



Intrinsic Motivators for Job Satisfaction in the Pharmaceutical Industry of Developing Countries Using Bangladesh as a Case Study

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Abstract

Job satisfaction is one of the major influential components in the overall productivity of employees. Intrinsic factors have been linked with job satisfaction in developed countries over extrinsic factors. This research has tried to find out how intrinsic factors affect an industry in a third world country, as there have been very few studies done in this sector. The aim of the research was to discover if a developing country has the same trends for job satisfaction as a developed country or if there were other underlying factors that affected the satisfaction level among the employees in Bangladesh. The study analyzed several intrinsic components, such as: the significance of training and development, relationship between supervisor and employees and the work environment upon the overall job satisfaction of the employees. A co-relational research design has been conducted to test the hypotheses by conducting a survey of one of the leading pharmaceutical companies in Bangladesh. This research has applied both primary and secondary data analysis. Additionally, a job descriptive approach has also been used to quantify the level of work contentment. The data showed that for the chosen organization, work environment, training and development were the most important factors in determining job satisfaction; an employee's relationship with their supervisor did not have a clear statistically significant correlation. The reason was due to the nature of the organization, being a manufacturing company, the workplace, training and development were naturally highly valued more than an employee's relationship with their supervisor. This however falls under rationale due to the hierarchical structure of manufacturing industries where employees are subjected to repetitive controlled process with limited interaction with their supervisors. In spite of limitations in the present research, it has opened up the possibility of further investigation as to other factors of job satisfaction, especially comparative employee attitudes.

Keywords

Job Satisfaction, Training and development, Employee relationship with supervisor, Work environment

Introduction

In the age of the 4th industrial revolution, rapid technological innovation and imitability of competitive resources have been spreading which has brought the scope of sustainable competitive advantage into question for every organization. The one resource of an organization that cannot be easily copied and hence highlights its importance to the long-term strategy of the organization for its employees (Crawshaw, Budhwar & Davis, 2014). Parvin and Kabir (2011) also mentioned that to gain profit, business organizations need to set proper strategies for employees which would allow themselves to be fully engaged, enhance their feelings of ownership within the company and to hold a positive mindset. For an organization to be productive in the long run they have to focus significantly on their employees (Parvin & Kabir, 2011). Locke (1969) described job satisfaction as a state of mind that gives emotionally positive and enjoyable feelings due to the employees perceived achievement at work through appraisal or supervisory conduct. An employee with these positive feelings of job satisfaction tends to achieve more in the workplace due to an increase in his/her productivity (Locke, 1969). Thus, this research tried to identify various importance factors that persist in an organization which were linked with job satisfaction. However, it has been extremely challenging to figure out just exactly what can influence an employee's job satisfaction in an organization due to human complexity.

Classic models such as the two-factor theory have tried to attribute various attitudes that arise in a workplace with job satisfaction by trying to bridge a link between satisfaction in ones workplace with organizational citizenship behavior, employee loyalty and turnover rate and hypothesizing an increase in organizational productivity due to an increase in those attitudes of the employees (Lawler & Porter, 1967). Job satisfaction increases an organizations ability to hold on to its workforce and thus increases the organizations competitive edge in the market (Shields & Ward, 2001). This sector thus has attained higher attention and has been a common topic of research and numerous studies have been conducted on it but unfortunately it has been often overlooked in the developing nations. Organizations often fail to remember that due to the complex business structure and the continuous changing pattern of human nature, it is possible to figure out a new side to this old debate (Roznowski & Hulin, 1992).

Research Significance

According to IMF, Bangladesh has an enormous scope for investors in the near future due to being classified as one of the eleven emerging markets. It is a middle-income economy due to Bangladesh having one of the fastest GDP growth rates in the world. It is slowly moving towards upper middle-income status (imf.org, 2019). This means Bangladesh is moving out from the more traditional industrial sector and is focusing more

on non-traditional industrial sectors. Among those the pharmaceutical industry of Bangladesh is particularly promising. This sector is growing at a 15% annual growth rate and will become a \$5.11 billion industry by 2023 (Report, 2019).

Moreover, WTO have granted the sector a patent waiver that will allow them to expand rapidly in the global market as well (Dhaka Tribune, 2019). However, the industry is already facing several obstacles. Two leading multinational companies that have been in this sector in Bangladesh for a long time, GlaxoSmithKline and Sanofi, have both within the span of one year (July 27th 2018 to October 16th 2019) decided to shut down their pharmaceutical operations in Bangladesh (Mirdha, 2019 and Page and Rahman, 2019). The consequence of these two heavy weights leaving the Bangladeshi market opens up significant market share for the other local companies. However, this also does raise the question of large-scale dissatisfaction among the workers in this industry due to close to 2000 employees heading towards unemployment. There have already been industrial actions taken by employees of GSK in front of their plant (Mirdha, 2019). Therefore, the research will focus on finding out the overall job satisfaction of the employees in the pharmaceutical industry in Bangladesh because if left unchecked it might have disastrous effects on the large economic potential it possesses.

Research problem

This study tried to find out which components of job satisfaction can affect the contentment level of workers in Bangladesh where the challenges were multifold. Specifically, to find out the level of impact of intrinsic factors on job satisfaction of the employees. Nath (2012) in his paper presented the importance of manufacturing industries in Bangladesh to shift from an agricultural country to an industrial nation. He claimed that accelerating growth of manufacturing industry has been the way to bring about economic transformation and reduce poverty and establish desirable strategic options for development of the country in the future (Nath 2012). Therefore, finding ways to improve productivity by finding factors that influence job satisfaction could be a vital step towards accelerating growth. However, there has been very limited research done on the pharmaceutical sector of Bangladesh compared to the extensive research done on the RMG and Banking sector. Therefore, this research focused on one of the leading companies in this sector, Renata Pharmaceutical as a reflection of rest of the industry.

The research question was designed to determine the extent of three prominent factors (training and development, work environment and relationship with supervisor) could impact the job satisfaction level in Renata Pharmaceutical to better understand the employee behaviors of the pharmaceutical industry of Bangladesh and fathom the current condition of job satisfaction in the industry. The literature review provides further justification into the reasonings of why these three factors were the most vital for job satisfaction.

Literature review

Review of recent researches on Job Satisfaction and Industrial Workers of Bangladesh.

Recent studies on job satisfaction in Bangladesh has divulged how supervision, environment, job and pay affects job satisfaction among employees. As ascertained by previous research they have also stated, that job satisfaction has been multi-faceted and not only affected by one single factor (Rabbanee et al., 2012). Their work has found out that whereas most of the factors played a role in improving job satisfaction, work environment had diminished role affecting job satisfaction. In contrast to that research Rana (2015) has found that there was significant positive correlation between relationship with supervisor and work environment with job satisfaction. The research found out that these two factors to be of more prominence. Training and development have also been linked with job satisfaction by providing high levels of employee satisfaction and decreasing employee turnover in the organization by giving the chance to increase the employability in organization. Moreover, in manufacturing industries, it has even more implicit implication (Rahman, 2014). Therefore, it can be determined that from the recent researches, one thing is very clear, among the intrinsic factors, relationship with supervisors, work environment, and training and development in Bangladesh has an important role to play and is worth researching to see how it changed over time and across industry. This study thus aimed to bring relevant contribution to current HRM literature as most studies have been done in the RMG or commercial banking sector and there has been significantly limited research done on the pharmaceutical industry. In Khulna, another district of Bangladesh, the need for training has been found to be crucial for job satisfaction of employees in the pharmaceutical industry (Alam, 2015). Therefore, with this study, a comparative analysis could be structured to see how the same motivating factors affects organizations across different industries.

Definition of Job Satisfaction and related factors

There have been various models established (also known as motivation theories) to analyze the factors that affect workplace job satisfaction:

Equity Theory (Adams and Freedman, 1976), Herzberg's Two-Factor (Motivator-Hygiene) Theory (Gawel, 1997), Discrepancy Theory (Locke, 1969), Lawler's modified version of Vroom's VIE Model (Lawler & Porter, 1967), Social Learning Theory (Pierce & Bandura, 1977), Opponent Process Theory (Landy, 1978), Range of Affect Theory (Locke, 1976), Job Characteristics Model (Hackman & Oldham, 1976) and Maslow's Hierarchy of Needs (Maslow, 1943).

Among these theories, the earliest developed model has been the Herzberg “two-factor” theory which explained that all organizations have two aspects. One aspect has been known as motivators, which creates satisfaction among employees and another aspect known as hygiene factors, which leads to dissatisfaction among employees when they were not present in the workplace. His model further states that there must be a balance, a minimum level of hygiene factors for employees to not feel dissatisfied in their workplace (Robbins, Campbell & Judge, 2010). However, the theory has its fair share of criticisms due to the one-dimensional assumption that every employee in an organization would behave in similar patterns. But due to the simplicity of the model, it did gain ample popularity since its introduction (Lawler & Porter, 1967).

Most of the models pointed towards the direction that an employee's job satisfaction depends on various factors which were both intrinsic and extrinsic nature and related to various aspects of his/her organizational duties (Lawler & Porter, 1967). These factors became harder to analyze due to the multitude of different segments of the global market that could affect the market due to rapid changes occurring in the forms of globalization, economic changes or technological innovations (Crawshaw, Budhwar & Davis, 2014). Therefore, managers now have a greater responsibility to make sure the organizational environment has been devoid of any sort of stimuli that could cause dissatisfaction in the employees and the employees also have a hand in maintaining their job satisfaction (Robbins, Campbell & Judge, 2010).

Job satisfaction not only has been linked with higher motivation and more organizational citizenship behavior, but it has also been linked with better life satisfaction. Studies have found that there is a significant relationship between job satisfaction and life satisfaction. The strength of the relationship ranges from 0.19 to 0.49 (Judge, 1992). According to Judge (1992) there are three outcomes that arise from these relationships:

- 1) Spillover- occurs when the job experience spills over into life experience or the life experience spills over the work experience.
- 2) Segmentation- happens when job experience and life experience are separated into smaller groups and there is little to no relationship between each other.
- 3) Compensation-occurs when a person is looking to compensate for dissatisfaction in the workplace by seeking for satisfaction and happiness in his or her everyday none work life.

However, contentment in ones working life does not only relate to life satisfaction but is also related to a number of other workplace behaviors and attitudes. According to Mount (2006), job satisfaction can also affect workplace incivility (Mount, Llies & Johnson, 2006), psychological withdrawal behaviors (Rozonwski, Miller & Rosse, 1992), turnover

decisions (Carsten & Spector, 1987), decisions to retire (Hanish & Hulin, 1990), pro-union representation votes (Getman, Goldberg & Herman, 1976), job performance (Judge, Thoresen, Bono & Patton, 2001), organizational citizenship behaviors (Bateman & Organ, 1983) and attendance at work (Smith, 1977). However, the correlation with job satisfaction and these factors are not strong, compared to other specific workplace attitudes and behaviors such as contextual performance, absenteeism and turnover Judge (1992). Therefore, there is still a debate due to the lack of empirical support of direct correlation between job satisfaction and employee performance. It has been undeniable that there is substantial evidence supporting significant job satisfaction creating a variety of positive behaviors amongst employees which in return can contribute to the organization performing better (Bateman & Organ, 1983).

The Linkage Between Training, Development and Employee Satisfaction

Providing training and development opportunity to employees has an impact on employee motivation level as it can lead to the employee feeling valued and thus increasing their loyalty to the organization as well as promoting organizational citizenship behavior (Latif, Jan & Shaheen, 2013). However, the relationship between training and job satisfaction has been largely ignored in most research throughout along with other constructive outcomes that arise from creating an impactful training program and it has always assumed that only working hours and extrinsic benefits drove a worker's motivation in an organization (Violino, 2001).

Previous studies explicitly focused on intrinsic attitudes have showed interesting results. One survey found that organizations that provide the opportunity for training had the ability to attract more employees and retain them successfully by creating strong employee loyalty and organizational commitment among themselves (What Drives, 2001). Another study found that in a group of IT employees, the scope for training and development was the most important decision that led to their career choices and affected which organization they wanted to join or leave (Violino, 2001).

Another study has found that amongst the nurses across UK, those that did not have opportunities for attaining training programs were highly dissatisfied with their work. Hatcher (1999), Traut et al., (2000), and Lowry et al., (2002) conducted an empirical study which found strong correlation between training and development and employee satisfaction level, which recently was further supported by a study conducted by Schmidt (2007), where he also found positive correlation between job satisfaction, training and development which further supports the previous studies. By summarizing the previous literature on training and its link with job satisfaction, it could be stated that training and development not only affected the employees but could also impact the whole organization and can play a significant role in human resource planning (Schmidt 2007).

Hence, training and development can offer an organization the ability to achieve sustainable competitive advantage through increased productivity in the workforce, creation of organizational commitment, increased organizational citizenship behavior and reduced overall turnover rate due to overall feeling of satisfaction achieved by receiving training (Brumm, 2007).

The Relationship Between Work Environment and Employee Satisfaction

The literature review suggested that there has been a positive relationship between employee's level of satisfaction and the workplace environment as reflected by the work of Agarwal (2014) on different organizations in the USA. He found that two factors, the perception of workers that their surrounding environment is safe both physically and emotionally and those that had a good bond with their colleagues led to an increase in the workers ability to align with the organizational mission and vision and had a greater sense of belonging with the organizations thus increasing retention rate. (Agarwal & Mehta, 2014) Even by comparing financial ratios such as profitability, Blazovich (2014) found in his research examining companies from the Fortune 500 that organizations that had the best financial performance also tended to have the workplace which were deemed to provide sufficient support to their employee's well-being as well. They outperformed other firms in financial performance measures such as higher market value, superior return on asset and equity compared to other firms hence were understood by investors to be less risky for investment compared to other companies (Blazovich, Taken Smith & Smith, 2014).

As stated previously, extrinsic rewards and benefits despite being a significant factor leading to employee's wellbeing have not been the only determining factor for an employee's happiness in the workplace. However, in a society where everything is extremely replicable, it is now more important than ever to create a productive employee workforce (Crawshaw, Budhwar & Davis, 2014). Therefore, it has been crucial to create a workforce that have been emotionally satisfied and pleased with the workplace environment. The quality of the work environment can affect the performance of the organization as a whole leading to either good productivity from a good work environment or an inefficient workforce due to poor working environment (Ganapathi & Balaji Prasad, 2008). However, when it comes to the work environment of an industrial sector, especially that of a developing nation, it has been more often found to be unhygienic which leads to employee sickness and lacking in proper safety measures resulting from inadequate infrastructure or ventilation, lack of proper lighting or safety equipment, overcrowded workplaces or lack of emergency exits and noise pollution problems. All these add up to lower overall employee performance in the organization.

Chandrasekar (2011) came up with a model that he found to depict the aspects of a work environment that had an effect on employee satisfaction (Chandrasekar, 2011).

It is human nature for workers to want to work in a work environment that would provide them with better physical comfort and ease and usually when this environment has been missing, it can lead to the creation of stress among employees thus affecting employee well-being (Baron and Greenberg 1990). On the other hand, the presence of such an environment leads to increased job satisfaction (Robbins, Campbell & Judge, 2010) However, there should be a distinct balance between a comfortable work environment and inefficient work environment as an environment that is too favorable can have an adverse effect and create inefficiency in employees if they have taken everything for granted (Arnold, Feldman and Hunt, 1992.) Hence with the distinct relationship between work environment and workplace satisfaction, it can be stated that work environment is a key factor for determining job satisfaction.

The Impact of an Employee's Relationship with their Supervisor on Job Satisfaction

A supervisor's ability to translate the organizations mission and vision to the employees can have a determinant effect on the employee's loyalty and as a result the turnover rate of the organization. A supervisor's ability to create a strong bond with his subordinates has the subsequent consequence of an increase in employee performance and creating strong workplace commitment. This could be due to the fact that a supervisor's behavior directly affects the level of satisfaction of an employee which they experience at his/her workplace (Madlock & Kennedy-Lightsey, 2009). Supervisors are a part of an employee's everyday life. Therefore, as employees must deal with their supervisor on a daily basis, if the interaction is not smooth over a long period of time it can affect the organizations productivity. If the employee does not perceive the supervisor as supportive, or fails to feel motivated through the actions of the supervisor or considers that the supervisor is not concerned about their well-being, then the supervisor has been seen as unsupportive and that can lead to a decrease in work performance of the employee (Burke, Borucki & Hurley, 1992).

The literature review has found that if a supervisor is highly critical then that has an adverse impact on their employees (Michaels, Cron, Dubinsky & Joachimsthaler, 1988). However, supervisors who were too laid back with their employees also faced complications with subordinates due to miscommunication and inefficiency (Burke, Borucki & Hurley, 1992). Supervisors can also impact employee stress levels by easing work life balance problems when the supervisor is understanding which can result in a decline in conflict due to declining work family life balance problems of the employee (O'Driscoll et al., 2003) Supervisors does not only have the duty to support the

employees by providing ways to decrease their stress levels, they also have to connect the employee with organizational resources he/she needs in order to complete his/her goal. Inability or ability to provide proper facilities can also have a bearing on satisfaction and performance of employees (Burke, Borucki & Hurley, 1992).

The significance of the relationship between supervisor and employee satisfaction has been further proven by Babin and Boles (1996) who in a study of retail employees found that those who viewed their supervisors as supportive and caring had a better work environment and higher satisfaction level compared to those who did not find their supervisors adequately supportive (Babin & Boles, 1996). In another study by Karatepe and Kilic (2007) conducted on hotel employees, it was found that a positive relationship with a supervisor had multiple consequences that resulted in an increase in job satisfaction, better work performance, a decrease in turnover rate, rising employee loyalty, increase in citizenship behavior such as imitateness and innovation and overall decline in the stress levels. His research had strong empirical evidence to support the claim that an employee's relationship with their supervisor has a significant bearing on their job satisfaction. (Karatepe & Kilic, 2007).

Study Design

This section will discuss the main concept and theme of the research and expand on the literature review to establish the model that has been used to perform the study. The main method of data collection and analysis will also be explained.

Conceptual Framework

There is a major gap in the research done on the intrinsic motivators and how they can affect employees working in pharmaceutical companies in the South Asian countries (Ahmad et al., 2016). Therefore, the study focused mainly on intrinsic factors as there has been a significant gap on this form of motivation compared to studies done on extrinsic motivators.

Based on the literature review, the research aimed to figure out the overall level of satisfaction of a pharmaceutical firm to provide insight into how an industrial sector of a developing country operates within its current economic and socio-economic growth. For that purpose, this study focused on the study of Renata Pharmaceutical, one of the leading and largest firms in its respective sector in terms of employment as well as financial return. Renata Pharmaceutical has over 2300 employees and more than 300 product lines (Annual Report, 2016).

The study aimed to categorize three intrinsic factors and to find out the correlation between the three factors of work place environment, training and development and relationship with supervisor had with the overall job satisfaction of

the employees. In previous research conducted in other developing countries such as Bangladesh and Pakistan, there has been substantial conclusive evidence that supports the hypothesis for this study. the pharmaceutical industry of Jordan there is significant correlation between work environment and intrinsic job satisfaction (Obeidat, Altheeb and Masa'deh, 2018). Relationship with supervisor plays a vital role in the pharmaceutical industry of Pakistan (Imam and Javed, 2019). Training and development through proper knowledge management has also been found to be vital for job satisfaction in developing countries (Masa'deh et al., 2019).

Therefore, for this purpose, this study has used the overall job satisfaction as the dependent variable and relationship with supervisor, training and development and work environment as independent variables to test the hypotheses.

Null Hypothesis 1: There is no significant impact of intrinsic factors on the overall job satisfaction of the employees.

Hypothesis 1a: Training and development influences overall job satisfaction.

Hypothesis 1b: Work environment influences overall job satisfaction.

Hypothesis 1c: Relationship with supervisor influences overall job satisfaction

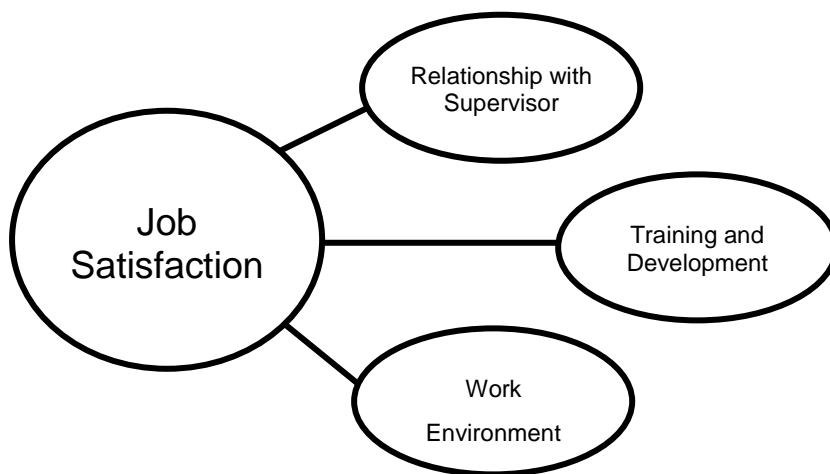


Figure 1 Conceptual Framework

Methodology

The study used both primary and secondary data to conduct the research. A co-relational study (Cooper & Schindler, 1998) was used to demonstrate the relationship between the variables and test both the hypothesis and the research questions. Though this method did not provide in-depth analysis, it helped to provide the relationship between the variables when they were distributed properly and was in their typical environment. A correlation test has its limitations; however, it could verify that there was indeed a relationship (Bcps.org, 2013). The research was conducted using a questionnaire which was emailed to the employees of the organization. The survey was built using a five-point Likert scale (Bowling, 1997; Burns, & Grove, 1997) for the respondents to express their opinion about the three independent variables of the study.

Example-

I feel fairly satisfied with my job.

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
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I feel bored at my workplace.

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
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Each response was given a corresponding number, ranging from 1 to 5 going from strongly agree to strongly disagree and then the data was summarized using the mean and median in order to interpret the data (Likert, 1932).

Sample

For the purpose of the study both primary and secondary data has been used. The main method of gathering primary data has been questionnaires, journal articles, company databases and annual reports. Numerous books on the subject matter have also been used for the secondary data collection process. For the primary data collection, 150 questionnaires were distributed amongst the employees, out of which, after screening for error and incomplete surveys, 69 full surveys were chosen after carefully discarding incorrectly answered surveys. However, a sample size larger than 50 gives a normally distributed data (Cooper & Schindler, 1998). Therefore, the research sample model should be adequate.

The reason for deciding to use Renata Pharmaceutical as sample for the rest of the industry was two-fold. Firstly, they hold 5.2% of the current market share, standing as the fourth largest pharmaceutical company in Bangladesh. Therefore, they hold a large enough market share to be able to reflect the condition of rest of the industry. Secondly, due to bureaucratic structure of other local companies and security issues in the pharmaceutical industry there was a limitation of access to relevant sample size in other organizations. Renata pharmaceutical also provided access to their employees for survey purpose. Hence, they were chosen for the research. Therefore, instead of random sampling a purposeful sampling was availed in the research (Palinkas et al., 2013).

Measure

In measuring the level of job satisfaction, the job descriptive measure has been applied. The measure has 72 items that focused on 5 different factors of job satisfaction such as the work itself, salary, promotion opportunity, relationship with supervisor and relation with coworkers. For the limitation of time and resource, measures have been toned down to an 18 items scale known as the Brayfield, Rothe Job Satisfaction Scale (BRJS).

Findings and Analysis

This section will use statistical software to analyse the responses from the questionnaire and state the significant findings and relationships between the dependent and independent variables.

Descriptive Analysis

Table 1 Statistical Distribution of Questionnaire

Age Distribution	0-20	2	2.89%
	20-30	53	76.8%
	30-50	13	18.8%
	50+	1	1.44%
Gender Distribution	Male	52	24.6%
	Female	17	75.4%

The majority of the surveyed population were between the 20-30-year age distribution and consisted of mostly male workers. This is very common for industrial sectors of developing countries, where male workers are given more priority in labor intensive manufacturing roles.

Table 2 The mean, median, standard deviation and skewness for the mean of overall job satisfaction, training and development, relationship with supervisor and work environment

Statistical Measures		Overall Job Satisfaction	Variable_ Training and Development	Variable_ relationship with supervisor	Variable_ Work Environment
N	Valid	69	69	69	69
	Missing	0	0	0	0
Mean		2.9	2.53	2.38	2.07
Median		2.94	2.53	2.22	2
Std. Deviation		0.28	0.6	0.6	0.59
Variance		0.081	0.361	0.36	0.357
Skewness		-0.544	0.149	0.606	0.398
Std. Error of Skewness		0.289	0.289	0.289	0.289
Kurtosis		1.166	-0.112	-0.232	0.198
Std. Error of Kurtosis		0.57	0.57	0.57	0.57
Range		1.5	2.7	2.6	2.5

– Overall employee satisfaction

The descriptive frequencies of the variables have been tabulated. The mean value of overall job satisfaction is 2.9 and the median is 2.94, and hence there is very slight standard deviation in the average values of job satisfaction and the curve is slightly skewed to the left. From the table and the graph, we can see that the overall survey as well as the three variables falls under a normal distribution curve.



Figure 2 Histogram showing the distribution of the mean of overall job satisfaction

Statistical analysis

– Reliability test

The reliability of the questionnaires can be verified as long as the alpha value is above 0.70. As seen from the table, the Cronbach's alpha of all three variables are above 0.70. Therefore, it can be inferred, the questionnaire had justifiable items that were both valid and reliable.

Table 3 Reliability of Three Scales of Training and development, Relationship with supervisor and Work Environment

	Training and development	Relationship with supervisor	Work Environment
Cronbach's Alpha (α)	.819	.717	.848
No of Items	12	8	9

– **One Sample –T test**

A scale with values ranging from 1 to 5 has been used; therefore, for this scale the study showed a test value for reliability which was 3.

Table 4 One sample test showing the T values for the three scales of training and development, work environment and relationship with supervisor

	Test value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% confidence interval of the difference	
					Lower	Upper
Training and Development	-6.2	68	.000	-.4	-.6	-.3
Relationship with Supervisor	-8.5	68	.000	-.6	-.7	-.4
Work Environment	-12.8	68	.000	-.9	-1	-.7

Ho: $\mu = 3$ or the mean value of average reliability is 3.

H1: $\mu \neq 3$ or the mean value of average reliability is not 3

The T-test has been conducted assuming 3 as the test value for the hypothesis mean. For independent variable training and development, the T value is -6.4. In the case of Relationship with supervisor the value is -8.5 and with the variable work environment the value is -12.8. All three variables have less than 0.05 significance level of P value, therefore we can reject the null hypothesis for the three variables.

– **Correlation**

This study considers a correlation value of 0 as no correlation and 1 to have a perfect correlation. Usually 0.4-.07 is considered to have substantial correlation. Anything above that value is said to have very strong correlation and anything below to have moderate correlation among variables. We have run the test to see the correlation between overall job satisfaction of the employees and the three variables.

Table 5 P-value of Three Scales of Training and development, Relationship with supervisor and Work Environment

		Training and Development	Relationship with supervisor	Work Environment	Overall Satisfaction
Overall Satisfaction	Pearson correlation	0.52	0.47	0.62	1
	Sig (2-tailed)	.039	0.65	.013	
	N	69	69	69	69

The correlation between training and development and overall job satisfaction is 0.52, and the level of significance can also be said to be statistically significant in the 95% confidence level. Therefore, the research has found positive relationship between training needs of employees and their level of satisfaction derived from work. The correlation between relationship with supervisor and overall job satisfaction is 0.47, which can also be said to have moderate correlation. The level of significance however is slightly above the 95% confidence level and therefore does not have strong statistical significance. Nevertheless, it is not too high to be considered insignificant. Hence, the findings show that there is a very weak relationship on the overall job satisfaction of employees due to a good relationship with their supervisors. Work environment had the most impact on the overall job satisfaction level of the employees, with 0.62 correlation value; which is logical due to the pharmaceutical industry being a hazardous work environment.

- Linear Regression Test

Table 6 Linear Regression with Job satisfaction as the dependent variable and Training and development, relationship with supervisor and work environment as variable factors

Variable factors	R	R square	Std Error of Estimate	R-Square Change	Sig. F change
Training and development	.249	0.51	.277	0.62	.039
Relationship with supervisor	.224	0.50	.279	0.51	0.65
Work Environment	.296	0.88	.274	.089	.013

*The sample regression equation is: $Y = \alpha + \beta X$

All 3 variables have R square values that justifies the model, which should be greater than or at least equal to 0.50. Training and development have the greatest different between R square and R square change while the other two variables, relationship with supervisor and work environment have a very minute difference. This means the research questions were adequate to model the hypothesis.

- ANOVA

Table 7 ANOVA Values from the regression analysis

Variable factors (regression)	Sum of Squares	df	Mean Square	F	Sig
Training and development	.341	1	.341	4.416	.039
Relationship with supervisor	.276	1	.276	3.53	0.65
Work Environment	.485	1	.485	6.450	.013

*Dependent Variable: Overall Job Satisfaction

If we assume the hypothesis for the model to be,

H₀: The model is not adequate.

H₁: The model is adequate.

The finding shows that among the three intrinsic factors, training and development and work environment holds statistical significance with P values less than 0.05. Hence for Hypothesis 1 and 3 we can reject the null hypothesis. However, in the case of relationship with supervisor, the P value is greater than 0.05 thus we have to accept the null hypothesis. This means increasing training and improving work environment has a greater effect on the overall job satisfaction of the employees compared to the effect improving relationship with supervisor will have on motivating the workforce.

– Beta Values

Table 8 Beta values obtained from the regression analysis

Variable factors	Constant	B	Std Error	Beta	t	Sig.
Training and development	2.6	.118	.056	.249	2.10	.039
Relationship with supervisor	2.6	.106	0.57	0.224	1.88	0.65
Work Environment	2.6	.141	0.56	2.96	2.54	.013

The beta provides us with information on the degree of movement of the dependent variable if the independent variables increased by 1 unit. Therefore, from the findings we can observe that work environment (.141) has the strongest movement on job satisfaction, followed by training and development (.118) and lastly relationship with supervisor with the least effect (.106) on the overall job satisfaction of the employees.

Discussion and Recommendation

Our research investigated Renata Limited, one of the largest pharmaceutical manufacturing companies in Bangladesh. Sixty-nine employees from the manufacturing department were surveyed. The dependent variable job satisfaction was measured

through a Likert scale of job satisfaction. The statistical package, SPSS, was employed for the data analysis. A number of statistical tests such as normal distribution test, Cronbach's alpha, one sample T-test, Pearson's correlation coefficient test, linear regression were conducted to find the relationship between workplace satisfaction and three intrinsic factors; training and development and job satisfaction, work environment of the employees and job satisfaction. and relationship with supervisor of the factory workers and its effect on their job satisfaction.

From our research we can conclude that training and development, and work environment are significantly related to overall job satisfaction of pharmaceutical industry employees in Bangladesh. The level of relationship the employees of the organization had with their supervisors has only a slight effect on the job satisfaction though not substantial.

This paper is based on the premise that job satisfaction has several positive effects for an organization. A positive job satisfaction can effectively motivate an employee, improve the organization's turnover rate, increase organizational commitment, enhance organizational citizenship behavior and most importantly improve overall organizational performance (Robbins, Campbell & Judge, 2010). Therefore, if the factors that influence job satisfaction/dissatisfaction of an organization are identified, then according to organizational theories such as hygiene theory and two-factor theory, we can influence positive and negative job attitudes.

The data show that for Renata, work environment, and training and development are the two most important factors in determining job satisfaction; however, relationship with supervisor and the employees of the organization does not have a clear statistically significant correlation. This is due to the nature of the organization: being a manufacturing company, the workplace, and training and development are naturally highly valued than the relationship with supervisor with the employees, with whom there is usually limited interaction by the manufacturing staff, their tasks being a repetitive controlled process. Therefore, in light of the findings, it can be summarized, to keep industrial peace, and positive attitudes among employees there should be an extra emphasize on the work environment and training opportunities for the employees.

In spite of limitations of the present research such as the sample size and language barrier, this research has opened up the possibility of further investigation as to other factors of job satisfaction, especially comparative employee attitudes.

Limitation of the study

Due to time and resource constraints, we have focused on three variables-- training and development, work environment and relationship with supervisor. Recent research has found these factors to be significantly related to job satisfaction. However,

due to the accessibility issues of an industrial sector that is very careful about their security, the sample size was limited which caused limitations to the complexity of the statistical tests that could have been conducted. However, we were able to collect enough data to provide some noteworthy insight.

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