Fornell & Larcker, 1981), and the factor loadings ranged from 0.71 to 0.95 (Hair et al., 2019). The Cronbach Alpha, composite reliability (CR), and average variance extracted (AVE) values of all variables show that questionnaire is statistically significant for further analysis (Bagozzi & Yi, 1988; Cronbach, 1951; Hair et al., 2019).

**Table 1b**  
**Mean, SD, and inter-correlation**

	<i>Mean</i>	<i>SD</i>	<i>NWW</i>	<i>SI</i>	<i>TL</i>	<i>EIB</i>
NWW	4.152	1.027	1	0.340***	0.363***	0.416***
SI	4.627	1.096		1	0.338***	0.454***
TL	3.453	0.845			1	0.409***
EIB	3.785	0.958				1

\*\*\* Significance at  $p < 0.001$ **Table 2**  
**Construct Reliability and Validity**

Constructs	Cronbach's Alpha	R	AVE	Scale source
New Ways of Working (NWW)	0.800	0.857	0.502	Gerards et al., (2018)
Employee Intrapreneurial Behavior (EIB)	0.911	0.930	0.690	Gawke et al., (2019)
Social Interaction (SI)	0.722	0.844	0.643	Gerards et al., (2018)
Transformational Leadership (TL)	0.807	0.884	0.718	Carless et al. (2000)

After establishing the construct's reliability, the discriminant validity of the construct is determined using the Fornell-Larcker test, the Heterotrait-Monotrait (HTMT) ratio, and cross-loadings (Fornell & Larcker, 1981; Hair et al., 2019). The tests are done to see how much one variable's items differ from those of other variables. The Fornell-Larcker test findings in Table 3a indicate that the AVEs of each variable are greater than other variables, demonstrating their validity (Chin, 1998). HTMT results, in Table 3b, are less than the 0.89 criteria also demonstrates the instrument's discriminant validity (Clark & Watson, 1995). Table 3c shows the model fit summary and shows that model is statistically fit, as NFI is less than 0.9.

**Table 3a**  
**Fornell-Larcker Criterion**

	<i>EIB</i>	<i>NWW</i>	<i>SI</i>	<i>TL</i>
EIB	0.831			
NWW	0.266	0.708		
SI	0.361	0.664	0.802	
TL	0.216	0.472	0.607	0.848

**Table 3b**  
**Heterotrait-Monotrait Ratio (HTMT)**

	<i>EIB</i>	<i>NWW</i>	<i>LoM</i>	<i>SI</i>	<i>TL</i>
EIB					
NWW	0.302				
LoM	0.219	0.087			
SI	0.435	0.859	0.172		
TL	0.242	0.567	0.168	0.782	

**Table 3c**  
**Fit Summary**

	<i>Estimated Model</i>
SRMR	0.117
d_ULS	2.084
d_G	0.786
Chi-Square	420.918
NFI	0.618

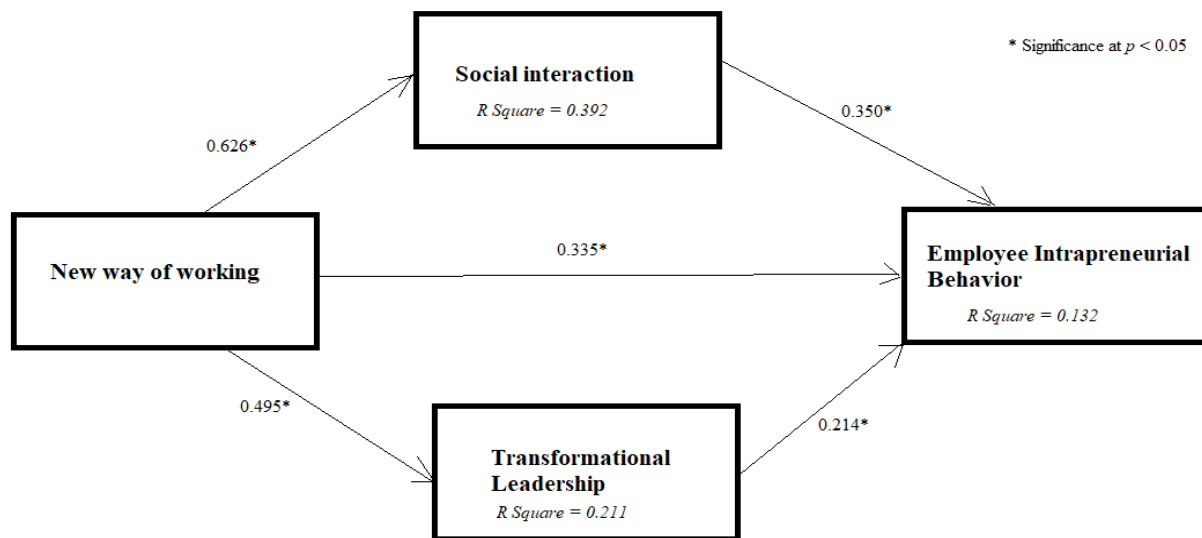
Tables 4 and 5 explain the path analysis of the structural equation model using Smart PLS software. The result shows that social interaction (0.350,  $p < 0.05$ ) positively predicts employee intrapreneurial behavior stronger than the transformational leader (0.214,  $p < 0.05$ ). Also, a new way of working significantly and positively predicts social interaction (0.626,  $p < 0.05$ ) and transformational leadership (0.459,  $p < 0.05$ ). The direct effect of new ways of working on employee intrapreneurial behavior is significant (0.335,  $p < 0.05$ ). Similarly, the indirect effect of the new way of working on employee intrapreneurial behavior through social interaction (0.219,  $p < 0.05$ ) and transformational leadership (0.098,  $p < 0.05$ ) is significant. The path analysis and  $R^2$  are depicted in Figure 2.

**Table 4**  
**Path coefficients**

<b>Paths</b>	<b>Paths coefficients</b>	<b>Significance (<math>p &lt; 0.05</math>)</b>	<b>Hypothesis</b>
NWW→EIB	0.335	Yes	Supported
NWW→SI	0.626	Yes	Supported
NWW→TL	0.495	Yes	Supported
SI→EIB	0.350	Yes	Supported
TL→EIB	0.214	Yes	Supported

**Table 5**  
**Direct and indirect effects**

<b>Effect</b>	<b>Value</b>	<b>Significance (<math>p &lt; 0.05</math>)</b>	<b>Hypothesis</b>
Direct effect (NWW→EIB)	0.335	Yes	Supported
Indirect effect through SI (NWW→SI→EIB)	0.219	Yes	Supported
Indirect effect through TL (NWW→TL→EIB)	0.098	Yes	Supported
Total indirect effect	0.317	Yes	-
Total effect	0.652	Yes	-



**Figure 2: Path analysis**

This study adopted Poisson regression with SEM to test the moderating role of different management levels concerning social interaction and employee intrapreneurial behavior. This study kept the first level of management as the base category. It is because literature discusses that employee intrapreneurial behavior stems from the first level (Kuratko et al., 2005). Therefore, middle-level management and top-level management were compared with first-level management.

Firstly, the data file was split based on middle-level and top-level. Secondly, the moderating effect of each level was tested separately in Smart PLS. Later, following Aiken and West (1991), the slope of each level was tested independently.

**Table 6**  
**level-based interaction**

	<b>Gradient of Slope</b>	<b>T-value</b>
1st step		
Middle Level	0.240	5.367*
First Level	0.213	1.944*
2nd step		
Top Level	0.234	5.232*
First Level	0.202	2.027*

\*Significant at  $p < 0.05$

The results in Table 6 indicate that social interaction at the middle-level influences employee intrapreneurial behavior differently than social interaction at the first level. Similarly, top-level social interaction influences employee intrapreneurial behavior differently than first-level management. Though there is a marginal difference in the slope, the significance of each slope allows the researcher to conclude the varying moderating role of each level of management.

#### **4. Discussion and conclusion**

The study aims to investigate the mechanism through which NWW impacts EIB. Using the lens of social exchange theory, it proposes the role of social interaction and transformational leaders as multiple parallel mediators in the relation between NWW and EIB. Also, the study hypothesizes the moderating role of different management levels in the relation between SI and EIB. Henceforth, using a moderated-mediation approach, this study investigates the elements that encourage employee intrapreneurial behavior among employees in the services sector, particularly in information technology (i.e., software houses).

According to the findings, there is partial mediation between NWW and EIB through social interaction and transformative leadership. According to the study, TL is a weaker predictor of EIB in a parallel mediation with SI. Furthermore, the moderating impact of management levels between SI and EIB demonstrates that each level has a considerable favorable influence on EIB independently. This finding differs from previous studies. Those studies found that first-level management engagement is more productive than other levels (Hornsby et al., 2002; Kuratko et al., 2005). However, the current study shows that interaction at the middle level encourages EIB more than at the first and second levels.

This study extends the work of several researchers (Gawke et al., 2017, 2019; Gerards et al., 2018; Mustafa et al., 2018; Stoffers et al., 2015) on employee intrapreneurial behavior and responds to their call for research. The study has two broader novel contributions. First, the primary addition of this research to the existing literature is identifying a combined influence of NWW on employee intrapreneurial behavior. Previously, each facet of NWW was researched, despite the recommendation of considering it as one construct. Second, this study contributes conceptually and builds on the work of Hornsby et al. (2009). Following the discussion of Hornsby et al. (2009), this incremental study attempts to analyze the interactional effect of various managerial levels on EIB.

#### **5. Implications**

When managers apply new ways of working and successfully engage with their employees in a newly created encouraging environment, the employees start presenting fresh ideas. These ideas, either new or solutions to existing problems, contribute to the organization's continued development. Keeping up with ongoing worldwide growth, offering independent time and location facilities, allowing them freedom and flexibility in working processes and relationships, and providing them with complete access to all essential information stimulates them to act as entrepreneurs inside the organization (intrapreneurs). Thus, they can positively contribute to the organization's growth and development by providing new ideas for innovation in product lines, services, and markets— a few to mention seizing chances and dealing with new obstacles.

The study also enforces the social exchange among employees. Employees in any social entity expect reciprocal behaviors from management, leaders, and peers. When organizations provide a conducive social workplace (incorporating new ways of working), employees turn to reciprocate with intrapreneurial behavior. This reciprocation is through social interaction and transformational leaders. Therefore, organizations shall provide an environment where employees communicate and share their ideas with psychological freedom. Here, the provision of psychological freedom is the responsibility of the manager. By encouraging employees' input, coaching, and providing guidance, a few to mention, managers decrease their fears. S/he (manager) demonstrate two things with their behaviors. First, employees' ideas are heard, and second, employees' contribution is valuable to the organization. These behaviors enable confidence among employees and allow them to embrace discretionary behaviors (i.e., intrapreneurial behavior). In this way,



they tend to reciprocate with novel ideas creatively and become entrepreneurs working for their organizations' betterment (growth and performance).

This study also suggests policy recommendations to service sector organizations. The organizations shall provide autonomy to their employees. This provision of autonomy is related explicitly to the work settings independent of time and location. Similarly, organizations are also advised to allow their employees to determine their work-related processes. Likewise, organizations shall inculcate the transformational leader's characteristics among their managers. In order to inculcate such characteristics, organizations may devise training and promote a transformational leadership style. Additionally, organizations shall encourage both; horizontal interaction (among peers) and vertical interactions (manager-employee) and provide avenues and opportunities to increase social interactions.

## 5.1 Limitations and future directions

The current study has some limitations; therefore, the results shall be cautiously generalized. First, the study is cross-sectional and has used non-probabilistic sampling. Thus, the element of bias may prevail. Second, the data is collected from IT-based organizations only. Therefore, the results may not be generalizable to other sectors. Third, the data has been collected from one metropolitan city (i.e., Karachi). In this view, the results may differ from an organization working in other similar cities in the same sector. Fourth, the inclusion criteria were twilled. In this view, the results may vary based on departments at software houses, i.e., app developer vs. user interface (UI) expert.

Future research may benefit from using probabilistic sampling, i.e., stratified random sampling. Currently, the study uses cross-sectional data, which may limit the causality. Therefore, future research may adopt a longitudinal study (or experimental design) to investigate the causality and effects over time. Future research may also conduct a comparative study among different sectors to amplify the role of mediators and to analyze the consistency of the relationship between new ways of working and employee intrapreneurial behavior.

### Authors Contribution

**Wasim Abbas Awan:** Conceptualization of the idea, theory development, data analysis, proofreading, review, interpretation of results  
**Mahrukh Askari:** generation of the idea, data collection, data analysis, writing results

**Mahrukh Askari:** Literature review, drafting, data analysis

**Hina Amin:** Sorting, compiling, drafting, and writing manuscripts, data collection, data analysis

### Conflict of Interests/Disclosures

The authors declared no potential conflicts of interest w.r.t this article's research, authorship, and/or publication.

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