

A STUDY ON IMPACT OF SIX SIGMA WITH SPECIAL REFERENCE TO AVA CHOLAYIL HEALTH CARE PRIVATE LIMITED, CHENNAI

Submitted in partial fulfilment of the requirements for the award of

MASTER OF BUSINESS ADMINISTRATION

By

SAMUEL C

Register No.41410265



SCHOOL OF MANAGEMENT STUDIES

SATHYABAMA

**INSTITUTE OF SCIENCE AND TECHNOLOGY
(DEEMED TO BE UNIVERSITY)**

Accredited with Grade "A" by NAAC | 12B Status by UGC | Approved by AICTE

JEPPIAAR NAGAR, RAJIV GANDHI SALAI, CHENNAI - 600 119

MAY 2023



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BONAFIDE CERTIFICATE

This is to certify that this Project Report is the Bonafide work of **Samuel C (41410265)** who carried out the project entitled "**A Study On Impact Of Six Sigma With Special Reference To Ava Cholayil Health Care Private Limited, Chennai**" under my supervision from JANUARY 2023 to MAY 2023.

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Submitted for Viva voce Examination held on **06.05.2023**

Internal Examiner

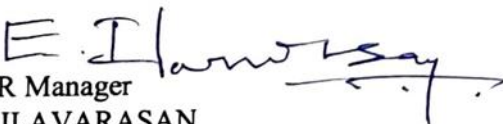
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CERTIFICATE

This is to certify that **Mr. SAMUEL C (Reg. No: 41410265)**, II MBA of **Sathyabama Institute of Science and Technology, Chennai** has successfully completed **PROJECT WORK** for the period from **01.01.2023 to 30.04.2023**. During his study period, he was found to be punctual, enthusiastic and taken keen interest in learning. The entire team of this concern, wishing him all the very best in the years ahead.

Thanks & regards,
AVA Cholayil Health Care Pvt.Ltd


HR Manager
E.ILAVARASAN



DECLARATION

I **Samuel C (41410265)** hereby declare that the Project Report " **A Study On Impact Of Six Sigma With Special Reference To Ava Cholayil Health Care Private Limited, Chennai**" done by me under the guidance of **Dr. K. Sasirekha B.Sc, B.Ed, M.B.A ,Ph.D** is submitted in partial fulfillment of the requirements for the award of Master of Business Administration degree.

DATE: 06.05.2023

PLACE: CHENNAI

Samuel

SAMUEL C

ACKNOWLEDGEMENT

I am pleased to acknowledge my sincere thanks to the Board of Management of **SATHYABAMA** for their kind encouragement in doing this project and for completing it successfully. I am grateful to them.

I convey my sincere thanks to **Dr. G. Bhuvaneswari, Ph.D., MBA.**, Dean, School of Business Administration and **Dr. A. Palani, M.Com., M Phil., PhD., MBA.** Head, School of Business Administration for providing me necessary support and details at the right time during the progressive reviews.

I would like to express my sincere and deep sense of gratitude to my Project Guide **Dr.K.Sasirekha, B.Sc, B.Ed, M.B.A ,Ph.D** for her valuable guidance, suggestions and constant encouragement that paved way for the successful completion of my project work.

I wish to express my thanks to all Teaching and Non-teaching staff members of the School of Business Administration who were helpful in many ways for the completion of the project.

SAMUEL C

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ABSTRACT

The major goal of the organisation is to achieve profit maximisation through providing quality goods in the competitive era. Achieving high rate of return and profitability is very difficult task in the industry. Hence the most possible solution would be to adopt Six Sigma. The implementation failure results in a huge loss of effort, time and money. So it is high time that Six Sigma implementation in manufacturing be examined critically and its shortcomings must be identified and addressed such that its performance is enhanced effectively. The main objective of the study is to analyse impact of six sigma with special reference to AVA Cholayil Health Care Private Limited, Chennai. The sample size of the study is 150. Descriptive research method and convenience sampling technique have been adopted in the study. Simple Percentage analysis, Chi-square analysis and correlation have been applied to reach the findings of the study. It is found that there is no significant difference between gender of the respondents and benefits for employees. It is suggested that the six sigma practices adopted in the company must satisfy the employees, customers and major key players in the company. It is concluded that, in order to achieve the implementation goals on the business, it needs to focus strictly its benefits. The implementation cost should not too high compare than the benefits it gets from the business.

CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION OF THE STUDY

Six Sigma

The term Six Sigma refers to a set of quality-control tools that businesses can use to eliminate defects and improve processes to help boost their profits. It was developed by a scientist in the 1980s while he was working at Motorola. Six Sigma is a statistical- and data-driven process that works by reviewing limit mistakes or defects. It emphasizes cycle-time improvements while reducing manufacturing defects to no more than 3.4 occurrences per million units or events. This means that an error generally occurs with a six-standard deviation event from the mean because only 3.4 out of a million events along a bell curve would fall outside of six standard deviations.

Six Sigma is a business methodology for quality improvement that measures how many defects there are in a current process and seeks to systematically eliminate them. In 1984, a Motorola engineer named Bill Smith developed the Six Sigma management system to reduce the variations in Motorola's electronic manufacturing processes that were causing product defects. Since then, the strategies, tools and cultural norms that support the management system have been adopted by upper management and project teams in a wide variety of industries to increase operational excellence. Additionally, the meaning of the word "defect" has broadened to include any deficiency in business processes that prevents a company from meeting its customer's needs.

Six Sigma proponents claim its business strategy benefits include up to 50% process cost reduction, cycle-time improvement, less waste of materials, a better understanding of customer requirements, increased customer satisfaction and value stream, and more reliable products and services. Motorola holds the federal trademark for Six Sigma, and it is generally acknowledged that Six Sigma can be costly to implement and can take several years before a company begins to see bottom-line results.

In 1995, General Electric CEO Jack Welch's very public endorsement of Six Sigma helped businesses outside of manufacturing understand how Six Sigma methodologies can be used to improve customer satisfaction in any industry.

Six Sigma methodologies

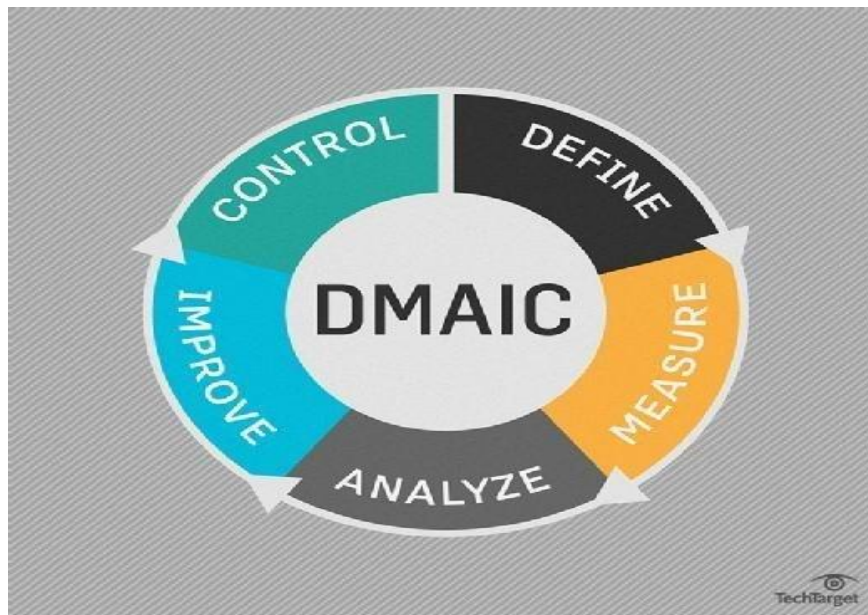
The above principles can be applied with one of two improvement methodologies: Six Sigma DMAIC and Six Sigma DMADV. Each term's name is derived from the major steps in its process, but each has its own use.

- DMAIC (define, measure, analyze, improve, control) is used to correct a process that already exists.
- DMADV (define, measure, analyze, design, validate) is used to create a new process.

DMAIC

Here is a step-by-step breakdown of Six Sigma DMAIC:

1. Define: Identify the project goals and all customer deliverables.
2. Measure: Understand current performance.
3. Analyze: Determine root causes of any defects.
4. Improve: Establish ways to eliminate defects and correct the process.
5. Control: Manage future process performance.



DMADV

Here is a step-by-step breakdown of Six Sigma DMADV. The first three steps of this methodology are identical to DMAIC. Because the two acronyms are so similar, some companies use the acronym DFSS (design for Six Sigma) in place of DMADV.

1. Define: Identify the project scope and all customer deliverables.
2. Measure: Understand current performance.
3. Analyze: Determine root causes of any defects.
4. Design: Create a process that meets customer needs and expectations.
5. Verify: Ensure process designed meets customer needs and performs adequately.



The key principles of sigma are:

- Customer focus
- Use data
- Improve continuously
- Involve people
- Be thorough

Steps followed to implement the six sigma in organization

For any organization, the first step in a Lean Six Sigma deployment is deciding to use the methodology. Once the leadership of an organization believes they can benefit from using Lean Six Sigma, they can follow eight steps – from creating a burning platform for adopting the approach to recognizing team member contributions – to complete the rollout.

Step 1: Create a Burning Platform

Organizations must have a compelling reason for implementing Lean Six Sigma. Some examples of a burning platform message:

- “We are suffering huge quality losses. They account for more than 45 Percentage of our costs.”
- “Our competitors are gaining our market by 12 Percentage every quarter.”

Without a burning platform, there is seldom a motivation to implement a continuous improvement initiative. Company leadership should become familiar with the burning platform, and understand how Lean Six Sigma can address the problems in the platform statement.

Step 2: Put Resources in Place

Do not hesitate to hire the right resource at right price. This is applicable to any resource, be it employees, material or technology. But resources alone do not ensure

that a deployment will be successful. They must be able to work together as a team, and be empowered to carry out initiatives. It is important to know what to look for in a potential resource.

Step 3: Teach the Methodology

For Lean Six Sigma to survive for a lifetime, organizations need to train their team members to be powerful change agents. Yellow Belt, Green Belt and Black Belt training, along with skilled mentors, can help increase organizational awareness. The employees identified for training should share the organization's vision.

Step 4: Prioritize Activities

Once resources and training are in place, a number of opportunities may present themselves. Organizations must make it a priority to:

- Listen to the customer
- Identify critical-to-quality criteria
- Ensure Lean Six Sigma efforts are linked to business goals

It is important to learn what to overlook and where to take risks. Activities must be assessed to ensure they are meeting the expectations of the organization's goals.

Step 5: Establish Ownership

It must be clear who owns the Lean Six Sigma initiative. This may involve appointing a committee to find out who is responsible for the entire team. With ownership come empowerment and a sense of pride, and team members who are more committed, accountable and engaged.

Step 6: Take the Right Measurements

The key for measurement is to get the cost of quality right. The Organizations also must find a way to measure process performance to ensure they receive data at a fast pace. Having too many items on a scorecard may shift practitioners' attention

from the critical few metrics. They need to identify and measure the key leading indicators instead of measuring the many lagging indicators.

Step 7: Govern the Program

A proper governance structure can help a program sustain momentum. Poor governance or too much governance can lead to the vision falling apart. For instance, establishing a business quality council can help to clear any hurdles that may slow a project, allowing the project to adhere to timelines.

Proper governance also helps practitioners create a best practice sharing forum, which helps projects to be replicated and can highlight common challenges.

Without regularly scheduled, productive meetings or review sessions, the program can veer off course and employees may lack guidance.

Step 8: Recognize Contributions

Rewards and recognition play a valuable role in making sure team members remain satisfied in their roles. They can help build enthusiasm for the program from a top-down and grassroots level. Rewards and recognition also can help drive innovation throughout the organization.

Benefits Of Implementing Six Sigma In Business

Organizations from nearly every industry have benefitted from Six Sigma, including companies like Motorola, General Electric, and Honeywell. It can benefit the customer, individual employees, and the company as a whole. Listed below are the five biggest advantages many businesses see as a result of implementing Six Sigma:

➤ Increased revenue

When the company improves the quality of its services and products it can see incredible long-term revenue increases. After its first year of using Six Sigma principles, General Electric saw \$300 million in increased revenue.

➤ **Better quality**

By operating a Six Sigma business, companies have to minimize defects and improve quality to the point that few customers will ever experience a problem. And this does not just apply to manufactured products; at Akron's Children's Hospital, the quality of their services increased tremendously by implementing Six Sigma. The wait times for MRI scans were cut down by 90 Percentage and the emergency room minimized the amount of time it took to locate supplies by 63 Percentage.

➤ **Reduced costs**

Successful Six Sigma implementation can result in massive savings, which will allow the company to use that money elsewhere. In 2007, the United States Army implemented Six Sigma and saved over \$2 billion that year by streamlining task management, cutting costs, and recycling fuel.

➤ **Improves the customer experience**

When the company improve the quality of its products and services and reduce variation, its customers will reap the benefits. And when customers receive a consistently positive experience, they are more likely to become loyal long-term customers.

➤ **Increased productivity**

Often businesses think they are overstaffed when the real problem is insufficient training. Implementing Six Sigma can give the business clarity on the root cause of low productivity and help the company effectively address it.

Considering Factors Before Implement The Six Sigma

Integrating Six Sigma into the company's workflow is something that can have a huge positive impact on its operations, and there is a lot of information out there that one can use to catch up on recent trends in that field.

It's quite well developed and offers a lot to those who know how to implement it correctly, but there are some important points to consider if the company want to make sure that things will go smoothly at every step of the way in its Six Sigma project.

Ensure their aware of current trends in the field

Six Sigma is evolving at a rapid pace, and it can be hard to stay in touch with everything that's happened in the field recently. The company should keep an eye on some information channels to ensure that the company is aware of important new developments, and always talk to others in its field about the way they're using Six Sigma in their own workflow. Remember that this methodology was built on community interaction, so it needs to take part in that.

Everyone must be on board for the new system

The company's own employees must also be aware of what Six Sigma is and why it's being integrated into their workflow. Sometimes, conflicts can arise on that front that can make it difficult to proceed, and it's important to ensure that everyone is on the same page before making a major step forward.

The company will likely find that this is a good opportunity to discuss the current state of its company's operations as a whole, and if there are any issues on that front, now would be a good time for employees to bring them up.

Appropriate training on all levels

This brings us to the next important point it has to provide adequate training for everyone who will be required to use Six Sigma in their work from now on, and make sure that people actually follow up on that. Companies often waste huge opportunities in this regard, and if the company don't provide their workers with a chance to familiarize themselves with current Six Sigma trends, it will take a lot of time to bring them fully up to speed in the course of their work. It's not impossible, but it's much easier when it allocates some specific time for the training procedures.

Good data collection and analysis practices

Six Sigma relies heavily on the ability to collect and analyze data about its current work, and if they don't have good systems in place for that, they are going to suffer a lot in the long run. Sure, it's possible to implement Six Sigma into its workflow without paying too much attention to that aspect, but it will prove problematic once the company dig into the way it works. On the other hand, if the company make it a habit to plan ahead for data collection and analysis, this will benefit the company a lot in the long run, and it will make its operations significantly easier as a whole.

Integrating feedback

Last but not least, they are probably going to hear lots of opinions about the current state of affairs from its employees once the company has started to implement Six Sigma into the workflow, and it's important to take those seriously if the company want to ensure that things will normalize as quickly as possible. It's possible that the company might not have taken up the most ideal approach to the situation, in which case they are going to get lots of negative responses. On the other hand, if the volume of those comments is low enough, it may be safe to ignore them as it's very likely that the company is going to generate some negativity by simply trying to make a change one way or another.

1.2 STATEMENT OF THE PROBLEM

The major goal of the organisation is to achieve profit maximisation through providing quality goods in the competitive era. Achieving high rate of return and profitability is very difficult task in the industry. Hence the most possible solution would be to adopt Six Sigma. Moreover, after so many decades of successful implementation, Six Sigma has become synonymous to quality improvement in manufacturing. But still there are heart wrenching stories of unsuccessful implementation or failed implementation or at times short sustained success post implementation in manufacturing as well. The implementation failure results in a huge loss of effort, time and money. So it is high time that Six Sigma implementation in manufacturing be examined critically and its shortcomings must be identified and addressed such that its performance is enhanced effectively.

1.3 OBJECTIVES OF THE STUDY

Primary objective

- To study on impact of six sigma with special reference to AVA Cholayil Health Care Private Limited, Chennai

Secondary objectives

- To analyse the benefits of six sigma for employees in the company
- To understand the benefits of six sigma for organizational departments in the company
- To measure the benefits of six sigma for customers in the company
- To obtain suggestions from the respondents to enhance six sigma operation further.

1.4 SCOPE OF THE STUDY

- The scope of the study is confined to AVA Cholayil Health Care Private Limited, Chennai
- The aim of the study is to analyse the study on impact of six sigma in the company.
- The study was undertaken with the sample size of 150 only.
- The study will be helpful to the company to enhance its six sigma practices.
- The study throws lights on the effectiveness of six sigma practices on organization, employees and customers.

1.5 LIMITATIONS OF THE STUDY

- Due to the time constraint the study is made only with limited respondents.
- There is a chance of personal bias which affects the original data.
- As the research is done only in AVA Chodayil Health Care Private Limited, Chennai, it cannot be applicable for other company.
- Limited number of respondents has been chosen due to time constraint and this could affect the accuracy of result to certain extent.

1.6 INDUSTRY PROFILE

India's Soap Industry

The Soap Industry in India is comprised of about 700 companies, which generate a combined annual revenue of approximately \$17 billion US dollars. Soaps are distributed to all of India's major metropolitan cities, and an estimated 50% of the soaps that are produced in the country are sold in rural markets. The size of India's soap market is expected to grow at a moderate rate over the next few years.

The soap industry plays a key role in the economy of India. Though soaps were once products that were only used by the elite, today, the increase of disposable incomes throughout India has lead to an increase demand for soaps. The soap products that are produced in India are not only distributed and used by residents of the country, but they are also distributed and sold to various regions throughout the world.

Factors Fueling the Growth of India's Soap Industry

There are several factors that have fueled the growth of India's soap market, and that are expected to continue fueling the growth of this industry in the coming years. The major factor that has augmented this market is the increase in per capita income. As the income of residents throughout India and the rest of the world rises, so does the demand for soap.

As expendable incomes rise, people are more able to afford soap products, particularly specialty soaps that are intended to provide different results.

Another factor that is boosting the size of the soap market in India is the growing awareness of the importance of personal hygiene. Soaps are used to cleanse the skin, thereby removing the buildup of dead skin cells, bacteria and other elements that could have negative effects on personal hygiene, as well as personal health. As more people are becoming aware of the value of good personal hygiene, there is a higher demand for soap products.

An increase in the investments made by key vendors in India's soap market toward the research and development of higher quality and specialty soaps will also boost the size of industry over the next few years.

The development of higher quality and specialty products will lead to an increased interest in these products, and thus, an increased demand for them, which will positively impact the size of this market.

Top 20 Best Soap in India | Bathing Soap Brands

1. Dove Soap

Dove is an American-based, Unilever owned personal care brand. This soap sold in almost 150 countries and also manufactured in 23 countries. It is the very first company to launch a moisturizing soap with (1/4)th milk. This soap is useful for men, women and also for babies. But Dove soap is prevalent in women in India.

2. Hamam Soap

This soap brand manufactured in India. People of all ages can use this soap. It is rich in extracts of neem, basil and aloe vera.

3. Pears Soap

Pears soap was the first manufacture and sold in 1807 by Andrew Pears, and from 1917 this soaps is the manufacture and sold by Unilever in India. It is the first transparent soap among all other soap brands.

4. Biotique Soap

Biotique soap is manufacture by Indian based company, which is form by Vinita Jain in 1992. This soap is chemical-free and made from organic creams. Also, this soap made with natural ingredients. This soap clinically tested, which is safe for all skin types. Biotique is the best soap in India.

5. Fiama Di Wills Soap

Fiama Di Wills soap is manufacture by Indian based company which is ITC limited. This soap is very soft and has a great fragrance which lively throughout the day. Fiama di wills soap is a very famous soap brand in India.

6. Medimix Soap

Medimix soap is the manufacture and sold by Indian (Chennai) based company which is Cholayil Private Limited. Dr V.P. Sidhan was the founder of Medimix soap. Medimix soap prevalent for handmade herbal soap contains natural herbs that remedy skin problems. Medimix is most trusted organic anti-septic soap brand of India.

7. Nivea Soap

Nivea soap is a German personal care brand which manufactures by Hamburg-based company Beiersdorf Global AG, founded on 28 March 1882. Paul Carl Beiersdorf was the founder of Nivea soap company. This soap is very soft and has a great fragrance which lively throughout the day. This soap is a well-known soap brand in India.

8. Himalaya Soap

Himalaya Herbal Soap is an Indian brand. And also the best soap in India. They make health products with Ayurvedic ingredients. Himalaya Drug Company has Himalaya Herbal Brand. For the personal care range of products and soaps, they used natural ingredients like Neem, turmeric, almond, and rose.

9. Dettol Soap

Dettol soap is the most trusted brand among all other soap brands in the world. This soap manufactures by United Kingdom-based company Reckitt Benckiser in 1876. Dettol firstly used as antiseptic and disinfectant against infections and various problems. Chroloxylenol and α -Terpineol these are the main ingredients in Dettol soap which help us from many issues.

10. Lifebuoy Soap

Lifebuoy soap which manufactures by United Kingdom-based company Unilever founded in 1895. Lever Brothers were the founder of Lifebouy soap company. Lifebuoy is the best soap in India. Lifebuoy soap contains goof TFM which is useful for cleaning and nourishing the skin.

11. Cinthol Soap

Cinthol soap was manufactured by Indian-based company Godrej Consumer Products Limited (GCPL) in 1952. Cithonl soap does not have any alcohol properties. So it is very safe to use for all skin types. Cnithol soap is 100% antibacterial soap and made from 100% vegetable oil extracts.

12. Lux Soap

United Kingdom-based company Unilever manufactured lux soap. This soap brand founded in 1899. Lever Brothers were the founder of Lux soap. Originally this soap was founded by the name as "Sunlight Flakes", but in 1900 it was named as Lux. The ingredients which use to made Lux soap are animal fat, coconut oil, water, vegetable glycerin, and natural fragrance. Lux soap is the best soap in India.

13. Santoor Soap

Santoor soap is manufacture by WIPRO (Western India Vegetable Products Limited) company. This soap was invented in the year 1985 by the owner of WIPRO Mohammad Premji. Sandalwood and turmeric are the main ingredients of Santoor soap which gives us a lot of benefit for our skin issues.

14. Godrej No1 Soap

Godrej No.1 soap which manufacture by Indian-based company Godrej Consumer Products Limited (GCPL).. This soap is manufacture by natural ingredients that help our skin naturally beautiful.

15. Venus Soap

Venus soap is a premium soap brand in India, which also manufacture in India by RSPL group. Venus soap is not an ordinary soap made from natural cream, and because of that, we get smooth and silky skin.

16. Ponds Soap

Ponds soap is an excellent option for those who do exercise and sports activities. It helps to remove sweat, oil, and dirt from the face and keep your skin clean and fresh.

17. Patanjali Soap

Patanjali Soap is one of the most successful brands in India. It is the fastest growing FMCG company in India. Patanjali bath soap contains Ayurvedic ingredients. Such as turmeric, neem, Multani soil, sandalwood. Its is one of the best soap in India.

18. Johnson Baby Soap

As the name suggests, this soap is for newborns. This soap is safe because it comes with Triple Baby Protection, 1/4th Baby Lotion, and Vitamin E.

19. Liril Soap

Liril is prevalent soap brand in India, was re-launched as Liril 2000 with Tea Tree Oil by Hindustan Unilever. This soap brand is now promoted in India by, Preity Zinta.

20. Vivel Soap

There are still some popular soaps available in the indian market like skye soap by tata, Wild Stone Soap, NoMarks Soap, Jasmin Soap, Chandrika Soap, etc.

1.7 COMPANY PROFILE

AVA Cholleyil Health Care Private Limited

AVA Cholleyil Health Care Private Limited, is the FMCG wing under the AVA Group which is primarily engaged in the manufacture of South India's Largest HAND MADE Ayurvedic Soap "MEDIMIX" and its Products. The Company's main focus is on Personal Care, Health Care and wellness.

AVA Cholleyil Health Care, which sells 15 crore Medimix brand of soaps annually in south India (two third-party units supply the balance five crore soap bars), is the largest handmade soap maker in the country, and probably globally. The company has recently applied for listing in the Limca Book of Records. Its revenue for 2021/22 stood at Rs 400 crore and it has a four per cent market share in south India.

AVA Group

AVA Group is a diversified conglomerate with interests in Personal care, Natural Food, Natural Cosmetics, Alternative Wellness, Film Production, E-Commerce and Organic Farming. Over the last many decades, the group has established itself as a leader in each of the sectors it operates in.

Founder

AVA Healthcare is promoted by Dr. A.V. Anoop, who has over 36 years of experience in Soap, Pharmaceutical, Cosmetics and Food Industry. Under his stewardship the company has grown by leaps and bounds : Medimix today is the World's largest selling Ayurvedic Handmade Soap and Sanjeevanam is well known for its Ayurvedic treatments and healthy food. Recently, new brands have been launched which continue the company's tradition of drawing innovative solutions from the age-old practices of Ayurveda. Dr. A.V Anoop wears more than one hat; he is also a Film Producer, Social Worker, and Actor..

AVA Group of Companies

1. AVA Cholayil Health Care Pvt. Ltd

AVA Group has established two entities for its FMCG operations. The flag ship company is a manufacturing entity that manufactures Soaps, & Hand Wash with 6 factories located in Tamilnadu, Pondicherry & Karnataka. The other entity is the Research & Development wing approved by the Ministry of Science & Technology, Govt. of India.

2. AVA Products & Services

The Sales & Marketing wing of the AVA group promotes brand Medimix and its range of products through CFAs & Distribution channel network across South Indian markets.

3. AVA Condiments Pvt Ltd

As a strategic investment on diversification into food industry, AVA group recently acquired Kerala based brand “Melam” which is into Spices, Masalas, Instant Breakfast, Pickles and Desserts thus enabling it to expand the scope of its distribution nationally and internationally while deploying its scale to realise cost efficiencies in its corporate operations.

4. AVA Naturals Pvt Ltd

Kaytra is the Sutra (manual) of good skin (Kaya) and good hair (Kesha). The AVA group, with over 50 years experience and expertise in the traditional science of Ayurveda has launched these herbal hair care and skin care products under the brand name Kaytra. You will feel the gentle caress of nature in every Kaytra product, as each well-researched product is made from traditional herbs and flowers, known to heal and beautify for centuries.

Kaytra, comes to you from the makers of Medimix Soap, a household name today when it comes to natural care for the skin and brings the closely guarded secrets of special herbs and flowers to you, so that you can get salon like treatment...right at home

5. AVA Gulf FZCO

A newly formed company in the group to cater to global operations based out of Dubai, UAE. This would allow brands to reach international markets apart from the current serviceable countries Oman, Saudi Arabia, Qatar, Bahrain, Kuwait, UK, UAE and Australia.

6. AVA Productions

The Production Company was conceived with a passion towards art. The journey which started in the year 2007 has witnessed the release of documentary, short films and films. AVA Productions has steadily established itself and looks ahead to carving a niche in the global film market with the release of English movies.

Many accolades have been received for the films produced under the banner with participation in various International and National film Festivals including Festival De Cannes. Notable among the various achievements are National Film Award, Kerala State Film Award, Guinness record for the fastest movie ever produced, Limca Book of Records, Asian Book of Records etc.

AVA Brands

1. Medimix

Launched in 1969, Medimix is the flagship brand of the AVA Group. The soap is hand-made and has a unique 18 herbs Ayurvedic formulation. Over the years Medimix has become one of the most recognized and trusted brands of India, in a survey conducted by Economic Times in 2013, it was voted 13th on the list of Personal Care brands and 56th on the list of 'Most Trusted Brands of India'.

Medimix Products

- Soaps
- Shampoo
- Hand Wash
- Hand Sanitizer

2. Melam

Brand Melam has been a house hold favourite for decades. Its recent takeover by the diversified AVA group has added further strength to this brand and is sure to delight the consumers. Over the years Melam has carved a respected name for itself owing to its quality products and authentic recipes. AVA group has intensified these efforts along with the set up of modern plant, strict QC norms and checks and by going deep in to the roots of Kerala to get authentic and some possibly forgotten recipes.

AVA group is known for its quality products under the Brand name Medimix and Sanjeevanam, and has a very strong marketing and distribution muscle to reach the products at arm's length to the consumer. This marketing muscle is now backing Melam brand to reach its wide range of products to the consumers not only in Kerala but across the globe.

Melam Products

- Chicken Masala
- Mutton Masala
- Meat Masala
- Fish Fry Masala
- Tandoori Masala
- Egg Curry / Roast Masala
- Fish Masala
- Garam Masala
- Vegetable Masala
- Varutharacha Kozhi Curry
- Kadala Curry
- Meen Vattichathu
- Naadan Rasam
- Alappuzha Meen Curry
- Kozhi Peralan

3. Kaytra

This Kaytra hair oil unique blend of 5 oils, infused with 8 herbs, helps improve blood circulation, to the scalp, thereby strengthening , and nourishing the roots and hair. I call it liquid gold.

- Aytra Shampoo For Frizzy Hair
- Kaytra Revitalizing Hair Cream
- Kaytra Hair Oil
- Kaytra Hair Pack

4. Sanjeevanam

Sanjeevanam is a holistic health centre where you will find a confluence of natural solutions for all health issues. A complete health package of treatment, beauty, diet and food have been specially formulated in the four divisions: Ayurvedic Therapy centre, Natural Beauty Centre, Vegetarian Restaurant and Nature Store.

Good Health is ensured naturally through proper Ayurvedic treatment, beautified through our Beauty Centre, replenished through our Restaurant and complemented by our Nature Store. The Sanjeevanam Concept has been born out of a wealth of understanding of natural living and healing using only natural solutions. The main idea is to rejuvenate the body physically, mentally and spiritually for better living.

5. Divine

Divine was launched with an aim to develop as a brand focused on beauty products with natural and herbal ingredients alone. Through Divine, the company aims at promoting a healthy approach to achieving and maintaining and beauty. With this in mind, the company launched Divine Turmeric and Sandal as the first of many products to follow, that embodies this philosophy.

- Divine Turmeric and Sandal Soap
- Divine Clear Glycerine- Deep Hydration
- Divine Clear Glycerine- Oil Balance Soap

- Divine Clear Glycerine- Natural Toning Soap
- Divine Sandal Soap
- Divine Transparent Soap

International Business

With an experience of over 50 years in the field of traditional ayurvedic science, AVA envision to expand its business into the international market. Major brands born from the house of AVA includes Kaytra, Divine and Melam.

Recreating the authentic taste of home made Indian food since its inception, Melam has earned a place of its own in the global market.

Melam has its roots strengthened in many parts across the world such as Korea, Thailand, U. S, England, France, Australia, Spain and many more.

Melam excites its consumers through a lot of products ranging from popular Indian masalas to traditional sweets and pickles.

Kaytra is another brand from the house of AVA that has gone international. Being a unique formulation of natural herbs, Kaytra products are a trusted solution to any and every one of your hairproblems.

Divine soaps are another among the few globally acknowledged skin care products. The brand has a range of products, tested and perfected for each skin type.

CHAPTER 2

REVIEW OF LITERATURE

Iyede, R., Fallon, E.F. and Donnellan, P. (2018), The purpose of this paper is to explore the extent of Lean Six Sigma (LSS) implementation within manufacturing companies in the West of Ireland. It examines the key success and failure factors, benefits and quality tools influencing LSS projects deployment. The study adopted a mixed research method (quantitative and qualitative approach).

Research data were collected through a structured survey questionnaire to the target population followed by interview case studies with four manufacturing companies to gather additional insight. The targeted respondents were manufacturing engineers, quality engineers, process improvement managers, operations managers, R&D engineers, LSS experts and validation engineers. LSS initiatives are still relatively unknown to many SMEs organisations, whereas large companies have adopted LSS for some time.

Top management commitment, understanding the LSS methodology, tools and techniques, integrating LSS to business strategy, organisational cultural change and training and education were the topmost key success factors. Organisational strategy, lack of top management support, expensive cost for LSS projects, unclear prioritisation of LSS projects and cost effectiveness were the most important failure factors influencing LSS implementation.

Iyede, R., Fallon, E.F. and Donnellan, P. (2018), "An exploration of the extent of Lean Six Sigma implementation in the West of Ireland", *International Journal of Lean Six Sigma*, Vol. 9 No. 3, pp. 444-462. <https://doi.org/10.1108/IJLSS-02-2017-0018>

F. Javier Llore'Ns-Montes & Luis M. Molina (2018), In this paper an analysis is made of the relation between the general and specific topics of management and the Six Sigma approach. This study has led us to suggest that there is a great deal of similarity in the prescriptions of Six Sigma and management theory.

Furthermore, we analyze various processes and practices of Six Sigma that help towards an improvement in organizational effectiveness. The conclusion that can be drawn from this research is that, in order to reach its goals, the implementation of a Six Sigma program needs to change the way in which employees behave at work.

Six Sigma must alter how people actually behave at work and, to this end, various behavioral and work processes are key to achieving these aspirations. Implications are discussed with regard to performance management processes in organizations.

F. Javier Llore'Ns-Montes & Luis M. Molina (2018) "Six Sigma and Management Theory: Processes, Content and Effectiveness" Total Quality Management Vol. 17, No. 4, PP.485 –506.

Mahmoud Dehghan Nayeri¹ and Malihe Rostami (2018), This paper aims to discuss the effectiveness of Six Sigma through balanced scorecard in banking industry. Six Sigma is a powerful analytical technique which yields a dramatic reduction in defects, errors, or mistakes in production and service processes.

So it can be useful to find defectives in financial institutions and banks while it can accompany with BSC to approach all organization aspects. Reaching this aim, this paper tries to survey the effectiveness of Six Sigma through balanced scorecard aspects in one of Iranian pioneer banks in deploying aforementioned methodologies.

Respondents have been extracted among bank experts with various backgrounds who experienced both techniques in practice for at least four continuous years. Findings depict that customer aspect is the most appropriate aspect for implementing Six Sigma, while Learning; Financial and Internal process aspects are less suitable respectively. It is fruitful to declare that all BSC aspects are prone to use the advantages of Six Sigma in practice according to respondent's points of view.

Mahmoud Dehghan Nayeri¹ and Malihe Rostami (2018) "Effectiveness Of Six Sigma Methodology Through Bsc In Banking Industry" Journal of Asian Business Strategy, Vol. 6, No. 1, pp.13-21.

Rodney McAdam & Alison Evans (2018), The purpose of this study is to examine the principles and practice used in the implementation and operation of Six Sigma. It critically evaluates the application of Six Sigma in two sites and at four levels within a case organization. Both qualitative and quantitative research data are used for an investigation of Six Sigma implementation and deployment.

Qualitative data took the form of in depth interviews with key Six Sigma senior management personnel in both plants. The quantitative data were obtained from questionnaires distributed to four levels and two sites in the organization.

Rodney McAdam & Alison Evans (2018) "Challenges to Six Sigma in a High Technology Mass-manufacturing Environments" Total Quality Management & Business Excellence, Volume 15, Issue 5-6, Pages.699-706.

Hudnurkar, M., Ambekar, S. and Bhattacharya, S. (2019), The purpose of this paper is to understand the deficiencies in Six Sigma project capability and empirically validating its impact on project success. Deficiencies are identified from literature focusing on Six Sigma challenges or barriers. The study used a survey approach by circulating questionnaires to 400 Six Sigma professionals from 40 multinational organisations.

The conceptual model is composed of 16 items measuring five constructs for hypothesis testing. Furthermore, structural equation modelling was used to identify the relationship between Six Sigma project capability deficiency and project success. The findings of the study suggest that inadequate top management support, inadequate resources and change management and inadequate quality maturity form Six Sigma project capability deficiency and affect project success.

The study uses resource-based view to understand the deficiencies in Six Sigma project capability and their impact on project success. The study confirms that organisational capabilities in implementing Six Sigma affect the success of the projects.

Hudnurkar, M., Ambekar, S. and Bhattacharya, S. (2019), "Empirical analysis of Six Sigma project capability deficiency and its impact on project success", The TQM Journal, Vol. 31 No. 3, pp. 340-358. <https://doi.org/10.1108/TQM-06-2010078>

Moya, C.A., Galvez, D., Muller, L. and Camargo, M. (2019), The purpose of this paper is to propose an assessment approach to evaluate the organizational capabilities to deploy a Lean Six Sigma (LSS) strategy. Based on a comprehensive literature review, critical success factors required to deploy LSS were defined.

These key factors are evaluated by a questionnaire based on maturity grids and structured as a multi-criteria model to compute a potential LSS performance indicator. This approach is illustrated through two case studies. To promote a successful implementation of LSS in SMEs, it is necessary to consider five main critical factors.

The evaluation of these factors could be achieved thanks to a multi-criterion-based maturity indicator for the LSS implementation. The case studies show that this approach allows SMEs to understand their strengths and weaknesses and thus better prepare the implementation of LSS.

Moya, C.A., Galvez, D., Muller, L. and Camargo, M. (2019), "A new framework to support Lean Six Sigma deployment in SMEs", International Journal of Lean Six Sigma, Vol. 10 No. 1, pp. 58-80. <https://doi.org/10.1108/IJLSS-01-2018-0001>

Jiju Antony, Frenie Jiju Antony and Maneesh Kumar (2019), The purpose of this paper is to present a review of the literature on six sigma as applied to the service industry, followed by a presentation of the key findings obtained from a pilot survey carried out in UK service organisations.

This paper presents some of the most common challenges, difficulties, common myths, and implementation issues in the application of six sigma in service industry settings. It also discusses the benefits of six sigma in service organisations, tools and techniques of six sigma for service performance improvement, key criteria for the selection of winning projects, followed by the results of a six sigma pilot survey in UK service organisations. The results of the study show that the majority of service organisations in the UK have been engaged in a six sigma initiative for just over three years.

The average sigma quality level of the companies was around 2.8 (approximately 98,000 DPMO). Management commitment and involvement, customer

focus, linking six sigma to business strategy, organisational infrastructure, project management skills, and understanding of the six sigma methodology are the most critical factors for the successful introduction, development and deployment of six sigma.

Jiju Antony, Frenie Jiju Antony and Maneesh Kumar (2019), “Six sigma in service organisations Benefits, challenges and difficulties, common myths, empirical observations and success factors” Centre for Research in Six Sigma and Process Improvement, Vol. 24 No. 3, pp. 294-311.

Behnam Nakhai, Joao S. Neves (2019), The purpose of this paper is to critically evaluate the contributions of six sigma methodology to the improvement of service quality. Since its development in the late 1980s, six sigma has been extensively applied in manufacturing and quasi-manufacturing settings.

This study aims to explore the challenges of six sigma in reaching a much wider field of application. Utilizing the service quality framework, the authors assess the contributions of six sigma and explore its limitations when applied to services. This research focuses on highlighting gaps in the six sigma as applied to services; further work is necessary to identify and develop new methods and to study their effectiveness.

The relentless drive toward adopting six sigma to services has led both to a limited field of applications and to unrealistic expectations as to what six sigma is truly capable of achieving, particularly in knowledge-based environments.

Behnam Nakhai, Joao S. Neves (2019), “The challenges of six sigma in improving service quality” International Journal of Quality & Reliability Management Vol. 26 No. 7, pp. 663-684.

R. Nat Natarajan and Jason Morse (2019), In recent years, many organisations have used Six Sigma for process improvement. The success stories of Six Sigma applications are usually that of large organisations like General Electric and many of these successful applications have been in manufacturing.

However, service processes and smaller organisations pose a different set of challenges in implementing Six Sigma. Such processes and organisations can take advantage of opportunities provided by information technology (IT), which can be a powerful enabler. The paper addresses those challenges and opportunities in the context of an actual application of Six Sigma principles to a core service process in a mid-sized organisation.

R. Nat Natarajan and Jason Morse (2019), “Six Sigma in services – challenges and opportunities” International Journal of Productivity and Quality Management, Vol. 4, No. pp.5-6.

Adan Valles, Jaime sanchez, Salvador Noriega and Berenice Gomez Nunez (2019), This paper presents a Six Sigma project conducted at a semiconductor company dedicated to the manufacture of circuit cartridges for inkjet printers. They are tested electrically in the final stage of the process measuring electrical characteristics to accept or reject them. Electrical failures accounted for about 50% of all defects.

Therefore, it is crucial to establish the main problems, causes and actions to reduce the level of defects. With the implementation of Six Sigma, it was possible to determine the key factors, identify the optimum levels or tolerances and improvement opportunities. The major factors that were found through a design of experiments 3 factors and 2 levels were: abrasive pressure (90(95 psi), height of the tool (0.06(0.05) and cycle time (7000(8000 msec.).

The improvement was a reduction in the electrical failures of around 50%. The results showed that with proper application of this methodology, and support for the team and staff of the organization, a positive impact on the quality and other features critical to customer satisfaction can be achieved.

Adan Valles, Jaime sanchez, Salvador Noriega and Berenice Gomez Nunez (2019), “Implementation of six sigma in a Manufacturing process: A case Study” International journal of industrial engineering, vol.16, issue.3, pp.171-181.

Erick C. Jones, Mahour Mellat Parast and Stephanie G. Adams (2020), In this paper, we introduce a framework for implementing Six Sigma. We utilise the PDCA cycle (Plan-Do-Check-Act) to operationalise Six Sigma implementation. By defining

Six Sigma as projects aimed at achieving specific goals, we address the importance of executive commitment and the role of Black Belts in effective implementation of Six Sigma projects. In addition we link implementation of Six Sigma with quality management and the PDCA cycle. Several propositions have been developed and key areas of research have been identified.

Erick C. Jones, Mahour Mellat Parast and Stephanie G. Adams (2020), “A framework for effective Six Sigma implementation” Total Quality Management & Business Excellence, Volume 21, Issue 4, Pages 415-424.

Vinod G. Surange (2020), This paper considers cost of poor quality as the loss imparted to society from the time the product is shipped, and deals with the applications and benefits of Six Sigma methodology and its positive impact on cost of poor quality. A case study is presented, which enabled application of six sigma methodology in wider range of manufacturing activities.

This paper is of value to the researcher in the field of quality management, as well as professionals in the manufacturing industry, wherever the quality improvement is an issue. Quality costs or Cost of Quality is a means to quantify the total cost of qualityrelated efforts and deficiencies (Banuelas and Antony, TQM Mag 14:92, 2002).

The “cost of quality” is not the price of creating a quality product or service. It is the cost of NOT creating a quality product or service. Quality Costs represent the difference between the actual cost of a product or service and what the reduced cost would be if there was no possibility of substandard service, failure of products, or defects in their manufacture.

Vinod G. Surange (2020), “Implementation of Six Sigma to Reduce Cost of Quality: A Case Study of Automobile Sector” TECHNICAL ARTICLE, Vol.15, pp. 282–294.

Antony, J., Douglas, A. and Jiju Antony, F. (2020), The purpose of this research is to evaluate essential characteristics of Six Sigma Black Belts (SSBBs) in UK manufacturing organisations. Six Sigma Black Belt(s) are considered as high potential employees who work full-time as a leader of process and quality improvement projects after extensive training. A pilot survey was undertaken to assess

the key attributes of SSBBs. The results of this study are primarily based on descriptive statistics. The key attributes of SSBBs identified from this pilot study include: effective communicators, change agents, customer advocates, team builders, results-driven mindset personnel, positive thinkers, etc. The findings of this study will be extremely beneficial in designing the curriculum of SSBBs citing the key attributes required for a typical SSBB to be successful.

The study was primarily focused on manufacturing companies in the UK. The next phase of the study will be to compare the SSBB characteristics between manufacturing and service organisations. One of the authors will also be executing semi-structured interviews with SSBBs in various manufacturing and service companies to obtain a greater understanding of the essential attributes or characteristics that SSBBs in manufacturing and service companies must possess.

Antony, J., Douglas, A. and Jiju Antony, F. (2020), "Determining the essential characteristics of Six Sigma Black Belts: Results from a pilot study in UK manufacturing companies", The TQM Magazine, Vol. 19 No. 3, pp. 274-281.

Kumar, M. and Madu, C.N. (2021), Six sigma for small- and medium-sized enterprises (SMEs) is an emerging topic among many academics and six sigma practitioners over the last two to three years. Very few studies have been reported about the successful applications of six sigma in SMEs. The purpose of this paper is to provide an analysis of six sigma implementation in UK manufacturing SMEs.

This paper presents an extensive literature review based on the experiences of both academics and practitioners on six sigma within an SME environment. The paper highlights the strengths and weaknesses associated with SMEs, followed by the results of a six sigma survey in UK manufacturing SMEs. The results of the study are based primarily on descriptive statistics. The results of the study show that many of the SMEs are not aware of six sigma and many do not have the resources to implement six sigma projects.

It was also found that lean sigma was not generally popular among SMEs. Management involvement and participation, linking six sigma to customers and linking six sigma to business strategy are the most critical factors for the successful deployment of six sigma in SMEs.

Kumar, M. and Madu, C.N. (2021), "Six sigma in small- and medium-sized UK manufacturing enterprises: Some empirical observations", *International Journal of Quality & Reliability Management*, Vol. 22 No. 8, pp. 860-874.

Banuelas, R., Tennant, C., Tuersley, I. and Tang, S. (2021), The literature suggests that a key ingredient for the successful six sigma implementation is project prioritisation and selection. The purpose of this paper is to identify what criteria are considered for selecting six sigma projects and how six sigma projects are selected in organisations in the UK.

Using a survey as a method of investigation, respondents were asked what criteria are considered to select projects and how potential projects are identified, prioritised, selected and evaluated. The results of the survey indicate that UK organisations tend to select projects based on criteria such as customer satisfaction, financial benefits, top management commitment and those projects integrated with the company's strategy.

Several tools and techniques such as cost benefit analysis, cause and effect matrix, brainstorming, Pareto analysis are employed to identify and prioritise projects. This paper is limited to the selection of six sigma in the UK. Further, empirical studies using larger sample sizes and greater geographical diversity may be helpful in validating the results of this study.

Banuelas, R., Tennant, C., Tuersley, I. and Tang, S. (2021), "Selection of six sigma projects in the UK", *The TQM Magazine*, Vol. 18 No. 5, pp. 514-527.

Andrea Chiarini , Cherrafi Anass (2022)The current market is characterised by a high level of customisation, leading to aggressive competition between companies to respond to customer needs. To keep their competitiveness, companies search continually to improve their efficiency, flexibility, and performance. With the advent of Industry 4.0 (I4.0), new technologies are developed to increase connectivity and automate processes.

Lean Six Sigma (LSS) is known for its capacity to solve complex problems using statistical methods. I4.0 affects almost everything including LSS. Thus, a new combination is emerging LSS4.0 aiming at further increasing the operational

excellence for companies. Therefore, the aim of this paper, as the first scoping review in this field, is to present the results of existing studies on the LSS and I4.0 integration, find the gaps in the literature, and provide directions for future studies. The paper proposes a framework that categorises the findings into three main discussed directions, which are relationship, implementation, and impact on performance.

Andrea Chiarini , Cherrafi Anass (2022), “Lean Six Sigma and Industry 4.0 combination: scoping review and perspectives”, Total Quality Management & Business Excellence 34(7):1-30.

Can Bicer (2022), This conceptual study initially provides a framework for lean Six Sigma principles in organizations. The research objective of this study is to present the mainlines of lean Six Sigma and to comprehend the perspective of organizational theories and applications of lean Six Sigma (LSS). The pursuit of excellence, LSS, aims to eliminate waste while improving the quality of organizational processes.

However, the margin between good times and bad times can usually be thin for the organizations. While the coronavirus pandemic enters its third year and thanks to record-high inflation rates throughout the world, organizations are feeling the sharp price hikes of necessities including transport, energy, and utilities that reducing profits.

So, as LSS focuses mainly on removing waste and decreasing the defects and variations in an organization's processes and aims at increasing customer satisfaction productivity, and quality, organizations that employ LSS principles in their operations will be more ready to react to unforeseen events or conditions which may jeopardize organizational structure and outcomes.

In sum, this study aims to draw a framework on LSS and its key effects on organizations and to uncover a detailed review of LSS thinking and the opportunities and barriers to implementation of LSS in organizations.

Can Bicer (2022), “Applying lean six sigma principles in organizations: The opportunities and barriers”, Business, Management and Reserach Journals, 5(2), pp.62-75.

Bhat, S., Antony, J., E.V., G., Koul, R., Cudney, E.A. and Chakraborty, A. (2022), The paper presents the results of a pilot survey on the CFFs of DFSS in Indian companies. The survey participants were specialists in DFSS who have been involved in DFSS projects in their past and present companies. Moreover, the pilot study participants were DFSS Champions, Master Black Belts, Black Belts and Green Belts from the manufacturing and service sectors.

While Six Sigma (SS) has been deployed effectively in Indian manufacturing and service sectors as a process improvement methodology, the implementation of Design for Six Sigma (DFSS) for robust product and service development has not shown noticeable results. Therefore, this article aims to determine the critical failure factors (CFFs) of DFSS in the Indian context. Company-wide applications of DFSS are very limited in India.

It found that most of the DFSS project failures are reported in the Analyse phase of the project. The results indicated that all 18 CFFs used in the survey have a significant impact on project failures. Also, it was determined that all CFFs are positively correlated with each other. Further, a strong correlation was observed between the voice of the customer (VOC) and project selection and prioritisation. In addition, effective training showed a strong correlation with the right selection of tools.

Bhat, S., Antony, J., E.V., G., Koul, R., Cudney, E.A. and Chakraborty, A. (2022), "A study on critical failure factors of Design for Six Sigma in Indian companies: results from a pilot survey", The TQM Journal, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/TQM-03-2022-0103>

Robaaiy, M. S. D. A., Al-Husseini, A. S. S., & Alghazali, M. H. (2022). This study aims to enable measuring performance and its quality and seeks to improve performance, is that the research problem emerged in the emergence of poor results for patients' blood test cases due to delayed results of the analysis. This study adopted the deductive approach by relying on sources and references related to the literature of the topic directly, to benefit from them in enriching the theoretical aspect of the research.

The inductive approach through the application of the applied analytical aspect, where the financial data for the year 2021 was obtained through financial accounts,

production reports, inventory cards, quality reports, observations, and personal interviews, study sample at the Hussein Teaching Hospital's blood laboratory in the service sector represented by the Lean Six Sigma methodology.

The blood laboratory at Al-Hussein Teaching Hospital did not rely on modern quality systems, including the agile Six Sigma methodology. There is a lot of wastage and loss in the specified standard time, which causes a lot of delay in the time of analysis, and this indicates the discrepancy and decentralization of the process.

The laboratory testing equipment breaks down many times because of its old age (these devices were obtained from the Japanese grant during the year 2003), and this causes two or three re-examinations, which drains additional time. As well, the small area of the laboratory compared to the number of visitors.

Robaaiy, M. S. D. A., Al-Husseini, A. S. S., & Alghazali, M. H. (2022). Appling the Lean Six Sigma Methodology in of the CostManagement & Continuous Improvement of Performance (Applied Research in the Blood Laboratory of the Hussein Teaching Hospital). International Journal of Professional Business Review, 7(4), e0756. <https://doi.org/10.26668/businessreview/2022.v7i4.e756>

Bicer, C. (2022). This conceptual study initially provides a framework for lean Six Sigma principles in organizations. The research objective of this study is to present the mainlines of lean Six Sigma and to comprehend the perspective of organizational theories and applications of lean Six Sigma (LSS). The pursuit of excellence, LSS, aims to eliminate waste while improving the quality of organizational processes.

However, the margin between good times and bad times can usually be thin for the organizations. While the coronavirus pandemic enters its third year and thanks to record-high inflation rates throughout the world, organizations are feeling the sharp price hikes of necessities including transport, energy, and utilities that reducing profits. So, as LSS focuses mainly on removing waste and decreasing the defects and variations in an organization's processes and aims at increasing customer satisfaction productivity, and quality, organizations that employ LSS principles in their operations will be more ready to react to unforeseen events or conditions which may jeopardize organizational structure and outcomes.

In sum, this study aims to draw a framework on LSS and its key effects on organizations and to uncover a detailed review of LSS thinking and the opportunities and barriers to implementation of LSS in organizations.

Biçer, C. (2022). Applying lean six sigma principles in organizations: The opportunities and barriers . Business Economics and Management Research Journal,5(2),62-73. <https://dergipark.org.tr/en/pub/bemarej/issue/71383/1092586>

Jadhav S, Imran A, Haque M. (2022). COVID-19 has posed many unique and critical challenges in various contexts and circumstances. This often led the stakeholders and decision-makers to depart from traditional thinking and the business-as-usual processes and to come up with innovative approaches to tackle various mission-critical situations within a short time frame. In this paper, a real-life case study of COVID-19 operation management following a multi-disciplinary, multi-stakeholder novel integrated approach in aged care facilities in Victoria, Australia, is presented which yielded significant and positive outcomes.

The purpose of the intervention was to develop an integrated system performance approach through the application of various quality management tools and techniques to achieve organizational excellence at the aged care centers. The case involved the use of mathematical models along with statistical tools and techniques to address the specific problem scenario. A system-wide management plan was proposed, involving various agencies across several residential aged care facilities during the pandemic.

A three-step methodological framework was developed, where Six Sigma, a system thinking approach, and a holistic metric were proposed to manage the value chain of the pandemic management system. The experimental result analyses showed significant improvement in the management process, suggesting the validity and potential of this holistic approach to stabilize the situation and subsequently set the conditions for operations excellence within the sectors.

The model offers new insight into the existing body of knowledge and offers an efficient approach to achieving operational excellence in any organization or business regardless of its type, shape and complexity, which can help practitioners in managing complex, mission-critical situations like a pandemic.

Jadhav S, Imran A, Haque M. (2022). Application of six sigma and the system thinking approach in COVID-19 operation management: a case study of the victorian aged care response centre (VACRC) in Australia. Oper Manag Res. Oct 7:1–23. doi: 10.1007/s12063-022-00323-2. Epub ahead of print. PMCID: PMC9546421.

Madhani, P. M. (2022). Human resource (HR) is the backbone of an organization and hence, there is need to build its underlying capabilities for effective service delivery. Six Sigma aims at improving the effectiveness of processes by collecting data and then using advanced statistical analysis tools to solve the problems.

Six Sigma deployment in HR provides consistency in operations and leads to quality excellence by providing better services at lower costs. Six Sigma approach adds more science to the art of HR, which is used to measuring outcomes it can control, rather than those it can influence. Six Sigma deployment in HR transforms typical HR practices with a proactive approach and leads to better, faster and more cost-effective services; improve internal customer satisfaction and greater motivation and job satisfaction of employees.

Madhani, P. M. (2022). Strategic Human Resource: Enhancing Performance With Six Sigma Approach. Compensation & Benefits Review, 54(2), 51–73. <https://doi.org/10.1177/08863687211045141>

Anand S. Patel and Dr. Kaushik M. Patel (2022). Lean Six Sigma has emerged as a business improvement strategy worldwide, emerged from the merger of Lean philosophy and Six Sigma methodology. The literature revealed many success stories of Lean Six Sigma deployment in diverse sectors but also indicated numerous failures at different stages of deployments. Therefore, this paper mainly focuses on exploring the failure factors of Lean Six Sigma deployment and examines the most influencing failure factors of Lean Six Sigma deployment. The study's outcome

underlines the eight impactful failure factors of Lean Six Sigma deployment using the Pareto analysis of twenty-eight failure factors.

The literature. The study revealed the impactful failure factors as lack of top management commitment and involvement, lack of synergy of LSS and business strategy, lack of awareness on LSS, resistance related to culture change, lack of availability of resources, and lack of training and education, lack of visionary leadership, and lack of financial resources. Understanding these failure factors of Lean Six Sigma deployment may help the professionals avoid failures.

Anand S. Patel and Dr. Kaushik M. Patel (2022). Ranking the Important Failure Factors of Lean Six Sigma Deployment through Pareto Analysis, Proceedings of the 2nd Indian International Conference on Industrial Engineering and Operations Management Warangal, Telangana, India, August 16-18, 2022

Anastasia Efimova, Petr Bris (2022). As advanced technologies are becoming a natural part of the industrial environment, the influence of these technologies on organizational practices is becoming more expanding. In this paper, an attempt was made to understand the conjunction of Lean Six Sigma and Industry 4.0. The study was conducted in the Czech Republic and qualitative data was gathered from 10 companies.

The information on the benefits, weaknesses and challenges of the conjunction was summarized. For the research purposes literature review and qualitative analysis were performed. It was found out that, although the conjunction is connected with challenges, the perspectives are beneficial for industrial companies.

The data generated also allowed to introduce the readiness assessment model for the implementation of the conjunction based on 4 categories: technological, managerial, financial and human. This information could be used for theoretical and practical purposes for the creation of a successful Lean Six Sigma pattern in Industry 4.0

Anastasia Efimova, Petr Bris (2022). The Implementation Of The Conjunction Of Lean Six Sigma And Industry 4.0: A Case Study In The Czech Republic, Management Systems In Production Engineering, Volume 30, Issue 3,223-229.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 RESEARCH METHODOLOGY

Research is common parlance refers to a search for knowledge. One can also define as a scientific and systematic, search for certain information on a specific topic in fact research is an alt of scientific investigation. Some people consider research as movements from known to unknown.

According to Clifford woody research comprises defining and redefining problems, formulating hypothesis, suggested solutions, collecting, organizing and at last carefully testing the conclusions to determine whether they fit the formulating hypothesis.

The research methodology adopted for the present study has been systematic and was done in accordance to the objectives set, which has been discussed in the earlier pages. Research methodology is the way to systematically research to solve the problem.

3.2 RESEARCH DESIGN

Descriptive research design method has been used in this study. Where the researcher can report what has happened without having control over the variables. Research design is the arrangement of condition for collection and analysis of data in a manner that aim to combine research purpose with economy in procedure. It is the conceptual structure within which research is conducted.

Research design is the conceptual structure within which, research is conducted. Research design is a plan that specifies the sources and types of information relevant to the research problem. Sampling design deals with the method of selecting item to be observed for the given study.

A research design is an arrangement of conditions for collection and analysis of data in a manner that aims to combine with relevance to the research purpose with economy in procedure.

There are three reasons to conduct a descriptive study.

- To help in planning resource allocations.
- To identify areas for further research.
- To provide informal diagnostic information.
- General, in a descriptive study, the emphasis is on estimation rather than testing, some of the quantities we want to estimate are.
- The prevailing work environment and work culture.
- Attitudes and perceptions of workers about the environment and work culture.

Type of Research

Here Descriptive research has been used for this study. Descriptive research aims to accurately and systematically describe a population, situation or phenomenon. It can answer what, where, when and how questions, but not why questions.

DATA COLLECTION METHODS

The main sources through which data is collected are:

- a) Primary data
- b) Secondary data

Primary data

This method is used in the research. The instrument used to collect primary data is through questionnaire from the customers. It gives first hand information to the researcher. In this study, a questionnaire has been prepared with a view to analyze the service quality dimension at 'more.' super market

Primary data refers to the information obtained firsthand by the researcher on the variables of interest for the specific purpose of study. In case of descriptive research primary data can be obtained through observation or through direct communication with respondents in one form or another or through personal interviews or through questionnaires. Questionnaires were employed to collect data.

Secondary Data

Secondary data refers to information gathered from sources already existing. Some sources of secondary data are data available from previous research, information available from any published or unpublished sources available either within or outside the organization, library records, online data, websites and the internet.

The secondary data of information of this study were obtained through web sites, books, annual report, and internet

Secondary data marks the beginning of the research process. Information gathered from both internal and external sources. Secondary data is required to analyze the primary data. Secondary data gathered through journals, books and websites. The study has mainly depended up on secondary data; the sources of secondary data are published financial statements, budgets, internal records books and websites of the company

SAMPLING METHOD

Population

The aggregate elementary units in the survey are referred to as the population. Here it covers the entire employees of AVA Cholayil Health Care Private Limited, Chennai.

Sample Size

The study based only on the opinion of employees. Total number of sample taken for the study is 150 respondents.

Sampling Unit:

Sampling unit is in AVA Cholayil Health Care Private Limited, Chennai.

Sampling procedure:

The approach where only a few unit of population under study a concluded for analysis is called sampling method. Convenience sampling method is used.

Convenience sampling method

Convenience sampling involves using respondents who are “convenient” to the researcher. There is no pattern whatsoever in acquiring these respondents—they may be recruited merely asking people who are present in the street, in a public building, or in a workplace, for example.

Hypothesis of the study

- There is no significant relationship between no.of yeras of working in the company and increases administrative efficiency
- There is no significant relationship between age of the respondents and increases employee morale

3.3 TOOLS USED FOR ANALYSIS

The commonly used statistical tools for analysis of collected data are:

1. Percentage analysis
2. Chi Square test analysis
3. Correlation analysis
4. One Way Anova Analysis

A) PERCENTAGE ANALYSIS:

The Percentage method was extensive used for finding various details as mentioned in the chapter of analysis and interpretation. It can be calculated as follows.

$$= \frac{\text{No.of Respondents favourable}}{\text{Total Re spondents}} \times 100$$

B) CHI – SQUARE ANALYSIS

Chi –square analysis in statistics to test the goodness of fit to verify the distribution of observed data with assumed theoretical distribution. Therefore, it is a measure to study the divergence of actual and expected frequencies.

It makes no assumptions about the population being sampled. The quantity χ^2 (chi-square) describes the magnitude of discrepancy between theory and observation. If χ^2 is zero, it means that the observed and expected frequency completely coincides. The greater the value of χ^2 , the greater would be the discrepancy between observed and expected frequencies.

The formula for computing Chi – Square (χ^2) is as follows.

$$\chi^2 = \sum \{(O-E)^2 / E\}$$

The calculated value of χ^2 is compared with the table of χ^2 for given degrees of freedom at specified level of significance. If the calculated value of χ^2 is greater than the table value then the difference between theory and observation is considered to be significant. On the other hand, if the calculated value of χ^2 less than the table value then the difference between theory and observation is not considered to be significant. The degrees of freedom is **(n – 1)** where ‘n’ is number of observed frequencies.

C) CORRELATION ANALYSIS

Correlation analysis deals with the association between two or more variables. It does not tell anything about cause and effect relationship. Correlation is described or classified in several different ways. Karl Pearson’s method is popularly known as Pearson’s coefficient of correlation. It is denoted by the symbol ‘r’.

$$\text{Formula for Karl Pearson's coefficient } r = \frac{\sum xy}{\sqrt{\sum x^2 * \sum y^2}}$$

The value of the coefficient of correlation as obtained by the above formula shall always lie between +1 and -1. When $r = 1$, it means there is perfect positive correlation between variables. When $r = -1$, it means there is perfect negative correlation between variables. When $r = 0$, it means no relationship between variables.

D). ONE-WAY ANOVA ANALYSIS

One-Way ANOVA ("analysis of variance") compares the means of two or more independent groups in order to determine whether there is statistical evidence that the associated population means are significantly different. One-Way ANOVA is a parametric test. This test is also known as: One-Factor ANOVA.

$$F = \text{MSB}/\text{MSW}$$

In this formula, F = coefficient of ANOVA. MSB = Mean sum of squares between the groups. MSW = Mean sum of squares within groups.

E). THE INDEPENDENT SAMPLES T TEST

The Independent Samples t Test compares the means of two independent groups in order to determine whether there is statistical evidence that the associated population means are significantly different. The Independent Samples t Test is a parametric test.

$t(\text{df})$ = t -statistic, p = significance value.

CHAPTER 4

DATA ANALYSIS AND INTERPERATATION

4.1 PERCENTAGE ANALYSIS

TABLE: 4.1 GENDER OF THE RESONDENTS

Gender	No. of respondents	Percentage
Male	100	66.7
Female	50	33.3
Total	150	100.0

Source: Primary data

Interpretation

The above table shows that 66.7% of the respondents are male and 33.3% of the respondents are female. Thus the majority of the respondents are male.

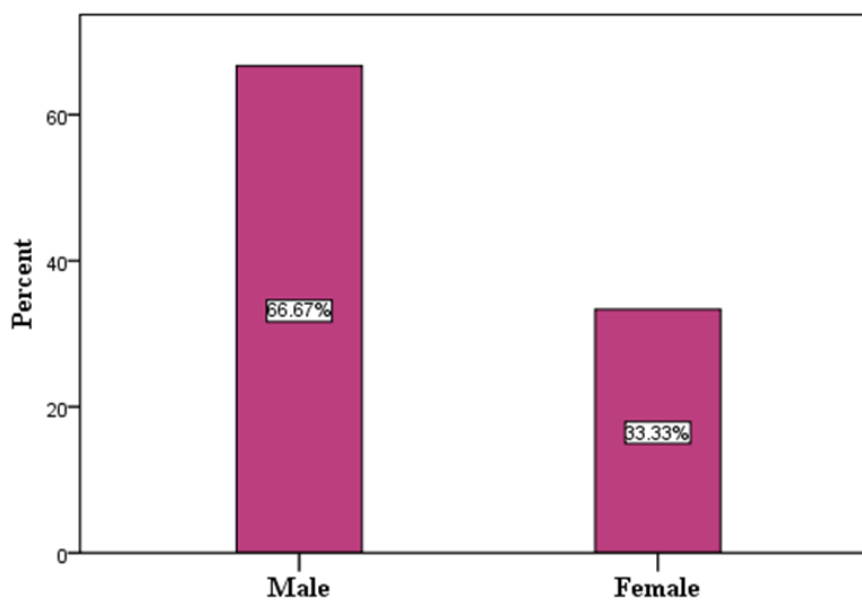


CHART: 4.1 GENDER OF THE RESONDENTS

TABLE: 4.2 AGE OF THE RESONDENTS

Age	No. of respondents	Percentage
Below 20	33	21.7
21-30	36	24.2
31-40	38	25.0
41-50	29	19.2
Above 50	15	10.0
Total	150	100.0

Source: Primary data

Interpretation

The above table shows that 21.7% of the respondents are below 20, 24.2% of the respondents are between 21-30 years, 25.0% of the respondents are between age of 31-40 years, 19.2% of the respondents are between 41 to 50 and 10.0% of the respondents are above 50. Thus the majority of the respondents are in the age group of 31 to 40.

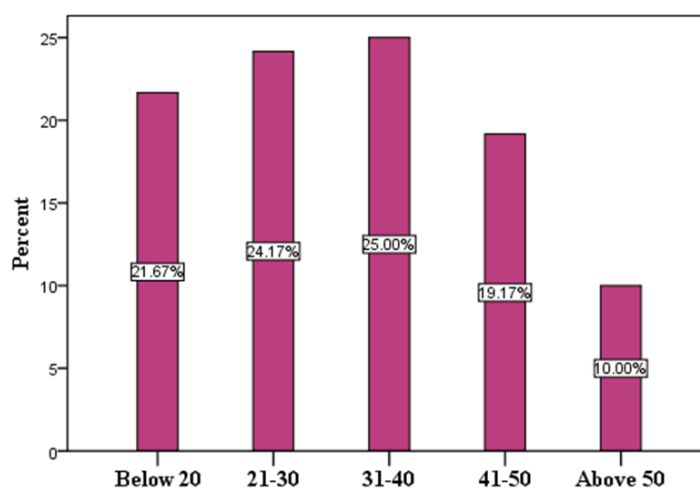


CHART: 4.2 AGE OF THE RESONDENTS

TABLE: 4.3 EDUCATIONAL QUALIFICATION OF THE RESONDENTS

Educational Qualification	No. of respondents	Percentage
Higher Secondary	33	21.7
Graduate	44	29.2
Post Graduate	51	34.2
Diploma	14	9.2
Others	8	5.8
Total	150	100.0

Source: Primary data

Interpretation

The above table shows that 21.7% completed Higher Secondary, 29% completed Graduate, 34.2% completed Post Graduate, 9.2% completed Diploma and 5.8% completed other qualification. Thus the majority of the respondents have completed Post Graduate.

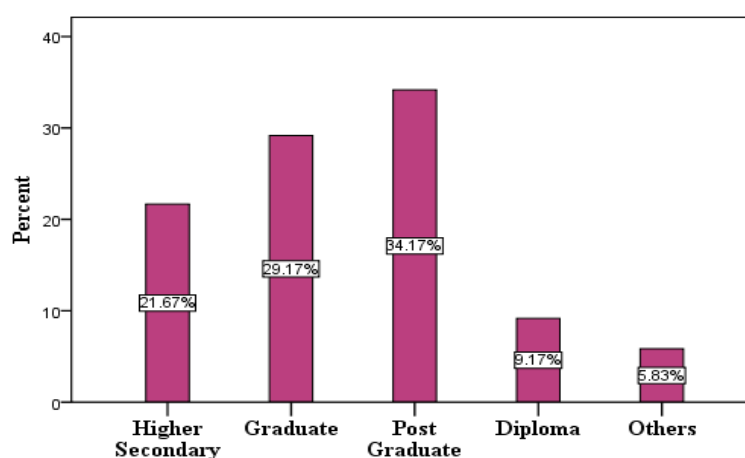


CHART: 4.3 EDUCATIONAL QUALIFICATION OF THE RESONDENTS

TABLE: 4.4 WORKING IN THE DEPARTMENT

Department	No. of respondents	Percentage
Production	51	34.2
Marketing	33	21.7
HR	25	16.7
Finance	20	13.3
Warehouse	21	14.2
Total	150	100.0

Source: Primary data

Interpretation

The above table shows that 34.2% are working in production, 21.7% are working in marketing, 16.7% are working in HR, 13.3 are working in finance and 14.2% are working in warehouse. Thus the majority of the respondents are working in production department.

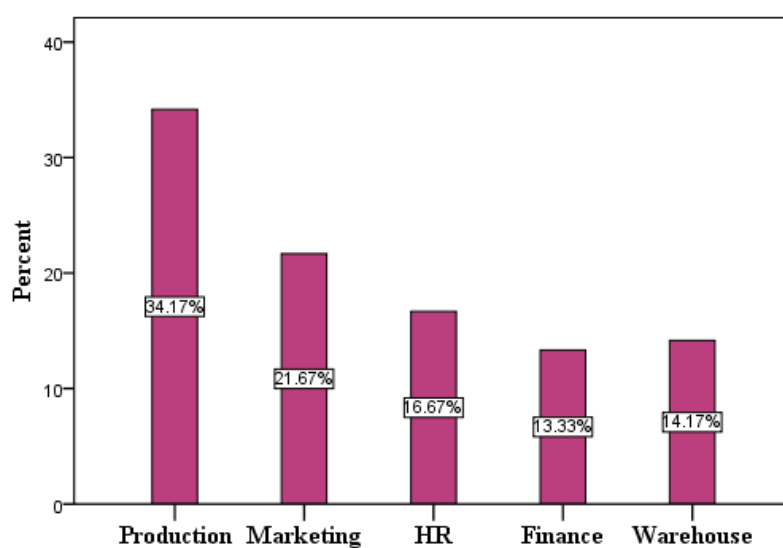


CHART: 4.4 WORKING IN THE DEPARTMENT

TABLE: 4.5 NO.OF YEARS OF WORKING IN THE COMPANY

No. of Years	No. of respondents	Percentage
Below 1year	43	28.3
1 to 3 years	44	30.0
Above 3 years	63	41.7
Total	150	100.0

Source: Primary data

Interpretation

The above table shows that 28.3% have below 1 year, 30.0% have 1-3 years and 41.7% have above 3 years working experience. Thus the majority of the respondents have above 3 years working experience.

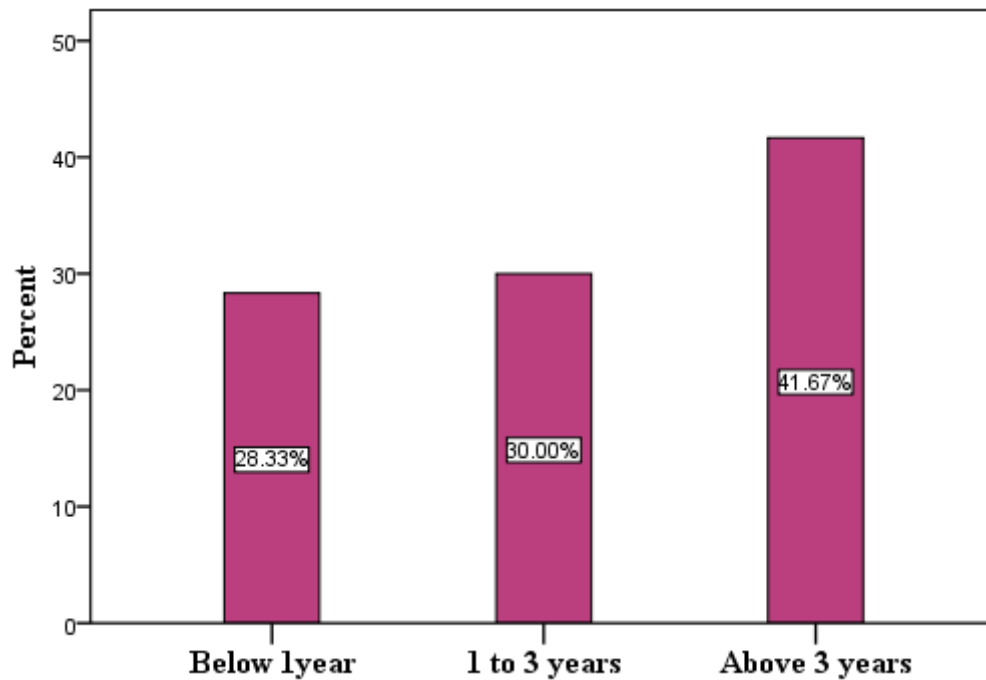


CHART: 4.5 NO.OF YEARS OF WORKING IN THE COMPANY

TABLE: 4.6 LEVEL OF SATISFACTION IN SIX SIGMA PRACTICES

Particular	No. of respondents	Percentage
Highly satisfied	34	22.5
Satisfied	32	21.7
Neither satisfied nor Dissatisfied	26	17.5
Dissatisfied	29	19.2
Highly dissatisfied	29	19.2
Total	150	100.0

Source: Primary data

Interpretation

The above table shows that 22.5% highly satisfied, 21.7 satisfied, 17.5% neither satisfied nor dissatisfied, 19.2% dissatisfied and 19.2% highly dissatisfied. The majority of the respondents said that highly satisfied in six sigma practices.

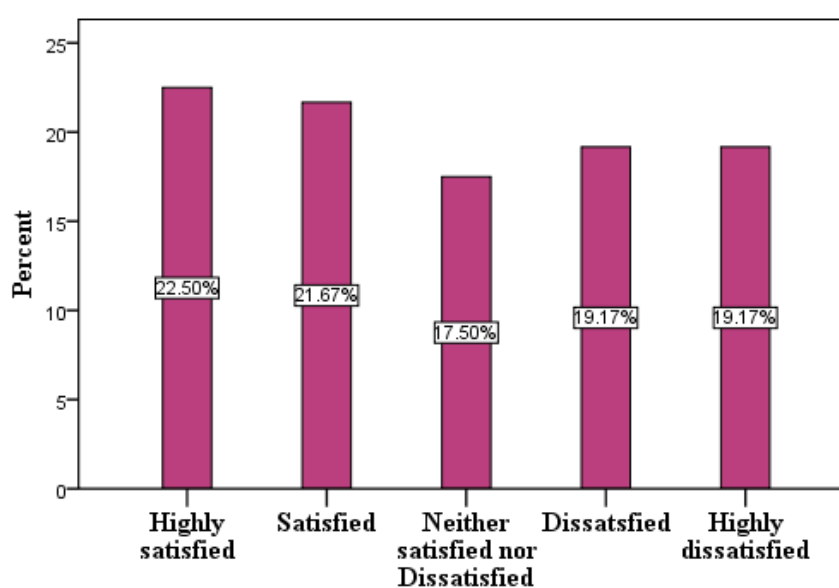
**CHART: 4.6 LEVEL OF SATISFACTION IN SIX SIGMA PRACTICES**

TABLE: 4.7 INCREASES CAREER ADVANCEMENTS FOR EMPLOYEES

Particular	No. of respondents	Percentage
Strongly agree	35	23.3
Agree	34	22.5
Neither agree nor disagree	39	25.8
Disagree	16	10.8
Strongly disagree	26	17.5
Total	150	100.0

Source: Primary data

Interpretation

The above table shows that 23.3 strongly agree, 22.5% agree, 25.8% of the neither agree nor disagree, 10.8% disagree and 17.5 strongly disagree .Thus the majority of the respondents said that neither agree nor disagree towards increases career advancements for employees.

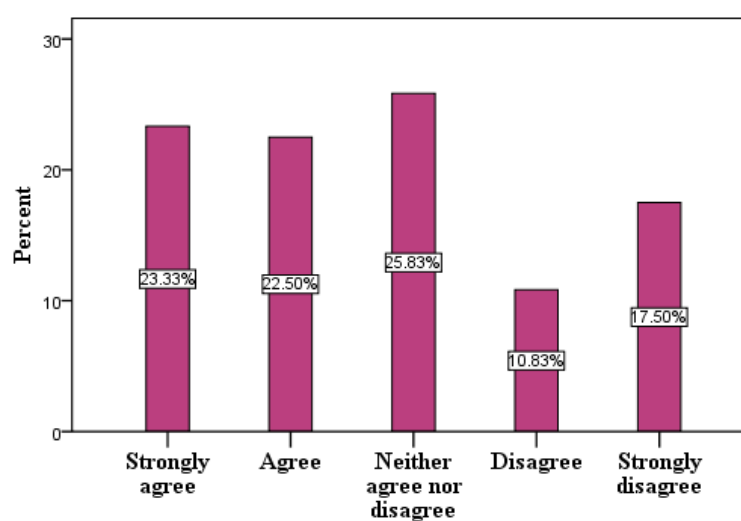
**CHART: 4.7 INCREASES CAREER ADVANCEMENTS FOR EMPLOYEES**

TABLE: 4.8 INCREASES LEADERSHIP ABILITY AMONG EMPLOYEES

Particular	No. of respondents	Percentage
Strongly agree	44	29.2
Agree	41	27.5
Neither agree nor disagree	30	20.0
Disagree	23	15.0
Strongly disagree	12	8.3
Total	150	100.0

Source: Primary data

Interpretation

The above table shows that 29.2% strongly agree, 27.5% of the respondents said that agree, 20.0% neither agree nor disagree, 15.0% disagree and 8.3% strongly disagree. Thus the majority of the respondents said that strongly agree towards increases leadership ability among employees.

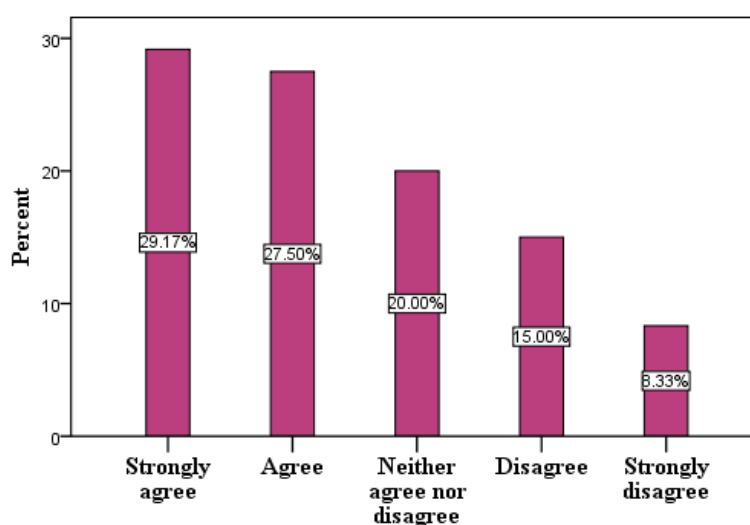
**CHART: 4.8 INCREASES LEADERSHIP ABILITY AMONG EMPLOYEES**

TABLE: 4.9 LEADS TO EMPLOYEE INVOLVEMENT

Particular	No. of respondents	Percentage
Strongly agree	31	20.8
Agree	40	26.7
Neither agree nor disagree	37	24.2
Disagree	21	14.2
Strongly disagree	21	14.2
Total	150	100.0

Source: Primary data

Interpretation

The above table shows that 20.8% strongly agree, 26.7 agree, 24.2% neither agree nor disagree, 14.2% disagree and 14.2% strongly. Thus the majority of the respondents said that agree towards six sigma practices leads to employee involvement.

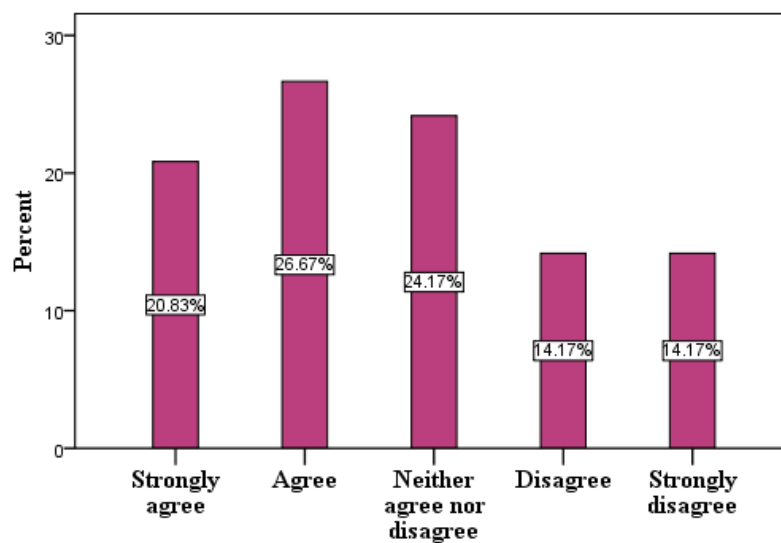


CHART: 4.9 LEADS TO EMPLOYEE INVOLVEMENT

TABLE: 4.10 REDUCING ATTRITION RATE IN THE COMPANY

Particular	No. of respondents	Percentage
Strongly agree	63	41.7
Agree	37	25.0
Neither agree nor disagree	23	15.8
Disagree	13	8.3
Strongly disagree	14	9.2
Total	150	100.0

Source: Primary data

Interpretation

The above table shows that 41.7% strongly agree, 25.0% agree, 15.8% agree nor disagree, 8.3% of the respondents said that disagree and 9.2% strongly disagree. Thus the majority of the respondents said that strongly agree in reducing attrition rate in the company.

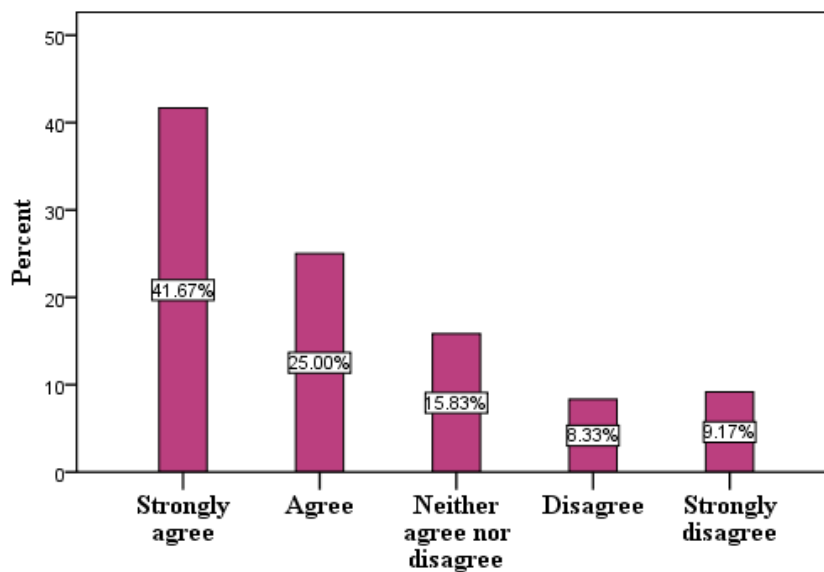


CHART: 4.10 REDUCING ATTRITION RATE IN THE COMPANY

TABLE: 4.11 LEAD TO EMPLOYEES COMPETENCIES

Particular	No. of respondents	Percentage
Strongly agree	45	30.0
Agree	48	31.7
Neither agree nor disagree	22	15.0
Disagree	13	8.3
Strongly disagree	22	15.0
Total	150	100.0

Source: Primary data

Interpretation

The above table shows that 30% strongly agree, 31% agree, 15% neither agree nor disagree, 8% disagree and 15% strongly disagree. Thus the majority of the respondents said that agree towards it leads to employees competencies.

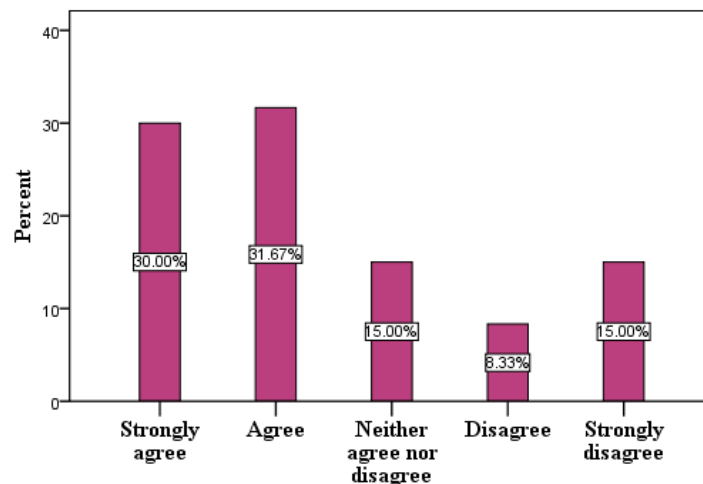


CHART: 4.11 LEAD TO EMPLOYEES COMPETENCIES

TABLE: 4.12 INCREASES EMPLOYEES MORALE

Particular	No. of respondents	Percentage
Strongly agree	20	13.3
Agree	28	18.3
Neither agree nor disagree	24	16.7
Disagree	50	33.3
Strongly disagree	28	18.3
Total	150	100.0

Source: Primary data

Interpretation

The above table shows that 13.3% strongly agree, 18.3% agree, 16.7% neither agree nor disagree, 33.3% disagree and 18.3% strongly disagree. Thus the majority of the respondents said that disagree towards increases employees morale.

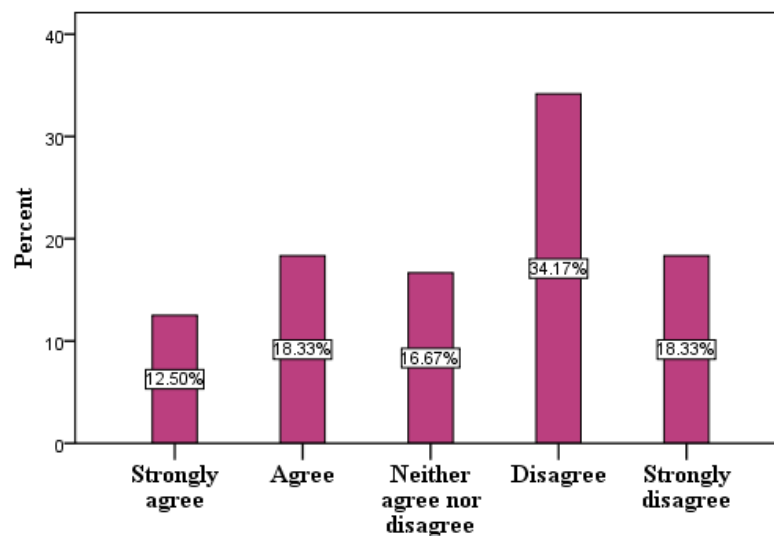


CHART: 4.12 INCREASES EMPLOYEES MORALE

TABLE: 4.13 REDUCES RECRUITMENT COST FOR HR DEPARTMENT

Particular	No. of respondents	Percentage
Strongly agree	44	29.2
Agree	36	24.2
Neither agree nor disagree	27	18.3
Disagree	18	11.7
Strongly disagree	25	16.7
Total	150	100.0

Source: Primary data

Interpretation

The above table shows that 29.2% strongly agree, 24.2% agree, 18.3% neither agree nor disagree, 11.7% disagree and 16.7% strongly disagree. Thus the majority of the respondents said that strongly agree towards reduces recruitment cost for HR department.

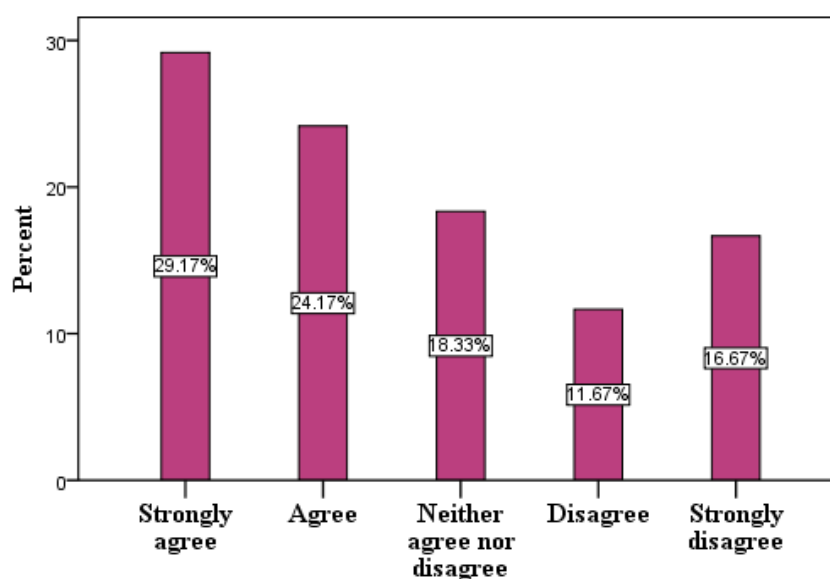
**CHART: 4.13 REDUCES RECRUITMENT COST FOR HR DEPARTMENT**

TABLE: 4.14 INCREASES FIRM'S FINANCIAL PERFORMANCE

Particular	No. of respondents	Percentage
Strongly agree	21	14.2
Agree	53	35.0
Neither agree nor disagree	43	28.3
Disagree	11	7.5
Strongly disagree	22	15.0
Total	150	100.0

Source: Primary data

Interpretation

The above table shows that 14.2% strongly agree, 35.0% agree, 28.3% neither agree nor disagree, 7.5% disagree and 15.0% strongly disagree. Thus the majority of the respondents said that agree towards increases firm's financial performance.

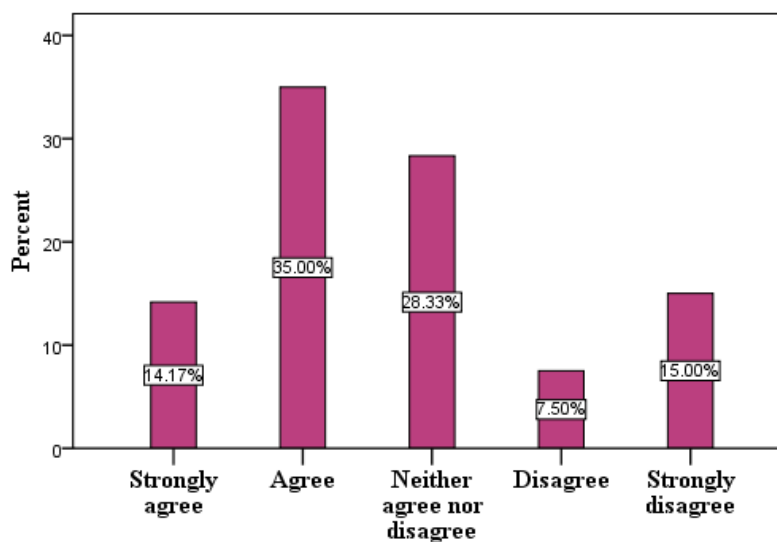


CHART: 4.14 INCREASES FIRM'S FINANCIAL PERFORMANCE

TABLE: 4.15 INCREASES ADMINISTRATIVE EFFICIENCY

Particular	No. of respondents	Percentage
Strongly agree	43	28.3
Agree	40	26.7
Neither agree nor disagree	20	14.2
Disagree	24	15.8
Strongly disagree	23	15.0
Total	150	100.0

Source: Primary data

Interpretation

The above table shows that 28.3% strongly agree, 26.7% agree, 14.2% neither agree nor disagree, 15.8% disagree and 15.0% strongly disagree. Thus the majority of the respondents said that strongly agree towards increases administrative efficiency.

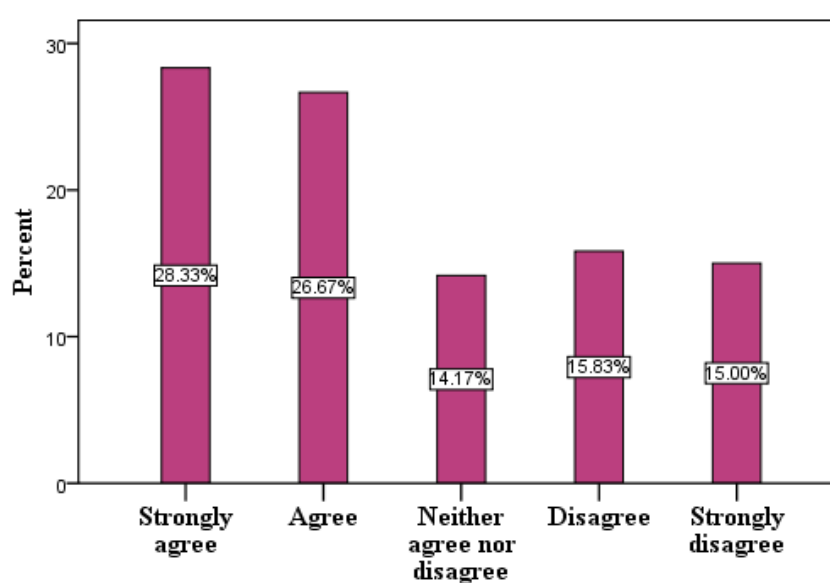


CHART: 4.15 INCREASES ADMINISTRATIVE EFFICIENCY

TABLE: 4.16 ENABLES PRODUCTIVITY IMPROVEMENT

Particular	No. of respondents	Percentage
Strongly agree	35	23.3
Agree	54	35.8
Neither agree nor disagree	40	26.7
Disagree	8	5.8
Strongly disagree	13	8.3
Total	150	100.0

Source: Primary data

Interpretation

The above table shows that 23.3% strongly agree, 35.8% agree, 26.7% neither agree nor disagree, 5.8% disagree and 8.3% strongly disagree. Thus the majority of the respondents said that agree towards enables productivity improvement.

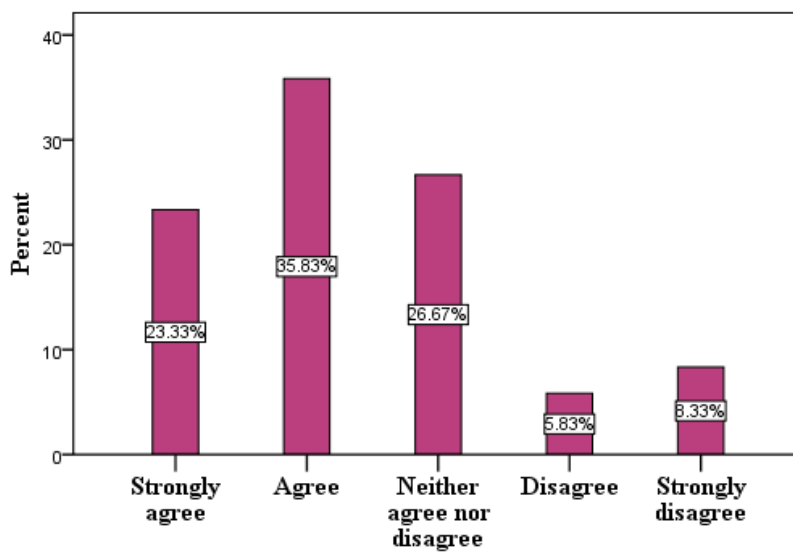


CHART: 4.16 ENABLES PRODUCTIVITY IMPROVEMENT

TABLE: 4.17 LEADS TO EASE OF MARKETING ACTIVITIES

Particular	No. of respondents	Percentage
Strongly agree	43	28.3
Agree	39	25.8
Neither agree nor disagree	26	17.5
Disagree	16	10.8
Strongly disagree	26	17.5
Total	150	100.0

Source: Primary data

Interpretation

The above table shows that 28.3% strongly agree, 25.8% agree, 17.5% neither agree nor disagree, 10.8% disagree and 17.5% strongly disagree. Thus the majority of the respondents said that strongly agree towards leads to ease of marketing activities.

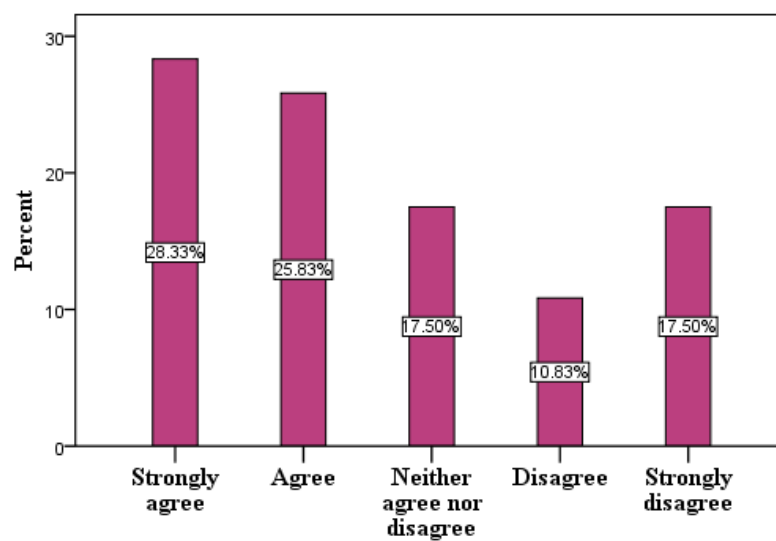


CHART: 4.17 LEADS TO EASE OF MARKETING ACTIVITIES

TABLE: 4.18 REDUCES REJECTED PRODUCTS

PARTICULAR	No. of respondents	Percentage
Strongly agree	19	12.5
Agree	38	25.0
Neither agree nor disagree	51	34.2
Disagree	21	14.2
Strongly disagree	21	14.2
Total	150	100.0

Source: Primary data

Interpretation

The above table shows that 12.5 strongly agree, 25.0% agree, 34.2% neither agree nor disagree, 14.2% disagree and 14.2% strongly disagree. Thus the majority of the respondents said that agree towards reduces rejected products.

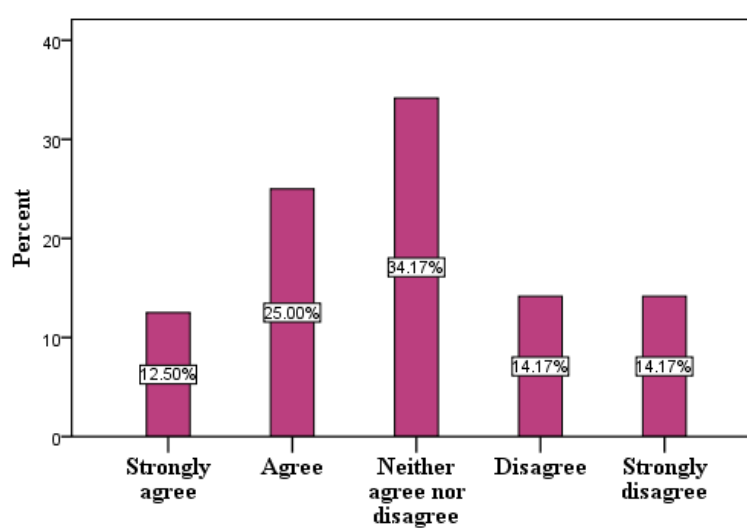
**CHART: 4.18 REDUCES REJECTED PRODUCTS**

TABLE: 4.19 INCREASES CUSTOMER SATISFACTION

Particular	No. of respondents	Percentage
Strongly agree	33	21.7
Agree	46	30.8
Neither agree nor disagree	30	20.0
Disagree	20	13.3
Strongly disagree	21	14.2
Total	150	100.0

Source: Primary data

Interpretation

The above table shows that 21.7% strongly agree, 30.8% agree, 20.0% neither agree nor disagree, 13.3% disagree and 14.2% strongly disagree. Thus the majority of the respondents said that agree towards increases customer satisfaction.

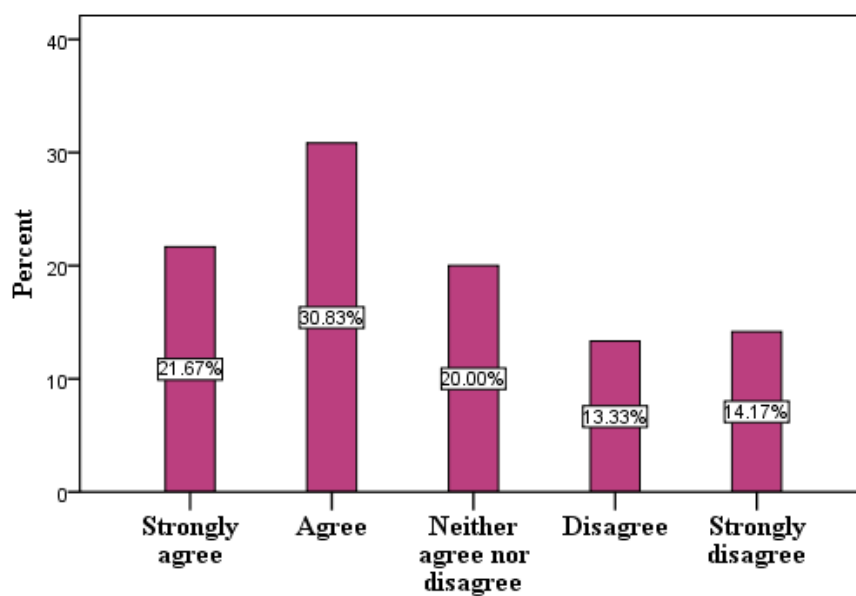


CHART: 4.19 INCREASES CUSTOMER SATISFACTION

TABLE: 4.20 IMPROVE CUSTOMER SERVICES

Particular	No. of respondents	Percentage
Strongly agree	28	18.3
Agree	34	22.5
Neither agree nor disagree	38	25.0
Disagree	17	12.5
Strongly disagree	33	21.7
Total	150	100.0

Source: Primary data

Interpretation

The table shows that 18.3% strongly agree, 22.5% agree, 25.0% neither agree nor disagree, 12.5% disagree and 21.7% strongly disagree. Thus the majority of the respondents said that neither agree nor disagree towards improve customer services.

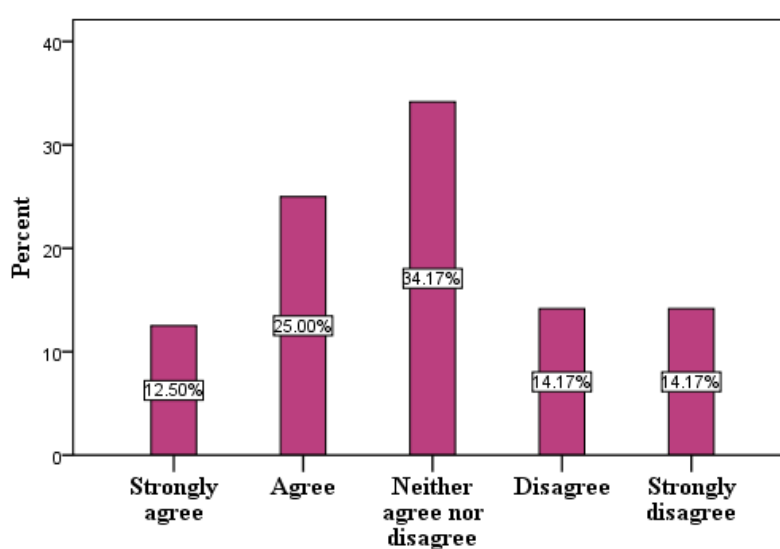
**TABLE: 4.20 IMPROVE CUSTOMER SERVICES**

TABLE: 4.21 REDUCES TIME FOR INSPECTING THE PRODUCTS

Particular	No. of respondents	Percentage
Strongly agree	50	33.3
Agree	35	23.3
Neither agree nor disagree	26	17.5
Disagree	20	13.3
Strongly disagree	19	12.5
Total	150	100.0

Source: Primary data

Interpretation

The table shows that 33.3% strongly agree, 23.3% agree, 17.5% neither agree nor disagree, 13.3% disagree and 12.5% strongly disagree. Thus the majority of the respondents said that strongly agree towards reduces time for inspecting the products.

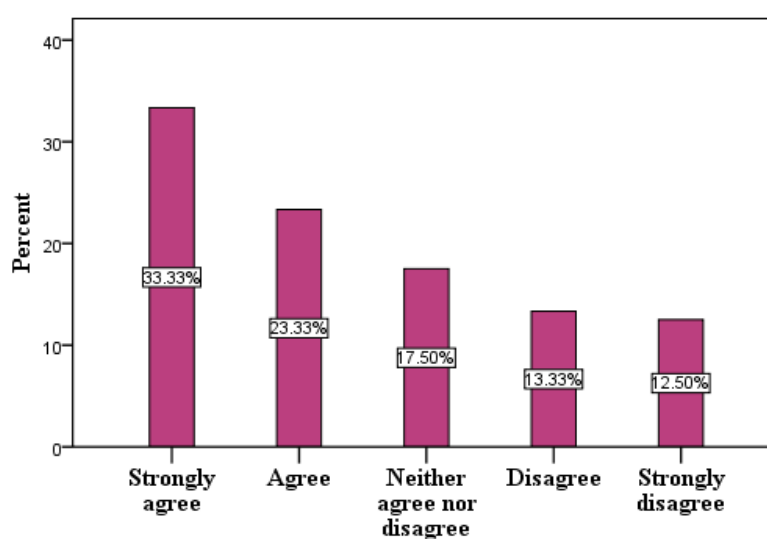


CHART: 4.21 REDUCES TIME FOR INSPECTING THE PRODUCTS

TABLE: 4.22 PROVIDES ERROR FREE PRODUCTS FOR CUSTOMERS

PARTICULAR	No. of respondents	Percentage
Strongly agree	11	7.5
Agree	72	47.5
Neither agree nor disagree	25	16.7
Disagree	21	14.2
Strongly disagree	21	14.2
Total	150	100.0

Source: Primary data

Interpretation

The above table shows that 7.5% strongly agree, 47.5% agree, 16.7% neither agree nor disagree, 14.2% disagree and 14.2% strongly disagree. Thus the majority of the respondents said that agree towards six sigma practices provides error free products for customers.

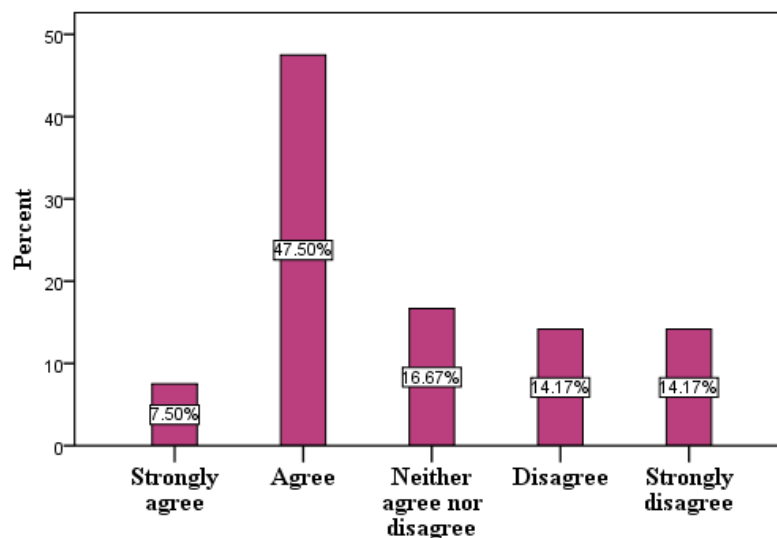


CHART: 4.22 PROVIDES ERROR FREE PRODUCTS FOR CUSTOMERS

TABLE: 4.23 EXCEEDS CUSTOMERS EXPECTATION

Particular	No. of respondents	Percentage
Strongly agree	35	23.3
Agree	33	21.7
Neither agree nor disagree	31	20.8
Disagree	18	12.5
Strongly disagree	33	21.7
Total	150	100.0

Source: Primary data

Interpretation

The above table shows that 23.3 strongly agree, 21.7% agree, 20.8% neither agree nor disagree, 12.5% disagree and 21.7%vstrongly disagree. Thus the majority of the respondents said that strongly agree towards exceeds customers expectation.

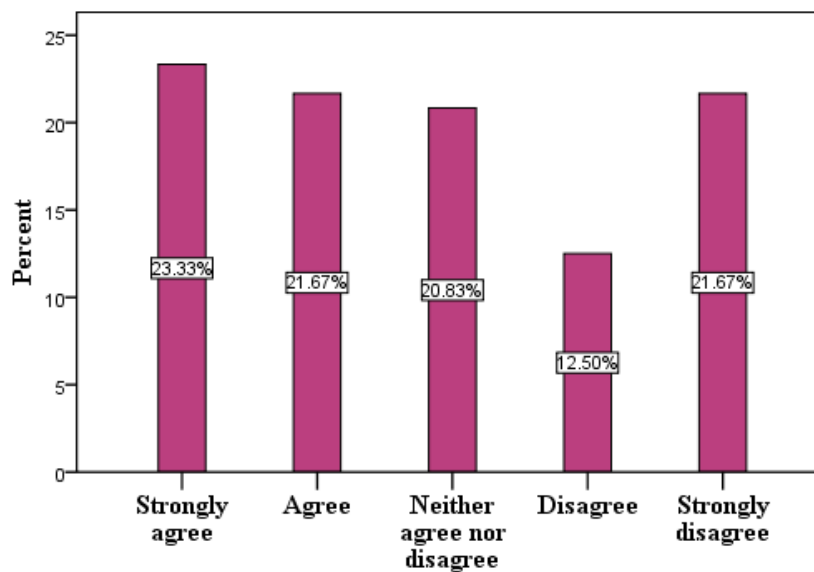


TABLE: 4.23 EXCEEDS CUSTOMERS EXPECTATION

TABLE: 4.24 CUSTOMERS CAN OBTAIN TRUSTED PRODUCTS

Particular	No. of respondents	Percentage
Strongly agree	23	15.0
Agree	42	29.2
Neither agree nor disagree	28	18.3
Disagree	29	19.2
Strongly disagree	28	18.3
Total	150	100.0

Source: Primary data

Interpretation

The above table shows that 15.0% strongly agree, 29.2% agree, 18.3% neither agree nor disagree, 19.2% disagree and 18.3% strongly disagree. Thus the majority of the respondents said that agree towards customers can obtain trusted products

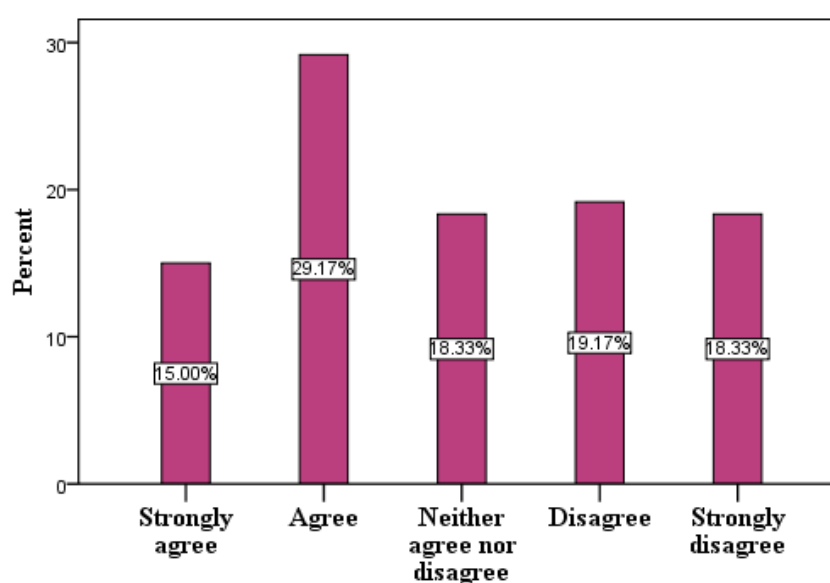


CHART: 4.24 CUSTOMERS CAN OBTAIN TRUSTED PRODUCTS

4.2 CHI SQUARE ANALYSIS

RELATION BETWEEN THE GENDER OF THE RESPONDENTS AND BENEFITS FOR EMPLOYEES

Null hypothesis (Ho):

There is no significance difference between gender of the respondents and benefits for employees.

Alternative hypothesis (H1):

There is some significance difference between gender of the respondents and benefits for employees.

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
GENDER OF THE RESPONDENTS * BENEFITS FOR EMPLOYEES	150	100.0%	0	.0%	150	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	36.453 ^a	20	.014
Likelihood Ratio	45.311	20	.001
Linear-by-Linear Association	18.377	1	.000
N of Valid Cases	150		

a. 32 cells (76.2%) have expected count less than 5. The minimum expected count is .33.

INFERENCE

As per the above table, it is inferred that the P value is .014; it is not significant to 5% (0.05) significant level.

The minimum expected count is .33. Thus alternative hypothesis is rejected and it is found that there is no significant relationship between gender of the respondents and benefits for employees

4.3 CORRELATION ANALYSIS

RELATIONSHIP BETWEEN AGE OF THE RESONDENTS AND BENEFITS FOR CUSTOMERS

Correlations

		AGE OF THE RESONDENTS	BENEFITS FOR CUSTOMERS
AGE OF THE RESONDENTS	Pearson Correlation	1	.237**
	Sig. (2-tailed)		.003
	N	150	150
BENEFITS FOR CUSTOMERS	Pearson Correlation	.237**	1
	Sig. (2-tailed)	.003	
	N	150	150

**, Correlation is significant at the 0.01 level (2-tailed).

INFERENCE:

The Above table indicates that out of 150 respondents, co-efficient of correlation between age of the respondents and benefits for customers is 0.237.

It is below 1. So there is positive relationship between age of the respondents and benefits for customers.

4.4 ONE WAY ANOVA TEST

EDUCATIONAL QUALIFICATION OF THE RESPONDENTS AND BENEFITS FOR ORGANIZATIONAL DEPARTMENTS

Benefits For Organizational Departments

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	345.262	4	86.315	5.295	.001
Within Groups	2363.778	145	16.302		
Total	2709.040	149			

INTERPRETATION

The table clearly shows that educational qualification of the respondents in the impact on benefits for organizational departments has a figure on 5.295 values and significance around .001 levels, than the sum of squares within group between group's values have 2363.778 and 345.262 respectively.

Hence, the significant value is less than 0.050 for which the significant percentage is above 95%, hence rejecting null hypothesis.

Thus, accepting alternative hypothesis i.e., There is some impact of educational qualification of the respondents on benefits for organizational departments.

4.5 INDEPENDENT T- TEST

RELATIONSHIP BETWEEN NO.OF YEARS OF WORKING IN THE COMPANY WITH IMPACT ON BENEFITS FOR EMPLOYEES

Group Statistics

NO.OF YERAS OF WORKING IN THE COMPANY		N	Mean	Std. Deviation	Std. Error Mean
BENEFITS FOR EMPLOYEES	Below 1year	43	17.2558	3.16298	.48235
	1 to 3 years	44	17.9545	9.41783	1.41979

Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	T	df	Sig. (2- tailed)	Mean Differen ce	Std. Error Differen ce	95% Confidence Interval of the Difference	
								Lower	Upper
BENEFITS FOR EMPLOYEE ES	6.084	.016	Equal variances assumed	85	.645	-.69873	1.5134 6	- 3.70789	2.31043
			Equal variances not assumed	52.7 79	.643	-.69873	1.4994 9	- 3.70662	2.30916

INTERPRETATION:

The mean difference of the above P value is 0.016 and the sig value is greater than .050 (5%). So, there is some significant relationship between independent variables such as no. of years of working in the company with impact on Role of benefits for employees.

CHAPTER 5

FINDINGS, SUGGESTIONS & CONCLUSION

5.1 FINDINGS

- 66.7% of the respondents said that male.
- 25.0% of the respondents said that in the age group of 31 to 40.
- 34.2% of the respondents have completed Post Graduate.
- 34.2% of the respondents said that working in production department.
- 41.7% of the respondents have above 3 years.
- 22.5% of the respondents said that highly satisfied towards the level of satisfaction in six sigma practices.
- 25.8% of the respondents are neither agree nor disagree towards increases career advancements for employees.
- 29.2% of the respondents said that strongly agree towards increases leadership ability among employees.
- 26.7% of the respondents said that agree towards increases leads to employee involvement.
- 41.7% of the respondents said that strongly agree towards reducing attrition rate in the company.
- 31.7% of the respondents said that agree towards lead to employees competencies.
- 33.3% of the respondents said that disagree towards increases employees morale.
- 29.2% of the respondents said that strongly agree towards reduces recruitment cost for hr department.

- 35.0%of the respondents said that agree towards increases firm's financial performance.
- 28.3%of the respondents said that strongly agree towards increases administrative efficiency.
- 35.8%of the respondents said that agree towards enables productivity improvement.
- 28.3%of the respondents said that strongly agree towards leads to ease of marketing activities.
- 34.2%of the respondents said that agree towards reduces rejected products.
- 30.8%of the respondents said that agree towards lack of increases customer satisfaction.
- 25.0%of the respondents said that neither agree nor disagree towards improve customer services.
- 33.3%of the respondents said that strongly agree towards reduces time for inspecting the products.
- 47.5%of the respondents said that agree towards provides error free products for customers.
- 23.3%of the respondents said that strongly agree towards exceeds customers expectation.
- 29.2%of the respondents said that agree towards lack of accurate forecasting system lack of accurate forecasting system.
- There is no significant relationship between gender of the respondents and benefits for employees
- There is positive relationship between age of the respondents and benefits for customers

5.2 SUGGESTIONS

- The six sigma practices adopted in the company must satisfy the employees, customers and major key players in the company.
- It must increase career advance for employees. The practices adopted in the company must increase leadership ability among the employees in the company.
- The six sigma implementation in the company should lead employee involvement in the organization. It should lead employees competencies. It must ensure employee morale in the organization.
- The company must ensure to reduce recruitment cost through adoption of six sigma practices in the company.
- The six sigma practice in the company must increase the financial performance of the company.
- It must increase administrative efficiency in the company. It must enable productivity improvement for production department.
- It must reduce rejected products for ware house department and the management should keep monitor frequently regarding the error free products.
- The management often should get feedback from the customers regarding their satisfaction in all aspects and compare with existing six sigma practices in the company.
- It must reduce time for inspecting the products and it should provide always error free products.

5.3 CONCLUSION

Six Sigma has proven to be a very successful tool for organizations seeking to identify problems, remove roots of errors or failures, and improve their business processes.

Since its conception in 1986 by Motorola Company, Six Sigma has been widely adopted by businesses in different industries. Provided that emerging organizations are listening and appealing to customer demands, the already established organizations may use Six Sigma principles in achieving the never-ending goals of increasing quality and decreasing costs.

In order to achieve the implementation goals on the business, it needs to focus strictly its benefits. The implementation cost should not too high compare than the benefits it gets from the business.

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ANNEXURE

QUESTIONNAIRE

A STUDY ON IMPACT OF SIX SIGMA WITH SPECIAL REFERENCE TO AVA CHOLAYIL HEALTH CARE PRIVATE LIMITED, CHENNAI

1. Name :

2. Gender : a) Male b) Female

3. Age :

- a) Below 20 b) 21-30 c) 31-40 d) 41-50
e) above 50

4. Educational Qualification:

- a) Higher Secondary b) Graduate c) Post Graduate d) Diploma
e) Others

5. State the department you are working?

- a) Production b) Marketing c) HR d) Finance e) Warehouse

6. How long have you been working in the company?

- a) Below 1 year b) 1 to 3 years c) Above 3 years

7. What is your level of satisfaction in six sigma practices of your company?

- a) Highly satisfied b) Satisfied c) Neither satisfied nor dissatisfied
d) Dissatisfied e) Highly dissatisfied

Benefits for employees

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
8. Increases Career advancements for employees					
9. Increases Leadership ability among employees					
10. Leads to employee involvement					
11. Reducing attrition rate in the company					
12. Leads to employees competencies					
13. Increases employees morale					

Benefits for organizational departments

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
14. It reduces recruitment cost for HR department					
15. It increases firm's financial performance and enables ease of work for financial department					
16. It Increases administrative efficiency for office and administrative department					
17. It enables productivity improvement for production department					

18. It leads to ease of marketing activities for marketing department since there is quality output					
19. It reduces rejected products for warehouse department					

Benefits for customers

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
20. It increases customer satisfaction					
21. It improves customer services					
22. It reduces time for inspecting the products					
23. It provides error free products for customers					
24. It exceeds customers expectation by minimizing defects in the products					
25. Customers can obtain trusted products from the company					

26. Suggestions

**A Study On Impact Of Six Sigma With Special
Reference To Ava Cholayil Health Care Private
Limited, Chennai
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ABSTRACT

The major goal of the organisation is to achieve profit maximisation through providing quality goods in the competitive era. Achieving high rate of return and profitability is very difficult task in the industry. Hence the most possible solution would be to adopt Six Sigma. The main objective of the study is to analyse impact of six sigma with special reference to AVA Cholayil Health Care Private Limited, Chennai. The sample size of the study is 150. Descriptive research method and convenience sampling technique have been adopted in the study. Simple Percentage analysis, Chi-square analysis and correlation have been applied to reach the findings of the study. It is found that there is no significant difference between gender of the respondents and benefits for employees. It is suggested that the six sigma practices adopted in the company must satisfy the employees, customers and major key players in the company. It is concluded that, in order to achieve the implementation goals on the business, it needs to focus strictly its benefits.

INTRODUCTION:

The term Six Sigma refers to a set of quality-control tools that businesses can use to eliminate defects and improve processes to help boost their profits. It was developed by a scientist in the 1980s while he was working at Motorola. Six Sigma is a statistical- and data-driven process that works by reviewing limit mistakes or defects. It emphasizes cycle-time improvements while reducing manufacturing defects to no more than 3.4 occurrences per million units or events. This means that an error generally occurs with a six-standard deviation event from the mean because only 3.4 out of a million events along a bell curve would fall outside of six standard deviations.

Six Sigma is a business methodology for quality improvement that measures how many defects there are in a current process and seeks to systematically eliminate them.

Six Sigma proponents claim its business strategy benefits include up to 50% process cost reduction, cycle-time improvement, less waste of materials, a better understanding of customer requirements, increased customer satisfaction and value stream, and more reliable products and services. Motorola holds the federal trademark for Six Sigma, and it is generally acknowledged that Six Sigma can be costly to implement and can take several years before a company begins to see bottom-line results.

OBJECTIVES:

- To analyse the benefits of six sigma for employees in the company
- To understand the benefits of six sigma for organizational departments in the company
- To measure the benefits of six sigma for customers in the company
- To obtain suggestions from the respondents to enhance six sigma operation further.

SCOPE OF THE STUDY

- The scope of the study is confined to AVA Cholayil Health Care Private Limited, Chennai
- The aim of the study is to analyse the study on impact of six sigma in the company.
- The study was undertaken with the sample size of 150 only.
- The study will be helpful to the company to enhance its six sigma practices.
- The study throws light on the effectiveness of six sigma practices on organization, employees and customers.

LIMITATIONS OF THE STUDY

- Due to the time constraint the study is made only with limited respondents.
- There is a chance of personal bias which affects the original data.
- As the research is done only in AVA Cholayil Health Care Private Limited, Chennai, it cannot be applicable for other companies.
- Limited number of respondents has been chosen due to time constraint and this could affect the accuracy of result to certain extent.

REVIEW OF LITERATURE:

Anastasia Efimova, Petr Bris (2022). In this paper, an attempt was made to understand the conjunction of Lean Six Sigma and Industry 4.0. The study was conducted in the Czech Republic and qualitative data was gathered from 10 companies.

Anand S. Patel and Dr. Kaushik M. Patel (2022). This paper mainly focuses on exploring the failure factors of Lean Six Sigma deployment and examines the most influencing failure factors of Lean Six Sigma deployment.

Madhani, P. M. (2022). Human resource (HR) is the backbone of an organization and hence, there is need to build its underlying capabilities for effective service delivery. Six Sigma aims at improving the effectiveness of processes by collecting data and then using advanced statistical analysis to solve the problem.

ONE WAY ANOVA TEST

EDUCATIONAL QUALIFICATION OF THE RESPONDENTS AND BENEFITS FOR ORGANIZATIONAL DEPARTMENTS

Benefits For Organizational Departments

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	345.262	4	86.315	5.295	.001
Within Groups	2363.778	145	16.302		
Total	2709.040	149			

Jadhav S, Imran A, Haque M. (2022). COVID-19 has posed many unique and critical challenges in various contexts and circumstances. In this paper, a real-life case study of COVID-19 operation management following a multi-disciplinary, multi-stakeholder novel integrated approach in aged care facilities in Victoria, Australia, is presented which yielded significant and positive outcomes.

Bicer, C. (2022). This conceptual study initially provides a framework for lean Six Sigma principles in organizations. The research objective of this study is to present the mainlines of lean Six Sigma and to comprehend the perspective of organizational theories and applications of lean Six Sigma (LSS).

Robaaiy, M. S. D. A., Al-Husseini, A. S. S., & Alghazali, M. H. (2022). This study aims to enable measuring performance and its quality and seeks to improve performance, is that the research problem emerged in the emergence of poor results for patients' blood test cases due to delayed results of the analysis.

RESEARCH DESIGN:

The study is descriptive in nature. This research is basically fact finding with adequate interpretation using simple analysis of data and by developing thinking and elaborating of patterns and obtaining tentative generalizations as hypothesis.

SOURCES OF DATA:

- Primary Data – Questionnaire given to 150 respondents
- Secondary Data - Websites and, Published reports & Review of literature from published articles.

HYPOTHESIS:

• HYPOTHESIS 1

H0: There is no significant relationship between no. of years of working in the company and increases administrative efficiency.

H1: There is significant relationship between no. of years of working in the company and increases administrative efficiency.

• HYPOTHESIS 2

H0: There is no significant relationship between age of the respondents and increases employee morale.

H1: There is significant relationship between age of the respondents and increases employee morale.

INTERPRETATION

The table clearly shows that educational qualification of the respondents in the impact on benefits for organizational departments has a figure on 5.295 values and significance around .001 levels, than the sum of squares within group between group's values have 2363.778 and 345.262 respectively.

Hence, the significant value is less than 0.050 for which the significant percentage is above 95%, hence rejecting null hypothesis.

Thus, accepting alternative hypothesis i.e., There is some impact of educational qualification of the respondents on benefits for organizational departments.

CORRELATION ANALYSIS

RELATIONSHIP BETWEEN AGE OF THE RESPONDENTS AND BENEFITS FOR CUSTOMERS

		AGE OF THE RESPONDENTS	BENEFITS FOR CUSTOMERS
AGE OF THE RESPONDENTS	Pearson Correlation	1	.237**
	Sig. (2-tailed)		.003
	N	150	150
BENEFITS FOR CUSTOMERS	Pearson Correlation	.237**	1
	Sig. (2-tailed)	.003	
	N	150	150

**. Correlation is significant at the 0.01 level (2-tailed).

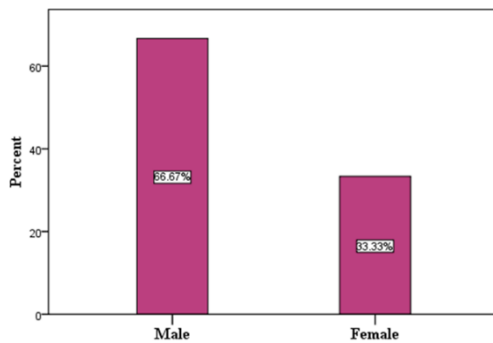
INFERENCE:

The Above table indicates that out of 150 respondents, co-efficient of correlation between age of the respondents and benefits for customers is 0.237.

It is below 1. So there is positive relationship between age of the respondents and benefits for customers.

DATA ANALYSIS AND INTERPRETATION:

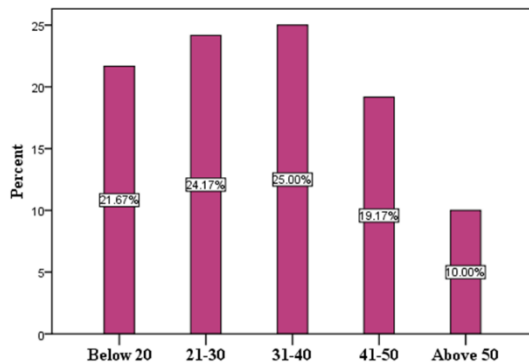
TABLE: 4.1 GENDER OF THE RESONDENTS



Interpretation

The above table shows that 66.7% are male and 33.3% are female. Thus the majority of the respondents are male.

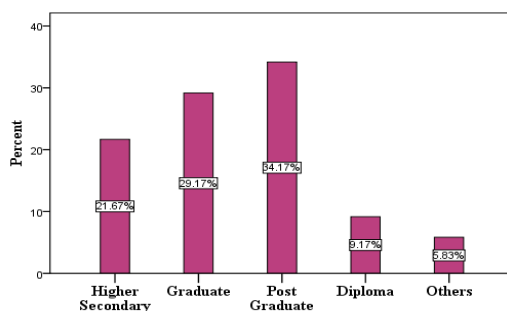
TABLE: 4.2 AGE OF THE RESONDENTS



Interpretation

The above table shows that 21.7% are below 20, 24.2% are between 21-30 years, 25.0% are between age of 31-40 years, 19.2% are between 41 to 50 and 10.0% are above 50. Majority of the respondents are in the age group of 31 to 40.

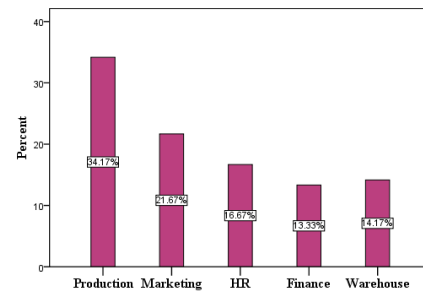
TABLE: 4.3 EDUCATIONAL QUALIFICATION OF THE RESONDENTS



Interpretation

The above table shows that 21.7% completed Higher Secondary, 29% completed Graduate, 34.2% completed Post Graduate, 9.2% completed Diploma and 5.8% completed other qualification. majority of the respondents have completed Post Graduate.

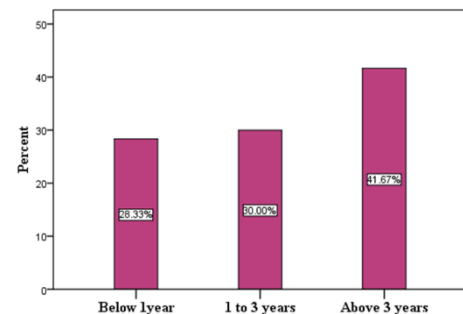
TABLE: 4.4 WORKING IN THE DEPARTMENT



Interpretation

The above table shows that 34.2% are working in production, 21.7% are working in marketing, 16.7% are working in HR, 13.3 are working in finance and 14.2% are working in warehouse. Thus the majority of the respondents are working in production department.

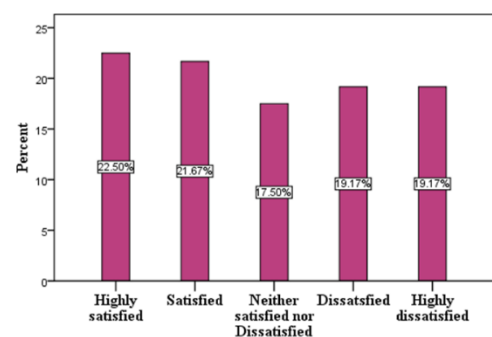
TABLE: 4.5 NO.OF YEARS OF WORKING IN THE COMPANY



Interpretation

The above table shows that 28.3% have below 1 year, 30.0% have 1-3 years and 41.7% have above 3 years working experience. Thus the majority of the respondents have above 3 years working experience.

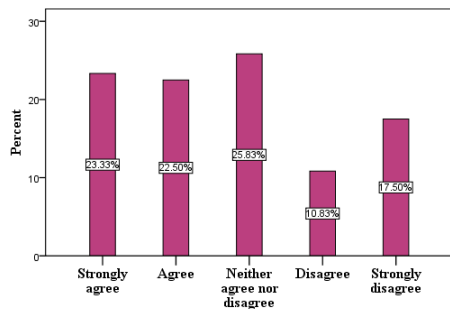
TABLE: 4.6 LEVEL OF SATISFACTION IN SIX SIGMA PRACTICES



Interpretation

The above table shows that 22.5% highly satisfied, 21.7% satisfied, 17.5% neither satisfied nor dissatisfied, 19.2% dissatisfied and 19.2% highly dissatisfied. The majority of the respondents said that highly satisfied in six sigma practices.

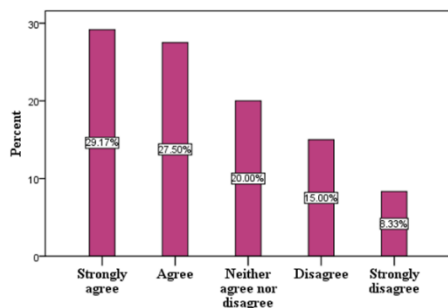
TABLE: 4.7 INCREASES CAREER ADVANCEMENTS FOR EMPLOYEES



Interpretation

The above table shows that 23.3 strongly agree, 22.5 agree, 25.8 of the neither agree nor disagree, 10.8% disagree and 17.5 strongly disagree. Thus the majority of the respondents said that neither agree nor disagree towards increases career advancements for employees.

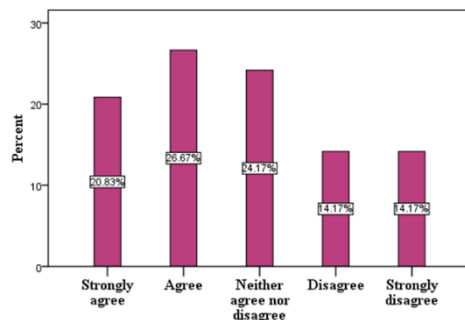
TABLE: 4.8 INCREASES LEADERSHIP ABILITY AMONG EMPLOYEES



Interpretation

The above table shows that 29.2% strongly agree, 27.5% agree, 20.0% neither agree nor disagree, 15.0% disagree and 8.3% strongly disagree. Thus the majority of the respondents said that strongly agree towards increases leadership ability among employees.

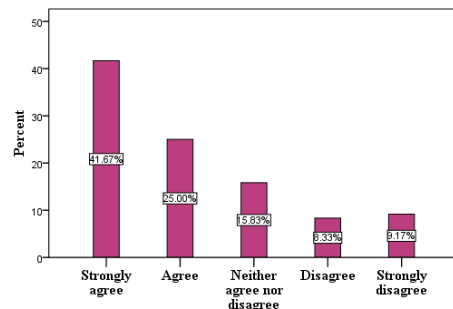
TABLE: 4.9 LEADS TO EMPLOYEE INVOLVEMENT



Interpretation

The above table shows that 20.8% strongly agree, 26.7 agree, 24.2% neither agree nor disagree, 14.2% disagree and 14.2% strongly. Thus the majority of the respondents said that agree towards six sigma practices leads to employee involvement.

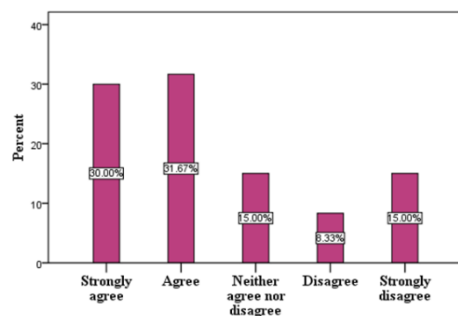
TABLE: 4.10 REDUCING ATTRITION RATE IN THE COMPANY



Interpretation

The above table shows that 41.7% strongly agree, 25.0% agree, 15.8% agree nor disagree, 8.3% of the respondents said that disagree and 9.2% strongly disagree. Thus the majority of the respondents said that strongly agree in reducing attrition rate in the company.

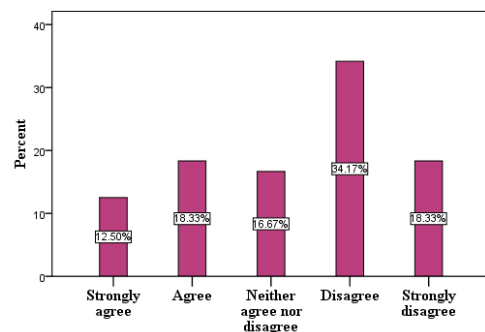
TABLE: 4.11 LEAD TO EMPLOYEES COMPETENCIES



Interpretation

The above table shows that 30% strongly agree, 31% agree, 15% neither agree nor disagree, 8% disagree and 15% strongly disagree. Thus the majority of the respondents said that agree towards it leads to employees competencies.

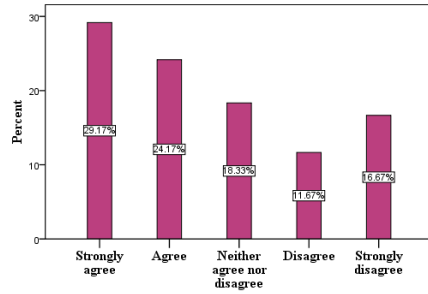
TABLE: 4.12 INCREASES EMPLOYEES MORALE



Interpretation

The above table shows that 13.3% strongly agree, 18.3% agree, 16.7% neither agree nor disagree, 33.3% disagree and 18.3% strongly disagree. Thus the majority of the respondents said that disagree towards increases employees morale.

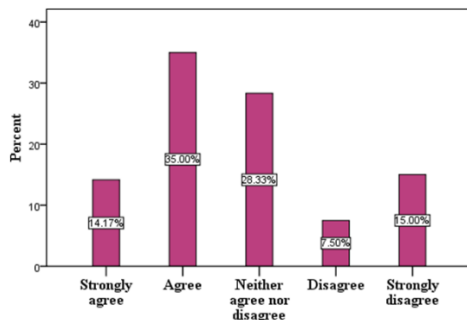
TABLE: 4.13 REDUCES RECRUITMENT COST FOR HR DEPARTMENT



Interpretation

The above table shows that 29.2% strongly agree, 24.2% agree, 18.3% neither agree nor disagree, 11.7% disagree and 16.7% strongly disagree. Thus the majority of the respondents said that strongly agree towards reduces recruitment cost for HR department.

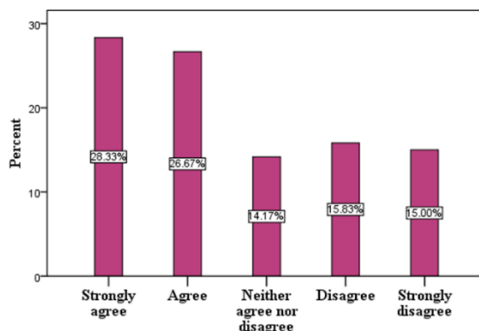
TABLE: 4.14 INCREASES FIRM'S FINANCIAL PERFORMANCE



Interpretation

The above table shows that 14.2% strongly agree, 35.0% agree, 28.3% neither agree nor disagree, 7.5% disagree and 15.0% strongly disagree. Thus the majority of the respondents said that agree towards increases firm's financial performance.

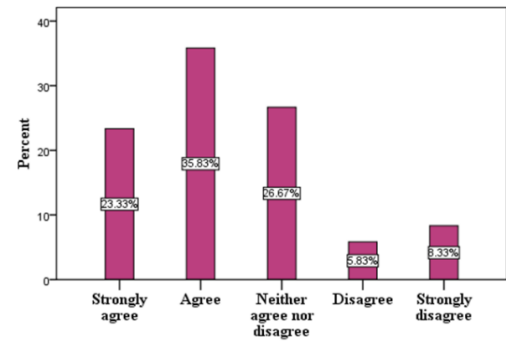
TABLE: 4.15 INCREASES ADMINISTRATIVE EFFICIENCY



Interpretation

The above table shows that 28.3% strongly agree, 26.7% agree, 14.2% neither agree nor disagree, 15.8% disagree and 15.0% strongly disagree. Thus the majority of the respondents said that strongly agree towards increases administrative efficiency.

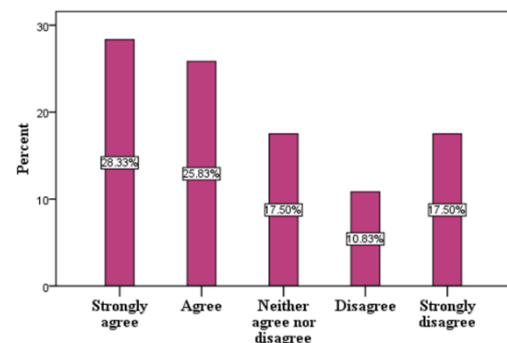
TABLE: 4.16 ENABLES PRODUCTIVITY IMPROVEMENT



Interpretation

The above table shows that 23.3% strongly agree, 35.8% agree, 26.7% neither agree nor disagree, 5.8% disagree and 8.3% strongly disagree. Thus the majority of the respondents said that agree towards enables productivity improvement.

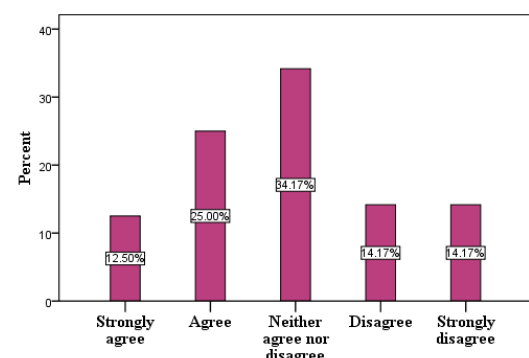
TABLE: 4.17 LEADS TO EASE OF MARKETING ACTIVITIES



Interpretation

The above table shows that 28.3% strongly agree, 25.8% agree, 17.5% neither agree nor disagree, 10.8% disagree and 17.5% strongly disagree. Thus the majority of the respondents said that strongly agree towards leads to ease of marketing activities.

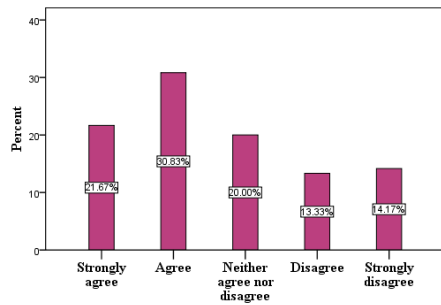
TABLE: 4.18 REDUCES REJECTED PRODUCTS



Interpretation

The above table shows that 12.5 strongly agree, 25.0% agree, 34.2% neither agree nor disagree, 14.2% disagree and 14.2% strongly disagree. Thus the majority of the respondents said that agree towards reduces rejected products.

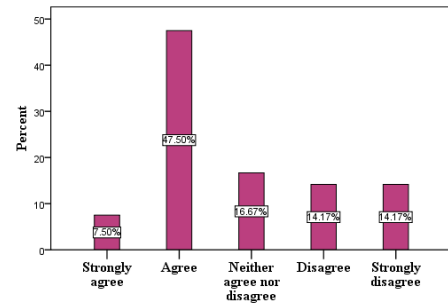
TABLE: 4.19 INCREASES CUSTOMER SATISFACTION



Interpretation

The above table shows that 21.7% strongly agree, 30.8% agree, 20.0% neither agree nor disagree, 13.3% disagree and 14.2% strongly disagree. Thus the majority of the respondents said that agree towards increases customer satisfaction.

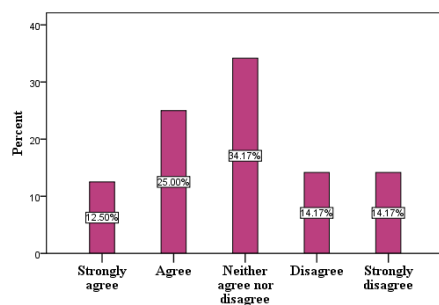
TABLE: 4.22 PROVIDES ERROR FREE PRODUCTS FOR CUSTOMERS



Interpretation

The above table shows that 7.5% strongly agree, 47.5% agree, 16.7% neither agree nor disagree, 14.2% disagree and 14.2% strongly disagree. Thus the majority of the respondents said that agree towards six sigma practices provides error free products for customers.

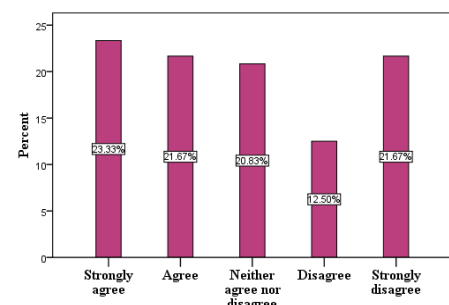
TABLE: 4.20 IMPROVE CUSTOMER SERVICES



Interpretation

The table shows that 18.3% strongly agree, 22.5% agree, 25.0% neither agree nor disagree, 12.5% disagree and 21.7% strongly disagree. Thus the majority of the respondents said that neither agree nor disagree towards improve customer services.

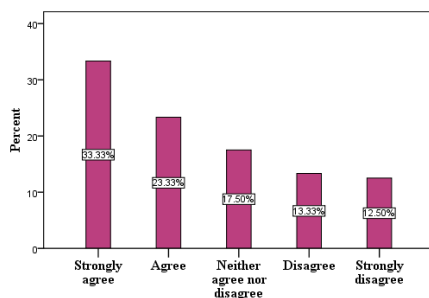
TABLE: 4.23 EXCEEDS CUSTOMERS EXPECTATION



Interpretation

The above table shows that 23.3 strongly agree, 21.7% agree, 20.8% neither agree nor disagree, 12.5% disagree and 21.7%vstrongly disagree. Thus the majority of the respondents said that strongly agree towards exceeds customers expectation.

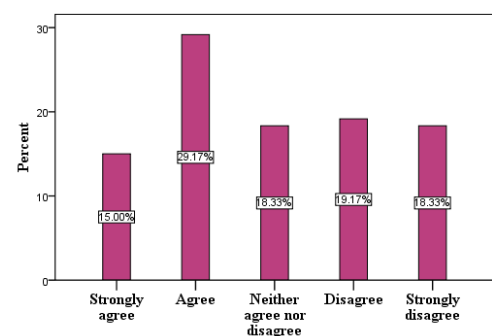
TABLE: 4.21 REDUCES TIME FOR INSPECTING THE PRODUCTS



Interpretation

The table shows that 33.3% strongly agree, 23.3% agree, 17.5% neither agree nor disagree, 13.3% disagree and 12.5% strongly disagree. Thus the majority of the respondents said that strongly agree towards reduces time for inspecting the products.

TABLE: 4.24 CUSTOMERS CAN OBTAIN TRUSTED PRODUCTS



Interpretation

The above table shows that 15.0% strongly agree, 29.2% agree, 18.3% neither agree nor disagree, 19.2% disagree and 18.3% strongly disagree. Thus the majority of the respondents said that agree towards customers can obtain trusted products.

FINDINGS

- 66.7% of the respondents said that male.
- 25.0% of the respondents said that in the age group of 31 to 40.
- 34.2% of the respondents have completed Post Graduate.
- 34.2% of the respondents said that working in production department.
- 41.7% of the respondents have above 3 years.
- 22.5% of the respondents said that highly satisfied towards the level of satisfaction in six sigma practices.
- 25.8% of the respondents are neither agree nor disagree towards increases career advancements for employees.
- 29.2% of the respondents said that strongly agree towards increases leadership ability among employees.
- 26.7% of the respondents said that agree towards increases leads to employee involvement.
- 41.7% of the respondents said that strongly agree towards reducing attrition rate in the company.
- 31.7% of the respondents said that agree towards lead to employees competencies.
- 33.3% of the respondents said that disagree towards increases employees morale.
- 29.2% of the respondents said that strongly agree towards reduces recruitment cost for hr department.
- 35.0% of the respondents said that agree towards increases firm's financial performance.
- 28.3% of the respondents said that strongly agree towards increases administrative efficiency.
- 35.8% of the respondents said that agree towards enables productivity improvement.
- 28.3% of the respondents said that strongly agree towards leads to ease of marketing activities.
- 34.2% of the respondents said that agree towards reduces rejected products.
- 30.8% of the respondents said that agree towards lack of increases customer satisfaction.
- 25.0% of the respondents said that neither agree nor disagree towards improve customer services.
- 33.3% of the respondents said that strongly agree towards reduces time for inspecting the products.
- 47.5% of the respondents said that agree towards provides error free products for customers.
- 23.3% of the respondents said that strongly agree towards exceeds customers expectation.
- 29.2% of the respondents said that agree towards lack of accurate forecasting system lack of accurate forecasting system.
- There is no significant relationship between gender of the respondents and benefits for employees
- There is positive relationship between age of the respondents and benefits for customers

SUGGESTIONS AND RECOMMENDATIONS

- The six sigma practices adopted in the company must satisfy the employees, customers, and major key players in the company.
- It must increase career advance for employees. The practices adopted in the company must increase leadership ability among the employees in the company.
- The six sigma implementation in the company should lead employee involvement in the organization. It should lead to employees' competencies. It must ensure employee morale in the organization.
- The company must ensure to reduce recruitment cost through adoption of six sigma practices in the company.
- The six sigma practice in the company must increase the financial performance of the company.
- It must increase administrative efficiency in the company. It must enable productivity improvement for production department.
- It must reduce rejected products for warehouse department and the management should keep monitor frequently regarding the error free products.
- The management often should get feedback from the customers regarding their satisfaction in all aspects and compare with existing six sigma practices in the company.
- It must reduce time for inspecting the products and it should provide always error free products.

CONCLUSION

Six Sigma has proven to be a very successful tool for organizations seeking to identify problems, remove roots of errors or failures, and improve their business processes. Since its conception in 1986 by Motorola Company, Six Sigma has been widely adopted by businesses in different industries. Provided that emerging organizations are listening and appealing to customer demands, the already established organizations may use Six Sigma principles in achieving the never-ending goals of increasing quality and decreasing costs. In order to achieve the implementation goals on the business, it needs to focus strictly its benefits. The implementation cost should not too high compare than the benefits it gets from the business.

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