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**A STUDY ON MARKET POTENTIAL FOR OPEN
AUTOMATION IN COIMBATORE**



A Project Report

Submitted

By

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In partial fulfillment of the requirements

for the award of the degree of

MASTER OF BUSINESS ADMINISTRATION

Department of Management Studies

Kumaraguru College of Technology

(An autonomous institution affiliated to Anna University, Coimbatore)

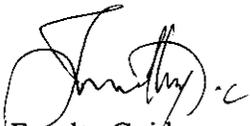
Coimbatore - 641 049

November, 2011



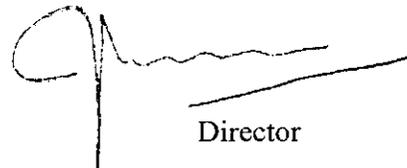
BONAFIDE CERTIFICATE

Certified that this project report titled “A study on market potential for open automation in Coimbatore” is the bonafide work of Mr.S.Gokul, 10MBA19 who carried out the project under my supervision. Certified further, that to the best of my knowledge the work reported herein does not form part of any other project report or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.



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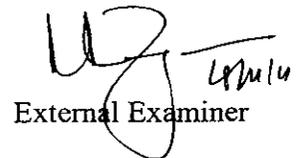


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Submitted for the Project Viva-Voce examination held on 18-11-11



Internal Examiner



External Examiner

Ref:KIC/HRD/2011-2012/11/007

10-November-2011

CERTIFICATE

This is to certify that **Mr.Gokul S, Reg. No.10MBA19** has undergone Internship Programme in our Organization from **27-June-2011 to 06-Aug-2011** on "**MARKET POTENTIAL FOR OPEN AUTOMATION**".

During project tenure,we are happy with his attendance, interest in learning new things and we found his performance satisfactory.

We wish him all the very best for his future endeavors.

Yours Regards,
For **kalycito infotech Private Limited**


G.Kamalakannan

Director

Director
Kalycito Infotech Private Limited

ACKNOWLEDGEMENT

I express my sincere gratitude to our beloved chairman **Arutchelvar Dr. N.Mahalingam and management** for the prime guiding spirit of Kumaraguru College of Technology.

I wish to express deep sense of obligation to **Mr.C.Ganeshmoorthy**, Assistant professor, guide and the project coordinator of KCT Business School, for his intensive guidance throughout my project.

I thank **Mr.Samuel**, Sales Manager- Kalycito Infotech pvt ltd., and **Mr.G.Kamalakaran**, Director- Kalycito Infotech pvt for their valuable guidance throughout my project.

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SYNOPSIS

Open technologies is a booming technology which has gathered the attention of all the business. The main advantage of open technologies is cost optimization in the manufacturing process. Since cost optimization is being a major challenge to all business, open technologies is being favored by all business.

Kalycito is an Electronic Product Development Consultant with services, solutions and low volume manufacturing as part of its portfolio. They act as a product enabler and partner with their customers to build their products and solutions

Kalycito InfoTech, all these year was a Research and Development supporter. But now they are into manufacturing of automation components for various industries. Having a small customer base, the company wishes to expand its base. Hence there arises a need to determine the market potential and market receptiveness of open technologies in Coimbatore.

The primary objective of this study is to evaluate the market receptiveness potential for open automation in Coimbatore. The secondary objective is to know the customer perception about the open technologies. The Suggestions are made on the basis of study and recommendations are given for the Force one SUV to have better receptiveness in the market.

CHAPTER 1: INTRODUCTION

CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION TO THE STUDY

Estimating the market potential and market receptiveness for a new business or business expansion is critical in determining the economic feasibility of a venture. Estimating the market potential will determine if the market is large enough to support your businesses. Coming to market receptiveness, receptivity means capable of qualified in receiving. It is also explained as market willingness to receive favorably. So determining market receptiveness is very important for a venture to be successful. A market could have potential but if it does not have favorable receptiveness to our brand then the venture will become a failure one. Market potential and market receptiveness looks to be similar so many businesses carry out study on the market potential but fails to read the receptivity of their product in the market. Estimating the market receptivity for a business is critical in evaluating its viability and provides estimate of the maximum goods of the specified brand the market is qualified of receiving.

Open technologies is a booming technology which has gathered the attention of all the business. The main advantage of open technologies is cost optimization in the manufacturing process. Since cost optimization is being a major challenge to all business, open technologies is being favored by all business.

AUTOMAION:

Automation is the use of control systems and information technologies to reduce the need for human work in the production of goods and services. In the scope of industrialization, automation is a step beyond mechanization. Whereas mechanization provided human operators with machinery to assist them with the muscular requirements of work, automation greatly decreases the need for human sensory and mental requirements as well. Automation plays an increasingly important role in the world economy and in daily experience

OPEN TECHNOLOGIES:

The term open source describes practices in production and development that promote access to the end product's source materials. Some consider open source a philosophy, others consider it a pragmatic methodology. Before the term *open source* became widely adopted, developers and producers used a variety of phrases to describe the concept; *open source* gained hold with the rise of the Internet, and the attendant need for massive retooling of the computing source code. Opening the source code enabled a self-enhancing diversity of production models, communication paths, and interactive communities. Subsequently, the new phrase "open-source software" was born to describe the environment that the new copyright, licensing, domain, and consumer issues created.

BENEFITS OF OPEN TECHNOLOGIES

Take control of your software

Open source software gives them the power to control their software's code. They have the right to modify the code to suit their requirements and control the budgets that they want to spend towards it. Unlike proprietary software, where the vendor controls the code, upgrades and budgets -- with open source software, they control the upgrade process and can choose to decide which bugs to fix and when.

Escape Vendor Lock-in

Disappointment and dissatisfaction with a vendor's support and service is a reality for all IT managers. Inability to customize software to meet their requirements or support your needs, further increases the frustration. Open source gives them the freedom to choose their preferred vendor giving you the flexibility.

Lower cost of ownership

There is no license fees for open source software, reducing annual license fees cost to zero. There is zero cost of scale, because open source does not require additional licenses as the

installation grows. The only spends are towards the support for their software that ensure reliability and reduces running cost by at least 80%.

Greater Security & Quality

Open source software is available publicly. A large amount of developers globally contribute and analyze the code making it more secure and constantly increasing the quality. The peer review process drive excellence in design.

Continuity

It is possible that a proprietary software company shuts shop or decides to discontinue services for software. With it go the support and the future of the software. Open source software is not dependent on a single entity and gives users the advantage of the community. Any developer can choose to take up the software and continue from where it stopped.

1.2. ORGANISATION PROFILE

OVERVIEW

Kalycito is an Electronic Product Development Consultant with services, solutions and low volume manufacturing as part of its portfolio. They act as a product enabler and partner with their customers to build their products and solutions

HISTORY OF THE ORGANISATION

Kalycito operates from Coimbatore - an industrial city in India. They started as an incubate of PSG Science and Technology Entrepreneurial Park within PSG College of Technology - a reputed engineering institution in 2007. Over the years, they opened two more office in the city. Their office infrastructure has space to seat a 100 member engineering team and can be quickly ramped up to meet client requirements. They have also been providing secure, dedicated infrastructure for customers who opt for them.

MISSION

Their mission is to be a trusted, strategic, long-term technology partner offering specialized research and development services and solutions to our customers while being a just employer and a socially responsible organization.

PRODUCTS PROFILE

Consulting

They also help to conceptualize the product including

- Detailed design of
 - Hardware
 - Software
 - Network Structure
 - Costing and BOM optimization
- Aesthetics aspects of products and enclosure design

Services

They can augment their teams through services in the following areas

- Electronic Hardware Design
- Software Development in non-OS/Hard Real Time OS/Linux
- VLSI
- Networked Embedded Systems

Solutions

Industrial Automation is a core focus area for them and they provide several off-the-shelf solutions that are based on Open Technologies.

Manufacturing

They handle manufacturing and supply of units for a few of their customers who want them to support them in an end-to-end fashion. They have capability and track record in supplying in batches of 1000 units.

Customers

In Europe, they are working with world leaders in the domains of Industrial Automation and Consumer Electronics. In India, they are working with SME OEMs with specialized requirements. Their customers see them as an extended arm of their internal research and development divisions.

Figure 1.1: ORGANISATIONAL CHART

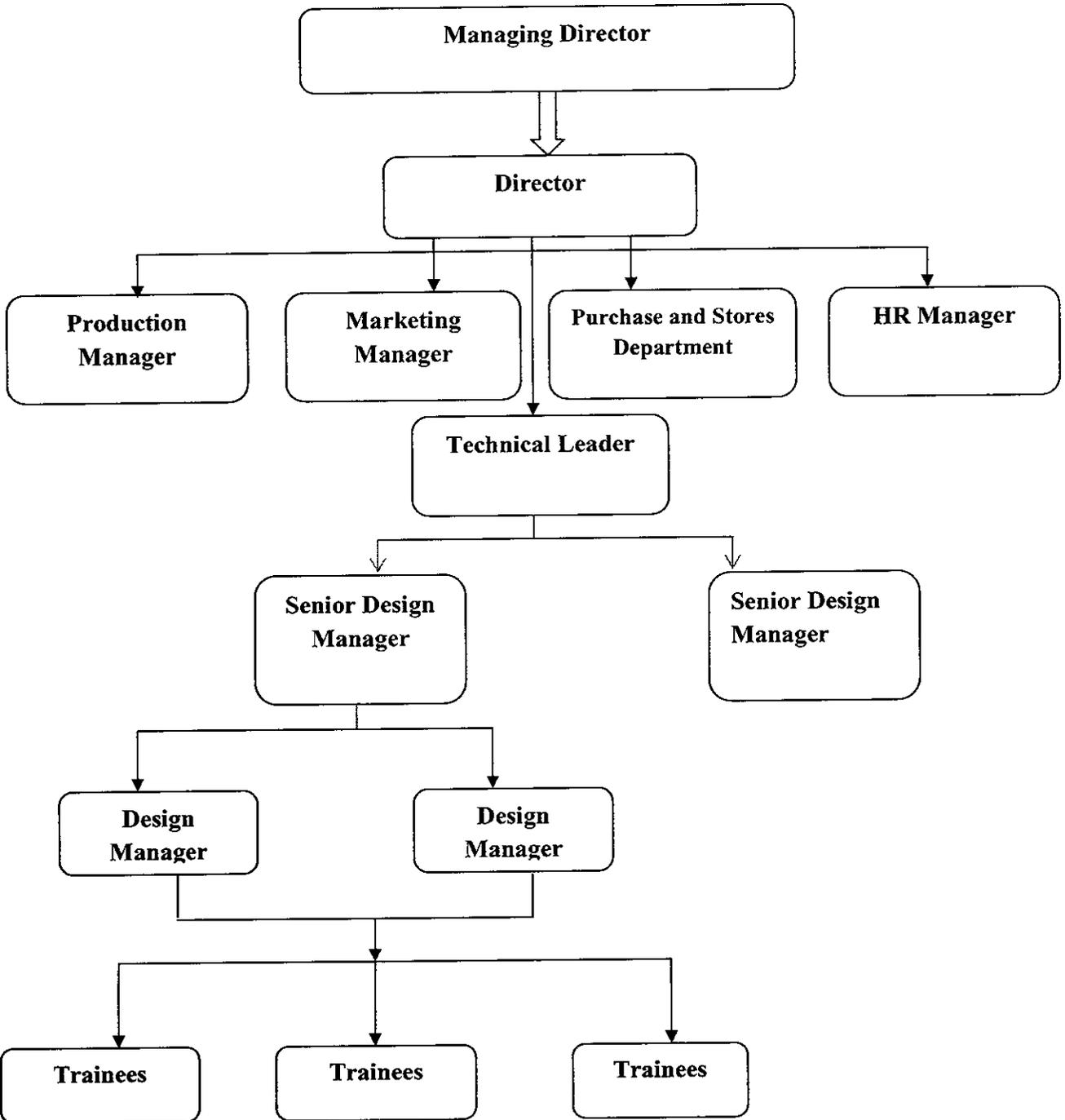


Figure 1.. Figure showing Organization structure of Kalycito

1.3 STATEMENT OF THE PROBLEM

Kalycito Infotech, all these year was a Research and Development supporter. But now they are into manufacturing of automation components for various industries. Having a small customer base, the company wishes to expand its base. Hence there arises a need to determine the market potential and market receptiveness of open technologies in Coimbatore.

1.4 OBJECTIVES OF THE STUDY

1. The primary objective of this study is to analyze the market potential for open automation in Coimbatore.
2. The secondary objective is to know the customer perception about open technologies.

1.5 SCOPE OF THE STUDY

The study is mainly done within Coimbatore district and the respondents of this study are manufactures, machine builders and system integrators in Coimbatore. This study does not target all industries in Coimbatore because the main objective of the study is to determine the market potential for Open Automation for industries using Automation components. A field study is carried out in Coimbatore city in order to collect data for the analysis purpose.

CHAPTER 2: REVIEW OF LITERATURE

CHAPTER 2

REVIEW OF LITERATURE

1. Susan A. Sherer, “Information Systems in Manufacturing Networks”, *International Journal of Electronic Commerce*, Vol. 4, No. 1 (Fall, 1999), pp. 23-43 .

Interorganizational information systems are prime enablers of new collaborative forms of activity among different businesses, but present research shows that they are only used infrequently to support manufacturing networks of small and medium-size manufacturing enterprises that join together to compete through joint learning, resource sharing, technology transfer, marketing, or production. Many smaller businesses lack technical expertise. Co marketing and coproduction networks have different information-system support needs from other networks such as resource and learning networks. Network brokers or sponsors can help network members to incorporate technology that facilitates information access and communication in all networks and can provide collaborative support to enable information exchange and shared databases for joint marketing and production efforts.

2. Merdan, Munir, “Monitoring and diagnostics of industrial systems using automation agents”, *International Journal of Production Research*; Mar2011, Vol. 49 Issue 5, p1497-1509.

An agile monitoring and diagnostic system plays a vital role in manufacturing, since it can considerably increase its robustness and efficiency. Applying agent technology to such systems is recognised as an appropriate approach, providing fault-tolerance and means for failure recovery in the case of sudden anomalies. In this article, we present an automation agent approach with agents comprising a software component with an integrated world model repository besides the related hardware. The world model is an explicit representation of the external surroundings and internals of the agent, and is used to detect anomalies in its own

behaviour. We use an ontology to formalise the agent's knowledge. Applicability and functionality of our approach are presented in an example employing a real system.

3. Lichtenthaler, “Technology Transfer across Organizational Boundaries: ABSORPTIVE CAPACITY AND DESORPTIVE CAPACITY”, *California Management Review*; Fall2010, Vol. 53 Issue 1, p154-170, 17p.

In light of the trend towards open innovation, interorganizational technology transfer by means of alliances and licensing has often become a key component of open innovation processes. Inbound open innovation describes inward technology transfer, whereas outbound open innovation refers to outward technology transfer. Traditionally, inward technology transfer has received considerable attention because most practitioners and academics focus on the technology recipient's absorptive capacity. In contrast, the role of the technology source has been relatively neglected. This article addresses the concept of desorptive capacity, which refers to a firm's ability to identify technology transfer opportunities and to transfer technology to the recipient. The notion of market knowledge in the concept of desorptive capacity deepens our understanding of many firms' managerial difficulties in implementing active technology transfer strategies. Thus, desorptive capacity enriches our understanding of the dynamics of outward technology transfer. It provides new insights into the success or failure of interorganizational technology transactions.

4. Meredith, J, “The Economics of Investment in Automation”, *International Handbook of Production & Operations Management*; 1989, p237-255, 19p.

It discusses how to assess the benefits and costs of automation tools in industrial setting. The economic and intangible benefits of engineering, manufacturing and business technologies are cited. Several methods of justifying the cost of technologies are discussed.

5. “Real-time innovation”, *Manufacturing Engineer*; Oct/Nov2004, Vol. 83 Issue 5, p7-7, 1/3p

Discusses the implications of automation for flexibility in industrial operations.

Technological innovations; Machine operations; Benefits and limitations of automation;
Emphasis on the packaging process.

**6. Greenbaum, Joshua, “Open Source Hype”, *Managing Automation*; Apr2003, Vol. 18
Issue 4, p18, 1p.**

Addresses the debate over whether the Linux operating system (OS) and the open source software movement will have the same potential in manufacturing as the movement has had in the OS, tools and server markets. Failure of OpenMFG as an open source software; Business and competitive issues surrounding open source killer applications; Alternative provided by outsourcing in the enterprise applications market.

**7. Agarwal, Amiya, “Flexibility in Information Technology Systems and Organizational Competitiveness”, *Global Journal of Flexible Systems Management*; Jan-Mar2004, Vol. 5
Issue 1, p35-38, 4p.**

Stresses the importance of flexibility to information technology systems and manufacturing processes. Overview of the open source initiative; Applications of knowledge management systems; Methods for calculating cost of deployment of flexible systems.

CHAPTER 3: RESEARCH METHODOLOGY

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CHAPTER 3

RESEARCH METHODOLOGY

Research may be defined as the search for knowledge through an objective and scientific method of finding solution to a problem. Research methodology is a way to systematically solve the research problem. It includes the various steps that are generally adopted by a researcher in studying problem along with the logic behind them. During this research I have adopted the following research design.

Research design

- To decide the objective and subjective of the research.
- To determine the most suitable method of research.
- To determine the sources of data
- To decide the appropriate research instrument for data collection
- To determine the suitable sampling design and sampling size
- To conduct the field survey for data collection
- To prepare the research report

3.1 Type of Research

The method adopted is descriptive study, where set of elements that will influence the motive of the respondents are identified by literature review and through brain storming sessions. The samples for this study mainly comprises of members of the top management who plays a major role in decision making in cost optimization measures. The pilot study is done to refine the questionnaire and to decide the attributes which the questionnaire should measure.

3.2 Data and Source of data

The data used for this research is primary data. The research instrument used for data collection is structured questionnaire which was carefully designed keeping the entire objective in mind. The questionnaire collects information in various aspects like type of organization, organization turnover; R&D budget etc. The other aspects such as need for customization, licensing, ease of installation etc are also included.

3.3 Time period covered

The total time period of the study was 45 days. It took one month to finalize the research design and the data collection was carried out in 15 days.

3.4 Population & Sample

The process of collecting observation from elements of a large population may be expensive, time consuming and difficult. It will be cheaper and quicker to collect information from a sample plan of the population. A sample is a subset of population through a valid statistical procedure so that it can be regarded as representative of the entire population. The valid statistical procedure of drawing sample from the population is called sampling.

3.4.1 Sample units

The sample unit for this study is manufacturers, machine builders and system integrators in Coimbatore city

3.4.2 Sample Frame

A sample frame is a list that includes every member of the population from which a sample is to be taken. In this case the sample frame is Coimbatore city

3.4.3 Sample size

The larger the sample, the more accurate the result would be but practically it is not feasible to survey the entire target population or even the substantial proportion of it. In this project, being aware of the time and cost constraints, sample size of 60 respondents was taken.

3.5 Sampling Technique

For this research the sampling technique adopted is simple random sampling. It is a non probabilistic sampling technique.

3.6 Statistical tools used

The statistical tools used in this research are

- ❖ Percentage/ Frequency Analysis
- ❖ Graphs
- ❖ Chi square test
- ❖ Average score Analysis
- ❖ Correlation

3.7 Limitations

The study is carried out only inside the Coimbatore city and the respondents of this study are manufacturers, machine builders and system integrators. The respondents have only a little awareness about open technologies.

CHAPTER 4

ANALYSIS & INTERPRETATION

4.1 Percentage Analysis

4.1.1 Table showing the type of organization of the respondents

S.No	Type of organization	Total No. of respondents	Percentage of respondents
1	Machine Builders	7	11.7
2	Manufacturers	34	56.7
3	System Integrators	5	8.3
4	Others	14	23.3
Total		60	100.0

Inference:

This table shows the type of organization of respondents and large percentage of people fall under the category of manufacturers. So manufacturers are more interested in adopting the open technologies. The other categories are meager.

Type of organisation

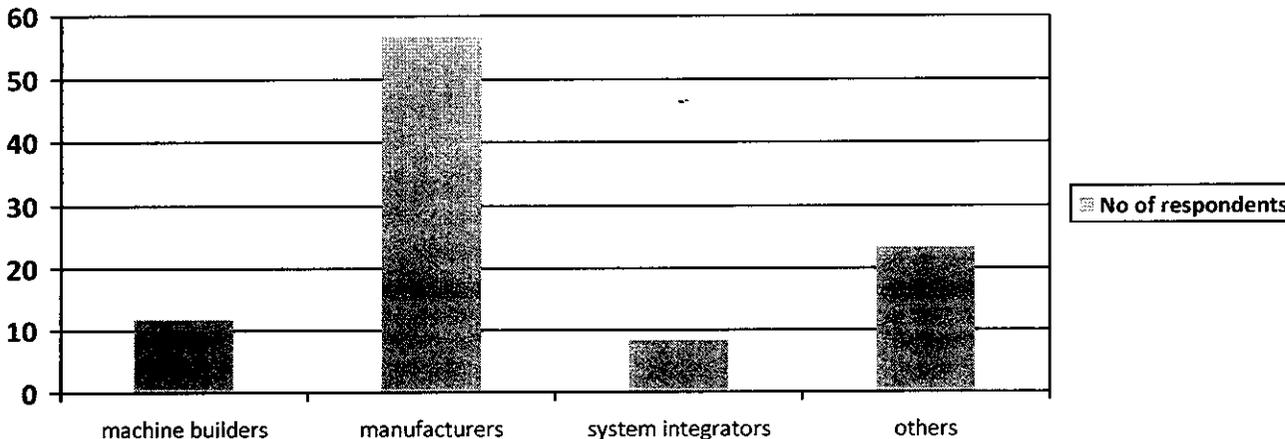


Figure 4.1. Chart showing the type of organization

4.1.2 Table showing the organization turnover of the respondents

S.No	Organization Turnover	Total No. of respondents	Percentage of respondents
1	Less than 5 crore	6	10
2	5 to 10 crore	9	15
3	More than 10 crore	45	75
Total		60	100

Inference:

This table shows that most of the organizations have an turnover more than 10 crore. Very few organizations have less than 10 crores turnover. Open automation best suit for medium and large scale industries. Since the turnover is high for many industries, Kalycito team should design methods to convince these manufacturers to go for automation. One way could be giving demo on-site, so that the manufacturers understand the benefits in a better way.

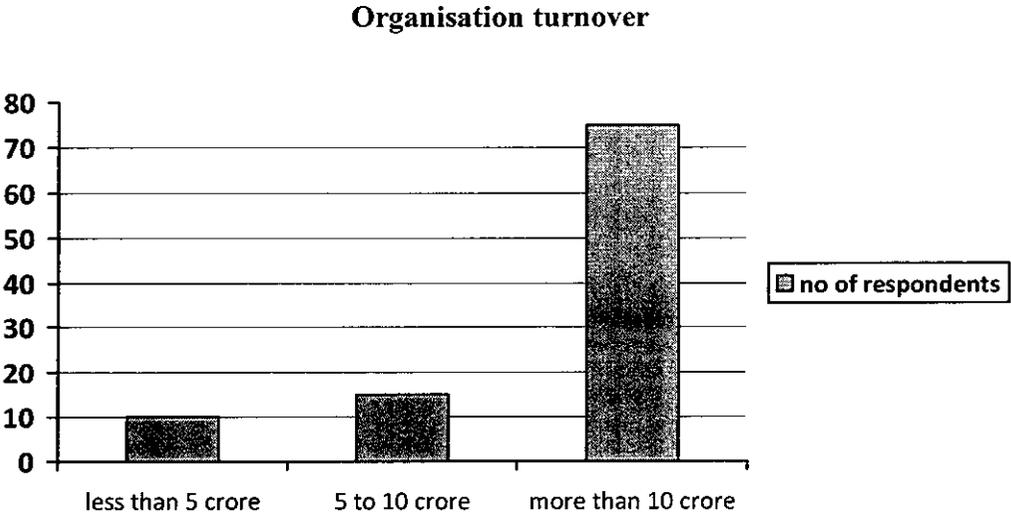


Figure 4.2. Chart showing organization turnover

4.1.3 Table showing percentage of awareness level of respondents about open technologies

S.No	Awareness about open technologies	Total No. of respondents	Percentage of respondents
1	Yes	42	70
2	No	18	30
Total		60	100.0

Inference:

From this table we can say that only 70% are aware about open technologies. Rest is ignorant towards the technology. So creating awareness by organizing workshops and conferences is very necessary to make organization adopt the technology.

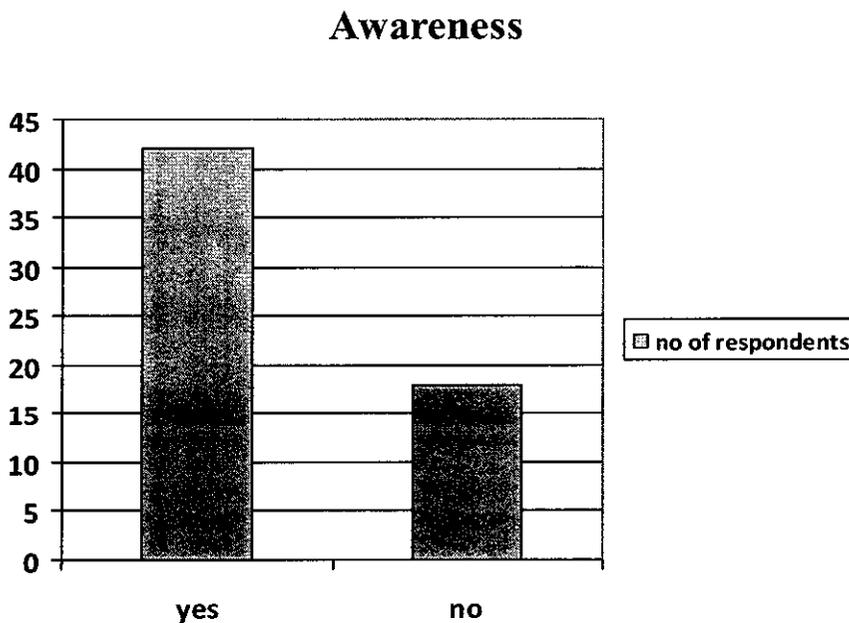


Figure 4.3. Chart showing Awareness about open automation

4.1.4 Table showing percentage of respondents who are currently using automation in their organization

S.No	Currently using automation	Total No. of respondents	Percentage of respondents
1	Yes	48	80
2	No	12	20
Total		60	100.0

Inference:

From the table we can say that among the 100 % people who are aware about open technologies most of the respondents currently use automation in their process. Still some respondents do not use automation components currently due to lack of awareness about open technologies.

Currently use automation

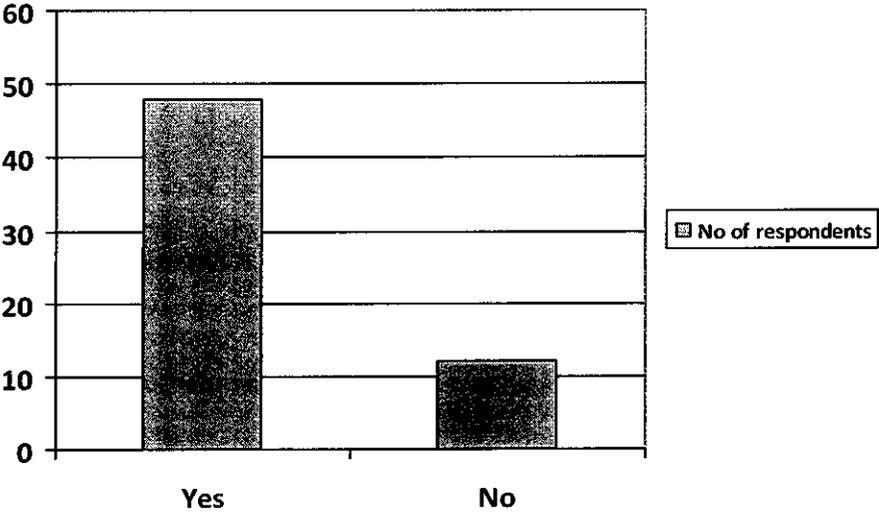


Figure 4.4. Chart showing current automation components

4.1.5 Table showing percentage of existing automation components in the organization

S.No	Components	Total No. of respondents	Percentage of respondents
1	PLC	27	45
2	IO systems	16	26.7
3	Drives and motors	14	23.3
4	Others	3	5
Total		60	100.0

Inference:

The respondents suggest that organization use a wide variety of automation components. Majority of the Organisation use PLC and a fair number of organizations use IO systems and Drives and Motors.

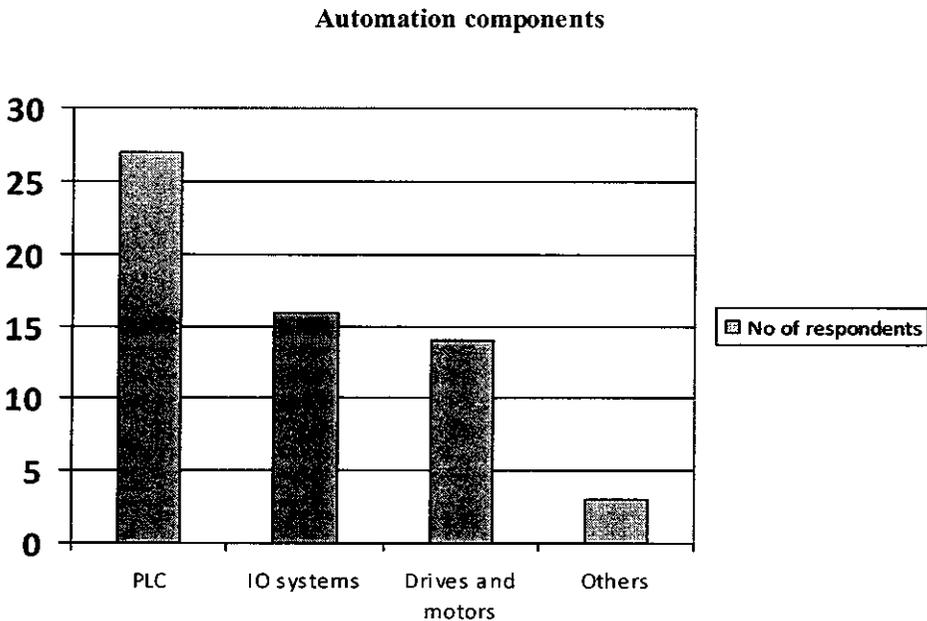


Figure 4.5. Chart showing Automation components

4.1.6 Table showing efficiency level of current automation components in the organization

S.No	Efficiency	Total No. of respondents	Percentage of respondents
1	Very low	2	4.22
2	Low	1	2.08
3	Medium	22	45.8
4	High	19	39.6
5	Very high	4	8.3
Total		48	100.0

Inference:

Nearly 45.8% of respondent say that the efficiency of existing automation components are only fair enough. So there is a need for open technologies to improve the efficiency of their automation components.

Efficiency of existing automation components

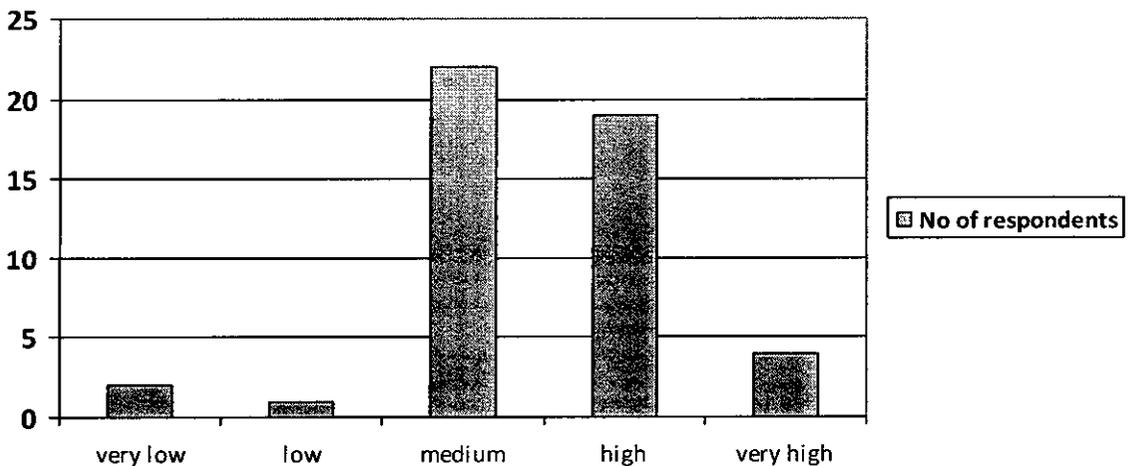


Figure 4.6. Chart showing efficiency of existing automation components

4.1.7 Table showing percentage of Manual process the organization is interested in automating

S.No	Manual process	Total No. of respondents	Percentage of respondents
1	Machining	11	18.3
2	Fabrication	3	5
3	Casting	2	3.33
4	Assembly	12	20
5	Packaging	8	13.34
6	Material movement and tracking	12	20
7	Material inspection	5	8.33
8	Others	7	11.67
Total		60	100.0

Inference:

From the table it is clear that most of the organizations are interested in automating their manual processes. Most of the people are interested in automating their assembly and material movement and tracking processes. Some organizations are interested in automating their machining and packaging processes also.

Manual process interested in automating

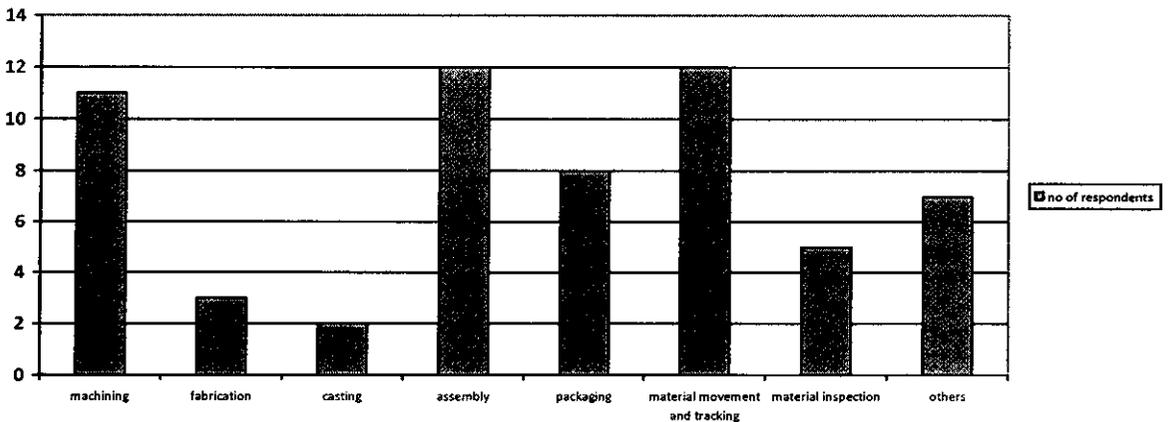


Figure 4.7. Chart showing manual process interested in automating

4.1.8 Table showing percentage of annual R&D budget of the organization

S.No	R&D budget	Total No. of respondents	Percentage of respondents
1	Less than 1 lakh	6	10
2	1-2 lakhs	18	30
3	2-3 lakhs	4	6.67
4	3-4 lakhs	5	8.33
5	More than 4 lakhs	27	45
Total		60	100.0

Inference:

This table shows that majority of organizations spend more than 4 lakhs in their R&D budget. So it is clear that majority of organizations can spend in automation technologies.

Annual R&D budget

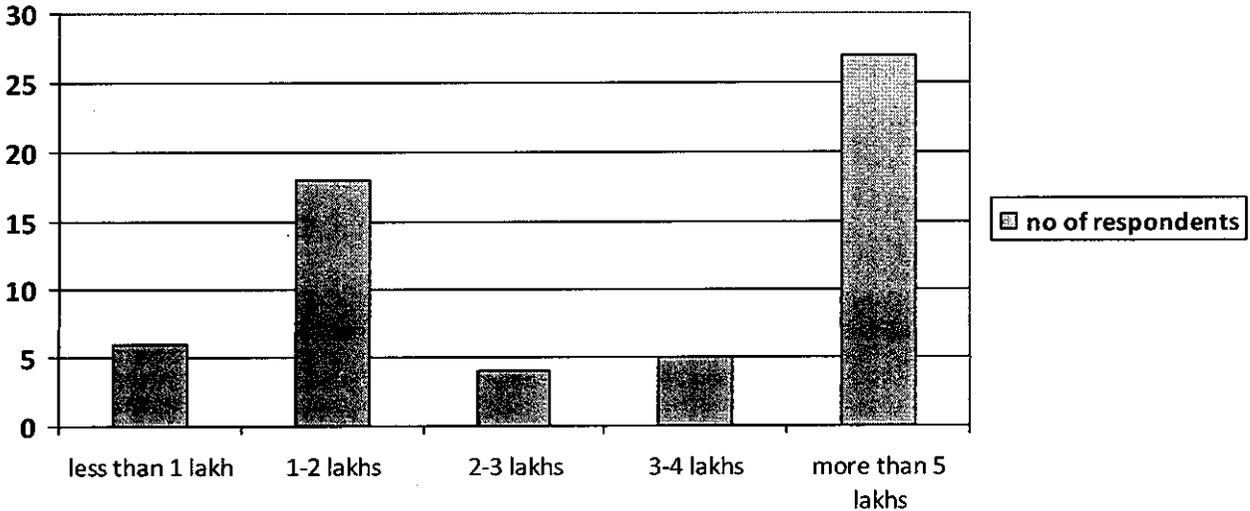


Figure 4.8. Chart showing Annual R&D budget

4.1.9 Table showing percentage of Time period in which the return on investment is expected

S.No	Time period	Total No. of respondents	Percentage of respondents
1	Less than 6 months	10	16.66
2	6 to 12 months	16	26.67
3	12 to 18 months	18	30
w	18 to 24 months	16	26.67
Total		60	100.0

Inference:

Most of the organizations expect their rate of return between a time period of 6 to 24 months.

This is a good indication that open technologies can be adopted by those organizations to minimize their cost of production.

Return on investment

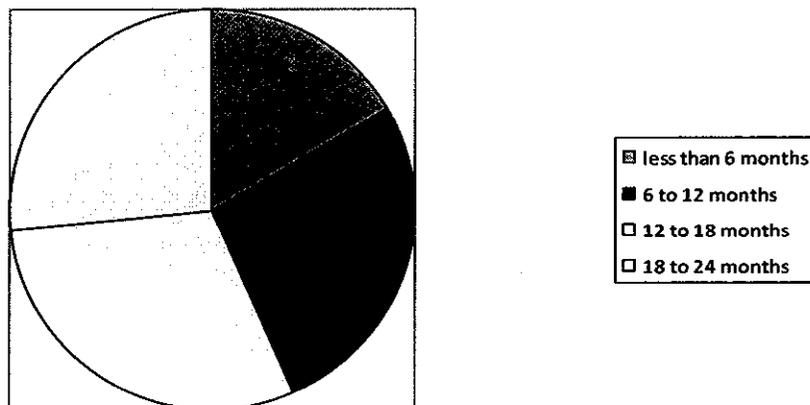


Figure 4.3. Chart showing Return on investment

4.1.10 Table showing percentage of respondents interested in adopting open automation

S.No	Adopting open automation	Total No. of respondents	Percentage of respondents
1	yes	53	83.33
2	no	7	16.67
Total		60	100.0

Inference:

This table shows that majority of organisations are very interested in adopting open automation in their manufacturing process. Only a few organisations are not sure in adopting it.

interested in adopting open automation

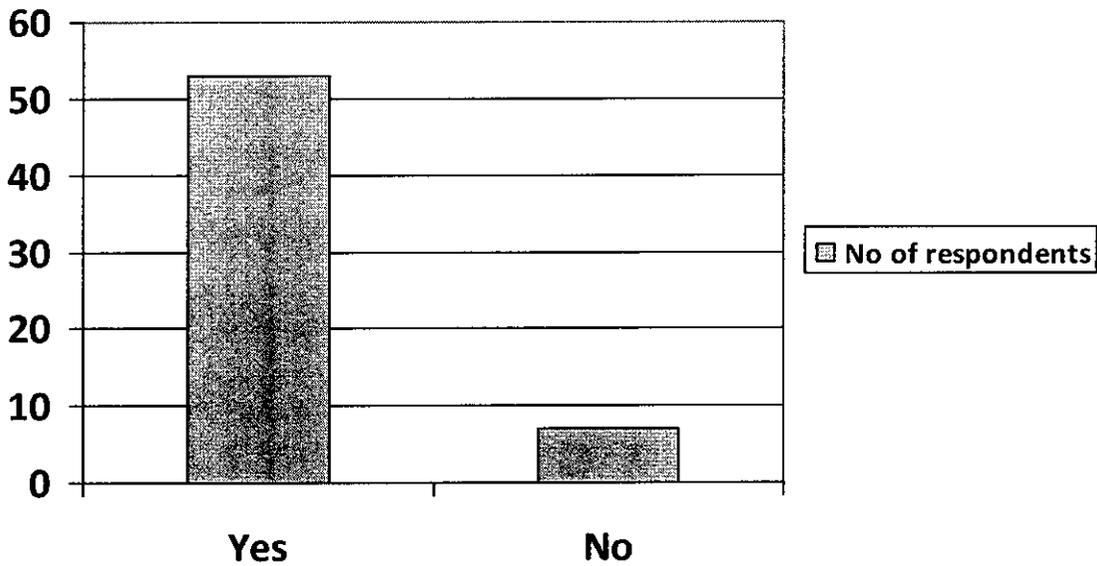


Figure 4.10. Chart showing Organizations interested in adopting open automation

4.2 Average score Analysis

4.2.1 Table showing the Avg. Score – features in automation systems

Attribute	Avg. Score	Influencing Order
Customization	3.78	6
Communication	3.88	5
Licensing	3.42	7
Ease of installation	3.98	3
Quick return on investment	4.1	2
Compatibility	3.95	4
Performance	4.47	1

The average score indicates the weighted average score of respective factors. The order of influencing as follows; Performance, Quick return on investment, Ease of installation, Compatibility etc.

It is concluded that majority of them insisted the Performance and Quick return on investment are the most important factors among the list of factors considered for this study.

4.3 Chi Square Test

4.3.1 Test for association between Annual R&D budget and Time expected to get the return on investment preferred

The association between the Annual R&D budget and Time expected to get the return on investment preferred is tested using Chi Square Test and the results are shown below. The hypothesis formulated for the same are given below.

H₀: There is no association between Annual R&D budget and Time expected to get the return on investment preferred

H₁: There is association between Annual R&D budget and Time expected to get the return on investment preferred

S.No			Time expected to get the return on investment		Chi square	Significance
			Small size	Mid/Large size		
1	Annual R&D Budget	Less Than 4 lakhs	21	12	8.49	0.04
2		More than 4 lakhs	7	20		
		Total	28	32		

Inference:

The significance value is less than 0.05. So the Null hypothesis is rejected. Hence there is association between the Annual R&D budget and Time expected to get the return on investment preferred by the respondents. So more they spend on their R&D the quicker they expect the returns.

4.3.2 Test for association between Organization turnover and respondents interested in adopting open automation preferred

The association between the Organization turnover and respondents interested in adopting open automation preferred is tested using Chi Square Test and the results are shown below. The hypothesis formulated for the same are given below.

H₀: There is no association between Organization turnover and respondents interested in adopting open automation preferred

H₁: There is association between Organization turnover and respondents interested in adopting open automation preferred

S.No			Interested in adopting open automation		Chi square	Significance
			Small size	Mid/Large size		
1	Organization turnover	Less than 5 crore	5	1	1.456	0.483
2		5 to 10 crore	9	0		
3		More than 10 crore	39	6		
	Total	53	7			

Inference:

The significance value is greater than 0.05. So the Null hypothesis is accepted. Hence there is no association between the Organization turnover and respondents interested in adopting open automation preferred by the respondent.

4.4 Correlation method:

Table 4.4.1 shows the correlation between the type of organization and organization turnover

Type of organization	Organization turnover			Total
	Less than 5 crore	5 to 10 crore	More than 10 crore	
Machine builders	1	4	2	7
Manufacturers	2	4	29	35
System integrators	0	0	4	4
Others	3	1	10	14
Total	6	9	45	60

INFERENCE:

From this table it is clear that most of the organizations are manufacturers and most of the manufacturers are having a turnover more than 10 crore.

Table 4.4.2 shows the correlation between annual R&D budget and Time expected to get the return on investment

Annual R&D budget	Time expected to get the return investment				Total
	Less than 6 months	6 to 12 months	12 to 18 months	18 to 24 months	
Less than 1 lakh	4	2	0	0	6
1-2 lakh	3	6	9	0	18
2-3 lakh	1	0	1	2	4
3-4 lakh	0	5	0	0	5
More than 4 lakh	3	4	8	12	27
Total	11	17	18	14	60

INFERENCE:

From this table it is clear that most of the organizations have an R&D budget more than 4 lakhs and among them most of them expect their return on investment in 18 to 24 months.

CHAPTER 5: FINDINGS, SUGGESTIONS AND CONCLUSION

CHAPTER 5

FINDINGS, SUGGESTIONS AND CONCLUSION

5.1 FINDINGS

- ❖ The study unveils that majority of people in Coimbatore are aware of open technologies and automation components.
- ❖ From the study it is evident that most of the organizations in Coimbatore are manufacturers and have a turnover more than 10 crore.
- ❖ The study unveils that the majority of organizations already use automation components in their process.
- ❖ From the study we can understand that most organizations only use PLC, IO systems and Drives and motors currently as automation components.
- ❖ From the study we came to know that most of the organizations are interested in automating many of their manual processes.
- ❖ Most of the organizations spend more than 4 lakhs as their annual R&D budget.
- ❖ From the study we can see that most of the organisations are not fully satisfied with the efficiency of the existing automation systems.
- ❖ From the average score analysis for the importance of certain features that are expected in automation systems can be ranked as Performance, Quick return on investments, Ease of installations, Compatibility etc.
- ❖ From the study it can be understood that most of the organization are interested in adopting open automation technologies.

5.2 SUGGESTIONS

Through this study it is evident that the organizations are interested in automating their manual process the return on investment is obtained only after a few years. So the organizations should start automating its manual processes and also educate the employees to adapt to the new technologies.

The next recommendation is to optimize the organizations production and maintenance cost by using the various features of the automation components such as customization, performance etc.

5.3 CONCLUSION

Evaluating the market potential and market receptiveness are inevitable part of marketing plan. From this study we understood the main factors that determine the potential of open technologies. In this study we understood that the open technologies really have a market potential since many organizations are interested in adopting them and are in a need of cost optimization.

5.4 SCOPE FOR FURTHER STUDY

The future scopes are

- ✓ Increasing the geographical boundary of the study, this study is done only inside Coimbatore city. So in future we can extend this study to other parts of Coimbatore and in other districts also.
- ✓ The respondents chosen here are only manufacturers, machine builders and system integrators. We can also include other type of industries.
- ✓ The sample size is small because of the time constraint but in future we can increase the sample size which will be favorable for doing in depth analysis.

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ANALYSIS OF MARKET POTENTIAL FOR OPEN AUTOMATION IN

COIMBATORE

1. Name & Designation :

2. Name of the company :

3. Turn over :

Less than 5 crore

5 to 10 crore

More than 10 crore

4. Location :

5. Type of Industry :

Machine Builders

Manufacturers

System Integrators

6. Are you aware of open technologies?

Yes

No

If yes, what is the degree of awareness you have?

Very low

Low

Medium

High

Very high

7. Do you currently use automation in any of your processes?

Yes

No

(If no skip to Q11)

8. What are the automation systems you use currently?

(i) _____

(ii) _____

9. Does the existing automation system provide you cost competitiveness?

Yes

No

10. Rate the efficiency of the existing automation systems you use:

Very low

Low

Medium

High

Very high

11. What are the existing systems you use?

PLC

IO systems

Drives and motors

Others - _____ (Please specify)

12. Rate the efficiency of the existing systems:

- Very low Low Medium
 High Very high

13. What are you interested to automate in?

- Machining
 Fabrication
 Casting
 Assembly
 Packaging
 Material movement & tracking
 Material inspection
 Others - _____ (Please Specify)

14. What level of efficiency do you expect from open automation?

- Very low Low Medium
 High Very high

15. How much do you invest in R & D?

- Less than 1 lakhs 1 - 2 lakhs 2 - 3 lakhs
 3 - 4 lakhs More than 4 lakhs

16. In what amount of time do you expect the returns ?

- Less than 6 months 6 months to 12 months
 12 months to 18 months 18 months to 24 months

17. Rate the features you expect when you are using a system :

Features	Very low	Low	Average	High	Very high
Customisation					
Communication					
Distribution of licence					
Fit in Easily					
Quick return on investment					
Compatible					
Performance level					

18. Are you interested in adopting open automation in your company?

- Yes No