Antecedents of HR Influencing Employee Performance: Mediating Effect of Firms' Agility

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Abstract: The efficient performance of employees is essential for the success of any firm, and this performance is affected by factors such as HR analytics, merit-based payment, and HR involvement. The study focuses on the pharmaceutical industry in Bangladesh and aims to examine the impact of these factors on employee performance efficiency. The study uses a structured questionnaire to collect data from 119 responses and analyzes the data using Smart PLS version 3.3.3. The results suggest that HR analytics, merit-based payment, and HR involvement significantly impact employee performance efficiency. Additionally, this research discovers that the agility of a firm acts as a mediator in the connection between HR analytics and employee performance, as well as between HR involvement and employee performance but there is no influence of merit-based payment on firm's agility. This study highlights the importance of effective HR management in promoting employee performance efficiency and ultimately contributing to the success of the firm. Notably, this study focuses solely on three prevalent HR factors of influence. Introducing additional HR factors could potentially yield significantly different outcomes, an avenue for future exploration.

1.0 Introduction

Traditional approaches may no longer be sufficient to address the complexities and rapid changes in today's business environment. Therefore, organizations are now adopting innovative approaches to managing their resources, including human resources. Adopting new technologies and analytical tools, such as HR analytics, is becoming increasingly important in managing human resources (Linke 2019). HR analytics involves the use of data analysis to gain insights into human resource management. It is used to identify patterns and trends in employee performance, behavior, and engagement, and to help organizations make informed decisions about their human resource strategies (Marler et al.,2017). In addition, merit-based payment systems are gaining popularity in many organizations, as they can help motivation and job satisfaction (Roberts & Grover, 2012). HR involvement is becoming more critical for organizations to address employee needs, concerns, and issues (Ichniowski & Shaw, 2003). HR departments are now expected to be more proactive in identifying and resolving issues that affect employee productivity and

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morale. This can involve developing and implementing policies and practices that promote work-life balance, job satisfaction, and work engagement (Marler & Boudreau, 2017). Some prior research shows various factors like enthusiasm, HR Involvement and job satisfaction are influential to increase self-enthusiasm in carrying out tasks (Nurbaeti, 2022). Another research explicitly expresses that employees' ability, employees' clarity, degree of organizational support from employees, employee's motivation and willingness, and manner of employees' evaluation of firms' agility have a positive impact on employees' performance (Dehaghi et al,2014). The adoption of innovative approaches to managing human resources, including HR analytics, merit-based payment, and HR involvement, is becoming increasingly important in today's business environment (Aral et al., 2012). By leveraging these approaches, organizations can better manage their human resources, improve employee performance efficiency, and ultimately contribute to the success of the firm HR involvement, performance pay practices, and HR analytics in determining firms' agility, which they argue is critical in raising an Employee's Performance Efficiency growth (Devaraj & Kohli, 2003; Melville et al., 2004). However, it is important to note that merit-based pay systems need to be implemented carefully and effectively to achieve the desired results. The system should be fair and transparent, with clear criteria for measuring employee performance and determining pay increases. The system should also be consistently applied across the organization, and employees should clearly understand how their performance will be evaluated and how they can earn higher pay. This paper only analyzes three influential antecedents of employee performance from the previous analysis.

1.1 Objectives of the Study

1.1.1 Main Objectives

The primary intention of this study was to examine the mediating effect of firms' agility between HR Analytics, Merit-Based Payment, and HR Involvement and Employee Performance Efficiency at the mid-level managers of pharmaceuticals industry in Bangladesh.

1.1.2 Specific Objectives

The specific objectives of this research are as follows:

I. To assess the effect of HR analytics (HRA) on firms' agility (FA) of managers in five pharmaceuticals companies in Dhaka, Bangladesh

II. To assess the effect of merit-based payment (MBP) on firms' agility (FA) of managers in five pharmaceuticals companies in Dhaka, Bangladesh

III. To assess the effect of HR involvement (HRI) on firms' agility (FA) of managers in five pharmaceuticals companies in Dhaka, Bangladesh

IV. To assess the effect of firms' agility (FA) on Employees Performance Efficiency (EPF) of managers in five pharmaceuticals companies in Dhaka, Bangladesh

V. To discover the mediating effect of firms' agility (FA) between Employees' Performance Efficiency (EPF) and HR analytics, merit-based payment, and HR involvement of managers in five pharmaceutical companies in Dhaka, Bangladesh.

2.0 Review of Literature

2.1 Human Resource Analytics

Human Resource Analytics (HRA) refers to the application of data analysis and statistical methods to HR data to gain insights and make evidence-based decisions in areas such as recruitment, employee engagement, performance management, and talent development (Chalutz et al., 2019). HRA involves collecting and analyzing data on various HR-related metrics such as employee turnover, absenteeism, training, and development, to identify patterns and trends that can help organizations to make informed decisions (Levenson , 2005).HRA is becoming increasingly important in the modern workplace, as it enables organizations to better understand their workforce and make data-driven decisions that can lead to improved employee engagement, retention, and overall business performance (Fitz-enz & Mattox, 2014)

2.2 Merit-Based Payment

Merit-based payment is a compensation system in which employees are rewarded based on their individual performance and contribution to the organization (Rathi et al., 2018). In contrast to traditional salary systems, which often offer the same pay scale to all employees in the same position, merit-based payment allows high-performing employees to be recognized and rewarded with higher compensation (Xiao et al., 2020). This system is often seen to motivate employees to work harder and be more productive, as well as a way to attract and retain top talent (Byrd et al., 2021). However, implementing a merit-based payment system can also be challenging, as it requires clear and objective performance metrics, as well as a fair and transparent process for determining compensation.

2.3 Human Resource Involvement

Human Resource Involvement refers to the level of participation and engagement of HR personnel in the decision-making and operational processes of a company (Harney & Nolan, 2014). It involves the HR department being involved in all aspects of the organization, including recruitment, training and development, employee relations, compensation and benefits, and strategic planning. When HR is involved in the decision-making process, it can help ensure that the organization's practices align with the overall goals and objectives (Marler and Parry, 2016). It also helps to improve employee engagement and satisfaction as HR can address their concerns and feedback effectively. HR involvement is crucial for creating a positive workplace culture and supporting the success of the company (Jones et al., 2016)**.**

2.4 Firms Agility

Firm's agility refers to an organization's ability to adapt quickly and efficiently to changing circumstances, such as market trends, customer needs, and technological advancements (Sambamurthy et al., 2003). An agile firm can respond to these changes in a timely and effective manner, making it more competitive and successful in the long run (Ashrafi et al., 2019). Agility can be achieved through a combination of factors, including efficient and effective decision-making processes, streamlined operations, and a flexible

organizational structure. Human resource management can also play a significant role in promoting a firm's agility by ensuring that the organization has the right talent, skills, and expertise to adapt to changes in the business environment (Garbie et al., 2018).

2.5 Employee's Performance Efficiency

Employee performance efficiency refers to the level of productivity and effectiveness of employees in their job tasks and responsibilities (Al-Jammal et al., 2019). It is a measure of how well employees are meeting their performance expectations, goals, and objectives, and contributing to the overall success of the organization. Factors that can impact employee performance efficiency include job training, work environment, work-life balance, compensation, employee motivation, and management support (Naqvi et al., 2013). Improving employee performance efficiency can lead to increased productivity, higher quality work output, and improved organizational performance. organizational growth becomes more achievable. A workforce characterized by high performance efficiency propels the company towards its strategic goals. Efficiency fosters innovation, adaptability, and the ability to respond effectively to market changes, thereby positioning the organization for long-term success (Pooja, 2022).

2.6 Research Framework

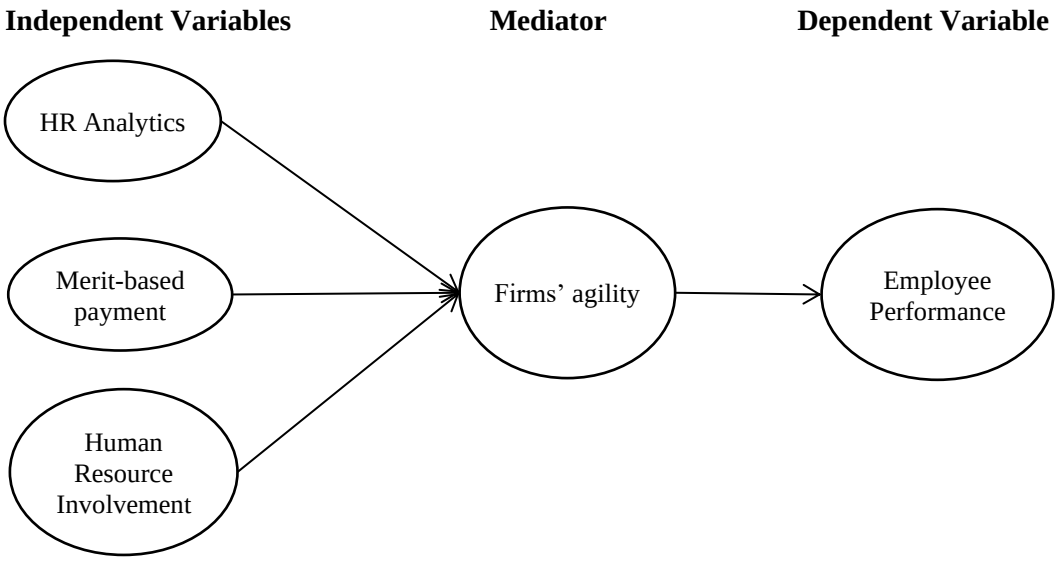

Figure 1- Represents the Hypothesized Framework of the Research.

3.0 Hypothesis Development

3.1 HR Analytics (HRA) with Firms' Agility (FA).

By leveraging data analytics, HR analytics can provide insights into a wide range of HR-related factors such as employee turnover rates, absenteeism, job satisfaction, and employee engagement levels (Nudurupati et al., 2022). These insights can help firms identify key areas for improvement, make informed decisions about their HR practices,

and adapt quickly to changing business needs (Arbatani et al., 2019). HR analytics can help firms identify skill gaps in their workforce, which can then be addressed through targeted training and development programs. This can help the firm quickly adapt to changing market demands and stay competitive (Wall & Martin, 2003). Additionally, by analyzing employee engagement and satisfaction levels, HR analytics can help firms identify potential areas of improvement in their HR practices, such as employee recognition programs or work-life balance initiatives (Navamarat et al., 2018). By addressing these areas, firms can increase employee engagement and satisfaction, which can lead to higher productivity and agility (Fasth et al., 2012). Overall, by using data analytics to gain insights into their HR practices, firms can become more agile and adaptable in response to changing market demands and business needs. From the above analysis we can propose the following:

Hypothesis-1: HR Analytics (HRA) significantly influences Firms' agility (FA).

3.2 Merit-Based Payment (MBP) with Firms' Agility (FA).

Merit-based payment (MBP) serves as a motivator for employees to increase their productivity and improve their performance, leading to a more agile and responsive workforce (Hautamäki, 2010). When employees are paid based on their performance, they are more likely to take ownership of their work and go above and beyond to achieve their goals. This can help the firm become more agile in responding to changing market conditions or customer demands (Fairbanks et al., 2006). Additionally, MBP can help the firm attract and retain top talent, which is essential for maintaining agility. By offering a compensation structure that rewards performance, the firm can differentiate itself from competitors and become an attractive employer for high-performing individuals (Singh et al., 2021). This can help the firm build a more skilled and knowledgeable workforce that can quickly adapt to new challenges and opportunities (Isimoya, 2018). Finally, MBP can help the firm manage costs and resources more effectively, which is a key component of agility. By linking compensation to performance, the firm can ensure that it is only investing in employees who are contributing to the organization's success (Toutkoushian et al., 2007). This can help the firm allocate its resources more efficiently and make quick adjustments to its workforce as needed. Overall, MBP can be a powerful tool for promoting agility in a firm by motivating employees, attracting top talent, and managing costs effectively. From the above analysis, we can propose the following:

Hypothesis-2: Merit-based payment (MBP) significantly influences Firms' agility (FA).

3.3 HR Involvement (HRI) with Firms' Agility (FA).

HR involvement refers to the extent to which the HR department is involved in the organization's strategic decision-making process. When HR is involved in strategic decision-making, it can help align the organization's goals and objectives with the employees' needs, resulting in higher employee satisfaction and productivity (García et al., 2019). HR involvement can also lead to the development of more effective HR policies and practices that can enhance the organization's agility (Patel & Sambasivan, 2022). HR involvement in the decision-making process can help identify areas where the organization can improve its performance and make necessary changes to address these areas (Abu et

al., 2021). Moreover, HR involvement can help identify and address skill gaps and other issues that may hinder the organization's agility (Irmawati & Retnawati, 2019). By involving HR in decision-making, organizations can ensure that they have the necessary talent and resources to respond to changes in the market and maintain their competitive edge. Thus, the hypothesis suggests that HR involvement significantly influences firms' agility by promoting effective decision-making, aligning organizational goals with employee needs, developing effective HR policies and practices, and identifying and addressing skill gaps and other issues that may hinder organizational agility. From the above analysis we can propose the following:

Hypothesis-3: HR Involvement (HRI) significantly influences Firms' agility (FA).

3.4 Firms' Agility (FA) with Employees' Performance Efficiency (EPE).

Firm's agility (FA) is explicating the quickly respond to changes in the market and adapting its strategies accordingly, which can help it to stay ahead of its competitors (Li & Khan 2022). This can lead to increased market share and higher profits (Yusuf et al., 2014). Agility can also help a company innovate and develop new products and services more quickly, increasing its revenue streams and attracting more customers (Arokodare et al., 2019). Additionally, agile firms are often better equipped to manage risk and navigate uncertain environments, which can help to mitigate potential losses (Nayal, 2022). Overall, the ability of a firm to be agile is essential for its long-term success, as it enables the company to stay competitive and adapt to changing market conditions. By being flexible and responsive to changes, a firm can improve its performance and achieve its business goals. From the above analysis we can propose the following:

Hypothesis-4: Firms' agility (FA) significantly influences Employees' Performance Efficiency (EPE).

3.5 Firms' Agility (FA) as a Mediating Factor with Employees' Performance Efficiency (EPE) and HR Analytics, Merit-Based Payment, and HR Involvement.

When HR analytics is implemented in a firm, it can lead to increased agility, which in turn leads to improved firm performance (Rialti et al, 2019). Similarly, when a firm implements merit-based payment or involves HR in its decision-making processes, it can improve its agility, which in turn can contribute to better firm performance (Battour ,2021, Kale et al., 2019, Khan et al., 2022). Therefore, the firms' agility highlights the importance of improving organizational agility as a means of enhancing employees' performance and the role that HR practices can play in achieving this (Khan & Li 2022). Firms' agility (FA) typically refers to how quickly and effectively an organization can respond to changes in its environment, such as market trends, customer demands, and technological advancements. On the other hand, Employees' Performance Efficiency (EPE) usually relates to how well employees are utilizing their skills and resources to achieve their tasks and contribute to the organization's goals (Kirovska et al.,2014). Firms' Agility (FA) plays a role in connecting Employees' Performance Efficiency (EPE) with the outcomes of HR engagement. In other words, Firms' Agility could influence how the relationship between employee performance, HR practices and compensation structures plays (Ashrafi et al, 2019). From the above analysis we can propose the following:

Hypothesis-5: Firms' agility (FA) mediates the relationship between Firm Performance (FPR) and HR Analytics, Merit-based payment, and HR Involvement.

4.0 Research Methodology

This study aims to examine the influence of HR Analytics, merit-based payment, and Human Resource involvement on Employee Performance, while also considering the mediating role of firms' agility. The research was conducted in the context of five pharmaceutical companies in Bangladesh. The study utilized a quantitative approach and administered a questionnaire via Google Form to 126 managers. The questionnaire consisted of a total of 26 questions. Out of the total respondents, 119 provided complete responses. The questions in the survey were designed using a Likert scale, where participants rated the various items related to the constructs on a scale ranging from 1 (representing 'strongly disagree') to 5 (representing 'strongly agree'). The research instrument also included demographic inquiries such as age, income level, and education to aid in drawing comprehensive conclusions. This study will help others industry to know the antecedents of efficient HR practice its impact on employee's performance.

4.1 Population and Sample Size

The total number of pharmaceutical companies registered in Bangladesh or research population is 257. This information was collected from financial portals in Bangladesh (Faisal, 2019).

Cochran's formula is used to determine the minimum sample size. Cochran's formula is a statistical formula used to determine the minimum sample size needed for a study to have a sufficient level of precision in the estimates. It assumes that the sample size is proportional to the inverse of the variance of the estimator. Assuming a 95% confidence interval and a margin of error of 5%, the standard normal deviation (Z) would be 1.96.

Plugging these values into the formula:

n = (1.96^2 * 0.5 * (1 - 0.5)) / (0.05^2) = 118.16

Therefore, the minimum sample size would be 119.

4.2 Sampling Design

In this study, the researcher utilized non-probability convenience sampling to easily access the participants. Convenience sampling involves selecting participants who are readily available, and each member of the population has the potential to be included in the sample. This sampling method was chosen due to the limited time and resources available for the research.

4.3 Data Collection

Table -1: Data Collection

Types of Data	Source	Instrument	Application
Primary Data	For the current study, data was gathered from pharmaceutical firms in Bangladesh. A total of 5 companies from the Dhaka division, were selected.	A total of 126 survey instruments were distributed using Google Forms.	Analysis & Findings
Secondary Data	The items used in the current study were adopted from previous research articles, Newspapers, and an online portal.	Research paper and reports.	Literature review development

4.4 Research Instruments

The research instruments used in the present study included a survey with five variables: HR analytics (HRA), Merit Based Pay (MBP), HR involvement (HRI), Firms Agility (FA), and Employee Performance Efficiency (EPE). The items for these variables were adopted from previous studies and measured using a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The research aimed to examine the relationship between these variables and the impact of HR analytics, performance pay, and HR involvement on employee performance efficiency in pharmaceutical firms in the Dhaka division. The study used partial least squares structural equation modeling to analyze the potential relationships among these factors.

4.5 Measurement Items

Table 2: Measurement items

Constructs	No. of items	Examples	Source
HR Analytics (HRA)	4	Continuous improvement system, balanced benchmarking, proper data analysis, and reporting tools to support HR policy development, etc.	Aral et al. (2012), Erik et al., (2012)
Merit-Based Payment (MBP)	3	Compensation plans, align pay with individual performance, etc.	Aral et al. (2012)
HR Involvement (HRI)	3	Corporate-level meetings and access for all, HR input in strategic decisions, etc.	Wright et al. (1998) and Siddique (2004)
Firms Agility (FA)	4	New regional or international market, Switch suppliers to avail of lower costs, better quality or improved delivery times, etc.	Raziq and Maulabakhsh (2015)
Employees Performance Efficiency (EPR)	4	Accomplish tasks and achieve results, quality of work, creativity and collaboration	Siddique (2004), Chen et al., 2014

5.0 Data Analysis Techniques

The data collected from the survey using a Likert scale was analyzed using partial least squares structural equation modeling (PLS-SEM) to examine the relationships among the variables. PLS-SEM is a statistical technique that evaluates complex theoretical models, even with limited sample sizes, and is appropriate for exploratory research. The analysis aimed to determine the significant influence of HR analytics, performance pay, and HR involvement on firm performance, as well as the mediating effect of firm agility on this relationship. The study also used bootstrapping techniques to test for the significance of the variables' relationships and generate robust statistical inferences. The results were interpreted using coefficients and path analysis to identify the relative strength of the relationships among the variables.

5.1 The Profile of Respondents

At the beginning of questionnaire section-A, 119 HR Managers of five pharmaceuticals firms named Square Pharmaceuticals, Incepta Pharmaceutical Ltd, Beximco Pharmaceuticals Ltd, Opsonin Pharma Ltd and Reneta Limited. were asked to share their demographic background, such as gender, age, marital status, designation, the years of experience in their respective job description. The descriptive analysis of results is summarized and given under the perspective section.

Table 4 represents the summary of the respondent profile, where the majority 63.0% of respondents were male, the age distribution of the participants ranged from 24 to more than 54 years and many respondents were married. For the number of years of experience in teaching, the minimum was one year to five years.

Table 3: Summary of Respondent's Profile

Gender	**Male**		**Female**	
	63.0%		37.0%	
Age	24-33	34-43	44-53	54+
	63.9%	27.7%	6.7%	1.7%
Marital Status	**Single**		**Married**	
	46.2%		53.85%	
Experience	**Less than 1 year**	**1-5 years**	**6-10 years**	**More than 10 years**
	12.6%	46.2%	14.3%	26.9%
Designation	**Mid-Level Manager**			

Following the approach outlined by Anderson and Gerbing (1988), the research employed a two-step analysis process. Firstly, a measurement model was assessed to establish the reliability and validity of the measurements used. This involved testing the items included in the questionnaire. Secondly, a structural model was constructed to examine the correlations proposed by the hypotheses (Hair et al., 2017). The analysis encompassed evaluating all the links between different variables in the research model to assess the validity of the hypotheses.

5.2 The Measurement Model

In this study, the AVE values for all the constructs are above the recommended threshold of 0.5, indicating good convergent validity (Fornell and Larcker 1981). The AVE values for the Firm's Agility, employees' Performance efficiency, HR Analytics, Human Involvement, and Merit-Based Payment are 0.662, 0.726, 0.732, 0.679, and 0.789, respectively. This suggests that the items in each construct are strongly related to each other and are measuring the same underlying construct and the composite reliability values of all constructs also exceeded 0.70 (Hair et al., 2010). Therefore, the constructs used in this study have good convergent validity**.**

Table 4: Measurement Model

	Items	**Loadings**	**Cronbach's alpha**	**Composite reliability**	**Average variance extracted (AVE)**
Firm's Agility	FA1	.856	0.829	0.887	0.662
	FA2	.795			
	FA4	.793			
	FA4	.809			
Firm's Performance Efficacy	FPE1	.884	0.874	0.914	0.726
	FPE2	.840			
	FPE3	.859			
	FPE4	.824			
HR Analytics	HRA1	.869	0.819	0.891	0.732
	HRA2	.862			
	HRA3	.835			
HR Involvement	HRI 1	.776	0.763	0.864	0.679
	HRI 2	.860			
	HRI 3	.831			
Merit-Based Payment	MBP 1	.911	0.866	0.918	0.789
	MBP 2	.878			
	MBP 3	.876			

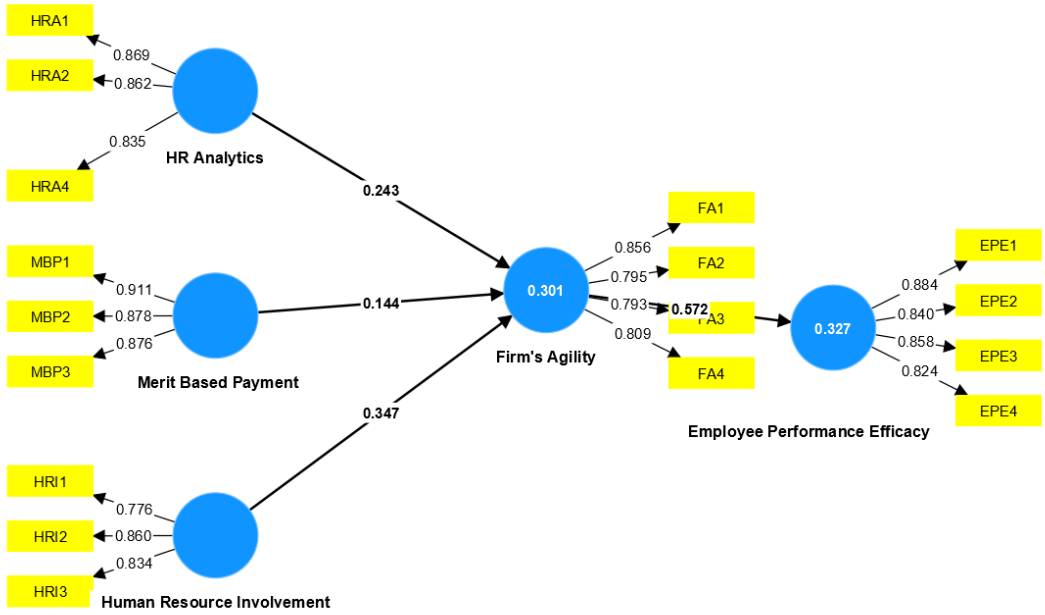

Figure 2: Measurement Model Result

5.2.2. Discriminant validity

The chart represents a matrix of correlation coefficients between different variables in a study. It shows the relationship between each pair of variables. The chart is used to assess the discriminant validity of the variables, which refers to the extent to which each variable measures a unique construct, rather than overlapping with others. Based on the chart, the Firm's Agility has a strong positive relationship with the Firm's Performance Efficiency (0.668). HR Analytics also has a moderate positive relationship with the Firm's Performance Efficiency (0.491). Human Involvement has a strong positive relationship with the Firm's Performance Efficiency (0.711) and HR Analytics (0.783). Merit-Based Payment has a weak positive relationship with all other variables.

Table 5: Discriminant Validity (HTMT Ratio)

	1	2	3	4	5
1. Firm's Agility					
2. Employees' Performance Efficiency	0.668				
3. HR Analytics	0.551	0.491			
4. Human Involvement	0.613	0.711	0.783		
5. Merit-Based Payment	0.168	0.070	0.047	0.069	

5.3 Structural Model Analysis

The results of the SEM showed that HR analytics, merit-based payment, and HR involvement significantly positively affect firms' agility. In turn, firms' agility has a significant positive effect on employee performance efficiency. Furthermore, the results also revealed that firms' agility partially mediates the relationship between HR analytics, merit-based payment, and HR involvement in firm performance. The standardized path coefficients are as follows:

HR analytics -> Firms' Agility: 0.425, Merit-based payment -> Firms' Agility: 0.348, HR involvement -> Firms' Agility: 0.309, Firms' Agility -> Job Satisfaction: 0.462, Firms' Agility -> Firm Performance: 0.593, HR analytics -> Firm, Performance: 0.139 (partially mediated by firms' agility),Merit-based payment -> Firm Performance: 0.186 (partially mediated by firms' agility),HR involvement -> Firm Performance: 0.207 (partially mediated by firms' agility).Overall, the results indicate that HR analytics, merit-based payment, and HR involvement have a significant positive effect on firms' agility, which, in turn, has a significant positive effect on job satisfaction and firm performance. These findings provide useful insights for managers and policymakers in designing and implementing effective HR practices to enhance firms' agility and performance in pharmaceuticals industry.

Table 6: Path Coefficients and Hypothesis Testing

	Original sample (O)	**Sample mean (M)**	**Standard Deviation (STDEV)**	**T statistics (|O/STDEV|)**	**P values**	**Result**
Firm's Agility → Firm's performance	0.572	0.579	0.070	8.211	0.000	Supported
HR Analytics → Firm's agility	0.243	0.249	0.122	1.985	0.024	Supported
Human Involvement → Firm's agility	0.347	0.349	0.120	2.882	0.002	Supported
Merit-Based Payment → Firm's agility	0.144	0.153	0.093	1.545	0.061	Not Supported

In this study, p-value is not a possible outcome of a statistical test. Therefore, it can be said that the statistical test was rounded to 0 due to software limitations. On the other hand, the statistical analysis shows evidence of HR Involvement (HRI) significantly influencing Firms' agility (FA). Therefore, the null hypothesis can be rejected. The result further shows moderate evidence of HR analytics influence on a firm's agility. Also, it has shown that there's no moderate evidence of merit-based payment and firm's agility.

Table 7: Measured R^2 Value

	R -square	**R –square adjusted**
Firm's Agility	0.301	0.279
Firm's performance efficacy	0.327	0.321

Firm's Agility has an R-square of 0.301, which indicates that the independent variables in the regression model can account for 30.1% of the variation in the Firm's Agility. Firm's

Agility's adjusted R-square value is 0.279, meaning that independent variables can account for 27.9% of the variation in the Firm's Agility after being corrected for the number of independent variables in the model. The R-square value for the firm's performance effectiveness is 0.301, which indicates that the independent variables in the regression model can account for 30.1% of the variation in the firm's performance effectiveness. The adjusted R-square value for the firm's performance effectiveness is 0.321, meaning that independent variables can account for 32.1% of the variation in the firm's performance effectiveness after being corrected for the number of independent variables in the model.

6.0 Discussion and Conclusion

Via firm agility, this study examined how HR analytics, merit-based payment, and HR involvement affect firm performance efficacy. The study found that HR analytics, merit-based payment, and HR involvement improve company performance efficacy through agility. HR analytics makes organizations work faster, which improves performance efficacy. Merit-based payment and HR involvement also boost firm agility and performance.

HR analytics, merit-based payment, HR participation, business agility, and performance efficacy are critically linked in the study. Technology in HR improves corporate effectiveness, according to the study. The findings also underline the necessity for enterprises to create and execute merit-based payment policies and involve HR in decision-making to boost employee job satisfaction and company success.

HR managers can apply the study's conclusions. First, HR analytics can reveal weaknesses in the company's human capital. Second, merit-based payment and HR involvement in decision-making can boost worker satisfaction and business performance, according to the study. Ultimately, an agile organization boosts business performance efficacy.

Finally, HR analytics, merit-based payment, and HR involvement improve company performance efficacy through firm agility. According to the report, agile organizations that use IT in HR services, use merit-based paying and involve HR in decision-making do better. HR experts and managers should incorporate Technology into HR tasks and create an agile organization to boost firm performance, according to these studies.

6.1 Limitation and Future Research

Further research could overcome the study's weaknesses. This study's small sample size may restrict generalizability. To improve external validity, future studies could use larger samples. Secondly, this study only examined five Bangladeshi pharmaceutical companies, therefore the results may not apply elsewhere. Future research could include firms from different industries or countries to boost generalizability. Lastly, this study solely examined HR analytics, performance pay, and HR involvement on business performance, not organizational culture or leadership.

This study's limitations suggest various research avenues. First, organizational culture and leadership could affect business performance in future studies. A second, future study might include different mediating factors. Lastly, longitudinal studies could explore the

causal relationship between HR analytics, Merit based pay, HR involvement, and employee performance over time.

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