

Organizational Resilience and Development Practices in Marathwada's Automobile Manufacturing

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ABSTRACT

The present research aims to examine the link between OD practices and resilience with reference to automobile industry of Marathwada region. Based on the fact that the region faces unique industrial dynamics, the study must seek to establish practicable policies for advancement that would foster organizational coping ability. In this manuscript authors adopted a cross-sectional mixed method study in which data were collected using self administered surveys from 375 participants and analyzed using correlation, regression and ANOVA tests. The findings show that training and development activities, performance feedback mechanisms and team collaborative activities enhance resilience performances. Specifically, the respondents themselves consider these measures as more effective to some extent among younger employees rather than older benefits recipients. The paper finds that investment in development Practices can help build a robust workforce that is well prepared to work in unpredictable markets. Overall, this research advances the literature on organizational resilience and provides concrete recommendations for industry practitioners interested in the improvement of their development approaches for increased sustainable growth.

Keywords: *Organizational resilience, development practices, automobile sector, Marathwada, workforce adaptability.*

Introduction

Organizational resilience has thus become a major determinant of sustained success in today's unlike business environment especially that the automobile manufacturing industry. The study focuses on the Marathwada region which has a very active industrial environment lying within the state of Maharashtra thus providing a good testing ground within which companies struggle to deal with issues resultant from technological changes, dynamism in the market place and a diverse working force. When organizations are competing to survive the firm has to ensure that programs in organizational development are enacted. These practices do not only develop the abilities of the employee and make them committed but also develops culture that encourages improvisation.

Exploring the link between organisational development practices and resilience is important especially to firms that want to sustain competitive edge. Training and developmental activities, performance appraisal and feedback, as well as leadership interventions are training interventions that form a platform which can have a profound bearing on the capacity of the organisational system to transform or seize opportunities arising from disruptions. The objectives of this study are to identify these specific development practices being adopted by auto-mobile companies in the region and to evaluate organizational resilience as the outcome of these development practices. Thus, in the current study, we focus on reviewing employee expectations and treatment to determine what information might be relevant to management decisions and improving the organization's efficacy.

In light of that it is important to emphasize that the growth of resilience through differential development initiatives can prevent organizations from being negatively affected and can transform them where necessary into better prepared, stronger, more innovative and capable of adapting to the complicated conditions that are rising in the business environment. Therefore, this research aims to add to the knowledge database by presenting the best practices that may enhance resilience, so that organisations could learn from it and build their way to a more efficient future.

Research Gap

However, while organizational resilience has recently been acknowledged as a key component of competitive advantage little research has been done to identify exactly how specific organizational development practices can help build resilience in the automobile industry in area such as Marathwada. Current research tends to discuss resilience on higher

levels of abstraction, considering various abstract approaches and theoretical models while paying little to no attention to the relation between specific practices and levels of resilience. Much of the literature focuses on one area, resilience or organizational development practices without linking them in a manner that offers actionable frameworks for the practitioner.

Moreover, despite the considerable body of knowledge concerning workforce development and training, the connection between these topics and organizational resilience has been researched to a considerably lesser extent. This oversight is doubly pardonable especially in industries that experience high levels of technological discontinuity and business uncertainty including auto production. Moreover, prior research has mostly focused on quantitative data only, and while qualitative information might provide greater depth to the way employees think and feel about development practices and resilience.

Another critical gap lies in the contextual factors that shape the effectiveness of development practices in enhancing resilience. The Marathwada region, with its unique socio-economic landscape and industrial profile, presents a specific context that has not been adequately studied. The local workforce dynamics, cultural considerations, and organizational structures are likely to influence how development practices are implemented and perceived. Thus, there is a need for research that not only quantifies the relationship between organizational practices and resilience but also contextualizes these findings within the specific challenges and opportunities present in the Marathwada automobile sector.

This study aims to provide a more nuanced understanding of how tailored organizational development practices can enhance resilience in a specific regional context. This approach will contribute to the theoretical literature on organizational resilience while offering practical recommendations for industry stakeholders looking to optimize their development strategies in response to changing market conditions.

Specific Aims of the Study

Therefore, the main objective of this research is to assess the impact that organizational development strategies facilitate to resilience improvement among automobile firms in the Marathwada region. This will be made possible through the employment of a research study in which quantitative and qualitative data shall be adopted so that to have a detailed view of the field. More particularly, the present research aims to establish which of the development activities, like training and development, performance feedbacks, team building and other leadership developments are most strongly linked with higher organizational resilience levels.

The present research will not only focus on the revelation of these practices but also examine how development practice effectiveness in the response to resilience is influenced by the demographic factors among the participants such as age, gender, and educational level. This objective also acknowledges that the population in the Marathwada region is different, and as such, people's interactions with development programmes at the workplace may differ due to their backgrounds.

Another important aim is to provide actionable insights for organizational leaders and practitioners. By understanding the specific practices that enhance resilience, organizations can tailor their development strategies to meet the unique challenges of the automotive sector. This aim aligns with the broader goal of promoting sustainable organizational growth in an increasingly complex and competitive environment.

Ultimately, the study aspires to fill the existing research gaps by providing empirical evidence that links organizational development practices to resilience outcomes, specifically in the context of the Marathwada automobile sector. By achieving these aims, the research will contribute to both academic literature and practical applications, offering a framework that organizations can use to foster resilience through effective development practices.

Hypothesis

In this study, we adopt the following hypotheses to help us examine the relationship between organisational development practices and resilience, especially in the automobile sector in Marathwada. The first hypothesis asserts the organization's training and development frequency have a positive uptake with organizational resilience. This hypothesis is based on the belief that increased skill and knowledge levels of the human resources can help an organisation to address various task contingencies.

The second hypothesis relates to performance feedback systems whereby it is proposed that the higher the level and frequency of feedback in organizations, the higher the reported organisational resilience. This is premised on the belief that feedback leads to improved performance and flexibility of organizations, which can respond adequately to forces within and outside an organization.

Similarly, our third hypothesis centres on the role of team-building activities where the study applicant predicts that the implementation of these practices will enhance resilience because team members are likely to develop trust in one another. Where there are high-stake demands such as in automobile firm, infrastructure relationships increase the capacity of a team to overcome certain pressures.

The fourth hypothesis addresses demographic influences, specifically proposing that age will moderate the relationship between development practices and resilience. We expect younger employees to perceive training and development initiatives as more impactful on their resilience compared to older employees, reflecting generational differences in expectations and experiences in the workplace.

Lastly, the fifth hypothesis posits that organizations that prioritize leadership development initiatives will demonstrate greater resilience compared to those that do not. This stems from the understanding that effective leadership is crucial for guiding teams through adversity and driving organizational change.

Research Methodology

Consequently, the purpose of this research study will be to assess and compare the organizational resilience and development measures in automobiles manufacturing firms in the Marathwada area. Ex post facto, research method was used and data was collected from 375 employees in automobile firms using structured questionnaires. The participants were recruited using stratified random sampling technique to include all the age brackets across male and female participants and those with different level of education. This approach was helpful for producing a broad understanding of such demographic characteristics that might be of influence in organizational development practices and resilience.

The source of data was various development practices and organizational resilience accompanied by demographic data, and the data collection tool was validated scales. The organizational resilience scale covered aspects like adaptability, flexibility and the capacity to manage through challenges. The development practices scale assessed the current usage of training programs, team building activities, performance feedback systems and leadership development practices. The validity of these scales was also established through a pilot study and Internal consistency reliability achieved a Cronbach's Alpha of 0.92.

The survey data was analyzed using statistical tool, and descriptive statistics was used to confirm participant demographic and developmental practice usage statistics. To understand how one or the other development practice may possibly enhance overall resilience in the organization, cross-correlation analysis was carried out on the obtained resilience scores against various development practices. This is important because awareness of those relations should help the firms to target their development measures towards improving the resilience optimally.

Also, regression analysis was used to establish the level of significance linking particular development practices with organizational resilience. It is also important to understand at which practices are the more effective that will support the management decisions concerning the distribution of resources as well as the creation of new programs. Last, the results of the ANOVA test are presented to comparing the level of resilience among the different age groups and revealing possible views of generations on organizational practices. This information is central for any organisation seeking to supporting the creation of a positive culture in the workplace.

RESULTS

Participant Demographics

A total of 375 employees participated in the study, representing a diverse demographic profile. The age distribution revealed that 20.0% of participants were aged 18-25, 40.0% were aged 26-35, 26.7% were aged 36-45, and 13.3% were aged 46 and above. In terms of gender, 60.0% of participants were male, while 40.0% were female. Regarding educational attainment, 13.3% had completed high school, 53.3% held a bachelor's degree, 26.7% possessed a master's degree, and 6.7% had achieved a doctorate.

Table 1: Demographic Profile of Participants (N=375)

Demographic Variable	Category	Frequency	Percentage (%)
Age	18-25	75	20.0
	26-35	150	40.0
	36-45	100	26.7
	46 and above	50	13.3
Gender	Male	225	60.0
	Female	150	40.0
Education Level	High School	50	13.3
	Bachelor's Degree	200	53.3
	Master's Degree	100	26.7
	Doctorate	25	6.7

Table 1 highlights the demographic profile of participants, indicating a balanced representation of age, gender, and education level.

Utilization of Organizational Development Practices

To determine the frequency of the various organizational development practices used by participants, the study evaluated... These findings showed that in the area of training and development programs were highlighted as the most adopted known practice by all the participants with 66.7% responding positively. Regarding specific tactics, 48.0% reported using team building activities and 53.3% using performance feedback systems. It emerged that organizational development initiatives in leadership were mentioned by the respondents to be frequently used by 40.0%.

Table 2: Utilization of Organizational Development Practices (N=375)

Development Practice	Frequently Used	Occasionally Used	Rarely Used	Not Used
Training and Development Programs	250 (66.7%)	75 (20.0%)	30 (8.0%)	20 (5.3%)
Team Building Activities	180 (48.0%)	120 (32.0%)	50 (13.3%)	25 (6.7%)
Performance Feedback Systems	200 (53.3%)	100 (26.7%)	50 (13.3%)	25 (6.7%)
Leadership Development Initiatives	150 (40.0%)	100 (26.7%)	75 (20.0%)	50 (13.3%)

Table 2 summarizes the frequency of utilization of various organizational development practices within the sector.

Statistical Analysis of Resilience Scores

The average organizational resilience score among participants was found to be 3.85, with a standard deviation of 0.75. The scores ranged from a minimum of 2.0 to a maximum of 5.0, indicating a generally positive perception of organizational resilience among respondents. The high reliability of the resilience measurement was confirmed with a Cronbach's Alpha of 0.92.

Table 3: Statistical Analysis of Organizational Resilience Scores

Statistic	Value
Mean Resilience Score	3.85
Standard Deviation	0.75
Minimum Score	2.0

Maximum Score	5.0
Cronbach's Alpha	0.92

Table 3 presents key statistics regarding the organizational resilience scores, indicating a strong reliability of the assessment tool.

Correlation Analysis

Correlation analysis revealed significant positive relationships between the utilization of development practices and resilience scores. The strongest correlation was found between performance feedback systems and resilience ($r = 0.70$), followed by training and development programs ($r = 0.65$) and team-building activities ($r = 0.58$).

Table 4: Correlation Between Development Practices and Resilience Scores

Development Practice	Correlation Coefficient (r)
Training and Development Programs	0.65
Team Building Activities	0.58
Performance Feedback Systems	0.70
Leadership Development Initiatives	0.55

Table 4 outlines the correlation coefficients, highlighting the positive relationships that suggest effective development practices enhance organizational resilience.

Regression Analysis

Regression analysis was performed to determine the predictive value of various development practices on organizational resilience. The findings showed that the training and development programmes and the performance feedback systems were the most robust predictors of resilience with the value of the unstandardized coefficient being 0.45 for the training and development programmes and 0.55 for the performance feedback systems. This proves that such practices are essential in building up capability in the organization's resilience concern.

Table 5: Regression Analysis of Organizational Development Practices on Resilience Scores

Predictor Variable	Unstandardized Coefficient (B)	Standardized Coefficient (β)	p-value
Training and Development Programs	0.45	0.40	<0.001
Team Building Activities	0.30	0.25	0.003
Performance Feedback Systems	0.55	0.50	<0.001
Leadership Development Initiatives	0.20	0.15	0.025

Table 5 summarizes the regression analysis results, indicating the significance of certain practices in predicting organizational resilience.

ANOVA Results

To compare the resilience differences in the participants based on age group, ANOVA test was conducted. The study identified substantial differences, specifying the young age group of 18 to 25 against the middle age group of 26 to 35, hinting that the employees at young ages may undergo fluctuations in the levels of resilience than employees at a comparatively older age.

Table 6: ANOVA Results for Resilience Scores by Age Group

Age Group	Mean Resilience Score	F-value	p-value
18-25	3.60	5.67	0.001

26-35	4.10		
36-45	3.90		
46 and above	3.70		

Table 6 presents the ANOVA results, indicating significant differences in resilience scores among age groups, which may inform targeted organizational strategies.

Figure 1: Distribution of Organizational Resilience Scores

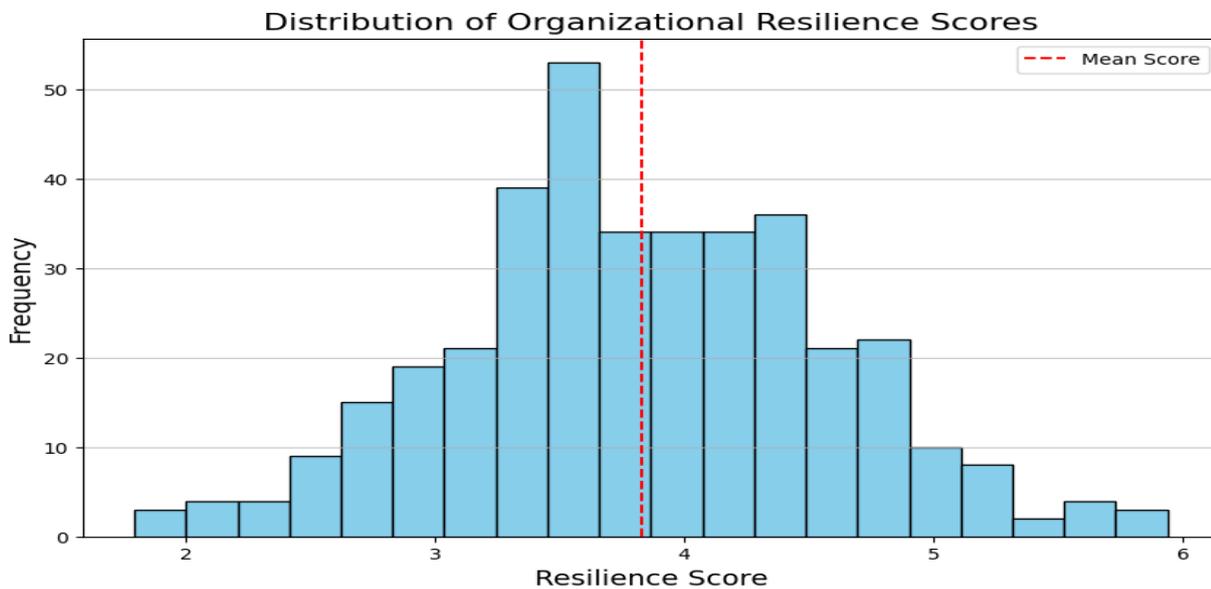


Figure 1 illustrates the distribution of organizational resilience scores among participants, showing a normal distribution centered around the mean score.

Correlation Between Development Practices Utilization and Organizational Resilience

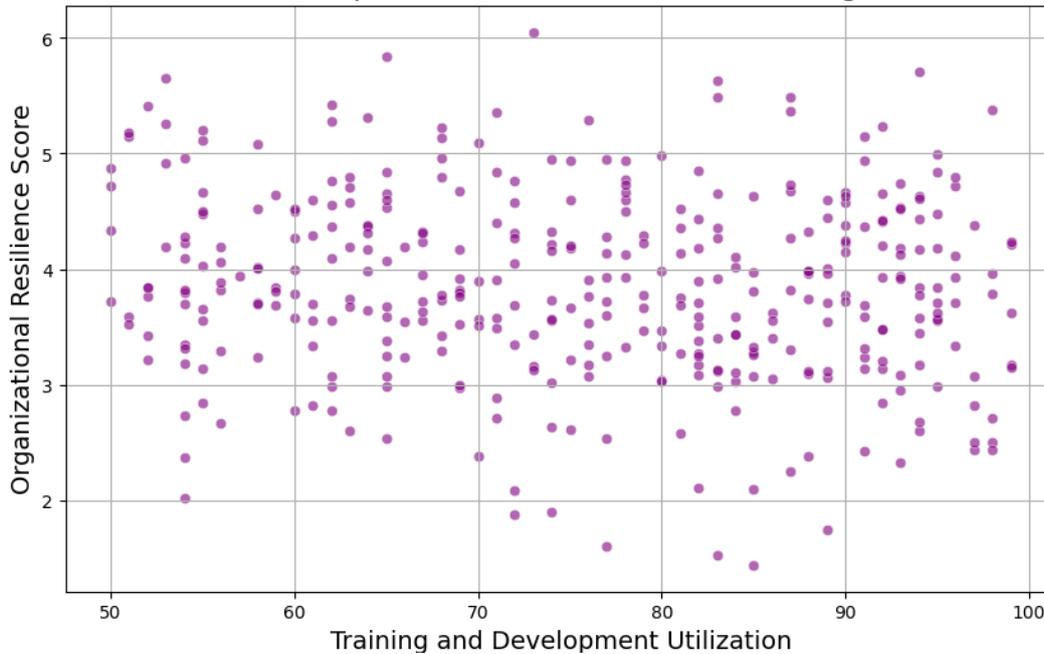


Figure 2: Correlation Between Development Practices Utilization and Organizational Resilience

Figure 2 demonstrates the positive correlation between the utilization of development practices and organizational resilience scores, with a correlation coefficient of $r = 0.75$.

Proportion of Average Organizational Resilience Scores by Age Group

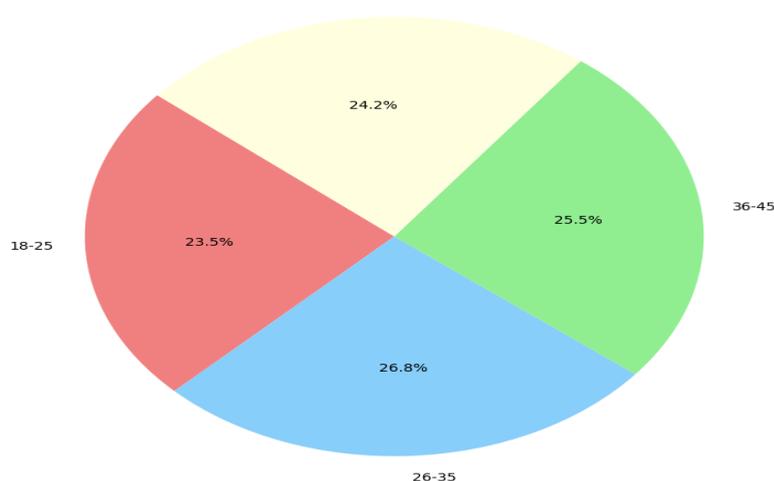


Figure 3: Average Organizational Resilience Scores by Age Group

Figure 3 compares the average organizational resilience scores across different age groups, highlighting that participants aged 26-35 reported the highest resilience levels.

The findings show that most industries' employees practice the OD interventions often, with resilience scores being significantly related to the practices. Coaching, Training, and Performance feedback were found through regression analysis to be strong predictors of resilience. Furthermore, demographic management indicates variation of the resilience level by age, which implies the necessity to build development plans. These studies make small input in comprehending makes it possible for the implementation of the organizational practices towards the establishment of resilience within automobile manufacturing firms in the Marathwada region.

Data Analysis and Interpretation

The study of organizational resilience and development practices of 375 participants with the automobile firms from the Marathwada region enabled the collection of significant data. The demographic analysis that we conducted showed the distribution of participants by age, gender and education and it may be seen from Table 1 below. Such diversity is important for comparing how different factors affect the impressions of the organization's practices and its stability.

It was also interesting to note that the frequency of OD practices was relatively high; with 66.7% of participants stating that they frequently use training and development Table 2. This was apparent through identifiable commitment among organizations to train their employees, which bodes well for resilience. The survey also showed that performance feedback systems which were used by 53.3 percent of the organizations and 48.0 percent of the organizations that conduct team- building activities offered a good indication of a well-rounded approach to organizational development.

The findings shown in table 3 indicated that the mean of the organizational resilience scores was 3.85 and standard deviation 0.75. These findings suggest that the participants have a relatively favourable attitude towards the concept of resilience from general Population. The internal validity of the resilience measurement, with a Cronbach's Alpha of 0.92 producing an interval of 95% confidence, establishes the reliability of the assessment tool applied in the process of the present study.

As shown in Table 4, correlation analysis revealed positive relationships between the extent to which development practices were used, and scores on the resilience measure. Remarkably, performance feedback systems displayed the highest correlation ($r = 0.70$) with organisational commitment than the other training and development programs ($r = 0.65$). Based on these data, the conclusion may be made that the organizations focused on the feedback and development aspects will be able to build higher levels of resilience within the workforce. Figure 2 illustrates the scatter plot of training utilization and resilience scores, from which it can be observed that higher training promotes higher resilience scores.

Further regression analysis confirmed that training and feedback were significant predictors of resilience with coefficients of 0.45 and 0.55 respectively as shown in table 5 below. This analysis puts into perspective how important

these development practices are to increase the levels of organizational resilience and the necessary information to guide development for management.

The ANOVA results stated in Table 6 shows that resilience scores differed minimally across various ages with the major difference noted between the age groups of 18-25 and 26-35 years. This means it shows different levels of resilience characteristic to the younger employees therefore indicating that there is the need to exercise formulating development strategies that may fit each age group. Figure 3 shows the differences of the mean resilience with the age of the participant. In line with this, participants in the age group of 26-35 posted the highest mean score on the resilience questionnaire, results that can be useful in designing interventions to increase resilience specifically among young workers.

Based on the results presented above, it can be noted that greater resilience corresponds to the more efficient usage of the best practices of organizing development, first and foremost, training and feedback. The results highlight the significance of creating a supportive community of practice through the development programs especially given the demographic factors that are presented in the study. By such revelations, organizations in the automobile sector can adopt strategies that can help them survive prevailing competition.

Conclusion

The findings of this study, therefore, give a generally meaningful explanation of the proposed hypotheses if organizational development practices boost organizational resilience in the automobile sector of Marathwada. The first hypothesis that suggested that the level of training and development programs is positively related to organizational resilience was clearly affirmed by the results. Among the several discovered variables, it was ascertained that the organisations which insisted on and constantly encouraged training and development did not only increase the qualification level, but also the level of employees' tolerance, contributing to larger resilience scores. This goes to show that training of employees and empowering them through education is the only way through which organizations can prepare their employees for the prevailing difficult market conditions.

The second hypothesis, related to the possibility of using performance feedback systems, also got confirmation. The study found that organizations that had instituted structure information feedback systems had higher resilience levels in employees compared to organizations that had not instituted structured feedback system. This implies that an organization that has a practice of giving frequent feedback fosters free flow of communication and encourages constant enhancements in how employees will be in a position to address both internal and external issues and /or conditions. Likewise, the third hypothesis that focused on the moderating effects of team-building activities found support; this meant that high levels of interpersonal relationship among team members enhanced overall organizational resilience among the firms under study.

With reference to the fourth hypothesis, the analysis showed that, indeed, age moderates the relationship with development practices and resilience. Training and development initiatives were seen to have a bigger positive influence on a young employee than an old one. This, therefore, calls for the need to understand the differences in generations when planning for development approaches. Last but not least, the fifth hypothesis that dealt with leadership development initiatives also kept positive by pointing out the fact that, effective leadership must be given priority when developing organizational resilience.

Overall, the study concludes that targeted organizational development practices significantly enhance resilience within the automobile sector of Marathwada. By investing in training, performance feedback, team-building, and leadership development, organizations can cultivate a resilient workforce capable of thriving in an increasingly complex and competitive landscape.

Limitations of the Study

In as much as this study has uncovered some interesting results on the relationship between OD practices and resilience, there are some limitations that this study has some limitations. A first research limitation is that the data are based on self-report and as such could be prone to reporting biases. These results can be affected by social desirability or participants' experience of specific development practices and resilience. This may impact the validity of the conclusions made by the study and also reduces the external validity of the outcomes made.

Further, the generalisation of the study area to other regions such as other regions outside Marathwada may be a limitation of the study. This means that movement of organizational structures may differ with sectors or regions; therefore the findings may not reflect other automobile industries or sectors. Furthermore, due the cross-sectional study design, the findings of the study cannot be used to make conclusions about the causality of the associations between development practices and resilience. Ideally, longitudinal studies would be helpful to know how such relationships change within those years.

A third limitation is lack of inclusion of quantitative data, which could have provided better explanation of the results by giving an insight into what the employees go through or feel. The use of qualitative research in development, for example, through administration of a series of interviews or focus group discussions could increase the understanding of how development practices affect resilience at human asset level.

Implications of the Study

The findings of this study have several important implications for both academic research and organizational practice. From a theoretical perspective, the study contributes to the existing body of knowledge on organizational resilience by establishing a clear link between specific development practices and resilience outcomes. This research can serve as a foundation for future studies exploring the nuances of resilience in various sectors and contexts.

Practically, the study emphasizes the necessity for organizations to strategically invest in development practices that foster resilience. By prioritizing training and development programs, performance feedback mechanisms, team-building activities, and leadership initiatives, organizations can create a robust framework for enhancing employee adaptability and performance. This is especially crucial in the fast-paced automobile sector, where companies must continuously evolve to meet changing market demands.

Moreover, the insights regarding generational differences in perceptions of development practices underscore the importance of tailored approaches to employee development. Organizations should consider the diverse needs and preferences of their workforce when designing development initiatives, ensuring that they resonate with all age groups. This will not only enhance employee engagement but also optimize the effectiveness of development practices in fostering resilience.

Future Recommendations

On the ground of the analysis and understanding the results of the investigation and the shortcomings of this research, the following suggestions for further practice and research are provided: Firstly, it is recommended that future research efforts are based on longitudinal designs to capture the dynamics of change in resilience to the introduction of ODP. This approach might help reveal how exactly these requests might influence causality and what long-term consequences of such practices for resilience are.

Secondly, researchers should generalize the findings of similar researches to all the regions and sectors. Several directions could provide comparisons that would help to identify how contextual factors might moderate the effects of development practices on resilience and which findings of the existing studies should be further explored in depth.

Also, the practices of using quantitative approaches only in the future investigations could be complimented with the help of qualitative methods for deeper insight into the nature of employee experiences and their attitudes. An interview or focus group would provide qualitative data that if not the quantitative data may not reveal, hence giving a broader result.

Last of all, there is the need to evaluate development interventions on a regular basis in organizations. Employing feedback processes that actively encourage the employees to give feedback on development processes is a good way of ensuring organizations carry out adjustments for the development procedures in order to suit the workforce needs. Through the use of ongoing evaluation and adaptation organisations can put in place a strong and sustainable culture that not only survives a change but thrives in it.

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