

# Mind Maps and Employee Motivation- An Urban Perspective

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## Abstract

**Objectives:** In the past three decades the usage of concept maps for understanding interests of individuals and for instructional purposes has grown significantly. Mind Maps have been considered as a tremendous tool for collaboration with everyone in the organization and to expand the ways of implementing important programmes. It eventually permits individuals to connect the input of each member in the group in creative and dynamic manner. When applied in brain storming sessions within a group, mind mapping can augment critical thinking and co-operation among the members which provides a base for mutual problem-solving. Individuals who participated in the group sessions expressed that they enjoyed the exercise very much and explicitly shared their opinions openly. **Methods and Analysis:** This paper aimed at studying the perception of employee motivation of Quality Assurance Design Department which was carried out at TVS SUNDARAM CLAYTON LTD. in Padi, Chennai, using census sampling method. **Findings:** Based on the Factor analysis, in total, four factors such as 'Human factor', 'Working attitude', 'Communication with team' and 'Motivation practices' are able to extract 75.3% of variance. The study concluded that these five factors were identified as important factors of perception of employees towards motivation using Mind Map. **Applications/Improvements:** This study can be applied in any learning situation where individuals or groups have a free will to express their opinion and develop on sub-domains relating the main theme.

**Keywords:** Critical Thinking and Problem Solving, Employee Perception, Mind Map, Motivation

## 1. Introduction

In the past three decades the usage of concept maps for understanding interests of individuals and for instructional purposes has grown significantly<sup>1</sup>. In spite of it, still many queries remain unanswered with regard to the usage of concept maps effectively to motivate and promote learning in the human population<sup>2</sup>. Though there are many ways to use concept maps in varied settings<sup>3</sup>, the researchers of this study were much interested in eliciting responses from the business executives on their perception of motivational practices of the organization and as well to analyze the intricacies existing in attaining the motivation level of employees. Mind mapping termed as a type of mapping in which the ideas are represented in

diagrams with node-link connections and relationships<sup>4</sup> and the same has also been termed as concept mapping<sup>3</sup> by knowledge mapping<sup>5</sup>. Mind maps are best utilized for instruction, purposes and the mapping techniques proves to increase the achievement and maintenance of knowledge functions<sup>1</sup>. It has also been noted that concept map is "a sort of graphic organizer that is illustrious by the use of labeled nodes highlighting concepts and linkages denoting cause and effect relationships among concepts". Utilization of concept maps in an instructional setting enables individuals to put forward their ideas and thoughts in any shape they like, and then arrange these shapes in a logical way that would allow the individual to see the associations and inter-connections relating to the concepts studied or discussed.<sup>3</sup> Mind mapping is a pro-

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cess in which the core topic is given in the graphic form and individuals relate to the core highlighted<sup>4</sup>. Relevant connections are carefully identified and related to the main or central concepts which at times is represented by images which are coloured emphasizing the smooth progression of thoughts.

Mind maps are meta cognitive tools that enhances the creativity of individuals by allowing them to form visualized picture of the image thought of and improves the individual's comprehension and understanding<sup>6</sup>. Mind maps were found to influence ones learning and study habits particularly medical students by way of insight learning matched with problem-based learning curriculum<sup>7</sup>. Mind maps enable individuals to have broader and deeper association with the material used and analyzed.

Mind Mapping is seen as a powerful way of helping in critical projects and programme operations<sup>8</sup>. Mind mapping has enabled the respondents to plan the structure, quality and coherence of their presentation without any lecture notes<sup>9</sup>. The executives were capable to manage challenging queries with confidence. Their presentation was interesting to the audience because of the flow and clarity of information. Mind Maps have been considered as an excellent tool for collaboration with others to expand plans and implement important projects. It permits individuals to combine the input of all the individuals in the group in creative manner. Mind Mapping when adopted along with brainstorming promotes critical analysis because of divergent thinking which in results in effective problem solving focusing on all prospective avenues<sup>10</sup>.

In a study conducted with 12 respondents, majority considered mind mapping an influential tool for creative writing with originality and novelty which enabled individuals to have clarity of thought and put forward coherently by associating the relationships in the thoughts and ideas presented. It also has the capacity to integrate new knowledge and organize information logically<sup>11</sup>. The utility of mind maps in preparing a patient care plan at Front Range Community College has resulted in enhanced thinking skills including critical and logical thinking<sup>12</sup>. The use of mind maps in lesson plan preparation which aids teachers and master trainers identify the core teaching route and thereby increase recall of the content by the subjects taught or trained which has resulted in improvement of confidence and understanding of the curriculum<sup>13</sup>.

Researchers has highlighted that Mind Mapping is a useful and effective tool in introducing original and novel concepts<sup>14</sup>. The importance of Mind mapping in aiding the learning and teaching process as well as its implication in research has been studied by researchers<sup>15</sup>. There are many studies which have indicated that mind mapping stimulates motivation in individuals and groups<sup>16</sup>. Mind mapping triggers creative thinking<sup>17</sup>. It is also reported that mind mapping improves the level of performance in students<sup>18</sup>.

Numerous studies have been conducted to analyze the benefits of various visual techniques such as concept and mind mapping. These techniques have not found full utility in areas of research and project development, human resource mobilizations and public relations<sup>19</sup>. The present study focuses on exploring the possibilities for the use of mind maps among the executives to study their perception how they are motivated or the driving force for them to perform and contribute to the company.

## 2. Methodology

This paper aimed at studying the perception of employee motivation of Quality Assurance Design Department which was carried out at TVS SUNDARAM CLAYTON LTD. in Padi, Chennai, using census sampling method. Both Primary data and Secondary data were collected to analyze the findings by directly communicating with the employees and engaging them in connecting their prior and existing knowledge to new and shared information regarding their motivation to work. When creating the mind map, the executives were frequently allowed to interact with the rest of the members in the group and come with their own map of what motivates them to work. These maps were later combined together to form a gestalt configuring all the points put forward by the executives. Based on the diagram the already prepared questionnaire was modified to accommodate almost all the factors of motivation like human factor, working attitude, team communication, co-operation with other departments, monetary and non-monetary motivating factors for extracting accurate information from the employees at the executive level in TVS SUNDARAM CLAYTON LTD. The quantitative data were analyzed using SPSS (version 16.0) a statistical software package for the social sciences. Based on the preference given by the executives the factors were loaded and by factor analysis

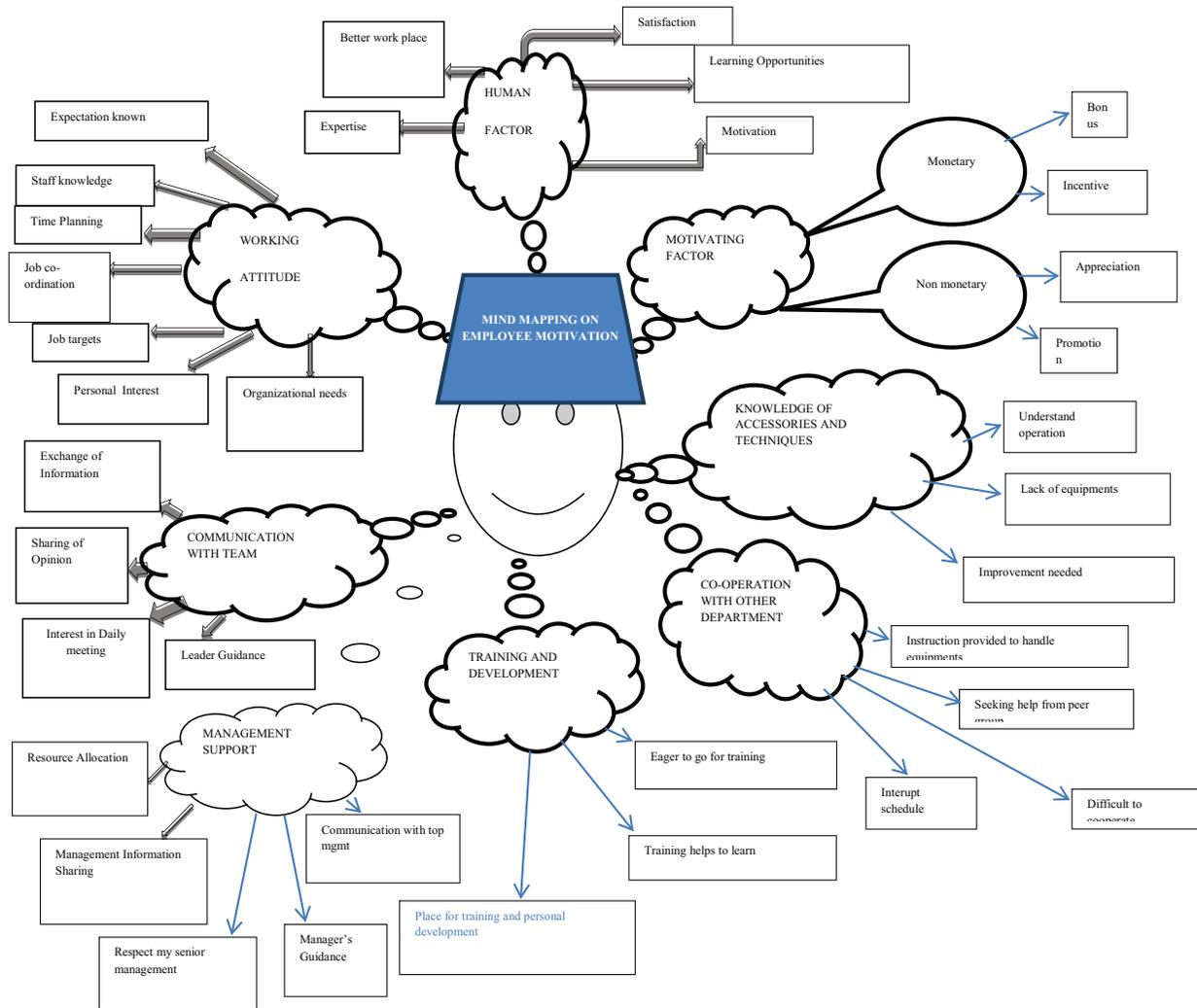


Figure 1. Mind map diagram on motivation.

the findings were described in the Results section. In this tool, Reliability Analysis was used to check the content quality of the questionnaire by the samples. The value of Cronbach's Alpha was found to be 0.952 suggests that the data gathered is reliable for analysis.

### 3. Results and Discussion

To understand the nature of perception of employees towards motivation, and to narrow the responses of employees further tool as factor analysis was performed.

#### 3.1 Factor Analysis of Perception of Employees towards Motivation using Mind Mapping Variables

As a first step KMO and Bartlett's Test was conducted and is presented in the Table 1.

KMO and Bartlett's test of sphericity produces the Kaiser-Meyer-Olkin measure of sampling adequacy and Bartlett's test (Field, 2005, Chapters 11 & 12). The value of KMO should be greater than 0.5 if the sample is adequate. The Kaiser-Meyer-Olkin Measure of sampling adequacy is 0.817, which shows that sample for this study is quite adequate.

The purpose of this investigation to explore the key objective reducing a larger set of variables to a smaller set of factors, fewer in number than the original variable set, but capable of accounting for a large portion of the total variability in the items.

According to the Table 2 and Table 3 shows that four factors were extracted. In total the four factors were able to explain 75.3% of the variance. The first factor is able to extract 27.3%, second factor is able to extract 19.9%, third factor is able to extract 17.9%, and the fourth factor is able to extract 11.2%.

**Table 1.** KMO and Bartlett’s test

Kaiser-Meyer - Olkin Measure of Sampling Adequacy.		.722
Bartlett’s Test of Sphericity	Approx. Chi-Square	7.543
	Sig.	.000

Source- Primary Data

**Table 2.** Total variance explained

Factor Component	Rotation Sums of Squared Loadings		
	Total Eigen values	% of Variance	Cumulative %
1	5.835	27.3	27.3
2	4.790	19.9	46.2
3	3.312	17.9	64.1
4	2.148	11.2	75.3

Source- Primary Data

According to the Table 4, Five variables are loaded on factor 1 and all are positive loadings based on the loadings the factor is named as ‘Human factor’.

According the Table 5, seven variables are loaded on factor 2 and all are positive loadings based on the loadings the factor was named as ‘Working attitude’.

According the Table 6, four variables are loaded on factor 3 and all are positive loadings based on the loadings the factor was named as ‘Communication with team’.

According the Table 7, Seven variables are loaded on factor 4 and all are positive loadings based on the loadings the factor is named was ‘Motivation practices’. Based on the Factor analysis, in total, four factors such as ‘Human factor’, ‘Working attitude’, ‘Communication with team’ and ‘Motivation practices’ are able to extract 75.3% of variance. These five factors were identified as important factors of perception of employees towards motivation. While at work, relationship is of great importance to the success of the individual and the organization. This component of human factor includes both the physical work environment and the mental work environment. The physical work environment includes representation of structural and technical elements that prevail in the organization while the mental work environment includes the behavioral, cognitive and cultural aspects of the given business entity. These factors mainly influence the motivation of the staff of the organization and inspire them to develop positive work behaviors. Though, physical environment does not have much influence the latter do to a great extent. Hence in an organization it becomes necessary to provide its members with rich learning

**Table 3.** Rotated component matrix

Variables	1	2	3	4	5
Overall I am satisfied working in this organisation	.812				
There is a lot of learning opportunities in this organization	.809				
I am being motivated in this organization	.798				
I become expertise after joining in this organization	.775				
My work environment is a better place to work than others	.771				
I know the expectations of my job		.765			
Staff frequently are not aware of what they are to		.761			
There is organization and co-ordination in the jobs carried out		.727			
My job targets seem to be confused		.699			
Poor planning results in waste of time		.680			
Personal interest does not interfere in my work place		.666			
Organizational needs are focused than personal gains		.651			
Exchange of information between the team members			.753		
Opportunities are given to share one’s opinion			.723		
Interested to participate in daily meeting			.710		
Team leader provides guidance to others			.700		
Bonus				.658	
Performance based incentive				.623	
Promotion				.611	
Appreciation				.574	
Congenial atmosphere				.561	
Open discussion with superiors				.531	
No pressure in job				.512	

Source- Primary Data

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 4 iterations

opportunities to develop their skill which in turn drives the individual to become an expert and perform in a manner that increases his or her sense of achievement.

**Table 4.** Variables loaded on factor- human factor

Variables	Loadings
Overall I am satisfied working in this organization	.812
There is a lot of learning opportunities in this organization	.809
I am being motivated in this organization	.798
I become expertise after joining in this organization	.775
My work environment is a better place to work than others	.771

Source- Primary Data

**Table 5.** Variables loaded on factor 2- working attitude

Variables	Loadings
I know the expectations of my job	.765
Staff frequently are not aware of what they are to do	.761
There is organization and co-ordination in the jobs carried out	.727
My job targets seem to be confused	.699
Poor planning results in waste of time	.680
Personal interest does not interfere in my work place	.666
Organizational needs are focused than personal gains	.651

Source- Primary Data

**Table 6.** Variables loaded on factor 3- communication with team

	Loadings
Exchange of information between the team members	.753
Opportunities are given to share one's opinion	.723
Interested to participate in daily meeting	.710
Team leader provides guidance to others	.700

Source- Primary Data

Motivation is a multi-dimensional concept with two aspects of motivation the intrinsic and extrinsic motiva-

tion, "Individuals are intrinsically motivated when they seek enjoyment, interest, satisfaction of curiosity, expression, or personal challenge in the work<sup>20</sup>. Individuals are extrinsically motivated when they engage in the work in order to obtain some goal that is apart from the work itself." Both intrinsic and extrinsic motivation influences the work behavior and employee motivation. The top level management's trustworthiness strengthens the links between motivation and work attitudes by increasing intrinsic work environment. Improvement of Department Collaboration is required and the communication process should be made easy all the departments helps the executives to do their work with effective use of resources. It reduces production cost and increases profit. Working atmosphere should be more conducive to the employees to improve their knowledge and to implement their skills and knowledge freely if the job situation needed. They should also be able to freely communicate with the superiors and subordinates sharing opinion and ideas. Exchange of information gives optimum results to the issues from workers' view. The work behaviour and attitude of executives is based on their personal and organizational goals, work and personal interest, targets ahead of them, job planning, job co-ordination etc. Executives with high income and low job satisfaction do not show the interest on work compared to their personal interests. Hence it necessitates that the organization must work to motivate and respect the employees' suggestion.

**Table 7.** Variables loaded on factor 4-motivation practices

Variables	Loadings
Bonus	.658
Performance based incentive	.623
Promotion	.611
Appreciation	.574
Congenial atmosphere	.561
Open discussion with superiors	.531
No pressure in job	..512

Source- Primary Data

Executives need to show interest as well participate in daily meetings which again helps the executives to understand and complete the day-to-day work requirement which will gradually increases their income level by promotion and other benefits. Information sharing depends on the mindset of the executive and their expertise level.

Team leader guidance is very much influenced based on knowledge about the techniques and the operations and in addition to the willingness to co-operate and communicate with team members. Opinion sharing, Team leader guidance and team communication is very less when compared with other factors. So taking the measures to improve the team communication is the essential thing for the organizational development. The gaining of support and providing support from/to other departments is based on the communication and ability to handle the situation with the peer group. The interruption of other department work acceptance level is low. It shows there is some gap in the work when it comes to getting help from other departments. So organization should take necessary measures to improve the networking between the departments.

## 4. Conclusion

Success for employees in the organization environment will be dependent on their own thinking abilities. Mind Mapping will help the workers to increase their thinking competencies as well as their adeptness in learning new information. Buzan states, "If your company does not become a learning organization, it will become a dead organization"<sup>4</sup>. In the past, training research and development efforts were focused on improvement of training. Now the focus should be the transferring of knowledge base and skill sets relating to the job environment. This transfer of training is important because companies pay out crores of rupees every year to enhance the skill sets of their employees by providing them training towards effective development of the individuals and thereby the organization. Most of the times, much of these resources are wasted within the first two weeks as the knowledge and training that the employees are equipped with are not being fully utilised on the job. In order to remain competitive in the universal marketplace organizations need to build highly talented workforce with appropriate skills. Although many studies have been made with a great deal about learning, in most instances action to use this knowledge is not being taken<sup>15</sup>. Most instructors still used strategies that consisted mainly of lecturing and individual paper work<sup>21</sup>. The organizational issue that is under consideration in the present research is the lack of use Maps, and its effectiveness in learning styles. An effective strategy of Mind Maps should show that it will enable the employees to absorb and retain much more information, thereby making training departments utiliz-

ing Mind Maps more of strategies that enable employees to be successful. The focus of the study is the brain-based motivational strategy by Mind effective. This study can be applied in any learning situation where individuals or groups have a free will to express their opinion and develop on sub-domains relating the main theme.

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