

## A STUDY ON WORKPLACE EFFECTIVENESS AND EMPLOYEE PROBLEM SOLVING CHALLENGES AT BUTTERFLY APPLIANCES LIMITED

MONISHA.K, DR .DEEPA.M

MBA STUDENT, ASSISTANT PROFESSOR

SCHOOL OF MANAGEMENT STUDIES

SATHYABAMA INSTITUTE OF SCIENCE AND TECHNOLOGY

Contemporary office work is becoming increasingly challenging as many routine tasks are automated or outsourced. The remaining problem-solving activities may also offer potential for lifelong learning in the workplace. In this study we analyzed problem solving in an office work setting using an Internet-based, semi-standardized diary to collect data close to the process. Thirteen employees in commercial departments of an automotive supplier participated voluntarily; they recorded sixty-four domain-specific problem cases in total. Typical problems were moderately complex but rather urgent. They were detected by means of monitoring, augmented feedback, or feedback from others. The problems detected provoked states of high arousal, including both negative and positive emotions. We found that seeking support from others was the most common approach to problem solving, and that in general problem solving offered considerable learning possibilities. Experts were confronted with more complex problems than novices, they more often solved problems using their domain-specific knowledge, but they also preferred social support. Surprisingly experts reported higher negative emotional states after having detected a problem than novices. The results, the diary method, and the limitations of the study are discussed.

**Keywords:** problem solving, workplace learning, expertise, diary method, Sample Size 16

### INTRODUCTION

Problem-solving is an essential skill in today's workplace, as employees regularly face various challenges in their daily tasks. It involves identifying a problem, analyzing its causes, and selecting the most appropriate solution.

Effective problem-solving helps improve decision-making, productivity, and overall organizational performance.

In modern organizations, employees are expected to think critically, act quickly, and work collaboratively to resolve issues. Problem-solving is closely connected with skills such as creativity, communication, and teamwork. Employees who possess these abilities can handle complex situations more efficiently and contribute to organizational success.

Problem-solving is not an inborn ability but can be developed through experience, training, and a supportive work environment. Organizations play a key role in enhancing these skills by encouraging innovation, providing guidance, and promoting teamwork.

This study focuses on the problem-solving abilities of employees in Butterfly Appliances Limited. It aims to understand how employees approach problems, the methods they use, and the factors that influence their effectiveness. The study helps in identifying ways to improve employee performance and organizational efficiency.

### REVIEW OF LITERATURE

- **Van Merriënboer and Jeroen (2013)** emphasized that problem-solving should include real-life situations rather than only structured problems, helping learners develop practical skills.

- **Tsai et al. (2012)** found that effective problem solvers focus on relevant information, while others struggle with identifying key elements of a problem.
- **Kuo et al. (2012)** concluded that hybrid learning methods significantly improve problem-solving ability and learning attitudes among students.
- **Manapure (2011)** stated that problem-solving methods enhance scientific thinking and operational skills.
- **Yeung (2010)** observed that problem-based learning improves students' understanding and presentation of problems, though variations exist in thinking levels.
- **Basantia and Panda (2010)** found that activity-based learning is more effective than traditional teaching in developing problem-solving skills and creativity.
- **Kashyap (2006)** highlighted the importance of learning through thinking and doing for better problem-solving.
- **Mohanty (2005)** stated that training programs help in improving creativity and problem-solving abilities.

### **OBJECTIVES OF THE STUDY**

#### **PRIMARY OBJECTIVES:**

- The main objective is to explore the Employees Problem Solving in Butterfly Appliances Limited.

#### **SECONDARY OBJECTIVES:**

- To study employee's responsibility towards problem solving.
- To study the managerial and operational functions of employee's problem solving.
- Identify different problem solving styles.
- Identify methods appropriate for solving problems.
- Apply methods to specific problems.

### **SCOPE OF THE STUDY**

The scope of the study was considered that the various branches at Butterfly Appliances Limited company. The study was considered that the employees are facing many problems in the organization. The management should come to know that what kinds of problems are facing by the workers and according to that the management should give solution to the workers. A standard questionnaire was designed and was circulated to the employees. The researcher thought that only experienced employees know about the company well and was taken as the sample. The research was done by directly interviewing the employees.

### **LIMITATIONS OF THE STUDY**

- ✓ Particular time is given by the management to collect the data from the employees.
- ✓ Most of the employees are education level is below UG / PG DEGREE. So it took much time to explain them and to get their feedback.
- ✓ Most of the employees are fresher not aware of the application.

### **STATEMENT OF THE PROBLEM**

The success of any manufacturing organization depends largely on the workers, the employees are considered as the backbone of the organization of Butterfly Appliances Limited, company. The employees are the most important one in each and every organization because without the employees

the work cannot be done on times

The study was mainly identifying and understands that the employee's satisfaction and dissatisfaction should face by the organization because of the employees are not satisfied in their work means then the worker cannot continue the work in the organization. This study can be helpful in knowing, why the employees prefer to change their job and which factors make employee dissatisfy. The management should follow the workers that what the employees are expecting form the management and as well as to the organization. Once the Employee's attitude is identified, it would be possible for the management to take necessary action to reduce the employee's problems. Since they are considered as backbone of the Company, their progression will lead to the success of the Company for the long run.

## **RESEARCH METHODOLOGY**

Research methodology is the systematic, theoretical analysis of the methods applied to a field of study. It comprises the theoretical analysis of the body of methods and principles associated with a branch of knowledge. Typically, it encompasses concepts such as paradigm, theoretical modal, phases and quantitative or qualitative techniques.

A methodology does not set out to provide solutions-it is therefore, not the same as a method. Instead, a methodology offers the theoretical underpinning for understanding which method, set of methods, or best practices can be applied to a specific case,

## **RESEARCH DESIGN**

The research design adopted for this study is descriptive in nature, as it aims to analyze the problem-solving abilities of employees. Both primary and secondary data were used for the study.

Primary data was collected through a structured questionnaire, while secondary data was gathered from books, journals, and company records.

A simple random sampling method was used to select respondents. The sample size consisted of employees from different departments of the organization. The collected data was analyzed using basic statistical tools such as percentages and charts.

The study focuses on understanding employees' problem-solving skills, their approaches to handling issues, and factors influencing their effectiveness.

## **RESEARCH TYPES OF DATA COLLECTED**

### **PRIMARY DATA**

Questionnaires are prepared and personal interview was conducted. Most of the questions are consist of multiple choices. The structured interview method was undertaken. The interview was conducted in English as well as in Tamil. Proper care was taken to frame the interview schedule in such a manner it should be easily understood in view of educational level of the employees. Generally, 24 questions are prepared and asked to the employees of the **Butterfly Appliances Limited**.

### **SECONDARY DATA**

The secondary data has been collected from the company records and website [www.butterflyindia.com](http://www.butterflyindia.com)

### **RESEARCH AREA:**

The area of study covers the employee's problem solving followed in Butterfly Appliances Limited.

### **RESEARCH UNIT:**

Butterfly Appliances Limited.

### **SAMPLE SIZE:**

The sample size is taken as 160.

**SAMPLE METHOD:**

Convenient random sampling

**DATA COLLECTION METHOD:**

Interview

**TOOLS FOR ANALYSIS OF DATA**

**DESCRIPTION OF STATISTICAL TOOLS USED:**

- ❖ Percentage method
- ❖ Chi-square test
- ❖ Weighted average method and
- ❖ Analysis of variance (TWO-WAY ANOVA)

**DATA ANALYSIS AND INTERPRETATION**

**CHI-SQUARE TEST**

S. no	Particular	No. of respondents	Percentage of respondents
1	Health problem	50	32%
2	Target problem	36	22%
3	Supervisor problem	20	12%
4	Work place environment	54	34%

**Null hypothesis H0:**

There is no significant difference between the Occurrences of security awareness program.

**Alternative hypothesis H1:**

There is a significant difference between the Occurrences of security awareness program.

**CHI-SQUARE TEST**

O	E	(O-E)	(O-E) <sup>2</sup>	(O-E) <sup>2</sup> /E
50	40	10	100	2.5
36	40	-4	16	0.4
20	40	-20	400	10
54	40	14	196	4.9
				17.8

**O= Observed value**

**E= Expected value**

$$X = 160/4=40$$

$$X = \sum (O-E)^2/E=17.8$$

$$df = r - 1=4 - 1=3$$

The table value of Chi-square for 3.df @ 4% level of significance.

Since the calculated value is greater than the table value we reject the null hypothesis. Here it is

concluded that there is significant difference between observed and expected value.

**ANOVA TABLE – Analysis on the effectiveness of system utilization [ TABLE ]**

Particulars	Significantly above(x1)	X <sup>2</sup>	Above(x2)	X <sup>2</sup>	Meat(x3)	X <sup>2</sup>	Below(x4)	X <sup>2</sup>	Significantly Above(x5)	X <sup>2</sup>
Speed	22	484	46	2116	30	900	10	100	7	49
Storage	13	169	47	2209	22	484	27	729	6	36
Accuracy	24	576	65	4225	10	100	8	64	7	49
Diligence	62	3844	33	1089	11	121	7	49	2	4
Reliability	84	7056	15	225	11	121	6	36	1	1
	$\sum x_1 = 205$	$\sum x^2 = 12119$	$\sum x_2 = 206$	$\sum x^2 = 9739$	$\sum x_3 = 84$	$\sum x^2 = 721$	$\sum x_4 = 58$	$\sum x^2 = 324$	$\sum x_5 = 24$	$\sum x^2 = 100$

**Null Hypothesis (H0):**

There is no significant difference between the effectiveness of system utilization.

**Alternative Hypothesis (H1):**

There is a significant difference between the effectiveness of system utilization.

**C.V = Calculated value**

**T.V = Tabulate value**

**C.F = Correlation factor**

**Calculation:**

$$\begin{aligned} \text{(Sum of all } x) \text{ Sum of all the items of various samples} &= \sum x_1 + \sum x_2 + \sum x_3 + \sum x_4 + \sum x_5 \\ &= 205 + 206 + 84 + 58 + 24 \\ &= 577 \end{aligned}$$

$$\begin{aligned} c.f = T^2/N &= 577^2/25 \\ &= 13317 \end{aligned}$$

$$\begin{aligned} \text{(SST) Total sum of square} \\ &= \sum X_1^2 + \sum X_2^2 + \sum X_3^2 + \sum X_4^2 + \sum X_5^2 - T^2/N \\ &= 12129 + 9864 + 1726 + 978 + 154 - 13317 \\ &= 11534 \end{aligned}$$

$$\begin{aligned} \text{(SSC) Sum of squares between samples} \\ &= \sum X_1^2/N_1 + \sum X_2^2/N_2 + \sum X_3^2/N_3 + \sum X_4^2/N_4 + \sum X_5^2/N_5 - \\ &= 205^2/5 + 206^2/5 + 84^2/5 + 58^2/5 + 24^2/5 - 13317 \\ &= 8405 + 8487.2 + 1411.2 + 672.8 + 115.2 - 13317 \\ &= 5774.4 \end{aligned}$$

$$\begin{aligned} \text{(SSE) Sum of the squares with in the sample} \\ \text{SSE} &= \text{SST} - \text{SSC} \\ &= 11534 - 5774.4 \\ &= 5759.6 \end{aligned}$$

**Analysis of variance**

Sources of variations	Sum of squares (SS)	Degrees of freedom (D.F)	Mean square	F
Between the samples	SSC = 5774.4	K - 1 = (5-1)	MSC = SSC/K-1 = 5774.4/4	MSC/MSE
Within the samples	SSE = 5759.6	(N-K) = (25-4)	MSE = SSE/N-K = 5759.6/21	= 5774.4/4 X 21/5759.6
Total	SST = 11534	N - 1 = 24		F = 5.21

Calculated value = 5.21

Table value = 2.40

**Conclusion:-** Since the calculated value of F = 5.21 is greater than the table value of F<sub>0.05</sub> = 2.40 so the null hypothesis is rejected there is a significant difference between the effectiveness of system utilization.

**WEIGHTED AVERAGE METHOD**

Attributes	W	X	Wx
Immediate supervisor	67	1	67

Department HOD	49	2	98
HR Department	30	3	90
Admin Department	14	4	56
Total	160		311

$$\text{Weighted average} = \sum wx / \sum w$$

$$= 311/160$$

$$= 1.94375$$

**Inference:**

From the above table it is inferred that the morale the employee will inform to there supervisors.

**WEIGHTED AVERAGE METHOD**

Attributes	W	X	Wx
Always	34	3	102
Often	19	4	76
Occasionally	45	2	90
Rarely	12	5	60
Never	50	1	50
Total	160		378

$$\text{Weighted average} = \sum wx / \sum w$$

$$= 378/160$$

$$= 2.3625$$

W= Number of respondents

X= Rating given by the respondents

$$N1 = 4 = \pi1 = \frac{\sum x1}{n1} = \frac{160}{4} = 40$$

$$N2 = 5 = \pi2 = \frac{\sum x2}{n2} = \frac{160}{5} = 32$$

$$\begin{aligned} \pi &= \frac{n1 x1 + n2 x2}{n1 + n2} \\ &= \frac{(4)(40) + (5)(32)}{(4+5)} \\ &= 320/9 \\ &= 35.56 \end{aligned}$$

**Inference:**

From the above table it is inferred that the morale the employee is occasionally.

**FINDINGS**

The findings reveal key insights about employees in the organization:

- Majority of employees are young (21–30 years) and female, with many being married.
- A significant portion are graduates/postgraduates with varying experience levels.

- Workplace environment issues are a major problem faced by employees.
- Most employees prefer to approach their immediate supervisor when facing problems.
- Employees are generally willing to raise issues individually and in groups.
- Many employees do not face major health or commuting issues, and most are punctual.
- Some employees feel personal and workplace factors affect productivity, though not all agree.
- A moderate number of employees take leave for personal reasons and believe that job changes happen due to both personal and work-related issues.
- Overall, employees report a balanced workload

### SUGGESTIONS

- ❖ The management should provide training program to initial level of employees and any new technology is implemented in the market. But, the employees in the organization should expect training program in periodic manner. The management should arrange a training and development in regular basis and improves the knowledge and experiences of the employees. It is very useful to the management and creates job satisfaction and job involvement among employee side.
- ❖ The organization can also arrange a telephone facility for employees. It reduces mental tension. Why because, in urgent times the employees needed telephone for transferring the message to the right person. They don't transfer the message to the right person and his concentration is diverting and not does the work in efficient manner. Therefore, the organization is arranging a telephone facility to the employees and reduces the mental tension.
- ❖ In the organization most of the employees are having a supervisor problem. The supervisor is giving a pressure to the employees.
- ❖ In organization the employees are facing some kinds of problem that they are not expressing outside in the organization or not saying to others.
- ❖ The supervisor and co-worker relationship is un-normal in the organization, so that the supervisor should move friendly to the co-worker.
- ❖ Proper maintaining of adequate First aid facilities should be ensured.
- ❖ The rest room should be reconstructed with sufficient space.

### CONCLUSION

The study have emphasized developing and applying formal system, like security policies, procedures and controls, while awareness activities are less applies in the organizations. I learned many thinks in the organization and I spend my times with the employees. I want to thank the each and every one in the organization because of in the organization the each and every one was supported me to do my work and as well as for my project.

My sincere thanks to my head officer and co-worker and as well as to the (HR) Department because of you only guided me that what should be done and what cannot be done in the organization. Therefore, the establishment, maintenance and continuous update of provide a strong indication that a company is using a systemic approach for the identification, assessment and management of information security risk.

The study also helps the concern for the further enhancement for their manufacturing with employee's safety & health by elaborating the current survey.

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➤ **WEBSITES**

- [www.butterflyindia.com](http://www.butterflyindia.com)