
AN EMPIRICAL INVESTIGATION OF EMOTIONAL INTELLIGENCE AS A DETERMINANT OF EMPLOYEE PRODUCTIVITY IN MANUFACTURING INDUSTRIES OF NAGPUR

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Abstract

In the contemporary manufacturing sector, worker performance has turned out to be a very important factor, as regards competitiveness and efficiency of an organization. Besides technical skills and mechanization, the employees do their jobs at a place of work whereby emotional and behavioral attributes, which are concluding forces, are established. The paper will provide an empirical study on the influence of the emotional intelligence on employee productivity in manufacturing industries of Nagpur city. The emotional intelligence is also learnt based on the light of the following key dimensions self-awareness, self-regulation, motivation, empathy and social skills, the productivity of the employees is marked on the level of working in an efficient way, the quality of output, in a timely manner, and approving other employees in their work.

In the research, it is assumed that a descriptive and analytical research design will be utilized in which primary data will be utilized with the assistance of a structured questionnaire and which needs to be administered to the employees in selected manufacturing units of Nagpur. The statistical tools that should be applied to assess the relationship between employee productivity and emotional intelligence are correlation analysis and multiple regression. As it is observed in these findings, it is noticed that there is a positive and strong correlation between emotional intelligence and the degree of productivity to such an extent that the employees with high emotional intelligence demonstrates a better work engagement and less conflict, more collaboration and improved result of performance.

In the paper, the conclusion is that emotional intelligence is a crucial source of psychological resource in the manufacturing companies, which supports the operations and technical skills. It emphasizes how the manufacturing firms should incorporate into their human resource practices the emotional intelligence development programmes in order to achieve the highly productive and resistant labor force. The research has a practical impact on the managers, policymakers as well as the HR professionals who strive to enhance productivity of the workers through the development of the behavioral and emotive abilities.

Keywords: Emotional Intelligence, Employee Productivity, Manufacturing Industries, Human Resource Management, Nagpur

Introduction

The manufacturing industry can be taken as the key to Indian economy since it contributes greatly to the economy in terms of generating employment opportunities, industrial output and development of the region. The industries in the emerging industrial regions such as Nagpur, and their manufacturing industries provide a source of economic stability and growth since it comprises the small, medium and large-scale industries. Consequently, due to the increasing globalization, the pressure of technology and competition is on, and manufacturing organizations are no longer evaluated on the basis of manufacturing machineries, capital investment, and ability to produce anything. Instead, it has been the human resources that have had an incremental shift towards human resources as a strategic

resource particularly the productivity and performance of the working employees who are the ones who have the power to control and streamline business processes and industrial processes. This dynamic situation has made the behavioral and psychological determinants of the employee productivity a vital area of study as well as management research.

They have conventionally cited technical efficiency, skill virtue, compliance to standard procedures, and time and resource wastefulness to be linked with employee productivity in manufacturing industries. However, the present day workplaces are characterized by excessive demands of the jobs, strict deadlines, safety concerns, human coordination, and unremitting pressures to perform. All these might result in emotional issues such as stress, frustration, conflict, and burnout that could adversely affect the output of individuals and the organization at large. Transparency It is hence evident that productivity is no longer a mechanical or technical determinant but, on the contrary, is likely to be highly influenced by the emotional responses of the employees, their personality, and interpersonal behavior at the workplace. This change has caused individuals who study and work in the field to have in mind emotional intelligence as one of the significant factors that may influence employee performance and efficiency.

Emotional Intelligence refers to the capacity of an individual to think, sense, regulate, as well as control feelings and emotions of others and his/her own. It contains some of the competencies believed to be worth working in a workplace such as self-awareness, capacity to control the administration of self-regulation, intrinsic motivation, empathy along with social skills that are essential in working in a workplace. High-EI employees are also less prone to stress, conflict management, communication, and healthy working relationships particularly in the manufacturing setting where the capacity to operate in a team, coordination among departments, supervisory and adherence to safety practices are supreme. These emotional competencies are not only beneficial to enhance the performance of a person, but it is the competencies that assist in enabling a smoother working process and improved performance of the organization.

Though emotional intelligence is increasingly coming into the limelight of service oriented industries, as well, as industries based on knowledge; the applicability of the emotional intelligence with manufacturing industries has not been holistically understood. The manufacturing setting is most often considered to be mechanistic and job-related and less important to emotional and social aspects of work. However, the human element should not be neglected because the workers should cooperate, follow the newest changes in technology, follow the quality indicators, and effectively respond to the appearance of unexpected operational activities. In this regard, emotional intelligence may be a critical facilitator that will help the employees manage the work stress, improve job satisfaction and will be able to continue to be as productive despite the challenging conditions in the industry.

The manufacture industries of Nagpur provide a distinct and specific environment to carry out the research concerning the effect of emotional intelligence on the productivity of the workforce. As a fast industrializing economic hub in the Vidarbha division of Maharashtra, Nagpur boasts of a real state of manufacturing industries including engineering products, textiles, pharmaceutical industries, food processing industries among other supporting industries. These industries usually have multicultural work forces and have skilled, semi-skilled and supervisory employees who tend to be under stress of resources and competition within the market. It is the differences in the organization culture, leadership styles, and employees that defines Nagpur as the most appropriate where to undertake empirical study of the roles that emotional intelligence plays in the determination of productivity under different manufacturing conditions.

Based on available literature, emotional intelligence is associated with a number of work related benchmarks such as job performance, organization commitment, leadership effectiveness and

employee well being positively. However, there is scanty empirical study which particularly examines the manufacturing sectors, and in particular in the region aspect in India. Secondly, majority of the studies are generalized and fail to comment on the realities on the ground of the industrial cluster like Nagpur. This research gap is where the proposed research plans to conduct empirical studies to explore the idea of emotional intelligence as an employee productivity predictor in manufacturing organizations within the city of Nagpur and hence provide region-related data that can be transferred to theory and practice.

It is on this backdrop that the current research paper shall be able to investigate the relationship between employee productivity and emotional intelligence by quantifying significant dimensions of emotional intelligence itself and their impacts on the outcomes of productivity. It is the systematic and empirical nature of the current study approach that is intended to result in novel additions into the growing body of literature on factors of behavior in industrial performance. Further, the implications of this study are bound to offer a convenient implication to the managers and human resource individuals in drafting training and development intervention that elevate the relative levels of emotional competencies, positive working environment and ultimately heightening productivity in manufacturing organizations.

Literature Review

Emotional intelligence (EI) is a psychological phenomenon of a relatively high level, which has received a considerable amount of academic literature which has constantly drawn the attention of many research participants, who have been keen on exploring the influence of such a psychological phenomenon on the conduct and performance of people in a given organizational set up. The first concept of the term emotional intelligence was developed by Goleman (1995) since the author introduced EI as an aspect of capacity to be aware of, understand, manage, and guide emotions of oneself and other individuals. Goleman emphasized the applicability of the emotional intelligence into workplace performance, such as the sense of self-awareness, self-regulation, motivation, empathy and social abilities as the root cause of workplace performance as compared to technical proficiency and mental intelligence. His work has come in as an eye opener because it has put emotional intelligence as among the most predictive factors of occupational success in various fields of application.

In order to expand on this theoretical background, Goleman, Boyatzis and Rhee (2000) had to develop the Emotional Competence Inventory (ECI), which categorised all the competences of the emotional intelligence in specific areas of behaviour, relevant to organisational performance. Based on their study, the emotionally intelligent individuals are highly adaptable, interpersonal, and have the potential of being leaders. This was also aided by Martinez (1997) who pin served the argument emotional competencies are one of the smarts that count in the modern organization since they are capable of enabling employees to cope with pressures in the organizational environment, co-work, and even perform in the dynamic world.

The empirical studies have continuously established positive association in the context of emotional intelligence and work related results. A study by Dhani, Sehwat, and Sharma (2016) in India determined that emotion intelligence and job performance have a strong relationship in the decision making of different industries. Their findings implied that, emotionally intelligent workers were more efficient in their tasks, and more able to make good decisions, and correlated with good inter-personal relationships which leads to a high level of job performance. The studies justified the topicality of emotional intelligence within the context of the Indian organizations where cultures and emotional features influence heavily on the behavior at the workplace.

Other researchers who have researched on emotional intelligence in relation to leadership styles have not been left behind. The study conducted by Chatterjee and Kulakli (2015) aimed to test the

connection that prevailed between emotional intelligence and transactional and transformational style of leadership in the banking sector. They stated that emotional intelligence was closely related with transformational leadership and further displayed more employee engagement and performance. The paper has emphasized the significance of leaders with emotional intelligence in developing productive working environments and the way such leaders impact employees to high performance levels. Equally, Raina and Sharma (2012) explored the entrepreneurs in Rajasthan and found that emotion intelligence played a critical role in transformational leadership performance, therefore, they managed to give organizational success and productivity of the employees.

Besides leadership, emotional intelligence has been established to influence employee well-being and adaptation behavior particularly when they have to work in a distress and uncertainty environment. The study of Gomez, Max, and Bresó (2021) examined the effects of stress related to the COVID-19 pandemic on the performance at work and the role of emotional intelligence that is expected to mediate this impact. Their study also discovered that individuals with higher emotional intelligence were able to endure stress and they also had consistent performance at the workplace even under challenging circumstances. Such an observation is particularly true to the manufacturing sector where employees tend to work under pressure, with strict deadlines, hazards, and technical failures.

Higher levels of psychological and life consequences have also been linked to EI which have indirect effects of the productivity of work. Kong and Zhao (2013) investigated the affective mediators of trait emotional intelligence and life satisfaction between emotional intelligence and life satisfaction that concluded that emotionally intelligent individuals possess greater emotional well-being that in turn affects motivation and engagement in the workplace positively. The totality of the results suggests that the contribution of emotional intelligence to the task performance role is not limited but constituted a long-term productivity rate since the latter facilitates the level of general satisfaction and other psychological resilience.

Pradhan, Jena and Singh (2017) have contributed significantly to the research by developing empirical evidence on the significance of emotional intelligence within their Indian organizations and also in the manufacturing organizations. Their test of the research was founded on the emotional intelligence as an intervening variable between organizational learning and adaptive performance. The results showed that emotional intelligence brings a greater degree of learning, adopting to the technological transformation and implementing the adjustments of the employees to the difficult working demands. This study can be considered specifically applicable to the existing studies since it makes emotional intelligence one of the determinants of adaptive and productive behavior within the manufacturing setting.

Although the available literature reveals that the importance of emotional intelligence in improving job performance, leadership competency, stress management, as well as, adaptive behavior are widely supported, a majority of the research findings have taken into consideration the service sectors such as banking, education, and entrepreneurship. As to the manufacturing sectors (mainly on the regional scale in India), the empirical research is not as high. Further, studies on the direct correlation between emotional intelligence and employee productivity are yet to be conducted with no study concentrating on the former as the cause of the latter.

In addition, other industrial centres such as Nagpur in the area have not gotten the necessary scholarly attention although they have become of greater importance in the manufacturing activities in India. Variations in the workforce, practice in work organization, and cultural background of industries entail special studies to understand the role of emotional intelligence in influencing the productivity of the workers in a better way. It is this gap that this study is trying to fill this gap by empirically researching the concept of emotional intelligences as a determinant of employee productivity in the

manufacturing industries of Nagpur and in the process enhancing both theoretical and practical implications on management.

Objectives of the Study

1. To study the impact of emotional intelligence on employee productivity in manufacturing industries.
2. To examine the influence of selected dimensions of emotional intelligence on employee productivity.
3. To provide managerial implications for improving employee productivity through emotional intelligence development.

Hypothesis

H₀: Selected dimensions of emotional intelligence have no significant influence on employee productivity in manufacturing industries of Nagpur.

H₁: Selected dimensions of emotional intelligence have a significant influence on employee productivity in manufacturing industries of Nagpur.

Research methodology

The research design adopted by the present research paper is descriptive and analytical research design in an effort to openly discuss the benefits of emotional intelligence in employee productivity in manufacturing industries in Nagpur empirically through data. Primary and secondary information sources will be used to conduct the research. The data collected through the use of the primary data was viewed as structured questionnaire because the employees were asked to respond to open-ended questions regarding different levels of hierarchical levels of work within some of the chosen manufacturing units. The questionnaire was constructed through a five-point Likert scale of attaining the endearing dimensions of emotional intelligence, that is, self-awareness, self-regulation, motivation, empathy and social skills, and output and work efficiency, quality, timeliness and teamwork indicators of the employees in comparison to their productivity. The theoretical basis of the study was found using published materials of study including books, journals, reports, online databases, and other published materials, under the secondary data. In order to find the respondents, an appropriate sampling technique was employed and the sample was established to present a sufficient population of manufacturing workforce, in Nagpur. The acquired information was codified and subjected to pertinent statistic analysis. In order to describe the demographic profile, and the main variables, the inductive statistics was applied, and the inferential statistics, correlation analysis, and multiple regression analysis were implemented to examine the association and impact of the emotional intelligence dimensions on the productivity of the employees. The reliability of the research instrument was determined with the aid of Cronbach alpha in an effort to test internal consistency reliability. The results interpretation has been performed at an adequate level of significance that will bring about meaningful results and conclusion as to whether or not hypotheses were disproved.

Table: Descriptive Statistics of Emotional Intelligence Dimensions and Employee Productivity

Variables / Dimensions	Mean	Standard Deviation	Minimum	Maximum
Self-Awareness	3.84	0.62	2.10	4.90
Self-Regulation	3.76	0.68	2.00	4.80
Motivation	3.92	0.59	2.30	5.00
Empathy	3.70	0.65	2.00	4.85
Social Skills	3.88	0.61	2.20	4.95

Variables / Dimensions	Mean	Standard Deviation	Minimum	Maximum
Employee Productivity	3.90	0.57	2.40	5.00

The descriptive statistics provided in the table show that the majority of the selected measures emotional intelligence and employee productivity have rather elevated mean value, which contributes to the conclusion of the positive emotional and positive climate of the performance within the manufacturing industries at Nagpur. The mean score of self-awareness (3.84) indicates that the employees are very self-aware that implies that the employees are very conscious of the feelings that they experience and the way the feelings affect their behavior in the workplace. Mean of self-regulation was found to be 3.76 and this suggests that the members have an average to high skill in controlling their goals in emotion management, coping with the stress experienced in the factory settings which are stressful in general. It was supported by an overall mean value that is not too insignificant of 3.92 that indicates that the workers are immensely internally motivated, committed, and strong in their desire to meet the work target.

It is related to empathy, its mean is 3.70; the employees of the work place were sensitive to some extent in terms of feeling and the opinions of others in the work place essential in working and resolving conflicts in the shop floor. The mean of the derived score on social skills was 3.88 and the statement showed that employees as a group of people had good communication and interpersonal skills that enabled coordination and collaboration in the manufacturing processes. The mean factor of worker productivity is big (3.90) signifying that the respondents consider themselves to be productive, time conscious and completely accurate and provide quality and output.

The fact that the standard deviation of the full variables is fairly low indicates that the degree of various responses is not high and thus, employees perceive the level of emotional intelligence and productivity in a similar manner. As a rule, the descriptive analysis supporting the assumptions of the study was satisfied by the results related to the fact that the dimensions of emotional intelligence can be transferred to the manufacturing staff and play a role in employee productivity most likely making a literate contribution. The statistical trend offers a strong platform on which it can be concluded that the various dimensions of emotional intelligence which are adopted; have a considerable influence on the productivity of the employees in the manufacturing industries in Nagpur.

Table: Multiple Regression Analysis Showing the Influence of Emotional Intelligence Dimensions on Employee Productivity

Dependent Variable: Employee Productivity

Independent Variables	Unstandardized Coefficient (B)	Std. Error	Standardized Coefficient (Beta)	t-value	Sig. (p-value)
Constant	0.842	0.231	—	3.646	0.000
Self-Awareness	0.218	0.067	0.241	3.254	0.001
Self-Regulation	0.174	0.062	0.196	2.806	0.005
Motivation	0.286	0.071	0.312	4.028	0.000
Empathy	0.129	0.058	0.154	2.224	0.027
Social Skills	0.241	0.065	0.268	3.708	0.000

Model Summary

R	R ²	Adjusted R ²	Std. Error of Estimate	F-value	Sig.
0.762	0.581	0.569	0.412	48.326	0.000

The multiple regression test was formulated to determine the association of the three dimensions of the emotional intelligence of the sampled dimensions on the productivity of the employees in the manufacturing sectors in Nagpur. The dimensions of emotional intelligence as disclosed in the model summary are also highly correlated with the productivity of the employee with a value of R of 0.762. The coefficient of determination (R^2) = 0.581 value means that self-awareness, self control, motivation, empathy and social skills explain 58.1 percent of total outlay in the productivity of the employees. The adjusted R^2 value of 0.569 also proves the strength of the model as it indicates that the model fits even though the number of the predictors is outlined. One can state that the general regression model is statistically significant since the F-value 48.326 at the level of 5 percent level of significance ($p < 0.05$) demonstrates the total effect of the independent factors on the productivity of the workers.

The individual regression analysis coefficients reveal that the four dimensions of emotional intelligence that have been chosen have significant and positive impact on the productivity of the employees. Motivation is also indicated as the most predictive of productivity that exhibits the highest standardized Beta = 0.312; $p < 0.05$ and indicates that, the more a patient is intrinsically motivated the higher the result in job performance. Productivity is also greatly shaped by social skills (Beta = 0.268, p which is less than 0.05) but according to the above result it is possible to see that the factors influencing productivity in the manufacturing environment are effective communication, coordinating with other team members and quality interpersonal communication. An important point of productivity is the effectiveness of self-regulation (Beta= 0.196, $p < 0.05$) and self-awareness (Beta= 0.241, $p < 0.05$) as the given features allow workers to be aware of their emotional states and stress levels and be capable of responding to the experiences that they receive at their work place accordingly. Although the relatively insignificant role of empathy (Beta= 0.154, $p < 0.05$) is also evident, this is also helpful because it determines the cooperation process and minimizes administrative clashes.

In general, the results of the regression indicate the high quality empirical validation of the alternative hypothesis according to which the specific dimensions of emotional intelligence influence the productivity of the employees in the manufacturing industries of Nagpur significantly. The results explain the applicability of the emotional intelligence as behavioural variables essential in improving productivity in addition to technical and operational competencies. All this suges that manufacturing firms can enhance the performance of their employees through emotional intelligence development regimes, leadership regimes and working environment that enhance emotional competence and cooperation behavior.

Overall conclusion

The research in question can find that emotional intelligence has an extreme and a positive impact on the growth of employee productivity of manufacturing industries in Nagpur. It seems that the experimental results have confirmed that productivity of the employees cannot be maintained only by technical skills, machinery or working processes, but to a large extent, it is affected by emotional and behavioral employee competencies. By examination, employees who are in the higher scale of emotional intelligence status are better placed to address work place pressure, a fine rapport with

others, adaptable to organizational reorganizations and even stable working performances in manufacturing sectors, which are exceedingly demanding.

The study also concludes that the identified dimensions of emotional intelligence self-awareness, self-regulation, motivation, empathy and social skills all play significant roles as far as the productivity of the employees is concerned. It was observed that motivation was the most significant process among them, indicating that the most productive workers are emotionally intelligent employees with an excellent internal drive and commitment as well as, goal-oriented employees. It was also observed that social abilities and personal awareness also play a vital role and to be operational successfully, high priority is devoted to the formation of effective communication with the team works and emotional awareness. The role of empathy was somewhat minor, still, it also is a necessary component of collaborative interactions intensification, conflicts mitigation, and establishment of a cordial atmosphere in the workplace.

The findings of the multiple regression analysis verify the incorporation of emotional intelligence as an integrative variable explaining a high percentage of the variation in the productivity of employees thus proving the principle assumption of the study. The finding complements the current literature and extends the existing available empirical information to the manufacturing process in the given case in Nagpur locale. The paper is thus helpful in running a colossal gap in the research in that it confirms that emotional intelligence can be applied in an industrial /production based setting where human touch, coordination and emotional regulative forms a fraction of the organizational performance.

To sum up, research indicates that productivity is not to be underestimated as the emotional intelligence is the strategic tool that can be deployed by the manufacturing companies. The other possibility is that by maturing emotionally inclined intelligence in human resource functioning of the firm as much as recruitment, training, appraisal of performances and development of leaders are concerned, the performance of employees and improvement of performance of the organization can be enhanced. Through the establishment of an emotionally aware work place, the manufacturing industries in Nagpur would have a chance to enjoy a sustainable growth in productivity, satisfaction of the workers and anything that would be competitive.

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