

Research Article

Emotions and Its Effect on the Performance of Employees in the Job Position as Software Developers, IT Support Engineers, Testing and Maintenance Officers

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Abstract

Employee performance is main focus of growth, development and success of any organisation. There are other factors that affect employee performance like working hours, Job itself, working conditions. But emotions are the most important element that contributes to the performance of employees. There are various research studies that show regulation of emotions can contribute to better performance at work. Improvement of the employees' performance increases the overall organizational growth that results in better profit as it is the important priority of most organizations. The research is focusing to study the effect of emotions over the actual performance of employees in the job position of software developers, IT support engineers, testing and maintenance officers. Five emotions that are positive (happy, excited, enthusiasm, proud and inspired) and five emotions that are negative like (anger, sad, fear, shame and anxiety) are chosen for the study. This paper also focuses on studying if regulation of emotions can improve the performance of the employees. The data is collected through a survey method, using the descriptive research design. Various descriptive analysis is carried out and the results show that positive emotions have an effect and can increase the performance of the employees. While negative emotions and regulation of emotions have only a minor effect on performance.

Index Terms – Emotions, Employee performance

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Introduction

Employees can contribute of an organisation and they represent the organisation as a whole. In the contemporary time, organisations are aiming at improving employee performance. Employee performance is important for growth and success of any organisation. Many other factors affect employee performance. but emotions are the most significant element that determines the performance of employees. There are various research studies that show, regulation of emotions can strengthen performance at work. The main purpose of this research is to analyse if emotions of employees have an effect on their performance and to test the relationship between regulation of emotions and performance. For this, ten discrete emotions are taken. Happy, excited, enthusiasm, proud and inspiration are the positive emotions and sad, fear, shame, anger and anxiety are the negative emotions. The focus of the study is on the service-based IT companies with the job positions of software developers, IT support

engineers, testing and maintenance officers. Employees from the three job positions were chosen as it was understood these employees were doing a structured monotonous and target oriented tasks by logging online for long hours with less scope of human interaction. The very nature of job limits the human interaction. The study assesses the effect of emotions over the actual performance of the employees in their job.

Emotions

Emotions is basically the internal feelings or the reactions to the environment. Every individual has a large variety of positive and negative emotions. Emotions vary from person to person and it is very difficult to measure. It is related to a wide range of feelings, thoughts and changes in physical behavior. **Happy** is a positive emotion that an individual feels positive of being content with a feeling of life being good with some meaning and worth living. When people are content and comfortable, successful they feel happy. **Excitement** is a feeling of eagerness. It is an important factor that encourages, motivates and propels energy. **Enthusiasm** is a strong interest of action. It arises as a result of performing tasks that are enjoyable. **Pride** is deep satisfaction of an achievement and being pleased with themselves. **Inspiration** is an extraordinary emotion that arises from some external person or a situation. Sometimes it is a passion within. **Sadness** is a negative emotion associated with disappointment helplessness, left alone. **Fear** is an emotion that triggers the fight or flight response to being threatened by something physically or emotionally. It can be a result of no clarity. **Shame** is a painful feeling of distress. It can arise as a result of regrettable or unfortunate circumstances. **Anger** is felt when someone has done something unacceptable. It is a feeling of displeasure. **Anxiety** is a negative emotion, which is a response to stress and the fear of what lies ahead.

Regulation of Emotions

Regulation of emotion is called also called regulation of the self, refers to the way we deal with pressing feelings with negative feelings of anger, excitement, frustration, anxiety or low mood. It is defined as any action done consciously or unconsciously that either changes the effect of and the intensity of a current or future emotional experience.

Performance

Performance is the capability to undertake the required task effectively and efficiently by an employee. Employee needs to understand the required performance and the standards for performing the job. Job performance is an extremely important aspect that determines the organisational success and outcomes.

Research Objectives

- To study the influence of positive emotions over the performance in a job.
- To study the effect of negative emotions on performance.
- To study the relationship between regulation of emotions and performance.

Review of Literature

Pranav Naringrekar and Daksh R. Jain (2020) focussed on the perception of employees regarding productivity and the effect of the actual employees' productivity and the overall satisfaction level in the organisation. The study states that employees' productivity is a basic factor that determines the growth of the organisation in IT sector. Work culture has impact on factors such as productivity, skills required for the job like management skills, recognition for job and working hours. **Mostafa Saidur Rahim Kahn et al (2020)** have studied emotions and

productivity of employees and have recorded on-job emotions using a specially designed wearable biometric device. The results shows that happiness was influencing positively the increased productivity, while the pressing feelings like anger and sadness were not influencing the factors. **Amna Anjum and Samma Faiz Rasool (2018)** in their study on the factors leading to a toxic work environment that negatively impact the productivity of an employee found workplace ostracism, workplace incivility, workplace harassment were the elements of toxic workplace. Results of this study proved that the toxic workplace factors have a negative significant effect on employee productivity and job burnout was a significant neutral of a toxic workplace environment and employee productivity. **Young Jin Ko and Jin Nam Choi (2018)** in their study focussed on overtime work on employee satisfaction, firm productivity and innovation. The analysis of study involved human capital theory. The result exhibited that a firm's over time is negatively related to employee satisfaction. Meanwhile it was positively related to the firm's productivity and innovation. **Shane Connelly and Brett S. Torrence (2018)** have studied four positive and negative emotions and the effect of these emotions on human resource policies and practices. HRM systems and subsystems from recruitment selection and performance management and feedback were included for the study. **Tony Wall, Jayne Russell and Neil Moore (2017)** in their research paper have studied the effect of positive emotions in workplace with challenging circumstances. This paper focusses on use of appreciative inquiry in the difficult organisational circumstances in order to implement change in the organisation. This study enables to understand that positive emotions can help overcome challenging circumstances. **Christian Pfeifer (2016)** analysed the relationship between unfair perception of wages by employees and the occurrence of the negative feeling of anger. Feelings of anger was more for workers perceiving their wage was unfair. However, hourly wage was not related to anger. The results indicated that the anger was more if the working hour was more and the resultant economic benefit was low. **Shavita Dhankar (2015)** in her research paper states that intelligence in emotions is required to regulate emotions in self and others. The results of the study throw light on the fact that being emotionally intelligent controlled negative emotions of employees and helped to develop organisational culture that promoted learning in order to link individual goals with organisational goals. **Albert Agyei (2013)** has studied the effect of managing emotions of employees in workplace. The research revealed that the main cause of employee emotion was increasing work with less or no guidance and support involving pressure to work and no clarity in the job description. Some measures to manage employee emotions were identified such as counselling, organising periodic seminars on how to deal with emotions and their work-related issues, developing better relationship with employees and restructuring their work load. Managing emotions according to this research are miscommunication and inability of the employer to identify personal traits of the employee. **Hakan Ozelik and Sigal Barsade (2011)**. In the work behaviour study, work loneliness is not a workplace emotion that is considered and given importance. The results of the study showed that increase in loneliness results in less task achievement, team role and performance. **M. Ali Pervez (2010)** in his research paper, has analysed emotions and its effect on job performance of employees. The study also focuses on the relationship between anger, interest and trust of an individual with their job performance. The results showed that emotions affect the job performance highly. Anger leads to aggressions among colleagues and job dissatisfaction. The study also reveals that trust of the boss and subordinates is rated less. Challenging tasks and environments are preferred by young employees than older ones.

Research Gap

The various factors that affect performance of employees in the workplace such as work ethic,

management, skills required, recognition, hours of work and overtime have been studied to examine their effect on performance. Toxic workplace environment and their effect on performance had also been studied. Workplace challenges, workplace incivility, and job burnout and the elements of a toxic workplace. Feeling of loneliness and other emotions, particularly anger, happiness, sadness, relaxation, fear, pride, guilt, interest and trust were discussed in various studies. Increased workload, less or no guidance and support, meeting of targets, dissatisfaction of role and no clarity in description of job were addressed as the main issue of emotion in workplace and the importance of regulation of emotion is also indicated. Only a few discrete emotions have been discussed so far by the authors to test its impact on the performance. This study covers the software developers, IT support engineers, testing and maintenance officers of service providing IT companies to test the impact of positive and negative emotions on performance and to understand the relationship between emotional intelligence and performance.

Research Framework

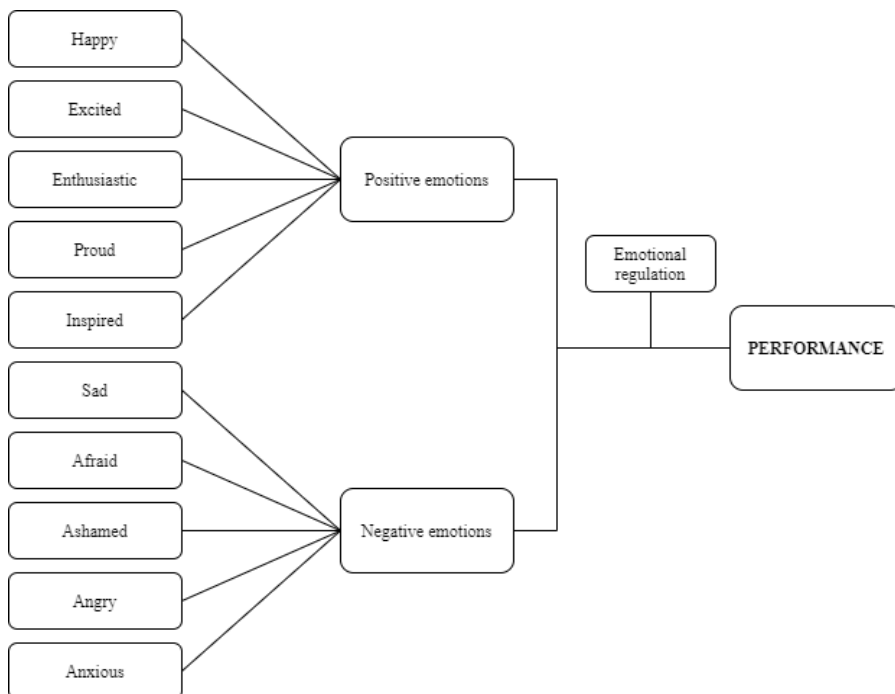


Figure 1: Research concept

Research Methodology

The research is carried out using descriptive research design. The survey data was collected by circulating questionnaires to the software developers, IT support engineers, testing and maintenance officers of the service providing IT companies. These companies mainly provide IT services such as business process outsourcing, business process management, digital consulting, technology consulting, enterprise software, payment processing, software development and maintenance. Stratified sampling method of probability sampling was adopted for this study. The total population is divided into subgroups on the basis of their designations such as software developers, IT support engineers, testing and maintenance officers called the strata and the data is collected from these employees. The data is collected from 71 software developers, 134 IT support engineers, 81 testing officers and 64 maintenance officers. A total of 350 samples were collected for the purpose of the study. Questions for the

survey were derived from Multidimensional Emotion Questionnaire (MEQ) by E. David et al, Emotional Regulation Questionnaire (ERQ) by Gross and John and Individual Work Performance Questionnaire (IWPQ) by Linda Koopmans et al. Percentage analysis, regression analysis, correlation analysis, factor analysis and descriptive analysis are done to find the results of the study.

Data Analysis

STUDY ON THE DEMOGRAPHIC PROFILE

Table 1: Percentage analysis

Demographic profile	P e r c e n t
Gender	
Male	48
Female	52
Age	
20-30	59

30-40	37
Above 40	4
Marital status	
Single	58
Married	42
Experience in IT industry	
Less than 5 years	56
5-10 years	38
More than 10 years	5

Percentage analysis is done to analyse the percentage of respondents on demographic basis. An analysis on the gender of the employees indicates that 48% of the respondents are male, 52% of the respondents are female. The analysis on the age of employees denotes that 59% of the respondents belong to 20 – 30 years of age, 37% of the respondents fall between 30 – 40 years of age and 4% of respondents are above the age of 40. Analysis on the marital status shows that 58% of the respondents are single and 42% of the respondents are married. The analysis on the employees’ experience in IT industry indicates 56% of the respondents have an experience of less than 5 years, 38% of the respondents fall between 5 - 10 years of experience and 5% of respondents have experience more than 10 years.

STUDY ON EMOTIONS

Table 2: Descriptive analysis

Variables	M e a n	S t d . d e v i a t i o n
Positive emotions		
Happy	14.9	3.06

Excited	1 4 .6	3 .5 5
Enthusiastic	1 4 .8	3 .4 1
Proud	1 5	3 .7 1
Inspired	1 5 .0 5	3 .4 6
Negative emotions		
Sad	9 .8	4 .2 6
Afraid	9 .4	4 .2 3
Ashamed	8 .2	3 .8 2
Angry	1 0 .0 8	4 .3 7
Anxious	9 .7	4 .1 6

Descriptive analysis is done to describe the elements under positive and negative emotions. The meanvalue of happy is 14.9, excited is 14.6, enthusiastic is 14.8, proud is 15 and inspired is 15.05. It shows that inspiration has the highest mean value and is the most felt positive emotion. Excitement has the lowest meanvalue and it is the least felt positive emotion. The mean value of sad is 9.8, afraid is 9.4, ashamed is 8.2, angryis 10.08 and anxious is 9.7. It shows that anger has the highest mean value and is the most felt negative emotion. Shame has the lowest mean value and is the least felt negative emotion.

REGULATION OF EMOTION OF EMPLOYEES

Table 3: Descriptive analysis

Variables of regulation of emotion	M e a n	S t d . d e v i a t i o n
Positive emotions		
Happy	3 . 7	0 . 9 5
Excited	3 . 6 3	1 . 0 7
Enthusiastic	3 . 6 7	1 . 0 3

Proud	3 . 7 2	1 . 0 5
Inspired	3 . 7 5	0 . 9 8
Negative emotions		
Sad	2 . 3 3	1 . 1 8
Afraid	2 . 3 0	1 . 1 9
Ashamed	1 . 9 7	1 . 0 7
Angry	2 . 3 5 4 3	1 . 2 2
Anxious	2 . 3 5 4 3	1 . 1 2

Descriptive statistics is done to find which element of positive and negative emotions are easy to regulate. The mean values of positive emotions range from 3.6371 to 3.7686 and the average mean value of regulating positive emotions is 3.7137 which is more than 3 which shows that positive emotions are easy to regulate. The mean value for negative emotions ranges from 1.9771 to 2.3543 and the average mean value forregulating negative emotions is 2.26458 which is less than 3 which shows that negative emotions are hard to regulate. This analysis further shows that happiness is the easiest to regulate positive emotion and anger and anxiousness are equally the easiest to regulate negative emotion.

STUDY ON EMPLOYEE PERFORMANCE

Table 4: Communalities

	I	E
	n	x
	i	t
	t	r
	i	a
	a	c

	I	t i o n
Manage and plan your work to be done on time	1 .000	.609
Able to separate issues from less important issues at work	1 .000	.788
Does the quality of your work remain unchanged	1 .000	.639
Do you set priorities right	1 .000	.739
Do you perform well with mini	1 .000	.667

mum time and effort		
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Table 5: Total variance explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	T o t a l	% o f V a r i a n c e	C u m u l a t i v e %	T o t a l	% o f V a r i a n c e	C u m u l a t i v e %
	3	6	6	3	6	6
	.4	8	8	.4	8	8
	4	.8	.8	4	.8	.8
	2	3	3	2	3	3
		9	9		9	9
	.5	1	7			
	2	0	9			
	3	.4	.3			
		6	0			
		4	3			
	.4	8	8			
	2	.4	.7			
	3	5	.7			
		8	6			
			1			
	.3	6	9			
	4	.8	4			
	2	4	.6			
		1	0			
			2			
	.2	5	1			
	7	.3	0			
	0	9	.0			

		8	0			
			0			
			0			

Table 6: Component matrix

	C o m p o n e n t
	1
Plan and manage your work to be done on time	.780
Separate issues from less important issues at work	.888
Does the quality of your work remain unchanged	.800
Do you set priorities right	.860
Do you perform well with minimum time and effort	.817

Factor analysis is conducted to reduce a large number of variables under employee performance into fewer number as factor. Principle component analysis is performed to extract the factor. The KMO test is done and it measures 0.877 which shows that the value has a great sampling adequacy. The approximate chi-square value for the Bartlett's Test of Sphericity is 919.9 with a significance value of 0.000. The communality value shows how well an item is correlated with all the other items. It shows that 60.9, 78.8, 63.9, 73.9 and 66.7 percentages of variance accounts for planning work, separating main issues from side issues at work, unchanged quality of work, setting priorities right and performing well with minimum time and effort respectively. The table 7 shows the total variance explained and the first component has an eigen value greater than 1 and the factor explains 68.839% of the

variance loaded. The compound matrix indicates that the 5 variables loaded into only 1 factor.

THE EFFECT OF POSITIVE EMOTIONS ON PERFORMANCE

Ho: There is no significant association between positive emotions and performance.

Ha: There is a significant association between positive emotions and performance.

Table 7: Regression model summary

	R	R Square	Adjusted R Square	Std. Error of the Estimate
	.535 ^a	.286	.284	3.055

Table 8: ANOVA

Model	Sum of		Mean Sq	Sig.

		S		u	
		q		a	
		a		r	
		r		e	
		e			
		s			
		s			
		i			
		o			
		n			
	R	1		1	
	e	3		3	
	g	0		0	
	r	0		0	
	e	.		.	
	s	6		6	
	s	6		6	
	i	6		6	
	o				
	n				
	R	3		9	
	e	2		.	
	s	4		3	
	i	7		3	
	d	.		1	
	u	1			
	a	5			
	l	1			
	T	4			
	o	5			
	t	4			
	a	7			
	l	.			
		8			
		1			
		7			

Regression analysis is done to test the strength of the relationship between the dependent variable (performance) and independent variable (positive emotion). The above table shows a significance value of

0.000 which is less than 0.05 so, the null hypothesis is rejected and the alternate hypothesis is accepted. It shows that there is a significant association between positive emotions and performance. Further the value of R square is 0.286 so, it indicates that positive emotion is dependent on performance by 28.9 percentage.

THE EFFECT OF NEGATIVE EMOTIONS ON PERFORMANCE

Ho: There is no significant association between negative emotions and performance.

Ha: There is a significant association between negative emotions and performance.

Table 9: Regression model summary

	R	R	A	S
			d	t

Emotions and Its Effect on the Performance of Employees in the Job Position as Software Developers, It Support Engineers, Testing and Maintenance Officers

		S q u a r e	j u s t e d R S q u a r e	d . E r r o r o f t h e E s t i m a t e
	. 4 3 9 a	. 1 9 3	. 1 9 0	3 .2 4 8 1 6

Table 10: ANOVA

M o d e l	S u m o f S q u a r e s		M e a n S q u a r e	F	S i g . .
R e g r e s	8 7 6 .2 2		8 7 6 .2 2	8 3 .0 5 0	. 0 0 0 a

s i o n	4		4	
R e s i d u a l	3 6 7 1 .5 9 4		1 0 .5 5 1	
T o t a l	4 5 4 7 .8 1 7			

Regression analysis is done to test the strength of the relationship between the dependent variable (performance) and independent variable (negative emotion). The above table shows a significance value of 0.000 which is less than 0.05 so, the null hypothesis is rejected and the alternate hypothesis is accepted. It shows that there is a significant association between negative emotions and performance. Further the value of R square is 0.193 so, it indicates that negative emotion is dependent on performance by 19.3 percentage.

THE EFFECT OF REGULATION OF EMOTION ON PERFORMANCE

Ho: There is no significant association between regulation of emotion and performance.

Ha: There is a significant association between regulation of emotion and performance.

Table 11: Regression model summary

	R	R S q u a r e	A d j u s t e d R S q	S t d . E r r o r o f t
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Emotions and Its Effect on the Performance of Employees in the Job Position as Software Developers, It Support Engineers, Testing and Maintenance Officers

			u a r e	h e E s t i m a t e
	. 4 8 7 a	. 2 3 8	. 2 3 5	3 .1 5 6 4 9

Table 12: ANOVA

M o d e l		S u m o f S q u a r e s		M e a n S q u a r e	F	S i g .
	R e g r e s s i o n	1 0 8 0 .5 5 3		1 0 8 0 .5 5 3	1 0 8 .4 5 2	. 0 0 0 a
	R e	3 4		9 .		

s i d u a l	6 7 .2 6 5		9 6 3		
T o t a l	4 5 4 7 .8 1 7				

Regression analysis is done to test the strength of the relationship between the dependent variable (performance) and independent variable (regulation of emotion). The above table shows a significance value of 0.000 which is less than 0.05 so, the null hypothesis is rejected and the alternate hypothesis is accepted. It shows that there is a significant association between regulation of emotion and performance. Further the value of R square is 0.238 so, it indicates that regulation of emotion is dependent on performance by 23.8 percentage.

RELATIONSHIP BETWEEN REGULATION OF EMOTION AND PERFORMANCE

Table 13: correlation analysis

			c o m b i n e d m e a n s o f r e g u l a t i o	c o m b i n e d m e a n o f p e r f o r m a n c
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Emotions and Its Effect on the Performance of Employees in the Job Position as Software Developers, It Support Engineers, Testing and Maintenance Officers

			n o f e m o t i o n	e
S p e a r m a n ' s r h o	comb ined mean s of regul ation of emoti on	C o r r e l a t i o n C o e f f i c i e n t	1 . 0 0 0	. 4 0 4 * *
		S i g . (2 - t a i l e d)	.	. 0 0 0
		N	3 5	3 5

		0	0
combined mean of performance	C o r r e l a t i o n C o e f f i c i e n t	. 4 0 4 * *	1 .0 0 0
	S i g n i f i c a n c e (2-tailed)	. 0 0 0	.
	N	3 5 0	3 5 0

The correlation analysis describes the degree of relationship between two variables. The analysis is done to show the interdependency of emotional regulation and employees' performance. Coefficient of correlation shown in the table is 0.404 which indicates that there is a moderate relationship between the two variables.

Findings and Suggestions

The evaluation of the study indicates that employees' performance is highly affected by their emotions. It is evident that positive emotions, negative emotions and emotional regulation

impacts employee performance. But positive emotions are found to increase employee performance. It is also found that emotional regulation and performance do not have a strong relationship. Additionally, the results of the analysis also show that positive emotions are easier to regulate than negative emotions.

For a better performance of the employees, it is suggested that the organizations could focus on how to keep their employees positive. Positive emotions affect the human brain in a way that increases awareness, attention and memory. These are very important aspects for software developers, IT support engineers, testing and maintenance officers working in IT industry, with time constraints to complete their work. To maintain positive emotions among the employees, the workload can be maintained and constant guidance or support to be given from the organization's side. The organization can further provide with counselling centers for employees and periodic seminars could be conducted on importance of positive emotion and how to stay positive. Employees by their own effort can also try simple techniques to stay positive in the workplace like meditation, reframing negative circumstances, random acts of kindness, building a practice of appreciating colleagues and so on. These simple practices can also increase the positive emotions of the coworkers which therefore increases the individual performance.

Scope of the Study

The scope of this paper is that it explains about the influence of emotions on the performance of the employees and if emotional regulation can be a mediating factor between emotions and performance, to increase performance. The study focuses on the software developers, IT support engineers, testing and maintenance officers. The scope of this research is that it can be referred by human resource managers of IT companies to manage the influence of emotions of employees over the performance and how to improve it. The significance of this study is that at an individual level the need to improve their emotions is understood. Better emotions increase the performance of the employees and it benefits the organizations. Overall, the society can be benefited at a large if individuals improve their emotions, their problem-solving skills are also improved.

The limitations of the study are that it is carried out in Coimbatore city only and the results might be subjective to change in other regions. The research focuses only on the software developers, IT support engineers, testing and maintenance officers of the IT industry and does not cover all the designations in the IT industry. The number of respondents for data collection are limited to three hundred and fifty.

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