

**Effectiveness and Successful Implementation of 5 “S” Practices towards  
Organizational Performance in Propel Industries Private Limited**

**INDUJA C  
(20PBA005)**

**A Major Project Report Submitted to  
Avinashilingam Institute for Home Science and Higher Education for Women  
Coimbatore- 641043**

In partial fulfillment of the requirements for the Degree of  
**Masters in Business Administration**

**May 2022**

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**CERTIFIED BONAFIDE RESEARCH WORK**

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**Signature of the  
Supervisor**

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**Signature of the  
Head of the Department**

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**Signature of the  
External Examiner**

11/05/2022

**TO WHOMSOEVER IT MAY CONCERN**

This is to certify that **Ms.Induja.C** studying in Avinashilingam Institute for Home Science and Higher Education for Women, bearing the registration ID 20PBA005 has undergone an Internship Training from 27<sup>th</sup> December 2021 to 21<sup>st</sup> February 2022 at our organization. During the training period her attendance and work behavior is good.

**For PROPEL INDUSTRIES PVT. LTD.,**



**SENIA J.**  
**SENIOR VICE PRESIDENT**  
**CORPORATE-HR**



## ACKNOWLEDGEMENT

With the blessing of the Lord Almighty, I acknowledge my sincere and heart full thanks to **Dr. S.P. Thyagarajan**, Chancellor, **Dr. V. Bharathi Harishankar**, Vice Chancellor and **Dr. S. Kowsalya**, Registrar of Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, for facilitating the successful completion of this major project.

I like to express deep sense of gratitude, and sincere thanks to **Dr. P. Chitramani, Dean, School of Commerce and Management**, for having been the backbone behind each and every event of department and for her constant and dedicated encouragement in all the endeavors.

My sincere thanks to **Dr. J. Arthi, Professor and Head, Department of Business Administration**, for her motivation and support for the successful completion of the project.

My heartfelt thanks to our esteemed supervisor **Dr. T. Amutha, Assistant Professor (SS), Department of Business Administration** for the constant guidance and valuable suggestion helped the researcher to complete the project work successfully.

I express my sincere and heartfelt gratitude to **Mr. N. Raju, Senior Vice President Corporate HR, Mr. A.R. Lakshmanen, Head -- Training and Development and Mr. Rajesh Kumar, Senior officer – HR of Propel Industries Private Limited.** 38/1B, Trichy Main Road, Kangayampalayam, Sullur, Coimbatore – 641401, for giving me support and guidance for this project.

I would like to express our sincere gratitude to all the faculty members of Department of Business Administration for their help and continuous support and encouragement to complete the project.

I would like to thank our parents, family members, friends and all well-wishers for their kind inspiration, blessings and encouragement during the completion of the course of project.

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## SYNOPSIS

In an increasingly competitive environment, it is absolutely essential to effectively manage the company's processes. The 5 "S" system is a kickoff for any company that wants to achieve higher goals and positions. The purpose of the study is to find out the effectiveness of 5 "S" practice and its successful implementation towards the organisational performance and also list out the various factors which leads to the successful implementation of 5 "S". The study is based on primary data collected from 38 employees in Propel Industries Private Limited.

In this research there are two independent variables that are successful implementation of 5 "S" and effectiveness of 5 "S". Organisational performance is taken as a dependent factor. Various analytical tools such as percentage analysis, mean score, ANOVA, correlation, and regression were used to analyze the primary data. The percentage Analysis is used to find the frequencies of the results and mean score values. ANOVA is used to find out the significant difference between the workers morale and socio-economic profile. Correlation is used to find the significant relationship between two sets of factors. The first set is to find a relationship between the quality of the workplace and employee responsibility & passion. The second set of correlation is calculated between the employee involvement and stakeholder satisfaction. The study used the regression analysis to find the level impact for successful implementation towards organisational performance and another set is to find impact between effectiveness of 5 "S" towards organisational performance.

The result reveals that there is positive and direct impact on effectiveness of 5 "S" on organisational performance and it can be possible only with the successful implementation. The effective way of practicing 5 "S" principles is to apply and develop a plant-wide programme. It also leaves an important note that the effectiveness of 5 "S" can be achieved only by the involvement and support from both the employees and the employers. Finally, this research suggests that 5 "S" techniques will strongly support the company's objectives of continuous improvement and achieving high performance with overall stakeholder satisfaction.

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# CHAPTER I

## INTRODUCTION

### 1. Introduction

In the current competitive business world, customer demand /client specification are always changing, new technologies are continually being developed, and the organisations are forced to rethink in their product manufacturing/service and the management approaches to lower costs, waste reduction improve productivity and at the same time increase quality with high organisational performance. In this changing situation, it is important to win the customer heart with continuous improvement of the organisation. One of the best-known and most widely used lean tool for continuous improvement with high quality and production is 5 “S”.

5 “S” system is one of the tools that can help to improve competitiveness in business industry 5 “S”. (Gaap et.al.,2008t; Ablanedo-Rosas et al., 2010; Jaca et al., 2014), states 5 “S” is a tool which facilities the development for other improvement methodologies. It is also considered as one of the most relevant tools of lean manufacturing and it also associate with other tools like kaizen, six sigma and Just-in-Time. It is a method or practice management tool that can help everyone in better working environment. It is also to ensure compliance to the standards in the process and to fosters the spirit of continual improvement.

#### **Foundation for Corporate Survival**

5 “S” is the beginning where the development of improvement activities to ensure corporate survival. The 5 “S” is not only applicable and suitable for factories. 5 “S” is a systematic approach for organizing and optimizing any place such as office, institutions, hospitals, library etc. The 5 “S” revolution is a revolution in awareness among all employees and the foundation for workplace improvement in the 5 “S”s. 5 “S” approach is the suitable tool to meet the changing time and for the corporate restructuring.

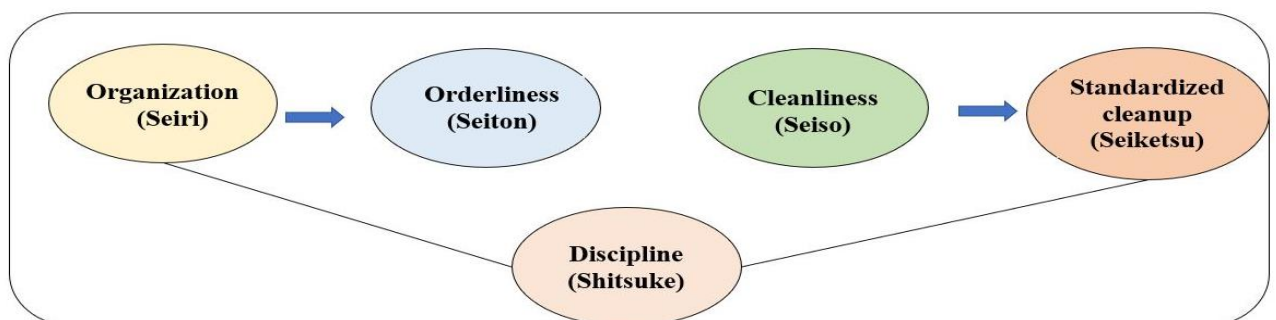
## i) Background of the Study

### Origins of 5 “S”

5 “S” methodology arose following the second world war as part of quality movement in Japan which was first coined by Takashi Osada and Hiroyuki Hirano while Osada brings as strategy for organisational development, learning and change, Hirano has a practical focus and view 5 “S” as a tool to differentiate company from its competitors. The 5 “S” was first implemented by Toyota Industries, 5 “S” System focuses on five implementations of actions that starts with the prefix letter “S” aimed at the systematic hygiene management. In addition, into that, Seiri, Seiton, Seiso, Seiketsu and Shitsuke are Japanese words that summarized 5 “S”, which translates to Sort, set in order, Shine, Standardize and Sustain/Discipline, respectively (Ppheng & Khoo, 2001; Shumin & Xiaoling, 2009). It has been realized that 5 “S” practices are a good starting point for all improvement efforts by improving products and services, and lowering cost in order to maintain the organizations excellent performance and to be more competitive. More than twenty years ago, it is undoubtedly that 5 “S” System has gotten great success in many organisations especially in Japan and is spreading fast throughout the world. 5 “S” is a working philosophy that permits users to create a structured plan to maintain the classification, order, and cleanliness regularly, allowing profitability, health, environment operation, personnel morale, reliability, performance, and therefore competitiveness of the company to be improved instantly

### Elements of 5 “S”

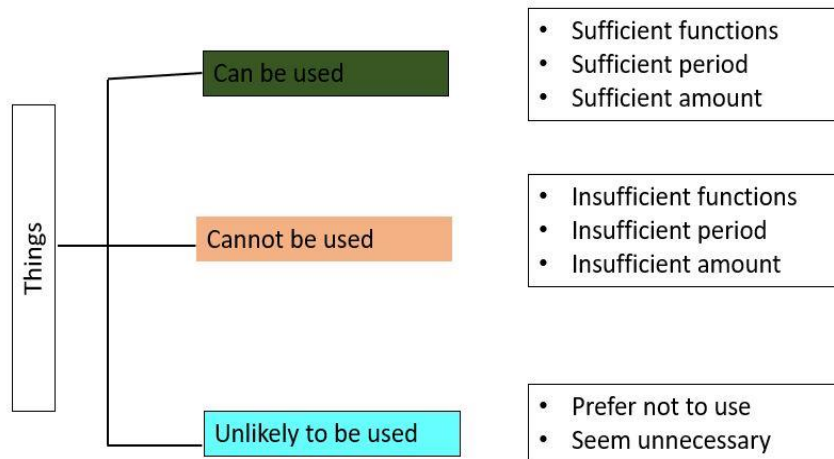
The 5 “S” terms were introduced in Japan. There are...,



**Fig. 1.1. Elements of 5 “S”**

## 1. SEIRI - Sort

Seiri consists of selecting only the objects and documents that are required for the process. It is therefore needed to identify and classify all objects/documents that are in the work-place. Seiri helps in keeping the tools, materials and documents only which is necessary for the workspace remaining will be removed or moved to red tag.



**Fig.1.2. Categorizing Things being used and not used**

## 2. Seiton – Set in order

Seiton results in keeping the materials in respective place. This allows materials and documents to be located and stored as quickly as possible which helps in reducing the time in searching for goods.

## 3. Seiso – Cleanliness

Seiso is the process of cleaning the work area, machines, tools, equipment's for finding and eliminating the minor and unwanted constituents. It plays important part in aiding work efficiency and safety.

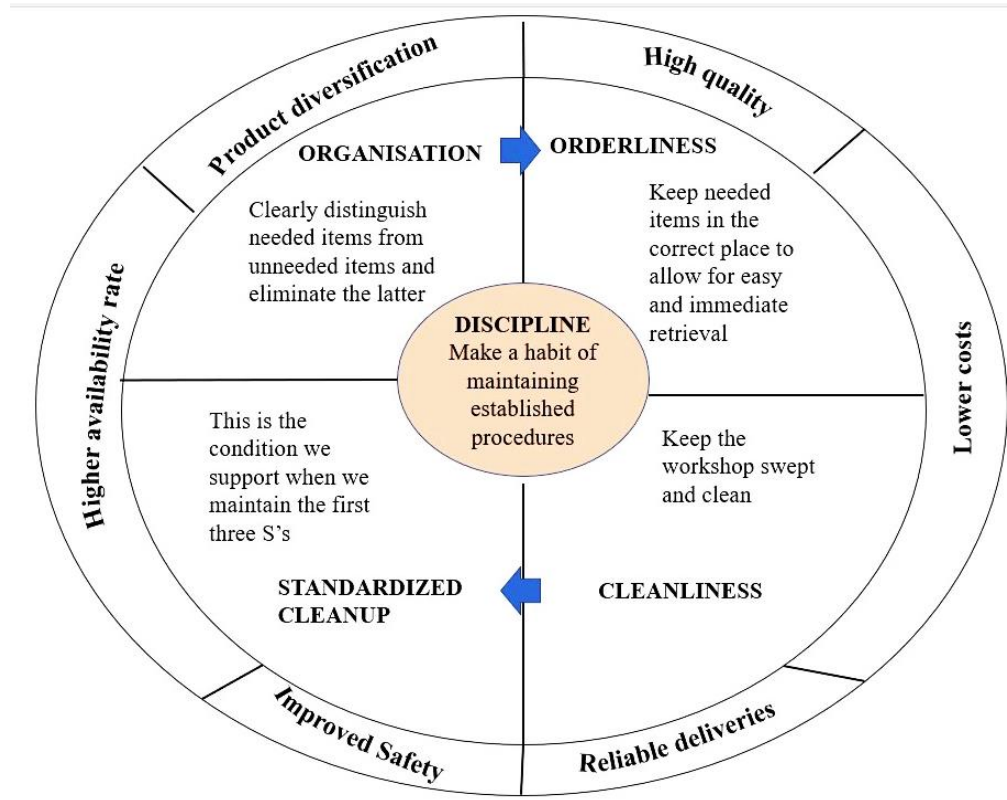
## 4. Seiketsu – Standardize

It creates a standardized and consistent 5 “S” work flow by maintaining high standards of housekeeping, workplace organization, cleanliness and orderliness, everything in order and in its right place. It is the condition that exists when these three pillars are properly maintained

## 5. Shitsuke - Sustain

It ensures the 5 “S” as a long-term goal and give awareness and training to the workers and employees by explaining its significance. Everyone obeys, understands and

practices the rules and procedures that have been set. It is essential for any company that hopes to succeed by implementing the 5 “S”.



**Fig. 1.3. Overview of the 5 “S” steps (Hirano, 2009, p. 250)**

### **Successful Implementation and Effectiveness of 5 “S”**

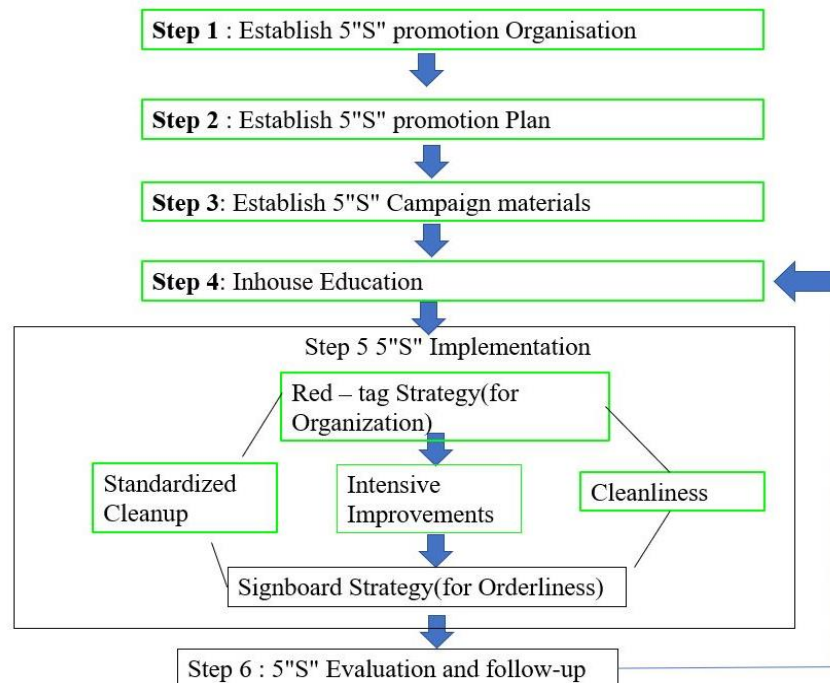
5 “S” Implementation has been seen on diverse fields due to its simple and immediate results. Kilpatrick (2003) 5 “S” provides instant return on investment and adapts to the operations of various companies and in the past, many companies have successfully implemented 5 “S”. To bring successful implementation of 5 “S” it requires commitment from both top management and everyone in the organisation. It requires investment in time and if properly implemented it has a huge impact on organisational performance. Implementation should take place after prior training and informing staff of the validity and effectiveness of the method used. The 5 “S” process begins at the input for the 5 “S” and ends with adequate training for employees. To identify whether the implementation has been undertaken correctly and enables to detect issues that can be immediately dealt with by providing suitable solutions, an audit tool should be used, 5 “S” audit should be done in regular time period with proper audit checklist and finally analysis the result from the checklist. By implementing 5 “S” in workplace, it does

actually will not only useful to organize the workplace physically, but eventually it will help to developed staff attitudes and discipline. 5 “S” System implementation cannot be successfully done without the involvement, hard work and dedication of the employees and resulting with quality of workplace. So, participation and commitment are needed from all levels of personnel within the organization.

Benefits of a successful 5 “S” implementation: less search, improved cleanliness, easier recognition of defects, reduced walking and mobility, reduced idle time, safety risks and accidents, improved flow, fewer faults, improved workplace visual management and better use of space (Chaneski, 2004). These benefits include overall improvements in productivity, quality, cost, distribution, safety and morale. Therefore, it is important for each company to identify factors that may influence employee motivation to integrate the 5 “S” system into their work area.

### Tools and Techniques for 5 “S” Implementation

There are different approaches and strategies to implement 5 “S”. As by in the book by Hiroyuki Hirano (1995) explains the Steps in implementing 5 “S” which makes goals easy to achieve the organisation.



**Fig. 1.4. 5 “S” Implementation Steps by Hiroyuki Hirano**

## **Organisational Performance with 5 “S” practice**

It was realized that 5 “S” practices are a good starting point for all improvement efforts by improving products and services, and reducing the cost of maintaining companies in order to be excellent and competitive in the organisational performance. Most of the organisation have developed a management system based on 5 “S” implementation, and the number of certified organisations is on the rise. There are number of activities that can be contribute to the quality environment as such by identify, reduce and eliminate waste, enhance operation effectiveness in a better working environment and so on all these will lead to the path of effective organisational performance. 5 “S” practices not only improve the quality of products/services and performance of organizations, but generally companies looking for the best practice to implement and utilize for achieving their organizational goals and objectives are easy to achieve and with less expenses. Therefore, the successful implementing of 5 “S” in an industrial organization can influence on the organizational performance and can improve it in a significant and meaningful way.

The organisation through 5 “S” practices makes encourages the employees and motivate them and pays the way to lowers the employee absenteeism and increase the job satisfactions level. It also increases the overall stakeholder’s satisfaction with enhanced organisational image and client perception of the company. Goals of 5 “S” is principles is to make workplace more productive and efficient by employees with help of Management. It pays the result for continuous improvement in the organisation.

### **1.1. Industry Profile**

#### **About overall Crushing and Screening Industry**

Crushing and screening equipment are used in the mining industry to convert large stones into small ones that can be used in the construction industry. There are different types of crushers and screening systems. Depending on the need, the size and use of the crushers may vary, i.e., heavier, smaller or smaller. Heavy crushers include jaw and cone crushers that handle large raw materials

#### **Crushing and screening industry in global level**

The global crushing and screening equipment market is valued at USD 2,114.61 million in 2019 and is expected to rise to US \$ 3,969.92 million in 2028, at 7.25% CAGR in

2020-2028. This growth of the market may be due to the increasing construction activities and infrastructure projects around the. Furthermore, continuous innovation and improvement in the crushing and screening of equipment using new and improved technologies to reduce carbon emissions drives the need for this equipment.

Geographically, the global crushing and screening equipment market is segmented into North America, Western Europe and other parts of the world. Among the markets in these regions, the Western European crushing and screening market is the second highest in terms of value in 2019, and is estimated to cross the \$ 570 million market value by the end of 2021.

### **Crushing and Screening Industry in India**

India's growing construction activities, especially in the roads, highways and urban infrastructure sector, are pushing for the crushing and screening of plants. The last few years have seen a tremendous increase in the demand for crushing and screening equipment in India. These created demand in the market for crushing and screening large and small plants. For these operations, miners use equipment such as jaw crusher, stone crusher and ore crusher, which are in high demand in India and abroad. The materials were crushed under 3 main process of primary, secondary and tertiary crushing stages. In the mining sector alone, demand for crushing and screening equipment increased by 6-7 per cent in 2015-16.

Depending on the needs, appropriate model equipment is used to make the job better. Against the backdrop of visible construction growth seen in India it can be expected that high demand will continue in the coming years. According to a report released in March 2016, the Indian market for crushing and screening equipment is expected to grow by 16-18 per cent, with annual revenues of US \$ 5,000 crore or US \$ 1 billion over the next three years.

## 1.2. Company Profile



### **About Propel Industries**

Propel Industries is a private company incorporated 13 years ago in 2009. It is a strategic business division of the 60-year-old AV group (A.V. Vardharajan). Propel industries is a strong quality company committed to making difference in the construction and mining industries.

Crushing and screening are integrated into various industries such as mining and construction. The need for rapid efficient crushing and screening operations in both industries is significant and makes a difference in terms of quality and productivity. This is the reason why customers across the country rely on Propel to provide innovative and technologically advanced, cost-effective solutions to meet their demands.

### **Group of Companies**

AV Group have 5 different sub groups.

- **Sandfits Foundries Private Limited -(1962)**
- **OPEL-Oriental Plant and Equipments Private Limited (1976)**
- **Bull Machines Private Limited (1997)**
- **Bull Agro Implements (1998)**
- **Propel Industries Private Limited (2009)**



**Fig.1.5. Sandfits Foundry**



**Fig.1.6. OPEL**



**Fig.1.7. Bull Machines**



**Fig.1.8. Bull Agro Implements**

This strong foundation is the result of intensive research and development for the market needs of the construction and mining industries. Sophisticated machinery and vast experience make us the backbone and as ideal solution provider in construction and mining industry. They benefit from integrated infrastructure compared to world standards. Decades of experience in manufacturing has enabled them to deliver products with greater reliability and performance.

### **Global Presence**



**Fig. 1.9. Global Presence**

Their presence in various countries like

**Nepal, Bhutan, Oman, Ghana, Mali, Thailand, Kenya, Burundi, Rwanda, Oman, Morocco, Mali, Ivory Coast.**

Propel has built a strong customer base across the country over the years. They embrace new work cultures and have a wide range, with a greater focus on quality and performance, as complete solution providers for the mining and construction industries. Propel has proven to be advantageous in terms of performance and versatility at optimal cost. Quality is guaranteed by the integration of the latest technologies and processes.

## 9 PIVOTS of Propel



**Fig. 1.10. 9 PIVOTS of Propel**

- **Vision**
- **Talent**
- **Technology**
- **Products**
- **Quality**
- **Processes**
- **Service**
- **Leadership**
- **Community**

## Propel Products

Propel product range include comprises of comprehensive ranges. Here it lists whole product portfolio

## List of Propel Products

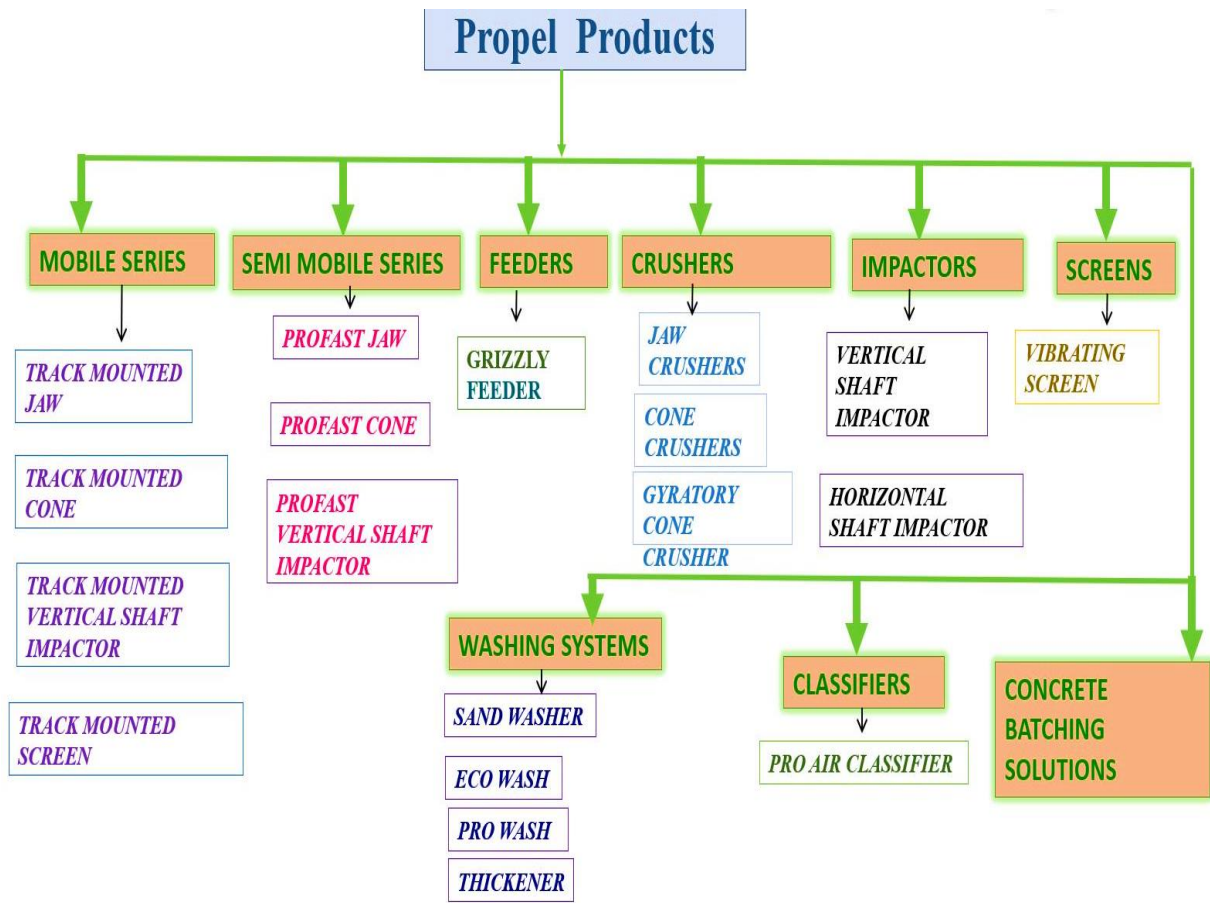


Fig. 1.11. List of Propel Products (product portfolio)

## Product Pictures



Fig. 1.12. Product pictures

The company's sales and service network are nationwide and customer support is available 24×7. They are the first 'CE certified (Conformite Certification) Indian company in this field. Through its CSR, Propel Industries seek to find opportunities to organically engage with communities to work together for their all-round wellness. Rejecting top-down and one-size-fits-all solutions, they strive to solve problems by finding indigenous solutions that sustain on local resources. Education and the environment are our main areas of focus, where they seek to creatively design their projects for the holistic development of the community.

### **1.3. Statement of the problem**

The 5 “S” is an integrated way to Improve the Productivity with high quality, makes time on delivery and reduce cost with Efficient and Successful Organisational Performance, only if 5 “S” is properly implemented. The 5 “S” policy will not be effective when there is lack of companywide implementation. The main problem is to find the factors for improving implementation of 5 “S” and to bring high awareness to employees with effective 5 “S” practices to build enhanced Organisational performance.

Therefore, the Research aims to bring the effectiveness and successful Implementation of 5 “S” with efficient Organizational Performance.

### **1.4. Need for the Study**

There is shortage in article in the area of Effectiveness and successful implementation of 5 “S” practices towards organizational performance. It's measured the relationship between the 3 variables which are studied in few researches. It is important to bring out these 3 factors because the successful implementation and effectiveness of 5 “S” paves the way for enhanced organisational performance. So, the study helps to find the effective implementation with list of factors and with increased organisational performance through 5 “S”. The study will add value to the organisation by suggesting the important of 5 “S” awareness to employees, the importance of Top – level management and employee commitment for efficient practices towards the effective organisational performance.

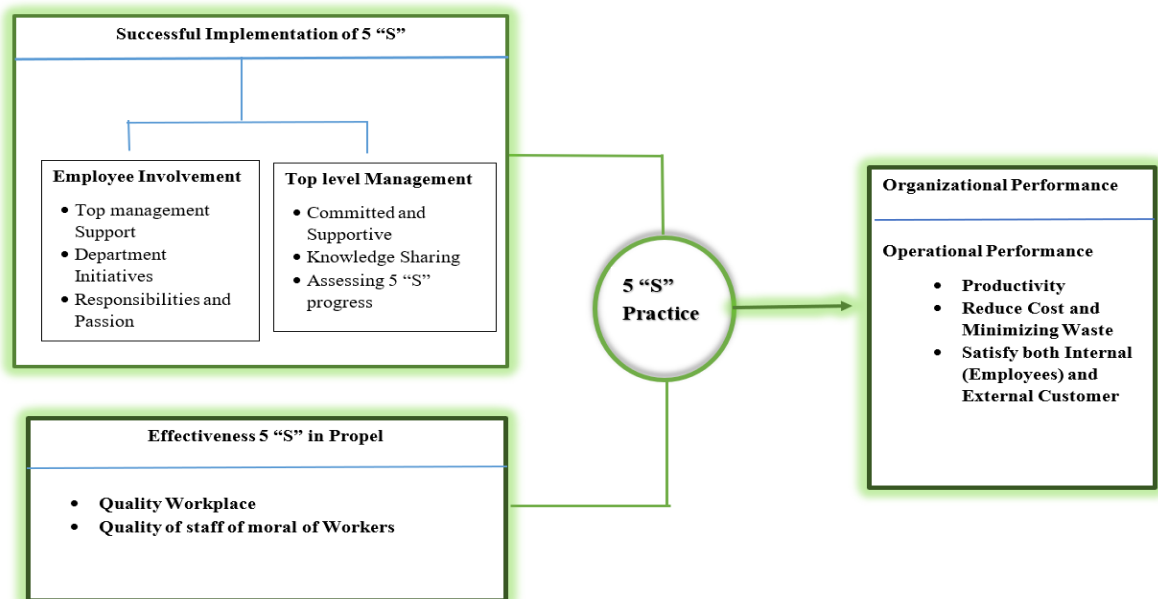
## 1.5. Objectives of the Study

- To study the Level of Knowledge among staff and their Understanding on 5 “S”.
- To find the effectiveness of 5 “S” in propel Industries Private Limited.
- To examine the Successful Implementation of 5 “S” towards Organizational. Performance in Propel Industries Private Limited.

## 1.6. Scope of the Study

The present study outlined the factors on the Effectiveness and successful implementation of 5 “S” practice towards the method to Improve the whole performance of the Organization. Therefore, the Output of this research helps to locate the 5 “S” Practices in most suitable framework with high Productivity and Performance Improvement in the Organization.

## 1.7. Conceptual Framework



## 1.8. Hypothesis

- 1) To study the Level of Knowledge among staff and their Understanding on 5 “S”.

### Correlation

**H<sub>0</sub>**: There is no relationship between knowledge sharing & 5 “S” Awareness and Top management support.

**2) To find the effectiveness of 5 “S” in propel Industries Private Limited.**

#### **ANOVA**

**H<sub>0</sub>:** There is no significant difference between Morale of employees and Age

#### **Regression**

**H<sub>0</sub>:** There is no significant impact of effectiveness of 5 “S” on Organizational Performance

#### **Correlation**

**H<sub>0</sub>:** There is no relationship between Quality of workplace and Employee responsibility and Passion.

**3) To examine the Successful Implementation of 5 “S” towards Organizational Performance in Propel Industries Private Limited.**

#### **Regression**

**H<sub>0</sub>:** There is no significant impact of Successful implementation of 5 “S” towards Organizational performance

#### **Correlation**

**H<sub>0</sub>:** There is no relationship between Employee Involvement and Stakeholders satisfaction

### **1.9. Limitation**

- This study is limited to only 38 respondents.
- This study is analysed based on the information collected from 38 respondents.
- Limited access to data
- The data was obtained through questionnaire and it has own limitation.

### **1.10. Operational Definition**

**1) 5 “S”**

5 “S” can be defined as one of the quality tools that is used to reduce waste and optimize productivity through maintaining an orderly workplace and using visual cues to achieve

more consistent operational results (Janakiraman & Gopal, 2007, p. 140; Parrie, 2007; Gapp, Fisher & Kobayashi, 2008). In addition, some previous researchers have described 5 “S” as the acronym of five Japanese words which means „housekeeping“. The concept of 5 “S” stands for Seiri (sorting out), Seiton (neatness), Seiso (cleanliness), Seiketsu (standardization) and Shitsuke (discipline) (Ho et al., 1995; Ho, 1997; Sui-Pheng and Khoo, 2001; as cited in Mohd. Nizam, Nor Kamaliana, Rosmaizura, Baba and Wan Hasrulnizam, 2010; Parrie, 2007).

## **2) Organizational Performance**

Organizational performance has been conceptually defined as a measure of how efficiently and effectively managers use available resources to satisfy customers and achieve organizational goals (Jones & George, 2009, p.6; Keuning, 1998, p.11). In addition, Arumugam and Mojtahedzadeh (2011) and Salaheldin (2009) viewed that in certain cases, the firm’s performance can be measured based on their financial and operational performance.

## **3) Quality of Workplace**

A quality of work place is essential to keep your employees on task and working efficiently. An excellent work environment is marked by such attributes as competitive wages, trust between the employees and management, fairness for everyone, and a sensible work load with challenging yet achievable goal.

### **1.11. Chapter Scheme**

- **Chapter I** deals with introduction of the study, which includes industry profile - crushing and screening industry, company profile, product portfolio, research problem, scope of the study, need for the study, objectives, hypothesis, conceptual framework, limitation and operational definition.
- **Chapter II** deals with review of literature. This includes reviews of existing studies categorizing under appropriate dependent and independent factor.
- **Chapter III** focuses with methodology which includes research design, sampling technique, sampling design, sampling size, reliability test, population of the study, tools used for analysis.
- **Chapter IV** deals with analysis and interpretation, it includes the analysis of the factors for successful implementation of 5 “S”, which leads to the effectiveness of 5 “S” and to access the impact of organisational performance.

- **Chapter V** explains the significant findings of the study, followed by the suggestions and conclusions. The findings are based on the socio-Economic profile of the respondent and output of the hypothesis testing. On the basis of findings, some suggestions are given by the research in order to improve the career development of the employee inside the organization.

## **CHAPTER II**

### **REVIEW OF LITERATURE**

#### **2.1. Introduction**

A literature review is a body of text that aims to review the critical points of current knowledge on a particular topic. Literature reviews are based on secondary sources and such do not report any new or original expenditure work.

A good literature review is characterized by a logical flow idea; current and relevant reference with consistent appropriate referencing style; proper use of terminology; and an unbiased and comprehensive view of the previous research on the topics

#### **2.2. Successful Implementation of 5 “S”**

**Viranda et al., (2020)** conducted study on “5 “S” Implementation of SME Readiness in Meeting Environmental Management System Standards based on ISO 14001:2015”. The application of 5 “S” can be used in assisting environmental management system standards. 5 “S”.. The environmental management system at SMEs faces greater limitations compared to large companies. 5 “S” can be used as a tool to improve environmental performances by reducing waste, pollution, and energy which will be easier to identify and control. The study states how the influence of 5 “S” in fulfilling ISO 14001: 2015 “S”tandards in electrical Batik stove SME in which the application of 5 “S” is not optimal and resulting in compliance with environmental management systems that less than the ISO 14001: 2015 “S”tandards. Factors affecting the application of both 5 “S” and EMS are leadership and commitment, knowledge and training, communication, employee participation and motivation, and external factors such as law and regulation.

**Mukhtar et al., n.d.(2019)** conducted stuyd on “ Implementation of 5 “S”” The main desire of this project is to study remedy the productiveness, efficiency and housekeeping of available resources at Mechmann Engineering Pvt. Ltd. And try to reducing variation and decrease the material waste. This project focused on the step by step administration ground rule demanded for robust practice of 5 “S” as a part of the daily management. It describes the idea to implement each and every base of 5 “S” methodologyin the industry in continuity to bring about a broad perfection in its performance.. The results show that 5 “S” is an effective tool for improvement of organizational performance, regardless of organization type, size, its production or its

service. Consequently, 5 “S” techniques would strongly support the objectives of organization to achieve continuous improvement and higher performance

**Binti Bazla (2018)** conducted study on “The Effectiveness of 5 “S” Practices”. The study started with understanding background of the company, recognizing divisions to be assessed in the company and come out with the complete 5 “S” checklist for each division for auditing process. 5 “S” Audit was conducted at each department to analyze the ability and weakness on each division of the company. Based on the result, both companies basically perform an excellent 5 “S” practice, but there are a few weaknesses that still need to be considered such as arrangement of the documents, tool and equipment. The study finally suggests that the effort and participation from top management is a key factor that determines the success of the 5 “S” practice.

**Chee Houa et al., (2018)** conducted study on “Implementation of 5 “S” in Manufacturing Industry: A Case of Foreign Workers in Melaka”. This research is a study of the implementation of 5 “S” in manufacturing industry, which has been implemented 5 “S” system in Melaka State. In this research foreign workers play a main role in implement the 5 “S” system as the manufacturing industry in Malaysia adopt large number of foreign workers to work as employees. A several research methods has been adopted to do the research, such as descriptive research design with quantitative methods, survey questionnaire and cross-sectional studies. This research study has been proposed by the research model of the barriers to implementation of 5 “S” in manufacturing industry among foreign workers.

**Rashmi et al., (2018)** conducted “A Study of implementation of 5 “S” in an Electronic Manufacturing firm in Mysuru”. The paper reviews an attempt made by VITPL Mysuru to implement 5 “S” in the Organisation. The research seeks to answer the questions to what level implementation of 5 “S” have impact on employees and tries to investigate the important factors responsible for 5 “S” practices at the organisation. The results shows that 5 “S” is an effective tool for improvement of organisation’s working environment, work culture, etc. This also suggest to the researchers and practitioners about new management practices for the betterment of working environment.

**Omogbai & Salonitis, (2017)** conducted study on “The implementation of 5 “S” lean tool using system dynamics approach”. In this study, A system dynamics model is developed for a manufacturing case study and simulated to establish the effect of sorting

activity on manufacturing throughput. The purpose was to assess, in advance, the system performance outcomes when 5 “S” practices are improved. The study results were the stimulus for real life improvements in the system because the simulation results were able to mimic the real-life outcomes. While the simulation results encourage further improvements to be implemented, the model developed in the current paper is replicable in other instances as the variables used in the model are generic and common to most types of manufacturing systems, particularly those new to lean practices. The dynamic analyses of 5 “S” lean practices is not common. The study also reveals some interesting relationships between 5 “S” and other lean practices and between 5 “S” and system performance.

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**Chourasia & Nema, (2016)** conducted study on “Review on Implementation of 5 “S” methodology in the Services Sector”. The aim of this paper is to review the implementation of 5 “S” as one of the tools of lean management in the service sector. The system helps to organise a workplace for increased efficiency, decrease waste, optimize quality and improves productivity and satisfied customers. papers it is concluded that efficient use of 5 “S” in an organization provides a safe environment, optimal utilization of space and leads to improved quality. The results indicated that various service industries such as hospitals, hotels, banks and higher education have utilized the principles and tools of lean to increase their competitiveness. The success

of the 5 “S” program can be attributed to the strong cooperation and active involvement of all staff members of the organization.

**Yogish et al., (2016)** Conducted study on “Study and Analysis of the Factors Affecting Sustainability of 5 “S””. The 5 “S” implementation is not effective in some companies due to factors. So this paper focused on the factors affecting the sustainability of 5 “S”. The method of data collection is through questionnaires where the responses were collected from medium scale firm. The study identified various factors such as Budget, training, auditing, safety, 5 “S” infrastructure, organisation culture etc., likewise the identified factors are leading to the failure of 5 “S”, corrective measure can be undertaken for a sustainable 5 “S” practice. The study suggests that work stress is the main factor for the failure of 5 “S” sustainability.

**Fairooze et al., (2015)** conducted study on “Implementation Of 5 “S” Methodology In The Small Scale Industry: A Case Study”. The aim of this paper is to implement 5 “S” methodology and measure the performance improvement in V.M. Auto Pvt. Ltd. A small scale industry situated at Satpur (M.I.D.C), Nasik. By following the 5 “S” methodology, it shows significant improvements to safety, productivity, efficiency and housekeeping. The improvements before and after 5 “S” implementation is shown by pictures in the paper. It also intends to build a stronger work ethic within the management and workers who would be expected to continue the good practices.

**Gupta & Jain, (2015)** conducted study on “An application of 5 “S” concept to organize the workplace at a scientific instruments manufacturing company”. The purpose of the study is to implement some of the 5 “S” and Kaizen principle to assist small scale manufacturing Organisations to become more efficient and more productive. The paper systematically categorises, analyses, and reviews methodically the published literature. On the basis of the case study, it can be stated that introducing the 5 “S” and kaizen rules brings great changes in the organisation. The paper states that kaizen and 5 “S” is a powerful tool and can be implemented in any states whether it is micro, small, medium or large. Its result is the effective organisation of the workplace. The publications and case study presented in the paper will be useful to researchers, professionals and others concerned with this subject to understand the significance of 5 “S” and kaizen.

**Lamprea et al., (2015)** conducted study on “Impact of 5 “S” on productivity, quality, organizational climate and industrial safety in Caucho Metal Ltda”. This paper describes a first approach on 5 “S” impact on the study factors of quality, productivity, industrial security and Organizational climate in the manufacturing area of Small and Medium Enterprises (SMEs) in Colombia through a case study. Surveys, performance measures and a risk landscape were performed, focusing on the study factors, in order to understand the initial situation of the area. The results show the existence of a positive relationship between the study factors and the implementation of the 5 “S” methodology, since an increase of productivity and quality was evidenced, based on the performance measures as well as an improvement of the organizational climate and a decrease of the risks identified in the workshop.

**Shaikh et al., (2015) conducted study on “Implementation of 5 “S” Practices in a Small-Scale Organization: A Case Study”.** This paper deals with the Implementation of 5 “S” practice in small-Scale industry. The implementation of 5 “S” can result in considerable improvement in environmental performance beside with improved housekeeping and health and safety. 5 “S” can improve the quality, productivity and working condition in Organization. 5 “S” reduce the searching time and improve the production and quality of the products and employees and organization become self disciplined.

**J. Singh et al., (2014)** conducted study on “Implementation of 5 “S” practices: A review” This paper aims to review previous studies about benefits of 5 “S” Implementation and its efficiency in organizations. The results show that 5 “S” is an effective tool for improvement of organizational performance, regardless of organization type, size, its production or its service. Consequently, 5 “S” technique would strongly support the objectives of organization to achieve continuous improvement in performance and productivity.

**Kumar, (2012)** conducted study on “ Steps for implementation of 5 “S””. This paper describes the steps undertaken for the implementation of the 5 “S” emphasizing on the benefits to the organisation. The researcher discussed the steps involved in the implementation from inception to execution have been discussed. The study states that implementation of 5 “S” involves coaching to get the workers to do simple things right. The successful implementation of 5 “S” requires that everyone understand why it is

being used and what the expected results are, as the removal of familiar items and the reorganisation of processes can be extremely unsettling.

**Hartika et al., (2011)** conducted study on “Factors influencing employees’ motivation in implementing 5 “S” system”. The study attempts to examine the relationship between the variables (communication for 5 “S” System, training for 5 “S” System, reward and recognition for 5 “S” System and top management role for 5 “S” System) with the employees’ motivation in implementing 5 “S” System. This present study focused on manufacturing firms that are situated in northern area (Penang) and both are manufacturing paper based products. All the respondents are given the questionnaire and their responses are analyzed. In the findings of this present study shows that communication for 5 “S” System and training for 5 “S” System were found to have a positive significant relationship with the employees’ motivation in implementing 5 “S” System while not for the other two variables (reward and recognition for 5 “S” System and top management role for 5 “S” System).

**Rahman et al., (2010)** conducted study on “Implementation of 5 “S” Practices in the Manufacturing Companies: A Case Study”. The study involves two manufacturing companies to assess the implementation of 5 “S” practice. Based on the result, both companies basically perform an excellent 5 “S” practice, but there are a few weaknesses that still need to be considered such as arrangement of the documents, tool and equipment. The research concludes that both companies agreed that the 5 “S” practice is seen as an effective technique that improve housekeeping, environmental performance, health and safety standards in their workplace. However, effort and participation from top management is a key factor that determines the success of the 5 “S” practice.

### **2.3. Effectiveness of 5 “S”**

**Bharambe et al., (2020)** conducted study on “Implementation of 5 “S” in Industry a review” The paper has several literatures on 5 “S” methodology and Just in Time, which represents a systematic review of literature. The paper exhibits that how different industries implemented 5 “S” and increased the productivity of their work. Also, the review paper will help those, who want to implement such methodologies in their respective fields. Furthermore, it presents the idea of reducing the accidents and enhances the working efficiency in any industry. It also gives the proof that 5 “S” helps

to enhance the work productivity along with time efficiency in less time. The appropriate implementation of 5 “S” leads to minimization of the cost and the standards of the company go towards upside. Moreover, due to fewer accidents the safety automatically rises. This study will be helpful to industrialists and researchers both who want to know about 5 “S”.

**Elamaran et al., n.d.(2020)** conducted study on “Effectiveness of 5 “S” Principles among Employees Working in Foundry Industry with Reference to Coimbatore District”. The main objective of the study is to analyses the perception of employees towards 5 “S” principles indirectly followed by the companies and to ascertain the impact of 5 “S” principles practiced with the companies towards its effectiveness. For this purpose, a sample of 160 was collected form the employees were analysed by descriptive statistics, ANOVA and multiple regression has been used as tools to analyse the data. The conclusion is that the company is properly following the policies framed for 5 “S” principles with the companies but the employees are in lag of awareness about some factors. If the companies are following the same as per the documentation of 5 “S” then the level of accuracy and attitude of the employees about the work policy can be changed in future period of time.

**Sangode, (2020)** conducted study on “Impact of 5 “S” methodology on the Efficiency of the workplace: study of Manufacturing firms”. This paper is an focused on the implementation of 5 “S” methodology by a set of manufacturing firms of Nagpur region. The researcher collected data from from 10 manufacturing units was taken through questionnaire. Chi- square test was used to prove the assumption that organizations that implement 5 “S” attain efficiency in the work place. The study concluded that the organizations have a positive impact of the 5 “S” implementation. The prominent benefits were that the right things were kept at the right place, continual improvement of the work place and improvement in the human relations & motivation.

**Sati & Adam,( 2019) conducted** study “Evaluating the Effectiveness of 5 “S” Implementation in the Industrial Sector”. The aim of the study was to evaluate the effectiveness of 5 “S” practices implementation in COLDAR Engineering Company for manufacturing and assembling. The researcher used a descriptive methodology. The Survey population where 40 employees represent using the random sample technique. Finding from this study indicate that 5 “S” implementation increases the efficiency in

the workflow, improve working environment in the workplace, reduce human movement, and allows for more orderliness after removal of unwanted items. For the practitioners and managers responsible for 5 “S” methodology implementation, this paper shows them how they can effectively implement 5 “S” using a thoroughly tested tools to provide environment necessary for the operation of their processes.

**Vangile Lesiah et al.,(2019)** conducted study on “ Implementation and Effectiveness of 5 “S” in a Mechanical Workshop- A Case Study” . The objective of the present research is to successfully implement 5 “S” in a mechanical workshop. to minimize abnormalities, identify faulty items, minimize ideal time, save time in searching tools, increase efficiency and productivity, and organize workplace with proper space utilisation etc. It was also aimed to maintain the workplace improvements continuously by proper training and stakeholder’s involvement. The research used questionnaire for data collection. The results are analysed and compared for before and after implementing 5 “S”.The efficiency from saving time showed greater results after 5 “S” implementation.The findings of the present research claim successful implementation and effectiveness of 5 “S” technique for a better workplace organization.

**Piros, n.d(2016).** conducted study on “The Effectiveness Of 5 “S” Practices Towards Organizational Performance: Studies in Federal and State Agencies in Sarawak”. The study was conducted to identify the effectiveness of 5 “S” practices towards Organisational performance. The researcher used both the Quantitative and Qualitative methods. Case study were also used in this research. The was analysed through SPSS using Correlation Findings from this study pointed out that employee involvement and top management’s role appeared to be significant elements in driving the successful implementation of 5 “S” program in both Federal and State agencies in Sarawak. The consistency of most findings with past studies and related theories or quality models showed that 5 “S” practices did play an effective role in influencing the organizational performance in both State and Federal offices in Sarawak.

**Jumadi et al., (2015)** conducted study on “The Effectiveness of the Implementation of QE/5 “S” towards Quality Environment at Workplace”. This paper discovers the significance of 5 “S” implementation in a workplace and to identify the impact of the element in 5 “S” towards quality environment among UiTM (Perak) administration staff. The researcher used structured questionnaire method to collect data. The research

used both primary and for secondary data various case studies, review of literature from various organisation were used. The research contributed to the knowldegrr of the importance of QE/5 “S” implementation and would strongly support the objectives of organisation to achieve continuous improvement and quality environment in workplace.

**Mehra et al., (2015)** conducted study on “Identification of Barries affecting the Implementation of 5 “S””. The aim of the present work is to identify the different types of barriers which affect the implementation of 5 “S” in manufacturing organisation. In this study the author identifies the different barries that hinder the implementation of 5 “S” in an organisation. The present study conclude that 5 “S” is an important tool to organize the whole organization in a systematic manner. 5 “S” satisfies both organization and customer. Implantation of 5 “S” method is the responsibility of the management and the entire team of employees. With the help of these barriers will improve performance and efficiency in any type of organization.

**S. Singh et al., (2015)** conducted study on “ Identification of Factors which are Affecting for Effective Implementation of 5 “S” Technique in SMEs of Vadodara Region”. Before applying 5 “S” technique which indclude what is 5 “S” , its pros and cons, what are its steps, how to apply the 5 “S” step by step in respective industries. These are the basic awareness level of 5 “S” technique. So the attempt is made to know awareness level of 5 “S” in SMEs in Vadodara Region (Gujarat) by using empirical study. Attempt is also made for identification of factors which are affecting for effective implementation of 5 “S”. Survey methodology is used for this empirical study. Questionnaire is prepared for taking survey and face to face interaction is used for survey. The study conclude that the critical factor for effective implementation of 5 “S” is come out from the analysis of file arrangement, Team work, Safety and accidental issues. All factors which have considered for this analysis have played very crucial role for effective implementation of 5 “S” in the organization.

**Ramdass, (2015)** conducted study on “Integrating 5 “S” Principles with Process Improvement: A Case Study Kem”. The purpose of the study is to highlight that 5 “S” principles are fundamental to the workplac3e and to indicate that the monetary value of waste across the spectrum is insurmountable. To achieve this, the researcher used the case study methodology with applicable method of data collection. The best way to

make the 5-S principles an integral part of plant culture is to develop a plant-wide programme. The study outlines an overview of workplace challenges experienced. It is the researcher's intention to emphasize the importance of these basic principles and its associated benefits for all stakeholders through an exploratory research design.

**Moradi et al., (2011)** conducted study on "Effects of Implementing 5 "S" on Total Productive Maintenance: A case in Iran". The study outlines the relations between 5 "S" and pillars of Total Productive Maintenance(TPM) are explicated. The researcher used checklist to evaluate performance and effectiveness of 5 "S" and by which status of implementation and execution of 5 "S" has been studied. The results of this research confirm that all 5 "S" principles affect TPM directly or indirectly. These effects have been studied for each pillar of TPM. 5 "S", in particular, can provide better state to reduce six big losses and therefore improve OEE. findings of this paper and shows that 5 "S" execution provides better conditions for implementation of TPM.

**K.D.P.T. Liyanage et.al., (1995)** conducted study on "Factors Contributing to the Sustainability of 5 "S" in Sri Lankan Organizations". The study attempted to determine the factors contributing to the sustainability of 5 "S" in Sri Lankan organizations. Four hundred and sixty seven (467) employees including both managers as well as subordinates, among nineteen (19) Sri Lankan companies across nine different industries were subjected to the research. The research Findings suggest that leadership and employee commitment are two important factors. Further, shared leadership as a style (high level of both people and task orientation) should be developed, while commitment is being established among all levels of the organization before implementation. The implication of the study for managers is that they need to pay attention to in developing certain factors before the implementation of 5 "S" in their organizations, as well as another set of factors needs to be emphasized to sustain the implemented 5 "S", or even any other quality concept for a longer period of time.

#### **2.4. Organisational Performance**

**Adzrie & Vincent, (2020)** conducted study on "Assessment on 5 "S" Approach Strategy for Small Medium Enterprise (SME): A Case Study in Sabah. The objectives of this paper are to assess the level of understanding for workers to encounter and adapting 5 "S" systems which would enhance their performance, to evaluate the acceptance rate for employees to implement 5 "S" in their work area as well as to relate

the effectiveness of 5 “S” system in improving the worker performance and reducing unwanted waste in the industry. The researcher is able to assist with researcher is able to assist with the implementation of 5 “S” practices in the SMEs which could benefit their organization from the 5 “S” systems, as well as the problem, the factors of implementation and benefits adopted of 5 “S” lean manufacturing tools were being evaluated. The result gets positive result from the survey done by the employees after the implementation of 5 “S” in their working area. Employees are more contented with their work environment after the implementation of 5 “S”.

**Ebuetse, (2018)** conducted study on The aim of this study was to: first, standardize the surveying laboratory in Western Kentucky University by implementing 5 “S”. Second, evaluate the impact of 5 “S” based on the chosen performance indicators such as efficiency, workspace, equipment search time, working environment, and safety. To evaluate the impact of 5 “S” on the selected performance indicators, study participants responded to a survey instrument pre and post 5 “S” implementation. In addition, observations were made to assess the impact. The results showed that there was a perceived improvement in efficiency, workspace, equipment search time, working environment and safety.

**Veres et al., (2018)** conducted study on “Case study concerning 5 “S” method impact in an automotive company”. The paper aim to study the relationship between 5 “S” revolution and productivity in local company from Murses country, which is an automotive industry. The objective of this paper was to demonstrate that 5 “S” method is very important and have a positive correlation to overall performance of production results. As a result of the conducted analyses, the hypothesis H1 was proven: the correlation show a positive relation 5 “S” Level and Productivity in an automotive company. Moreover, due to 5 “S”, the factory is a cleaner place, the safety at workplace and the product quality is increased, the problems are easy to detect and prevent, waste and costs are reduced, the product or service fulfils the customer needs in the most efficient manner.

**Hama Kareem & Hama Amin,( 2017)** conducted study on “Ethical and Psychological Factors in 5 “S” and Total Productive Maintenance”. The aim of this paper is to investigate the role of ethical and psychological factors in the implementation of 5 “S” and TPM at cement plants in Kurdistan Region of Iraq. The mixed methods represented

in a questionnaire survey and semi-structured interviews for data collection were collected from the the cement sector organizations in Kurdistan region/Iraq. The findings of this paper revealed that ethical factors had a larger role than psychological factors in the implementation. Thus, based on the findings, organisations are recommended to provide financial and moral support to employees to enable a comprehensive implementation of 5 “S” and TPM aimed at obtaining the desired results.

**Randhawa et al., (2017)** conducted study on “Evaluation the impact of 5 “S” implementation on Business Excellence performance parameters through Structural Equation modelling”.The purpose of this paper is to deploy structural equation modelling (SEM) technique to empirically validate the interrelationships amongst significant variables of 5 “S” implementation and business excellence performance parameters (BEPP) in SEM\_5 “S” model. The empirical investigation of data collected through 5 “S” Questionnaire by using SEM model. The study provides significant implications for the industrial mangers by evaluating the contributions of various input constructs on BEPP. The study empirically validates and outlines the role of top management commitment, employee’s involvement, training, communication, promotional campaign and education about 5 “S”, evaluation and keeping records about 5 “S” program are the essential factors for successful 5 “S” implementation.

**Todorovic & Cupic, (2017)** condicted study on “How Does 5 “S” Implementation Affect Company Performance? A Case Study Applied to a Subsidiary of a Rubber Goods Manufacturer from Serbia” In the present paper, over the period of seven years, we investigate the case of a rubber goods manufacturer from Serbia which has implemented 5 “S” in one of its subsidiaries. To assess the effects of the 5 “S” implementation we use operational and financial performance indicators. The results suggest that the implementation of 5 “S” can contribute to performance of an organization in the short and medium term. In the case we analyze here, effects of 5 “S” were not evident in longer term due to the influence of some external factors (increase in raw material prices and decrease in purchasing power of demand) and strong investment activity of the subsidiary. This finding points to the importance of the management accounting system improvements after the continuous improvements implementation.

**Ramesh & Ravi, (2016)** conducted study on “5 “S” route for safety management”. This article describes a research study conducted to examine the methodology adopted to achieve the safety sustainability at the organisation level. 5 “S” is a systematic technique used by organisations; it comes from five Japanese words; Seiri (sort), Seiton (set in order), Seiso (shine), Seiketsu (standardise), and Shitsuke (sustain). This paper aims to understand the 5 “S” practices of the leading cutting tool manufacturing company and how a safety system was incorporated within their organisation. The researcher used questionnaire for data collection. The results of this research showed a strong relationship between 5 “S” technique implementation and safety performance of the organisation. It also shows that 5 “S” is an effective tool for improvement of organisation’s safety performance.

**Mohd Norhasni Mohd Asaad et al.,(2015)** conducted study on “ 5 “S”, Kaizen and Organization Performance: Examining the Relationship and Level of Implementation Using Rasch Model in Malaysian Automotive Company”. The purpose of this study is to investigate the relationship between 5 “S” and kaizen and the organizational performance and also to examine the level of 5 “S” and Kaizen implementation in the organization. The researcher used online questionnaire for data collection. This study used Item Response Theory (IRT) to examine the level of implementation of 5 “S” and Kaizen in the Malaysian automotive companies. The results showed that there was a relationship between 5 “S”, Kaizen and organization performance where it was easier to implement the practice of 5 “S” compared to Kaizen. The successful implementation of 5 “S” and Kaizen was greatly influenced by top management commitment.

**Gupta & Jain, (2014)** conducted study on “The 5 “S” and kaizen concept for overall improvement of the organisation: a case study”. The aim of this research is to implement some of the 5 “S” and kaizen principles to assist small scale manufacturing organisation to become more efficient and productive. In the frames of a case study, the 5 “S” and kaizen rules in the organisation have been analysed and implemented. On the basis of the case study, it can be stated that introducing the 5 “S” and kaizen rules brings great changes in the organisation. The paper results that the 5 “S” and Kaizen method begins each programme of improvement in a company. Its result is the effective organisation of the workplace. The publications and case study presented in the paper will be useful to researchers, professionals and others concerned with this subject to understand the significance of 5 “S” and kaizen.

**Sánchez et al., (2014)** conducted study on “Impact of 5 “S” on Productivity, Quality, Organizational Climate and IS at Tecniaguas S.A.S”. The paper describes an approach to assessing the impact of 5 “S” on 4 study factors in manufacturing process carried out at SMEs in Bogota. The main purpose is to evaluate whether the 5 “S” Methodology could be considered as an effective tool to improve manufacturing process at SMEs. The results show the existence of a positive connection between the study factors and the implementation of the 5 “S” methodology, since there is evidence of an increase in productivity (44 %), quality (44 %) and OC (52 %) and a decrease in the risks identified (90 %).

**Singh & Ahuja,( 2014)** conducted study on “Evaluating the impact of 5 “S” methodology on manufacturing performance”. The purpose of current research is to study the improved process flow with 5 “S” methodology in order to reduce possible wastages associated with production system and enhance the efficiency of operations so that production is strengthened and plant profits are enhanced. The results show significant enhancement in labour productivity, delivery compliance, safety, and reduction in machine breakdowns, customer complaints, in-process rejections, absenteeism, and inventory turn ratio. As a result of 5 “S” activities, a clean and efficient work environment has been obtained, and improved work efficiency has been witnessed in the organisation. Owing to the successful practices in training and discipline issues, many factors causing work accidents have been effectively resolved, inventory levels been optimally managed by the organisation. The analysis of results has revealed significant results obtained as a result of 5 “S” implementation.

**Sripriya et.,al (2014)** conducted study on “ A Study on Employee Opinion towards 5 “S” Implementation in PGC Textile Corporation (P) Ltd, Tirupur”.The purpose of the study is to identify the employee opinion on effectiveness of 5 “S” practices implementation in the company.The company aims to improve productivity through quality improvement technique called 5 “S” (Housekeeping method).The study is also focus with various activities adapted during implementation of 5 “S” with the contribution and support by their employees. From this study, the effectiveness of 5 “S” implementation is understand through questionnaire method by considering major factors such as productivity, environmental performance, quality improvement and health and safety standards in the work place.The research suggests that the evaluation

of 5 “S” practice enables each company to identify their potential level of quality improvement and success factor for their sustainability in a competitive global market.

**Ghodrati & Zulkifli, (2013)** conducted study on “The Impact of 5 “S” Implementation on Industrial Organizations’ Performance”. This paper aims to determine performance factors and characteristic in industrial organizations and identifying the effectiveness of 5 “S” implementation on Organisational performance as well. This research use questionnaire method for data collection in different industries with diverse field of work. The results show that 5 “S” is an effective tool for improvement of organizational performance, regardless of organization type, size, its production or its service. Consequently, 5 “S” techniques would strongly support the objectives of organization to achieve continuous improvement and higher performance

**Planning & Campus,(2013)** conducted study on “ Implementation of 5 “S””. This paper aims to determine performance factors and characteristics in industrial organizations and identifying the effectiveness of 5 “S” implementation on organizational performance as well. Surveying method is used and data collection is done using questionnaire. The target organizations are chosen from different industries and diverse field of work. The result of this research obtained from a comparative measurement of organisational performance before and after 5 “S” implementation. The results shows that 5 “S” is an effective tool for improvement of organizational performance, regardless of organization type, size, its production or its service.

**Rojasra & Qureshi,(2013)** conducted study on “Performance Improvement through 5 “S” in Small Scale Industry: A case study”. This paper deals with the implementation of 5 “S” methodology in the Krishna Plastic Company, Udhyognagar. The present paper demonstrates the implementation of 5 “S” a lean manufacturing techniques in small scale industry. Lean manufacturing is one of the options to reduce non value-added activity (wastes) and improve operational efficiency of the organization. Out of the available various lean manufacturing techniques, 5 “S” offers good potential for required improvement. Ten week study is carried out in the case company. The results after the 5 “S” implementations states that production system efficiency is improved from 67% to 88.8% in the successive week. The efficient implementation of 5 “S” technique leads to subsequent improvement in productivity of the manufacturing plant.

**Gapp et al., (2008)** conducted study on “Implementing 5 “S” within a Japanese context: an integrated management system” This research aims to identify and present key concepts of 5 “S” from a Japanese management perspective. The researcher collected the data from Japanese companies that use 5 “S” as a core management approach and use their organisational web sites to disseminate information in regard to this practise. The researcher finds the several key concepts behind the Japanese approach to 5 “S” management. And also, the findings demonstrate the importance of both the technical (visible) and philosophical (invisible) approaches required for each of the 5 “S” components and are stated in a managerial rather than cultural framework.

**Gheorghe Dulhai, (2008)** conducted study on – “The “5 “S”” strategy for continuous improvement of the manufacturing processes in Autocar exhaust”. The paper presents the 5 “S” rules have immediate and significant effects on the sequence of activities in the work post, thus influencing the performance of process in the analyzed company. The improvement of auto car exhausts quality, using the „5 “S”” system of rules, is accomplished at the initiative of the inferior levels of the organization (workers, setters, operators, foremen) coordinated and helped by the superior management (section managers, department managers) when they encounter implementation difficulties.

**Falkowski & Kitowski, (2007)** conducted study on “The 5 “S” methodology as a tool for improving organization of production”. This paper presents the 5 “S” method as a tool for continuous improving lean management processes, whose task is create a highly efficient, clean and ergonomuic working environment. The method is presented as a collection of 5 “S”imple rules, and at the same time it is a tool that allows you to control the workplace visually. The study provides a detailed view in the effective implementation process is detailed. If there is proper implementation of 5 “S” means it automatically brings the major benefits to the organisation. Finally the paper suggests that Adequate training and motivating employees through incentive schemes will result in all the company employees’ considerable commitment, which will lead directly to the company’s success on the market.

**Santos-Vijande & Alvarez-Gonzalez, (2007)** conducted study on “TQM and firms’ performance: An EFQM excellence model research-based survey”. The purpose of this article is to develop an instrument for measuring TQM implementation following the EFQM and provide empirical evidence on the relationship between management

practices and measures of business performance model. The study employs survey data collected from Spanish manufacturing and service firms. The findings of the research indicate that the adoption of the TQM practices suggested in the EFQM Excellence Model allows firms to outperform their competitors in the results criteria included in the Model. Therefore, this paper provides a valuable benchmarking data for firms as it substantiates the EFQM Enabler's contribution to the attainment of competitive advantage.

## CHAPTER III

### RESEARCH METHODOLOGY

#### 3.1. Introduction

Methodology in research is defined as the systematic method to resolve a research problem. It gathers data through various techniques, providing an interpretation of data gathered and brings the final conclusion. It aims to give the work plan of research.

By research methodology, not only the research methods are considered but also the logic behind the methods used in the context of the research study and explanations are given on why a particular method is used and why other methods are not used.

#### 3.2. Research Design

A research design is the arrangement of conditions for collecting and analyzes the data in a manner that aims to combine relevance to the research purpose with economy in procedure. Research design is a conceptual framework in which research is conducted, which forms the basis for data collection, measurement, and analysis.

**Descriptive Research design** is used in this study. Descriptive research is also called statistical research. The main purpose of this type of research is to describe the data and characteristics of what is being studied

#### 3.3. Source of Data

The task of data collection begins after a research problem has been defined and research design has been planned out.

##### **Primary Data**

The researcher here has reached the employees by making them fill the questionnaire which is based on **the primary data analysis** which was collected from employees.

##### **Secondary Data**

The study also referred the **secondary sources** like Review of Literature. Also used various kinds of sources such as journals, articles and Books, referred some document related to 5 “S”

### 3.4. Reliability Test

The reliability test refers to **the extent to which a test measures without error**. This is very much related to the validity of the test. It considers the precision and accuracy of the reliability test.

**Table 3.1**  
**Reliability Test**

<b>Cronbach's Alpha</b>	<b>No of Items</b>
<b>.962</b>	<b>56</b>

Reliability Test is conducted for the Total sample of 38. The generally accepted rule is that  $\alpha$  of 0.6-0.7 indicates acceptable reliability, **and 0.8 or higher indicates the optimum condition**. Here the  $\alpha$ (Alpha) value is **.962** which indicates the data is **highly reliable and in optimum condition**.

### 3.5. Sampling Design

Sampling design is referred as the technique or the procedures the researcher would adopt in selecting items for the sample.

### 3.6. Sampling Technique

The sampling technique used is Random sampling. It is a part of the sampling technique in which each sample has an equal probability of being chosen. A sample chosen randomly is meant to be an unbiased representation of the total population.

### 3.7. Sampling Population

Population sampling is the process of taking a subset of subjects that is representation of the entire population. In this study the sample population are the Propel Employees with total population around 350-400.

### 3.8. Sample Size

The Sample size of this research consists of 38 employees of Propel Industries

### 3.9. Tools Used

The data collected through questionnaire has been analyzed using the following tools:

- Percentage Analysis
- Mean Score value
- Regression
- Correlation Coefficient
- ANOVA

### **Percentage Analysis**

The percentage analysis is used to find out the relationship between the series of the data which was collected from the responses given by the employees on different variables.

$$\text{Percentage} = (\text{No. of Respondents} / \text{Total no. of Respondents}) * 100$$

### **Mean Score Analysis**

Mean Score value method is used to find the mean score of the factor from the respondents.

$$\text{Mean Score Analysis} = \frac{\sum X (\text{Score Values})}{N}$$

Where,

X, refers to the refers to the variables used to collect data.

N, refers to the total number of respondents from whom data were collected

### **ANOVA**

The Analysis of Variance (ANOVA) is a powerful and general statistical process in the social sciences. In statistics, ANOVA is a set of statistical models and related processes, in which the variance found in a particular variable is subdivided into components that are responsible for the sources of the variance.

#### **Formula**

$$F (\text{ANOVA Coefficient}) = \frac{\text{Estimate of population variable between samples/}}{\text{Estimate of population variance within samples}}$$

## **Correlation**

A correlation is a statistical measure used to describe the degree of relationship between the two variables. In this study the direction of relationship between all dependent variable and the corresponding independent variable is calculated using correlation coefficient.

Formula

$$R = \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}}$$

## **Regression**

Regression is a statistical technique for determining the linear relationship between two or more variables. Regression is used primarily for prediction and causation. This technique is used to detect consumer attitudes and consumer satisfaction levels with appropriate scores by regression parallel ability.

$$\text{Formula} = Y = a + bx + c$$

Where: **Y** – Dependent variable

**x** – Independent (explanatory) variable

**a** – Intercept ; **b** – Slope ; **ε** – Residual (error)

## CHAPTER IV

### ANALYSIS AND INTERPRETATION

#### 4.1. Introduction

Analysis is a systematic approach to problem solving. It refers to the computation of certain measures along with searching for patterns of relationship that exists among data collected. Complex problems are made by separating them into more understandable elements. This involves the identification of purpose and facts, the statement of defensible assumptions, and the formulation of conclusion.

Researchers often find data analysis the most enjoyable part of carrying out a research study, since after all of the hard work and waiting they get the chance to find out the answers

As with most other aspects of a study, analysis and interpretation of the study should relate to the study objectives and research questions. One often helpful strategy is to begin by imagining or even outlining the manuscript to be written from the data. The usual analysis approach is to begin with descriptive analyses, to explore and gain a feel for the data.

Analysis & interpretation is used in study as mentioned as follows:

- Factors for analysis & tools applied
- Socio- Economic Profile of the Employees
- Mean Score value for the independent and Dependent variables.
- ANOVA
- Correlation
- Regression

#### 4.2. Factors for analysis and tools applied

Factor for analysis describes the factors with appropriate application of tools for analysis.

**Table No: 4.1**  
**Factors for Analysis**

<b>Factors</b>	<b>Tools</b>
Gender	<b>Percentage</b>
Education	
Experience	
Age group	
Department	
Top Management support	<b>Mean Score Value and Standard Deviation</b>
Department Initiatives	
Responsibility and Passion	
Committed and Supportive	
Knowledge Sharing and 5 “S” Awareness	
5 “S” Audit	
Quality of Workplace	
Quality of Staff and Morale of Workers	
Productivity	
Reduce Cost and Minimizing waste	
Stakeholder Satisfaction	
Significant difference between Quality of staff & morale of workers and Age	<b>ANOVA</b>
Relationship between knowledge sharing & 5 “S” Awareness and Top management support.	<b>Correlation</b>
Relationship between Quality of workplace and Employee responsibility and Passion.	
Relationship between Employee Involvement and Satisfaction of Both Employee & External Customer	
Significant impact of effectiveness of 5 “S” on Organizational Performance	<b>Regression</b>
Significant impact of Successful implementation of 5 “S” towards Organizational performance	

### 4.3. Socio Economic Profile of the Employee

Socio economic profile takes for the Employees provide some personal and work-related information. It also used to identify the quantifiable study from the given population and characterize that population at specific point in time. In this demographic factor table, the data are collected from the Employees of the organisation. This personal information of the employee is helpful to do furthermore analysis in the research. For each factors Percentage Analysis were calculated.

**Table No: 4.2**

**Socio- Economic Profile of the Employees**

<b>Socio Economic profile</b>	<b>Particulars</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Gender</b>	<b>Male</b>	<b>29</b>	<b>76.3</b>
	Female	9	23.7
<b>Total</b>		<b>38</b>	<b>100.0</b>
<b>Education</b>	UG	16	42.1
	<b>PG</b>	<b>20</b>	<b>52.6</b>
	Others	2	5.3
<b>Total</b>		<b>38</b>	<b>100.0</b>
<b>Age</b>	Less than 25 years	7	18.4
	<b>25-35 years</b>	<b>15</b>	<b>39.5</b>
	35-45 years	11	28.9
	45-55 years	4	10.5
	Above 55 years	1	2.6
<b>Total</b>		<b>38</b>	<b>100.0</b>
<b>Experience</b>	<b>0-5 years</b>	<b>15</b>	<b>39.5</b>
	5-10 years	9	23.7
	10-15 years	4	10.5
	Above 15 years	10	26.3
<b>Total</b>		<b>38</b>	<b>100.0</b>

From the above table, it can be interpreted that the demographic factors are, gender, Education, experience, age group, and Experience of the employees in the Organisation, with its various frequencies.

- From the total collected data, most of the respondent are Male. 76.3 percent of the employees are Male and 23.7 percent of the employees are female.
- Majority of respondents completed PG. 52.6 percent completed PG and 42.1 percent respondents completed UG and 5.3 percent respondent belongs to others.
- Majority of respondents are from the age group of 25-35 years with 39.5 percent and have minimum 2.6 percent belongs to Above 55 years.
- Majority of 39.5 percent respondents have 0-5 years of Experience and 23.7 percent employees have 5-10 years' experience, minimum of 10.5 percent has Experience of 10-15 years and 26.3 percent of employees have More than 15 years of Experience.

#### **4.3.1 Mean Score Value for Successful Implementation of 5 “S”**

Mean Score value method is used to find the mean score of the factor from the respondents. The mean, also referred to by statisticians as the average, is the most common statistic used to measure the center of a numerical data set. Mean implies sum of data divided by the no of the total data. Higher the mean score values the higher the exceptions and vice versa. The mean can be used to represent the typical value and therefor serves as a yardstick for all observation.

Standard deviation (SD) is the number used to tell how the measurements for a group extend from the mean (average or expected value). Low values of standard deviation indicate that most numbers are close to average, while high standard deviation indicates that numbers are more widespread.

In this table the overall mean score and Standard Deviation is calculated for all the variables such as Successful Implementation of 5 “S”. All the statements values were combined under the factor with overall mean score and standard deviation, likewise for each factors the values are assigned under the Variable.

**Table No: 4.3**  
**Mean Score Value for Successful Implementation of 5 “S”**

<b>Factors on Successful Implementation of 5 “S”</b>	<b>Mean Score</b>	<b>Standard Deviation</b>
<b>Top Management Support</b>		
Top management encourages employees to follow 5 “S” Practices for better workflow.	4.58	.552
Executives continuously demonstrates its commitment to Quality and Development.	4.11	.689
There is expertise and specialist for 5 “S” Implementation towards effective Organisational Performance	4.26	.644
The entire workforce understands and is committed to vision, values and goal of the Organisation.	4.00	.771
Our top executives and superiors provide adequate time and resources for 5 “S” Implementation.	4.13	.777
I have clear understanding of my organisation directions.	4.37	.589
<b>Department Initiatives</b>		
My department co-workers are also practice the 5 “S” in the Organisation.	4.24	.786
The implementation of 5 “S” increases the department productivity / Performance.	4.29	.732
Each department in the organisation plays a keen role in making Successful Implementation of 5 “S”.	3.89	.801
The 5” S” implementation increases better team co-operation and work flow within the various department of the Organization.	4.24	.675
The Improved team Commitment and Cooperation brings high Employee Involvement towards 5 “S” practices.	4.08	.673
I actively participate in 5 “S” activities and work towards company’s Performance	4.37	.675
<b>Responsibility and Passion</b>		
It’s my responsibility to maintain my workplace orderliness and to improve the efficiency.	4.63	.489

Implementation of 5 “S” makes our place a lot of better and We feel, we can do a better job.	4.55	.504
There are no difficulties in learning and Implementing 5 “S”	4.26	.724
5 “S” practices provide Positive work culture.	4.58	.500
<b>Committed and Supportive</b>		
Trust and communication between Senior leaders and Employees are good.	4.42	.599
Top management is committed to success of 5 “S”.	4.42	.552
Our top executives made a strategic plan and procedures for 5 “S” to bring positive and Sustainable Workplace Culture	4.26	.644
There is delegated authority from top management to other Managerial Levels	4.24	.634
<b>Knowledge Sharing and 5 “S” Awareness</b>		
Adequate and detailed training on 5 “S” was provided.	4.13	.875
The training imparted was adequate enough to give us confidence to implement 5 “S”	4.08	.673
Employees clearly understood the 5 “S” Concepts	4.11	.606
There is clear awareness of 5 “S” in the Organisation.	4.32	.574
Employees are trained with proper knowledge and skills to Implement 5 “S”	4.08	.712
The company has effective 2 Way Communication links with its employees	4.18	.692
<b>5 “S” Audit</b>		
5 “S” Audit was regularly conducted in the Organisation	4.11	.894
Proper Audit checklist was used for evaluating.	4.18	.730
5 “S” has been effectively evaluated based on the Improvements of Organisational Performance	4.24	.714
Employees were trained to conduct 5” S” Audit	4.11	.798
5” S” Audit form and schedule are in place and utilized with action plans and progress displayed	4.11	.863

From the table, the overall Mean Score for the Successful Implementation shows that employee responsibility has high mean score 4.63 which indicates that successful Implementation of 5 “S” is lies with level of Responsibility of workers to maintain workplace orderliness and their passion to practice 5 “S” is important. Followed by which the next highest mean score is 4.58 for top management support for employees to follow 5 “S” and another value is for 5 “S” provide positive work culture.

The next highest value is 4.55 for 5 “S” implementation makes the workplace to feel and work better. Even though the successful implementation lies in the hand of the whole departments there are still some departments are in kick off stage of and result in low mean value 3.89.

The next low most value after 3.89 is 4.00 for the entire workplace understands and is committed to vision, values and goal of the organisation as it off because it takes some days to understand and meet up the goal towards each employee.

#### 4.3.2 Mean Score for Effectiveness of 5 “S”

The mean score is calculated for the overall factors of effectiveness of 5 “S” which is defined with the higher mean score and lower value is also depicted with the standard deviation.

**Table 4.4**  
**Mean Score value for Effectiveness of 5 “S”**

Factors for Effectiveness of 5 “S”	Mean Score	Standard Deviation
<b>Quality of Workplace</b>		
5” S” Improves efficiency of work process	4.55	.555
It helps to achieve the objectives of Organisation effectively	4.50	.604
The workplace is always clean and free from any clutter making it absolutely safe to work	4.39	.679
Workstations are neat, clean and Organized	4.34	.781
Sustainable quality in product/service evident through 5 “S” process	4.29	.611
<b>Morale of Workers</b>		
The implementation of 5 “S” increased level of morale among executives and workers.	4.32	.574

Innovative methods adopted to improve morale of employees.	4.16	.718
The effectiveness of 5 “S” brings out the improved work culture in the company.	4.39	.595
It improves the Self- discipline of the employees.	4.37	.714
Implementation of 5 “S” results improved morale of the employees	4.37	.786

5 “S” provides clean and safe work areas – when the work place is clean and organized tripping hazards and dangers are eliminated through visual management.5 “S” practices also brings less wasted time through more workplace organization- the tools and materials are accessible and orderliness so it reduces time searching for tools and improves efficiency of work process which is represented with high score 4.55 and it also helps in achieving the objectives of the organisation effectively which is result in next highest mean score variable 4.50 after 4.55.

The innovative methods to improve employee morale is low 4.16. It states as we are well into technology era as there is lot of apps for connecting team and business management application with powerful, flexible, mobile first communication and engagement platform for your team. Recognize employee, celebrate new hires, personal milestone, share success and provide personal touch and also provide wellness and benefits.

#### **4.3.3 Mean Score for Organisational Performance**

The factors for the organisational performance is calculated for the productivity, reduce cost and minimizing waste and stakeholder satisfaction. All the statements values were combined under the factor with overall mean score and standard deviation, likewise for each factors the values are assigned under the Variable.

Here in the table each variable is calculated with appropriate mean score value and standard deviation

**Table.4.5**  
**Mean score for the Organisational Performance**

<b>Factors for the Organisational Performance</b>	<b>Mean Score</b>	<b>Standard Deviation</b>
<b>Productivity</b>		
Goals of 5 “S” is principles is to make workplace more productive and efficient by employees with help of Management	4.37	.751
5 “S” brings efficiency and effectiveness (Doing things Right and Doing the right things)	4.37	.589
The use of 5 “S” results in increase productivity with efficient Organisational performance	4.53	.557
It brings continuous improvement in the Organisation	4.50	.558
Use of Innovative methods by which productivity increased	4.26	.724
<b>Reduce Cost and Minimizing waste</b>		
The 5 “S” practices reduce cost of materials, energy overheads etc.	4.47	.647
It reduces time take for searching of file/Materials	4.55	.555
The 5 “S” practices help in lowering inventory Cost	4.21	.704
It helps to reduce the defect of work in the Organisation	4.53	.557
5 “S” Practices provides efficient Space usage in the Organisation	4.58	.552
<b>Stakeholder Satisfaction</b>		
The 5 “S” practices lead to enhance Organisational Image and Customer trust.	4.53	.603
Employees are more motivate and enhancing their effort in service.	4.32	.702
Improved client perception of the company.	4.47	.603
It lowers the employee absenteeism and increase the job satisfactions level.	4.13	.623
Improve Manufacturing time and Customer delivery times.	4.21	.664

5 “S” practice provides efficient space usage in the organisation. The 5 “S” deals with removal of unnecessary materials and provide cleanliness and keep only necessary items and set up in procedure for performing task which indicate with high mean score value 4.58. As it provides high space usage and remove the unwanted items/materials by using red-tag method and also helps placing the goods/materials/file in right place which reduce the time for searching the of things files/materials. 5 “S” paves the way to increase productivity with efficient organisational performance which is indicated by next highest mean score of 4.53 followed by 4.58. The lowest mean score is about 4.13 for the 5 “S” lowers the employees’ absenteeism and increase the job satisfaction level because the stratification level and absenteeism are not only dependent on the performance factor, it depends on many other factors.

#### **4.4. ANOVA between Morale of the Employees and socio-economic profile**

ANOVA provides a statistical test of whether or not the means of several groups are all equal, and therefore generalizes t-test to more than two groups. The ANOVA is used for three or more groups of data, to gain information about the relationship between the dependent and independent factor

This tables takes two factors such as one independent variable of Morale of employees and the other is socio-economic profile to find the difference between morale and between the socio-economic factors.

**Table No: 4.6**

**Two-way ANOVA between Morale of the Employees and Socio-Economic Profile**

<b>Dependent variable</b>	<b>Independent variable</b>	<b>Mean square</b>	<b>F</b>	<b>Significant value</b>
Morale of Workers	Education	.012	.091	<b>.913</b>
	Age group	.453	1.214	<b>.324</b>
	Experience	.097	.753	<b>.540</b>
	Gender	.001	.006	<b>.940</b>

**H0: There is no significant difference between Morale of employees and Demographicfactor**

From the table it is observed that, there is no significant difference between Morale of Employees and the demographic variables because, if the higher the education, age, and experience means it seems higher the morale. Here the all the value is  $> 0.05$ , so the null value is accepted.

**4.5. Correlation**

A correlation is a single number that describes the degree of relationship between two variables. Correlation refers to method of assessing a possible two-way linear association between two continuous variables. It results the significant relationship level between the both factors by stating the significant value.

If the sig. value is  $< 0.05$  then the null hypothesis is rejected, and if the value is  $> 0.05$  then the null hypothesis value is accepted and alternative hypothesis is accepted.

Here in the below table two the two independent factor to find the relationship between them which is the knowledge sharing on 5 “S” and other is top level management support is related by using Pearson correlation in SPSS.

**Table No: 4.7**

**Relationship between knowledge sharing & 5 “S” Awareness and Top management support**

Factors		Knowledge Sharing and 5 “S” Awareness	Top Management Support
Knowledge Sharing and 5 “S” Awareness	Pearson Correlation	1	.707**
	Sig. (2-tailed)		.000
Top Management Support	Pearson Correlation	.707**	1
	Sig. (2-tailed)	.000	
**. Correlation is significant at the 0.01 level (2-tailed).			

**H0: There is no relationship between knowledge sharing & 5 “S” Awareness and Top management support**

From the above table, the output indicates a direct and positive relationship between the knowledge sharing & 5 “S” awareness and Top management support. The Top management support is very crucial because there in the position because there are one who position the organization’s direction.

So, their efforts with providing adequate training, resources and time helps to brings the clear knowledge and awareness of 5 “S” to the employees. Here the value is .000 <0.05 hence the null hypothesis is rejected.

**Table No: 4.8**

**Relationship between Quality of workplace and Employee responsibility & Passion**

Factors		Quality of Workplace	Responsibility and Passion
Quality of Workplace	Pearson Correlation	1	.509**
	<b>Sig. (2-tailed)</b>		<b>.001</b>
Responsibility and Passion	Pearson Correlation	.509**	1
	<b>Sig. (2-tailed)</b>	<b>.001</b>	
** . Correlation is significant at the <b>0.01 level (2-tailed)</b> .			

**H0: There is no relationship between Quality of workplace and Employee responsibility and Passion.**

From the table the value .001 reveals that there is significant relationship exist between Quality of workplace and Employee responsibility, his/her passion towards the work. Quality of workplace is important part of 5 “S”. Quality of workplace improves the clean and safer place to work for the employees and it helps them to achieve organisational performance to achieve the goal with proper quality and on time. It improves the sustainable quality in product/ service which is evident through 5 “S” process.

It can be possible only when the Employee take responsible of his work and his/her duties. He /she should actively involve in improvement of organisational activities. Their passion towards the work initiates them to follow the rules and work to fulfillment. A Responsible employee are professionals with a consistent work ethic and who can take actions daily toward their professional goals. Therefore, the responsibility of worker is very important for the bring out quality of workplace and it should be in regular practices.

**Table No: 4.9**

**Relationship between Employee Involvement and Stakeholders satisfaction**

Factors		Employee Involvement	Stakeholder Satisfaction
<b>Employee Involvement</b>	Pearson Correlation	1	.660**
	<b>Sig. (2-tailed)</b>		<b>.000</b>
<b>Stakeholder Satisfaction</b>	Pearson Correlation	.660**	1
	<b>Sig. (2-tailed)</b>	<b>.000</b>	
** . Correlation is significant at the <b>0.01 level (2-tailed)</b> .			

**H0: There is no relationship between Employee Involvement and Stakeholders satisfaction**

From the table it was observed that, the employee who involved with 5 “S” practice-quality of workplace, proper knowledge on his work and awareness on 5 “S”, and his responsibility with total support of top-level management which lead to easily achieving the Stakeholder Satisfaction for the organisation with improved client perception of the company. Higher the involvement of employees leads to achieve more satisfaction to stakeholders. It enhances the organisational image and customer trust with improved client perception about the company. Which is shown with a value of .000, a strong relationship between the employee involvement and stakeholder satisfaction.so the null hypothesis is rejected and alternative hypothesis is accepted.

#### 4.6. Regression

Regression is a statistical technique to determine the linear relationship between two or more variables. In short it shows the relationship/impact between the dependent and independent variables. Here the regression analysis is used for 2 different set of factors respectively.

**Table No:4.10**

**Regression for the impact of Effectiveness of 5 “S” towards Organisational Performance**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Significant value
	B	Std. Error	Beta		
<b>Effectiveness of 5 “S”</b>	.763	.097	.796	7.890	<b>.000</b>
<b>R value (Coefficient of correlation)</b>	.796				
<b>R Square (Coefficient of determination)</b>	.634				

Dependent Variable: Organisational performance

**H<sub>0</sub>: There is no significant impact of effectiveness of 5 “S” on Organizational Performance**

From the above table it was clear that there is significant impact of effectiveness of 5 “S” on Organizational Performance which is indicated with the value  $.000 < 0.05$ . The clean, organized workplace that results from the 5 “S”, creates a very pleasant workplace that leads to an improved employee attitude. Focusing on cleanliness, organization, labor saving ability, having the right tools, and the use of quality standards leads to pride in work efficiency.

This makes the increased performance of the employee to the targeted standards which lead to efficient in overall organisational performance. so here the null hypothesis rejected and alternative hypothesis is accepted.

**Table No: 4.11**

**Regression for the impact of Successful implementation of 5 “S” towards  
Organizational performance**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Significant value
	B	Std. Error	Beta		
<b>Successful Implementation of 5 “S”</b>	<b>.672</b>	<b>.130</b>	<b>.652</b>	<b>5.166</b>	<b>.000</b>
<b>R value</b>	.652				
<b>R Square</b>	.426				

Dependent Variable: Organisational performance

**H<sub>0</sub>: There is no significant impact of Successful implementation of 5 “S” towards Organizational performance**

The above table indicates the significant value  $.000 < 0.05$  which results there is high impact of successful implementation of 5 “S” towards organisational performance. There will be increased organisational performance from 5 “S” is possible, only if there is successful implementation of 5 “Practices with proper employee Involvement and the top-level management support. Therefore, the null hypothesis is rejected.

## CHAPTER- V

### Analysis of 5 “S” training program in Propel Industries Private Limited from the month of December-February

#### 5.1. Introduction

The 5 “S” training programs helps the employee to know more about the 5 “S” practices, how should they want to apply, what are 5 “S” procedure they have to follow in the industry and what are the benefits we attain from them everything is teaches in training and also it helps to know what the needs of employees to follow 5S, all were identified.

**Table no. 5.1: 5 “S” Training program from the month of December-February**

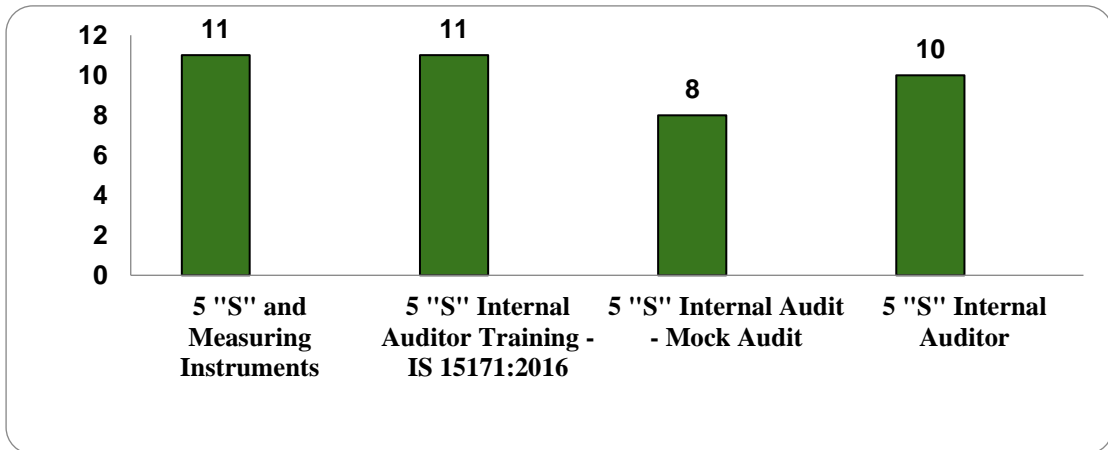
SI NO	Training Name	Date (2021-22)	No. of Total participants	Staff	Staff trainee	Contractors (New)	Duration	Duration cumulative
1	5 "S" and Measuring Instruments	12/2/2021	11	0	0	11	3:00	33:00:00
2	5 "S" Internal Auditor Training - IS 15171:2016	12/22/2021	11	9	2	0	2:00	22:00:00
3	5 "S" Internal Audit - Mock Audit	1/21/2022	8	6	1	0	1:45	14:00:00
4	5 "S" Internal Auditor	2/16/2022	10	8	2	0	1:30	15:00:00

The above table details the various 5 “S” training program from the month of December to February with list of participants with their total man hours are listed.

## Graphical representation

**Chart no 5.1**

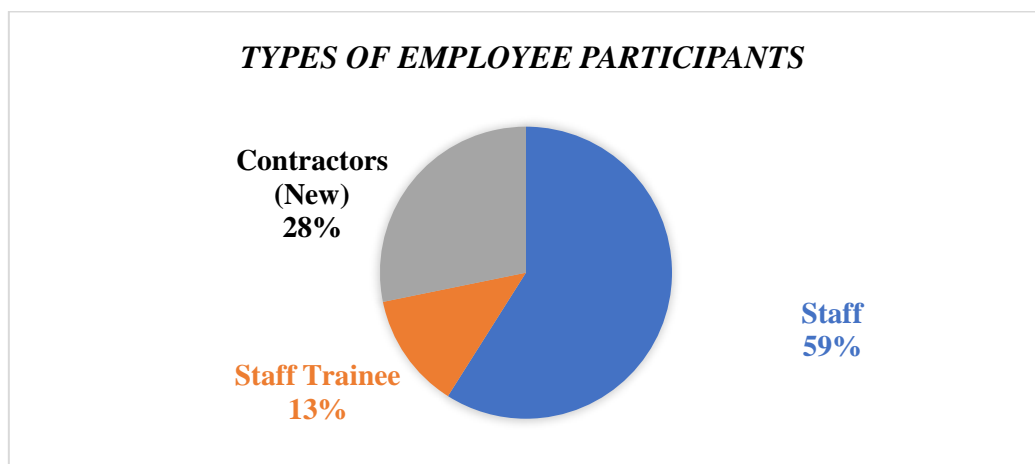
### 5 "S" training program with no. of participants



The above chart represents the training programs attended by the various group of employees with number of participant's level. The 5 "S" and Measuring Instruments, 5 "S" the no of employees attended the program is 11. Internal Auditor Training - IS 15171:2016 have 11 participants, 5 "S" Internal Audit - Mock Audit has 8 level and 5 "S" Internal Auditor are the 4 training programs have 10 level of participants.

**Chart no.5.2**

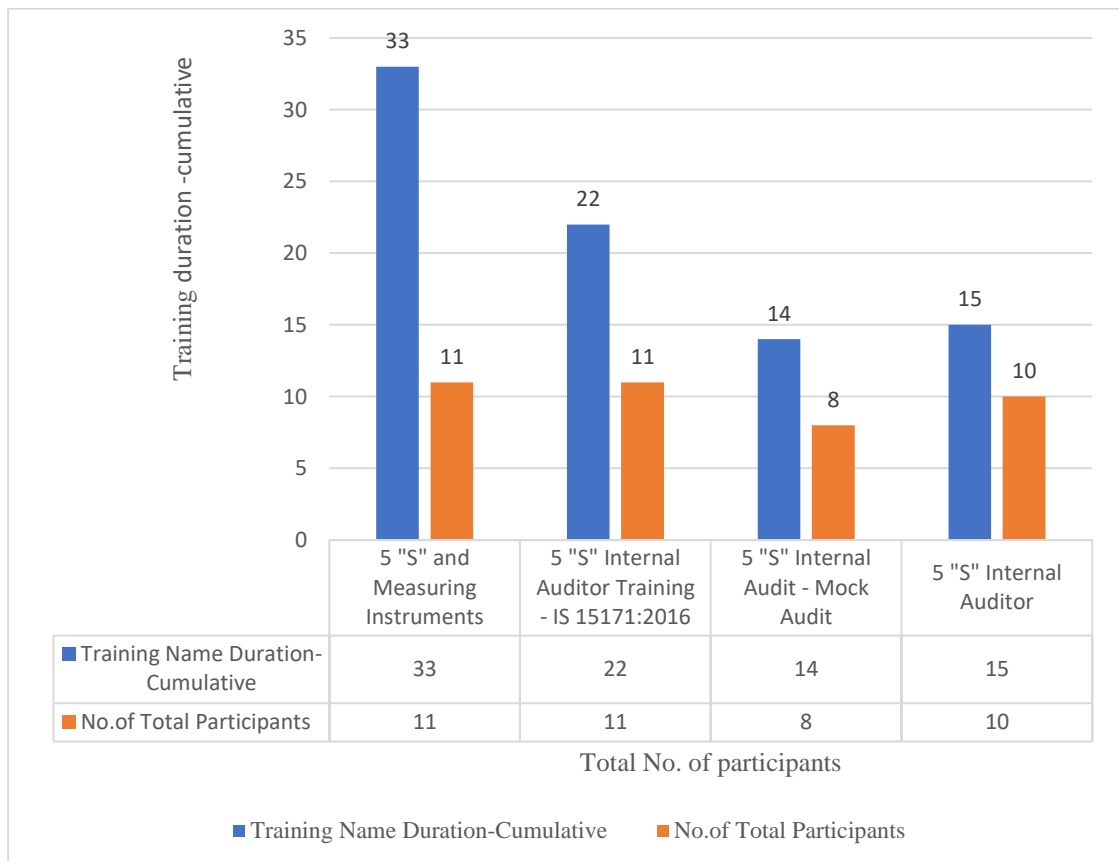
### Pie chart representation for types of employee participation



The above chart represents the various types of employees attended the 5 "S" training program with reference to the table 6.1 and it states that there are 28 % of contractors, 59% of staff and 13% of staff trainee have attended the training program in propel Industries.

**Chart no.5.3**

**Bar graph representation for No of employees and total duration of training program**



The above chart represents the total training duration of the program for the no of employees. The 5 “S” Measuring instruments have the highest cumulative training duration compared to other programs and it has total participants of 11 employees.

## CHAPTER VI

### SUMMARY & CONCLUSION

#### 6.1. Findings

The findings from the research helps the organisation to know the effectiveness of 5 “S” in the organisation and their successful implementation of 5 “S” to increase the organisational performance. Hence the researcher identified the following findings.

**Table 6.1**

#### **Socio Economic profile of the Employees**

It indicates the overall findings from the socio-economic profile of the employees. It

<b>Factors</b>	<b>Findings</b>
<b>Gender</b>	From the collected responses, majority 76.3% of Employees are Male
<b>Education</b>	Majority of 52.6% Employees pursued PG
<b>Age</b>	Majority of 39.5 % of the Employees are in the age between 25-35 years
<b>Experience</b>	Majority of 39.5 % the employees working to 0-5 years

includes of gender, education, Age and Experience.

#### **6.2 Findings for successful Implementation, Effectiveness of 5 “S” and Organisational Performance**

##### **6.2. Findings of Two-way ANOVA**

**Table – 6.2**  
**Findings in ANOVA**

<b>Factors</b>	<b>Findings</b>
<b>H0:</b> There is no significant difference between Morale of employees and Age	There is no significant difference between Morale of employees and Age (null value is accepted)

### 6.3. Findings in correlation

**Table 6.3**

**Relationship among knowledge sharing & 5 “S” Awareness and Top management support**

Factors	Findings
<p><b>H0:</b> There is no relationship between knowledge sharing &amp; 5 “S” Awareness and Top management support.</p>	<p>There is positive relationship between knowledge sharing &amp; 5 “S” Awareness and Top management support. (Null value is rejected)</p>

**Table 6.4**

**Relationship among Quality of workplace and Employee responsibility and Passion**

Factors	Findings
<p><b>H0:</b> There is no relationship between Quality of workplace and Employee responsibility and Passion.</p>	<p>There is positive relationship between Quality of workplace and Employee responsibility and Passion (null hypothesis is rejected).</p>

**Table 6.5**

**Relationship among Employee Involvement and Stakeholder Satisfaction**

Factors	Findings
<p><b>H0:</b> There is no relationship between Employee Involvement and Stakeholders satisfaction.</p>	<p>There is positive relationship between Employee Involvement and Stakeholders satisfaction (null hypothesis is rejected)</p>

#### 6.4. Findings for Regression

**Table 6.6**

**Findings for Impact of Effectiveness of 5 “S” on Organisational Performance**

<b>Factors</b>	<b>Findings</b>
<b>H<sub>0</sub>:</b> There is no significant impact of effectiveness of 5 “S” on Organizational Performance	There is significant impact of effectiveness of 5 “S” on Organizational Performance (null value is rejected).

**Table 6.7**

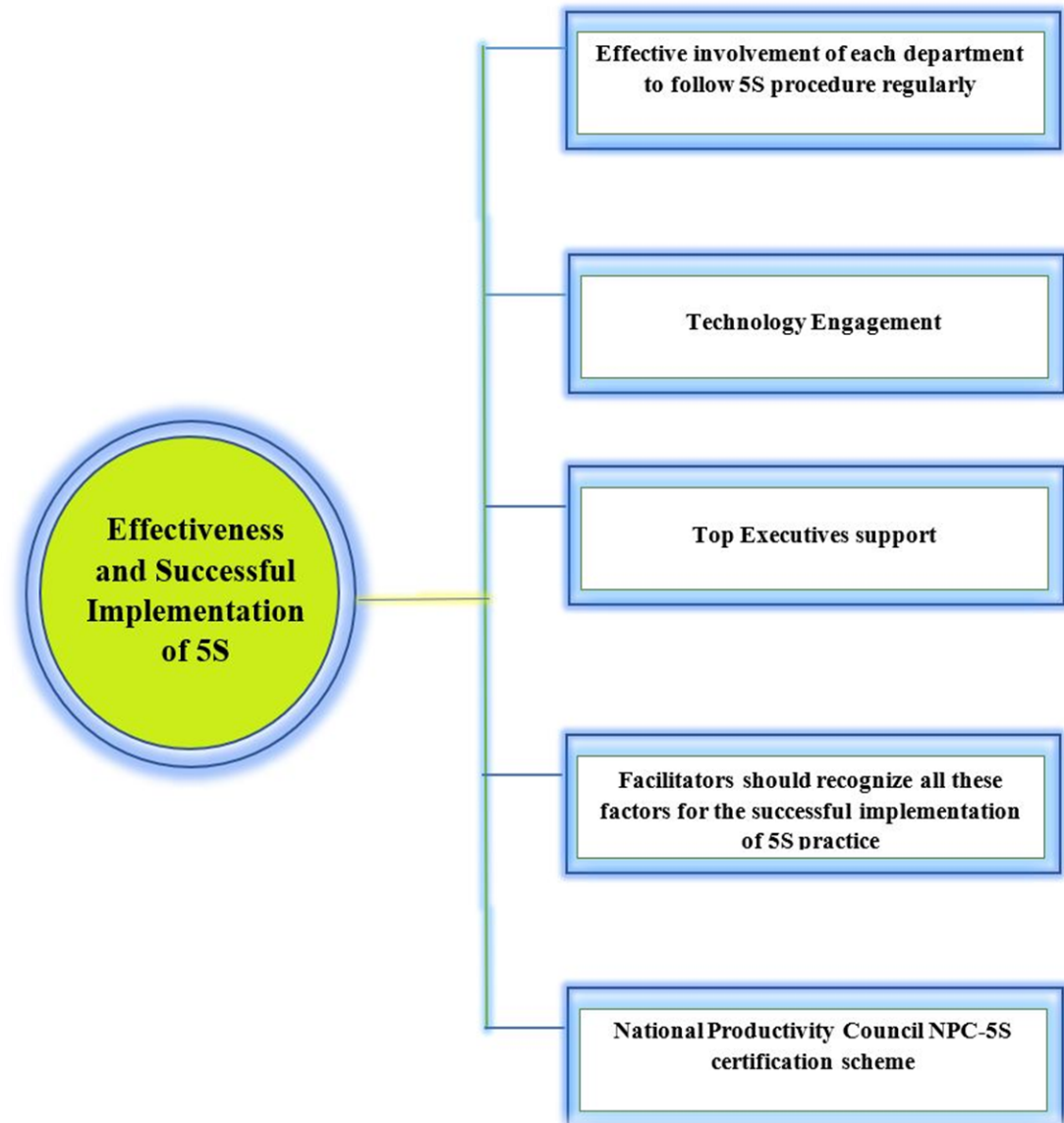
**Findings for Impact of Successful implementation of 5 “S” towards Organizational performance**

<b>Factors</b>	<b>Findings</b>
<b>H<sub>0</sub>:</b> There is no significant impact of Successful implementation of 5 “S” towards Organizational performance.	There is significant impact of Successful implementation of 5 “S” towards Organizational performance.

## 6.5 Suggestions

- According to the findings, the company can follow the 5 “S” practice more effectively by implementing it across all the departments. Each department must initiate to follow the 5 “S” procedure regularly. Equal practical flow across all department results in the effective performance of 5 “S” to achieve the target/Organisational standards.
- Findings show that employee morale / workplace morale has a direct impact on organizational goals. In the new technology era, they should improve and engage team development through a mobile processor(apps) with personalized news/ announcement for achievements, effective 5 “S” practices, achieving new milestone etc., these make them more interested in their actions which are the basis for the performance, personal performance and overall enterprise performance of the 5 “S”
- Top executives need to guide their subordinates to follow the 5 “S” procedures. They should take the right steps for each individual until its standard practice is followed, which helps guide efficiency in organizational productivity & performance. The organisation has to set a clear direction for everyone to achieve the intended 5 “S” standard.
- Facilitators should recognize all these factors for the successful implementation of 5 “S” practice, as any deviation or failure in any one factor will affect the active involvement of employees in 5 “S” program.
- The organisation may apply for the (National Productivity Council) NPC-5 “S” certification scheme which recognizes the company's endeavor and encourage their excellence in the 5 “S”, and the company can be guidance for others. The certification creates a marketing opportunity for the company.

## Suggestion model



**Fig.6.1. Suggestion model**

## **6.6. Conclusion**

In an increasingly competitive environment, it is absolutely essential to effectively manage the company's processes. The 5 "S" system is a starting point for any company that wants to achieve higher goals and positions. The aim of the study is to find out the effectiveness of 5 "S" practice and its successful implementation towards the organisational performance. The findings reveal that there is positive and direct impact on effectiveness of 5 "S" on organisational performance and it can be possible only with the successful implementation. The study also lists out the factors to enhance the successful implementation and effectiveness of 5 "S". The 5 "S" have a positive effect on overall performance and can improve the quality, efficiency and productivity of industrial enterprises, so the 5 "S" is an important tool for systematizing the entire organization systematically. It satisfies both the organisation and the customer. The success of the 5 "S" program is in the hands of management and staff as a whole.

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## ANNEXURE

Dear Respondents,

This questionnaire is a part of research project “**Effectiveness and Successful Implementation of 5 “S” practices towards Organizational Performance in Propel Industries Private limited**” as a requirement of MBA degree program at Avinashilingam Institute for Home Science and Higher Education for Women. I kindly requesting you to participate by answering the following questions. I assure you that the details given will be kept confidential and used for academic purpose only.

### DEMOGRAPHIC

- 1) Name of the Employee(optional) \_\_\_\_\_
- 2) Designation of the Employee \_\_\_\_\_
- 3) Gender:  
 Male  Female
- 4) Education:  UG  PG  Others
- 5) Experience:  
 0-5 years  
 5-10 years  
 10-15 years  
 Above 15 years
- 6) Age group:  
 Less than 25 years  
 25 – 35 years  
 35 – 45 years  
 45 – 55 years  
 Above 55 years
- 7) The Department which you Work \_\_\_\_\_

- 1) Please fill the factors on a **Successful Implementation of 5 “S”** using Likert scale rating.

### 2) EMPLOYEE INVOLVEMENT

<b>Top Management Support</b>	<b>SA</b>	<b>A</b>	<b>N</b>	<b>DA</b>	<b>SDA</b>
Top management encourages employees to follow 5 “S” Practices for better workflow.					
Executives continuously demonstrates its commitment to Quality and Development.					
There is expertise and specialist for 5 “S” Implementation towards effective Organisational Performance					
The entire workforce understands and is committed to vision, values and goal of the Organisation.					

Our top executives and superiors provide adequate time and resources for 5 “S” Implementation.					
I have clear understanding of my organisation directions.					

### Department Initiatives

Department Initiatives	SA	A	N	DA	SDA
My department co-workers are also practice the 5 “S” in the Organisation.					
The implementation of 5 “S” increases the department productivity / Performance.					
Each department in the organisation plays a keen role in making Successful Implementation of 5 “S”.					
The 5” S” implementation increases better team co-operation and work flow within the various department of the Organization.					
The Improved team Commitment and Cooperation brings high Employee Involvement towards 5 “S” practices.					

### Responsibility and Passion

Responsibility and Passion	HS	S	N	DS	HDS
I actively participate in 5 “S” activities and work towards company’s Performance					
It’s my responsibility to maintain my workplace orderliness and to improve the efficiency.					
Implementation of 5 “S” makes our place a lot of better and We feel, we can do a better job.					
There are no difficulties in learning and Implementing 5 “S”					
5 “S” practices provide Positive work culture.					

### TOP LEVEL MANAGEMENT FACTOR

#### Committed and Supportive

Committed and Supportive	SA	A	N	DA	SDA
Trust and communication between Senior leaders and Employees are good.					
Top management is committed to success of 5 “S”.					
Our top executives made a strategic plan and procedures for 5 “S” to bring positive and Sustainable Workplace Culture					

There is delegated authority from top management to other Managerial Levels					
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### Knowledge Sharing and 5 “S” Awareness

Knowledge Sharing and 5 “S” Awareness	SA	A	N	DA	SDA
Adequate and detailed training on 5 “S” was provided.					
The training imparted was adequate enough to give us confidence to implement 5 “S”					
Employees clearly understood the 5 “S” Concepts					
There is clear awareness of 5 “S” in the Organisation.					
Employees are trained with proper knowledge and skills to Implement 5 “S”					
The company has effective 2 Way Communication links with its employees					

### 5 “S” Audit

5 “S” Audit	SA	A	N	DA	SDA
5 “S” Audit was regularly conducted in the Organisation					
Proper Audit checklist was used for evaluating.					
Employees were trained to conduct 5” S” Audit					
5” S” Audit form and schedule are in place and utilized with action plans and progress displayed					
5 “S” has been effectively evaluated based on the Improvements of Organisational Performance					

3) Please fill the factors on an **Effectiveness OF 5 “S”** using Likert scale rating

### Quality of Workplace

Quality of Workplace	SA	A	N	DA	SDA
5” S” Improves efficiency of work process					
It helps to achieve the objectives of Organisation effectively					
Workstations are neat, clean and Organized					
Sustainable quality in product/service evident through 5 “S” process					
The workplace is always clean and free from any clutter making it absolutely safe to work					

### Morale of Workers

Morale of Workers/Employees	SA	A	N	DA	SDA
The implementation of 5 “S” increased level of morale among executives and workers.					
Innovative methods adopted to improve morale of employees.					
The effectiveness of 5 “S” brings out the improved work culture in the company.					
It improves the Self- discipline of the employees.					
Implementation of 5 “S” results improved morale of the employees					

- 4) Please fill the factors on an **Organisational Performance** using Likert scale rating

### Productivity

Productivity	SA	A	N	DA	SDA
Goals of 5 “S” is principles is to make workplace more productive and efficient by employees with help of Management					
5 “S” brings efficiency and effectiveness (Doing things Right and Doing the right things)					
The use of 5 “S” results in increase productivity with efficient Organisational performance					
It brings continuous improvement in the Organisation					
Use of Innovative methods by which productivity increased					

### Reduce Cost and Minimizing waste

Reduce Cost and Minimizing waste	SA	A	N	DA	SDA
The 5 “S” practices reduce cost of materials, energy overheads etc.					
It reduces time take for searching of file/Materials					
The 5 “S” practices help in lowering inventory Cost					

It helps to reduce the defect of work in the Organisation					
5 “S” Practices provides efficient Space usage in the Organisation					

**Stakeholder Satisfaction**

<b>Stakeholder Satisfaction</b>	<b>SA</b>	<b>A</b>	<b>N</b>	<b>DA</b>	<b>SDA</b>
The 5 “S” practices lead to enhance Organisational Image and Customer trust.					
Employees are more motivate and enhancing their effort in service.					
Improved client perception of the company.					
It lowers the employee absenteeism and increase the job satisfactions level.					
Improve Manufacturing time and Customer delivery times.					

*Thank you for giving your response, and spending your valuable time.*