



“Impact of transformational leadership, human capital, and job satisfaction on organizational performance in the manufacturing industry”


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IMPACT OF TRANSFORMATIONAL LEADERSHIP, HUMAN CAPITAL, AND JOB SATISFACTION ON ORGANIZATIONAL PERFORMANCE IN THE MANUFACTURING INDUSTRY

Abstract

This study aims to examine the factors that affect organizational performance in the manufacturing industry of Bangladesh. This study identifies transformational leadership, human capital, and job satisfaction as significant determinants of organizational performance. The analysis focused on the employees of diverse manufacturing organizations in Bangladesh treated as the targeted population. The data collection was conducted using a survey methodology, wherein a questionnaire was distributed to the participants via postal mail along with a cover letter to enhance comprehension. The ultimate sample consisted of 294 participants, obtained from a pool of 400 individuals who were sent survey questionnaires. The response rate for the survey was 73.5%. Furthermore, a significance level of 5% was employed to assess the hypotheses, and the data pertaining to the research objective of this study were analyzed using SPSS software. The study results indicate that organizational performance is significantly influenced by transformational leadership, human capital, and job satisfaction. These three independent variables explain (R²) 59.6% variance in organizational performance. It is also found that transformational leadership (β -value = 0.443) has the highest impact on the organizational performance of manufacturing firms. This study provides implications for organizational management to improve long-term organizational performance.

Keywords

organizational performance, transformational leadership, human capital, job satisfaction, manufacturing industry

JEL Classification

D23, J24, M12

INTRODUCTION

The manufacturing sector holds a crucial role in fostering economic growth and advancement on a global scale. The manufacturing sector in Bangladesh has emerged as a significant catalyst for industrialization and growth focused on exports. The nation has witnessed notable advancements in this industry, garnering attention from domestic and international investors and substantially contributing to its overall economic well-being (Ahmed et al., 2023). Organizational performance pertains to the comprehensive efficacy and proficiency with which an organization functions, achieves its goals, and produces desired results. The concept encompasses various variables, including financial performance, productivity, innovation, quality, customer satisfaction, and employee engagement.

In the context of the manufacturing industry, characterized by intense competition and a growing interconnectedness of global markets, con-

sistently attaining and surpassing performance objectives is imperative for ensuring long-term viability and prosperity (Richard et al., 2009; Islam et al., 2022). The manufacturing sector in Bangladesh has witnessed significant expansion and has emerged as a pivotal catalyst for economic progress. To achieve long-term success and make a meaningful contribution to the nation's economic prosperity, it is crucial to undertake a comprehensive examination of the factors that influence the performance of organizations within the manufacturing sector of Bangladesh. Gaining a comprehensive understanding of the primary determinants that impact organizational performance within the manufacturing sector holds significant importance for multiple reasons (Al-Tit, 2017). The manufacturing industry in Bangladesh operates within a dynamic context characterized by the continuous evolution of market trends, technological advancements, and shifting customer demands (Fernandes, 2008). By examining the determinants of organizational performance, organizations can acquire valuable knowledge regarding the elements that impede or facilitate their capacity to address these challenges effectively and formulate efficient strategies and policies.

1. LITERATURE REVIEW

The manufacturing industry is vital in driving global economic growth and fostering prosperity. In the quest for sustainable competitive advantages, organizations in this sector have progressively acknowledged the importance of transformational leadership, human capital, and employee job satisfaction as crucial factors influencing organizational performance. Therefore, it is vital to conduct a comprehensive analysis of the current literature regarding these interrelated factors to obtain valuable insights into their combined influence on manufacturing companies' overall efficiency and success.

The importance of leadership in influencing organizational outcomes and performance is widely acknowledged (Kusi et al., 2021). Transformational leadership has gained considerable recognition for enhancing organizational performance within various leadership styles (García-Morales et al., 2008). Transformational leadership encompasses various models prioritizing reciprocal interactions between leaders and their subordinates (Siangchokyoo et al., 2020). Transformational leadership is characterized by motivating employees to exceed anticipated performance levels. It emphasizes the leader's capacity to effect transformative change in others rather than solely focusing on individual traits and member interactions (O'Reilly & Chatman, 2020). Transformational leaders can inspire and motivate their followers, encouraging them to surpass their self-interests in favor of pursuing the collective objectives of the organization. Such leaders demonstrate four essential elements: idealized influence, inspira-

tional motivation, intellectual stimulation, and individualized consideration (Eliyana et al., 2019). It is widely believed that these leadership behaviors positively affect the attitudes, behaviors, and overall performance of followers within an organization (Islam et al., 2021).

Transformational leadership, when compared to other leadership styles, exhibits a more robust and favorable correlation with organizational performance. The performance of organizations is influenced by the behaviors exhibited by managers in the context of transformational leadership. A positive correlation exists between utilizing a transformational leadership style and the overall performance of financial business institutions (Alrowwad et al., 2020). Transformational leaders are known for inspiring and motivating their followers by fostering a sense of intellectual curiosity, questioning established norms, and promoting innovative thinking (Dahleez & Abdelmunim Abdelfattah, 2022). This, in turn, positively impacts the organization's overall performance, leading to the development of new products and improvements in existing processes (Hoai et al., 2022). Transformational leadership has been found to positively affect worker commitment to the company, which subsequently correlates with elevated levels of organizational performance (Katou et al., 2022).

Human capital refers to the collective knowledge, skills, abilities, and experience that individuals bring to an organization (Pasban & Nojedeh, 2016). This valuable resource significantly influences the organization's performance (Sima et al., 2020). The

human capital theory posits that acquiring knowledge enhances individuals' cognitive abilities, promoting their potential for success and effectiveness in different tasks (Gerhart & Feng, 2021). Based on this theoretical perspective, an organization's productivity and overall performance are influenced by individuals' expertise, abilities, and skills. Human capital can be conceptualized as a unique configuration encompassing individuals' intellectual capacity, skillset, and accumulated expertise, imparting a distinct characteristic to the organization (Hamilton & Sodeman, 2020). The underlying principles of this concept place significant emphasis on the active engagement of individuals in educational processes while also highlighting the fundamental role of education in fostering the development of skills and knowledge (Lenihan et al., 2019). The advocated concept fosters investment in human potential, wherein education is regarded as a mechanism for cultivating human capital.

Human capital is widely recognized as a pivotal determinant of organizational performance, as evidenced by numerous empirical investigations. Research shows that organizations with a greater presence of expert and educated employees are more likely to attain elevated levels of performance and efficient operation (Astuti et al., 2023). Organizations that offer opportunities for improvement in skills and provide challenging and fulfilling duties typically show higher levels of employee motivation and engagement, resulting in better organizational results. There is a positive correlation between high levels of human capital and enhanced business performance because individuals with high levels possess significant explicit and implicit knowledge specific to the business (Zhou et al., 2019). This knowledge enables them to provide high-quality services and facilitates customer engagement and retention. The impact of human capital on organizational culture and its subsequent influence on performance is a significant factor to consider (Tran et al., 2020). Organizations that strongly emphasize learning, collaboration, and continuous improvement tend to attract and retain highly skilled employees, enhancing overall performance (Otoo, 2019).

Job satisfaction is an individual's favorable emotional and cognitive evaluation regarding their job and overall work experience (Hoff et al., 2020).

According to the theory of job satisfaction, satisfied employees are more inclined to demonstrate favorable attitudes, including heightened commitment, engagement, and motivation (Kollmann et al., 2020). Job satisfaction is often defined as pleasurable or positive emotions resulting from evaluating or assessing one's job or job-related experiences (Edmans, 2012). It also refers to the subjective evaluation of individuals' attitudes and emotions toward their employment and the various elements within their work roles (Robbins, 2015). Consequently, this is expected to lead to enhanced performance outcomes. The concept of job satisfaction is widely recognized as a complex and multifaceted phenomenon, encompassing a range of factors including wages, job atmosphere, liberty, interaction, and engagement with the organization. The level of job satisfaction plays a crucial role in shaping the attitudes, behaviors, and performance of employees. It strongly correlates with various organizational factors, such as inspiration, performance, leadership, mindset, disputes, and other related phenomena (Puni et al., 2018; Edeh et al., 2023). Job satisfaction is a metric commonly employed by organizations to evaluate their performance. This is because employees who hold a positive attitude toward their job and demonstrate job satisfaction are more inclined to demonstrate commitment to the organization, thereby contributing to improved organizational performance (Galup et al., 2008). Satisfied employees are more inclined to develop a sense of loyalty and align themselves with the organization's objectives (Pitts, 2009). Organizational commitment has been found to positively influence performance outcomes, as it cultivates a perception of ownership and unwavering dedication among individuals. Under appropriate conditions, managers will attend to employees' needs to enhance their job satisfaction, fostering employee motivation to exert increased effort to pursue favorable organizational outcomes (Lee & Ahmad, 2014).

The synthesis of existing research provides valuable insights and actionable recommendations for manufacturing firms aiming to enhance their performance and competitive position in a rapidly changing business environment. Transformational leadership, human capital, and employee job satisfaction are essential elements in influencing organizational performance.

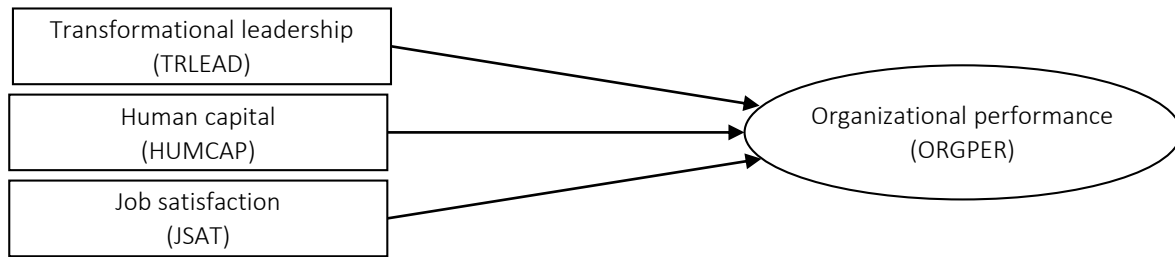


Figure 1. Research framework

2. AIM AND HYPOTHESES

This study aims to assess the impact of transformational leadership, human capital, and job satisfaction on organizational performance in the context of Bangladeshi manufacturing industry. The study proposes a research framework (Figure 1) based on the study hypotheses to achieve this objective:

H_1 : *There is a positive association between transformational leadership and organizational performance.*

H_2 : *There is a positive association between human capital and organizational performance.*

H_3 : *There is a positive association between job satisfaction and organizational performance.*

$$\begin{aligned}
 Y(\text{organizational performance}) &= \beta_0 + \\
 &+ \beta_1 X_1(\text{transformational leadership}) + \\
 &+ \beta_2 X_2(\text{human capital}) + \\
 &+ \beta_3 X_3(\text{job satisfaction}).
 \end{aligned} \quad (1)$$

3. METHODOLOGY

The study employed a quantitative research design to investigate the correlation between independent variables and organizational performance. The study's population encompassed all individuals employed within the manufacturing sector in Bangladesh. The analysis utilized a non-probability sampling method, specifically convenience sampling, to select the study participants. The data were obtained by employing a survey methodology that used a meticulously designed questionnaire. The construction of the questionnaire was informed by an extensive examination of previous scholarly

works (Table 1), encompassing various items designed to assess the transformational leadership, human capital, job satisfaction and organizational performance. The study initially involved selecting four manufacturing companies within Dhaka city's export processing zone. A cohort of 400 employees from manufacturing companies were contacted and invited to participate in the survey.

Table 1. Sources for developing a survey questionnaire

Variable	Source
Organizational performance (ORGPOR)	Singh and Misra (2021)
Transformational leadership (TRLEAD)	Eliyana et al. (2019)
Human capital (HUMCAP)	Zhou et al. (2019)
Job satisfaction (JSAT)	Roberts and David (2020)

The final sample size of 294 responses was determined by selecting individuals who voluntarily agreed to participate and completed the questionnaire. The response rate for the survey was 73.5%. The data gathered underwent quantitative analysis using SPSS. The study computed descriptive statistics, specifically means and standard deviations, to summarize the participant's responses to the questionnaire items.

The study employed inferential statistics, specifically correlation and regression analyses, to investigate the association between transformational leadership, human capital, job satisfaction, and organizational performance. Pearson correlation analysis was used to test the correlation among the variables. Correlation and regression analysis, particularly using the Pearson correlation coefficient, provides a sound academic rationale for investigating the association between independent and dependent variables. Table 2 displays the results of the reliability and validity tests to offer empirical support for the robustness and accuracy of the measures.

Table 2. Reliability and validity analysis

Construct	Items	Loading	Cronbach's (α) value
Transformational leadership (TRLEAD)	TRLEAD1	0.775	0.908
	TRLEAD2	0.947	
	TRLEAD3	0.743	
	TRLEAD4	0.983	
Human capital (HUMCAP)	HUMCAP1	0.735	0.911
	HUMCAP2	0.835	
	HUMCAP3	0.893	
Job satisfaction (JSAT)	JSAT1	0.946	0.734
	JSAT2	0.944	
	JSAT3	0.846	
	JSAT4	0.842	
	JSAT5	0.770	
Organizational performance (ORGP)	ORGP1	0.742	0.807
	ORGP2	0.703	
	ORGP3	0.704	
	ORGP4	0.892	

4. RESULTS

The demographic information of the employees working in the manufacturing companies of Bangladesh who took part in the study ($n = 294$) is presented in Table 3. It provides data about various demographic variables, namely gender, educational attainment, marital status, company size, and age. Concerning gender, males constitute 62.6% of the sample, and 37.4% are females.

Table 3. Demographic information

Information	Number	Percentage
Gender		
Male	184	62.6%
Female	110	37.4%
Education		
High school	45	15.3%
Bachelor Degree	124	42.2%
Master's Degree	104	35.4%
Professional degree	21	7.1%
Marital Status		
Single	174	59.2%
Married	120	40.8%
Size of the Company		
Up to 100 employees	84	28.6%
101 to 500 employees	183	62.2%
More than 500 employees	27	9.2%
Age of the Employees		
Up to 25 years	45	15.3%
From 26 to 35 years	79	26.9%
From 36 to 45 years	98	33.3%
More than 45 years	72	24.5%

Note: ** $n = 294$.

The data further indicate that 45 participants, constituting 15.3% of the sample, have successfully attained a high school education. Moreover, 124 individuals, representing 42.2% of the surveyed population, possess a Bachelor's degree. An additional 104 participants, constituting 35.4% of the sample, have completed a Master's degree. Furthermore, it is worth noting that 21 individuals, which accounts for approximately 7.1%, hold a professional degree.

Table 3 further reveals that 174 participants, accounting for 59.2% of the sample, are single. In contrast, 120 participants, accounting for 40.8% of the sample, are married. 84 individuals, accounting for 28.6% of the sample, are employed in organizations with a workforce of up to 100 individuals. Furthermore, a total of 183 individuals, constituting 62.2% of the study's sample, are currently employed in organizations with a workforce ranging from 101 to 500. Furthermore, it is worth noting that out of the total sample, 27 individuals, accounting for 9.2% of the participants, are employed in organizations with a workforce exceeding 500 employees.

Finally, Table 3 presents the age distribution of the employees. 45 individuals, constituting 15.3% of the total sample, belong to the age category of up to 25 years. Furthermore, 79 individuals, constituting 26.9% of the overall sample, fall within the age range of 26 to 35 years. Moreover, 98 individuals, accounting for 33.3% of the sample, are 36 to

Table 4. Correlation results (Pearson)

Variables	Mean	SD	TRLEAD	HUMCAP	JSAT	ORGP
Transformational leadership (TRLEAD)	4.077	0.469	1.000	0.489**	0.682**	0.622**
Human capital (HUMCAP)	4.934	0.836	0.489**	1.000	0.537**	0.406**
Job satisfaction (JSAT)	4.009	0.339	0.682**	0.537**	1.000	0.592**
Organizational performance (ORGP)	4.002	0.586	0.622**	0.406**	0.592**	1.000

Note: ** $p < 0.05$ ($n = 294$).

45 years old. In conclusion, it is noteworthy that 72 individuals, constituting approximately 24.5% of the overall sample, fall within the age bracket of 45 years and above. This analysis presents a comprehensive summary of the demographics distribution observed among the participants included in the study.

Table 4 presents Pearson correlation analysis that investigates the associations between four variables: transformational leadership, human capital, job satisfaction, and organizational performance. It shows each variable's average and standard deviation (SD) and the Pearson correlation coefficients (R-values) that measure their relationship. Commencing with the mean and standard deviation, these descriptive statistics offer insights into the central tendency and dispersion of scores within each variable. For example, the statistical analysis reveals that the mean value for the variable transformational leadership is 4.077, accompanied by a standard deviation of 0.469. The correlation coefficients quantify the magnitude and direction of the linear association between pairs of variables. The correlation coefficient is a statistical measure that varies between -1 and $+1$. A positive correlation coefficient indicates the presence of a positive linear relationship, wherein higher values of the other variable typically accompany higher values of one variable. Conversely, a negative correlation coefficient signifies a negative linear relationship between the variables, implying that higher values of one variable are generally associated with lower values of the other variable.

Based on the findings in Table 4, there exists a significant positive correlation between transformational leadership and human capital ($r = 0.489$, $p < 0.01$), job satisfaction ($r = 0.682$, $p < 0.01$), and organizational performance ($r = 0.622$, $p < 0.01$). The relationship between human capital and job satisfaction exhibits a significant and moderately strong positive correlation ($r = 0.537$,

$p < 0.01$). Additionally, human capital demonstrates a weak correlation with organizational performance ($r = 0.406$, $p < 0.01$). The results of this study suggest a positive correlation between elevated levels of human capital and increased levels of job satisfaction and organizational performance. A significant positive correlation exists between job satisfaction and organizational performance, with moderate strength ($r = 0.592$, $p < 0.01$). The findings of this study indicate a positive correlation between elevated levels of job satisfaction and improved organizational performance.

Table 5. Model summary of regression analysis

Model	R	R ²	Adjusted R ²	S _e
1	0.772	0.596	0.582	0.31334

Note: Independent variables: transformational leadership (TRLEAD), human capital (HUMCAP), and job satisfaction (JSAT). Dependent variable: organizational performance (ORGP).

Furthermore, a regression analysis was performed in order to investigate the association between the dimensions of the independent and dependent variables. As reported in Table 5, the R² value was 0.596, indicating that the combined independent variables account for 59.6% of the variability observed in the dependent variable (organizational performance).

Table 6. Regression coefficients

Variables	β -value	t-value	Sig.	Tolerance	VIF
(Constant)	0.301	4.114	0.000**	–	–
TRLEAD	0.443	5.803	0.000**	0.559	1.073
HUMCAP	0.332	4.933	0.000**	0.857	2.036
JSAT	0.255	3.128	0.000**	0.846	3.093

Note: Durbin-Watson value = 2.209. * $p < 0.10$; ** $p < 0.05$ ($n = 294$). TRLEAD = transformational leadership, HUMCAP = human capital, and JSAT = job satisfaction.

Therefore, if the given values in Table 6 are substituted into the regression equation, it is expressed as:

$$\begin{aligned} \text{Organizational Performance} = & 0.301 + \\ & +0.443(X_1 = \text{transformational leadership}) + \\ & +0.332(X_2 = \text{human capital}) + \\ & +0.255(X_3 = \text{job satisfaction}). \end{aligned} \quad (2)$$

The *p*-value reported in Table 6 provides information regarding the statistical significance and unique contribution of the variables being examined in the equation. A *p*-value of less than or equal to 0.05 suggests a statistically significant or positive association between the independent and dependent variables. Furthermore, it can be observed from Table 6 that the *p*-values corresponding to the variables of transformational leadership, human capital, and job satisfaction are found to be lower than the predetermined significance level of 0.05. This indicates that the three independent variables substantially affect the performance of manufacturing organizations.

More specifically, Table 6 also shows the hypotheses testing results and it is found that H1, H2 and H3 were accepted. It indicates that transformational leadership ($\beta = 0.443$, *t*-value = 5.803, *p*-value < 0.05), human capital ($\beta = 0.332$, *t*-value = 4.933, *p*-value < 0.05) and job satisfaction ($\beta = 0.255$, *t*-value = 3.128, *p*-value < 0.05) were the significant predictors of the organizational performance of the manufacturing sector.

5. DISCUSSION

The first hypothesis posits an association between transformational leadership and the organizational performance of manufacturing companies in the context of Bangladesh. The findings demonstrated a strong connection between transformational leadership and organizational performance, indicating a positive relationship. This result is backed up by Alrowwad et al. (2020). The findings suggest that the significance of transformational leadership in manufacturing companies is considerable in terms of its influence on organizational performance. Transformational leaders can cultivate a favorable work atmosphere, boost efficiency, encourage creativity, and ultimately achieve organizational triumph by motivating, empowering, and involving their employees. Adopting transformational leadership practices and allo-

cating resources toward leadership development programs can confer a competitive advantage on manufacturing enterprises, fostering enduring growth and achievement. Under the guidance of transformational leaders, followers demonstrate a significant propensity for innovation, engage in proficient interpersonal communication, and attain noteworthy levels of performance and organizational goal achievement. Additionally, transformational leaders cultivate a corporate environment that promotes ongoing enhancement and originality within manufacturing enterprises (Dahleez & Abdelmunim Abdelfattah, 2022). Transformational leaders have the potential to result in enhancements in process efficiency, advancements in product development, and the adoption of more optimal manufacturing methodologies, thereby ultimately bolstering organizational performance.

The second hypothesis posits an association between human capital and the organizational performance of manufacturing companies in the context of Bangladesh. The findings demonstrated a strong connection between human capital and organizational performance, indicating a positive relationship. This result is supported by Hilton et al. (2023). This shows that higher human capital will ensure better organizational performance for manufacturing firms. The presence of proficient and well-informed personnel is instrumental in enhancing productivity levels and optimizing operational efficiency. Manufacturing enterprises that employ individuals with specialized skills and expertise can execute tasks with greater efficiency, resulting in enhanced production processes, minimized wastage, and overall improved performance of organizations.

The third hypothesis suggests a relationship between job satisfaction and organizational performance within manufacturing companies operating in a particular setting in Bangladesh. The study's results revealed a strong link between human capital and organizational performance, suggesting a favorable association. This result is backed by Pitts (2009). This finding suggests that greater employee job satisfaction is associated with improved organizational performance in manufacturing firms. Thus, higher job satisfaction among manufacturing employees will in-

crease the manufacturing organizational performance (Hendri, 2019). Manufacturing enterprises that allocate resources toward enhancing employee development, training, and career progression initiatives establish a conducive work atmosphere and cultivate a culture that promotes ongoing knowledge acquisition. Employees who are ac-

tively involved in their work, perceive themselves as being appreciated, and have access to avenues for personal and professional advancement are inclined to exhibit higher levels of motivation, dedication, and allegiance. Consequently, this heightened employee engagement enhances productivity and overall organizational effectiveness.

CONCLUSION

This paper has investigated the factors affecting the organizational performance of the manufacturing industry within the specific context of Bangladesh. The study centered its attention on three primary variables: transformational leadership, human capital, and job satisfaction, and their direct influence on the overall performance of manufacturing organization. The study employed a sample size of 294 individuals currently employed in the manufacturing industry.

The results of this study underscore the considerable impact of transformational leadership on organizational performance. Transformational leaders are known for inspiring and motivating their employees, fostering a shared vision, and cultivating an environment that encourages innovation and ongoing improvement. Human capital has emerged as a significant determinant of organizational performance within the manufacturing industry. Organizations that allocate resources toward employee training, development, and empowerment tend to cultivate a workforce with enhanced skills and capabilities, yielding favorable performance outcomes. The study revealed a significant correlation between job satisfaction and organizational performance. Employees who experience satisfaction are more inclined to exhibit motivation, engagement, and commitment toward their work. These individuals demonstrate elevated levels of productivity, reduced employee turnover rates, and enhanced overall job performance, resulting in enhanced organizational performance.

IMPLICATIONS, LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

The research findings hold significant implications for leaders and managers in the manufacturing industry of Bangladesh. To begin with, implementing and advancing transformational leadership strategies can augment employee engagement and cultivate a climate of innovation and ongoing enhancement within manufacturing enterprises. Additionally, the allocation of resources toward enhancing human capital via training and development initiatives has the potential to enhance the skills and competencies of employees, thereby resulting in heightened performance levels. Organizations must give utmost importance to establishing a conducive work environment that fosters job satisfaction by ensuring equitable treatment, acknowledging employees' contributions, and providing avenues for professional advancement and personal growth. This study offers significant contributions by shedding light on the determinants that impact the operational effectiveness of the manufacturing sector in Bangladesh.

Even with the valuable insights concerning the organizational performance of the manufacturing industry in Bangladesh, it is imperative to acknowledge certain limitations and consider potential avenues for future research. One constraint is the relatively limited sample size of 294 individuals currently employed in the manufacturing sector. Subsequent research endeavors may consider augmenting the sample size to bolster the generalizability of the results and guarantee a more comprehensive representation of manufacturing enterprises in Bangladesh. One additional constraint pertains to the exclusive em-

phasis on transformational leadership, human capital, and job satisfaction as direct indicators of organizational performance. Examining the interplay and moderating influences among these variables may yield a more holistic comprehension of the determinants of organizational performance. Subsequent investigations may consider integrating objective performance measures, supervisor ratings, or financial indicators in conjunction with self-report data to enhance the robustness and validity of the results.

AUTHOR CONTRIBUTIONS

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