



**CLUSTERED MARKET POTENTIAL FOR BUSINESS SERVICE PROVIDER  
ACTIVITIES WITHIN BOSCH UBK DIVISIONS**

by

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**A PROJECT REPORT**  
submitted

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## BONAFIDE CERTIFICATE

Certified that this project report titled “**Clustered market potential for business service provider activities within Bosch UBK divisions**” is the bonafide work of **Mr.S.Gokulraj, 10MBA20** 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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External Examiner

**LETTER OF REFERENCE**

Date  
01/03/2012

This is to certify that Mr. Gokulraj S pursuing MBA from Kumaraguru College of Technology, Coimbatore has carried out a project internship under the title **“Clustered Market Potential for BSP Activities in Bosch UBK Divisions”** in RBEI/BSP department from 09.01.2012 to 28.02.2012.

We thank Mr. Gokulraj S for his efforts and contribution. We wish him continued success in future endeavors.

**Robert Bosch Engineering and Business Solutions Limited**



Sivakumar Palaniappan  
Assistant Manager  
Human Resources

## **DECLARATION**

I affirm that the project work titled “**Clustered market potential for business service provider activities within BOSCH UBK Divisions**” being submitted in partial fulfillment for the award of master of business administration is the original work carried out by me. It has not found the party other project work submitted for award of any degree or diploma, either in this or any other university.

Signature of the Candidate

**S.GOKULRAJ**

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I certify that the declaration made above by the candidate is true.

Signature of the Guide

**R.VINAYAGASUNADARAM**

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## ACKNOWLEDGEMENT

I like this opportunity to acknowledge my indebtedness to all those who helped to complete this project work successfully.

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## SYNOPSIS

The title of the research is “**Clustered market potential for Business Service Provider activities within Robert Bosch Engineering and Business Solutions, Coimbatore**” says what kind of business service provider activities can be brought to Business Service Provider Department of Robert Bosch Engineering and Business Solutions (RBEI), Coimbatore thereby improving the business of Business Service Provider department at RBEI. The type of research study used is the analytical research. The tools used for analysis are cluster analysis and percentage analysis. The findings state the highest percentage of Business Service Provider department activities in the different departments across the automotive divisions that can be targeted. If those departments are targeted and approached by the Business Service Provider department then the business of BSP department at RBEI Coimbatore can be enhanced by offshoring the activities from those high cost locations to India.

## **1. INTRODUCTION**

### **1.1 BACKGROUND**

Offshoring is defined as the movement of a business process done at a company in one country to the same or another company in another, different country. Almost always work is moved because of a lower cost of operations in the new location. More recently, offshoring drivers also include access to qualified personnel abroad, in particular in technical professions, and increasing speed to market. Offshoring is sometimes contrasted with outsourcing or offshore outsourcing. Offshoring is the movement of internal business processes to an external organizational unit. Offshoring refers to the process by which an organization gives part of its work to another firm / organization and makes it responsible for most of the applications as well as the design of the enterprise business process. This process is done under restrictions and strategies in order to establish consistency with the offshore outsourcing organizations. Many companies nowadays outsource various professional areas in the company such as e-mail services, payroll and call center. These jobs are being handled by other organizations that specialize in each sector allowing the off-shoring company to focus more on other business concerns. However, subcontracting in the same country would be outsourcing, but not offshoring. A company moving an internal business unit from one country to another would be offshoring or physical restructuring, but not outsourcing.

The project deals with segregating the core and noncore activities carried out at Bosch and bringing new business to the BSP department of Robert Bosch Engineering and Business Solutions (RBEI), India from the high cost locations.

The high cost locations are present in the continents namely North America, Europe, Asia Pacific and Australia of Robert Bosch. The target activities are the non-core activities as BSP department is carrying out non-core or non-engineering activities.

The core activities comprise of the technical operations and the non-core activities encompasses the project management office activity, invoice tracking, bud tracking, warehouse stock level check, etc.

The activities that come under Project Management Office of Robert Bosch Engineering and Business Solutions (RBEI) are:

- Audit management
- Documentation
- Ratio Project Planning(RPP)
- Project Technical Documentation
- Competitor Analysis
- FMEA Tracking
- FEA Tracking
- Bill of Materials
- Logistics Support
- Procurement
- Business Plan
- Business Analytics

Carrying out the noncore activities is costlier in the locations mentioned above. However, when the same activity is off shored to India it is cost-effective. It also expands the business operations for BSP department.

Through customer profiling the list of activities are segmented, from which the potential customers can be targeted. The non-core activities are separated by cluster analysis based on the nature of activities.

The lists of activities collected are clustered under four categories. They are Clusters A, B, C and D. Cluster A contains the transactional or documentation activities, cluster B contain

coordination activities, cluster C contains activities that perform analysis on data (requires experience), cluster D is the new line of services. Through clustering it is possible to find which activities can be carried out at BSP department. By doing this the customers can also be easily identified and targeted for bringing business to BSP department.

## 1.2 INDUSTRY PROFILE

The automotive industry is one of the largest in the world and one of the fastest growing sector globally. India is one of the attractive locations for all automobile companies. Most of the car manufacturing multinational corporations have their manufacturing units in India. India exports large number of cars and passenger vehicles of different brands to many locations in Asia and also Europe every year.

For these manufacturers there are different kinds of suppliers who help them to finish their products.

**Third Tier Suppliers:** These companies provide basic products like rubber, glass, steel, plastic and aluminium to the second tier suppliers.

**Second Tier Suppliers:** These companies design vehicle systems or body parts for first tier suppliers and OEMs. They work on designs provided by the first tier suppliers or OEMs. They also provide engineering resources for detailed designs. Some of their services may include welding, fabrication, shearing, bending etc.

**First Tier Suppliers:** These companies provide major systems like dashboard, brakes-axle-suspension, seats, or cockpit directly to assemblers. They design and innovate to provide better solutions for the requirements of their customers.

**Automakers/Vehicle Manufacturers/Original Equipment Manufacturers (OEMs):** These companies have manufacturing units where engines are manufactured and parts supplied by first tier suppliers and second tier suppliers are assembled. Examples of these companies are Tata Motors, Maruti Suzuki, Toyota and Honda.

Innovation, design capability and branding are the main focus of these companies.

**Dealers:** The vehicles manufactured are sent to the registered dealers for selling the cars to customers.

**Parts and Accessories:** These are registered or unregistered companies which supply parts and accessories to car owners.

**Service Providers:** Some of the services to the customers include servicing of vehicles, repairing parts, or financing of vehicles. Many dealers provide these services but, customers can also choose to go to independent service providers.

### 1.3 ORGANIZATION PROFILE

The Bosch Group is a leading global supplier of technology and services in the areas of automotive and industrial technology, consumer goods, and building technology. India, Bosch is a leading supplier of technology and services, and has a strong presence in the country at numerous locations in diverse industry segments. Bosch set up its manufacturing operations in 1953, and has grown over the years to 14 manufacturing sites and 3 development centers. Bosch employs about 22500 associates in India. The Bosch Group comprises Robert Bosch GmbH and its more than 350 subsidiaries and regional companies in some 60 countries. If its sales and service partners are included, then Bosch is represented in roughly 150 countries. In India, the Bosch Group operates through the following companies -

- Bosch Ltd.
- Bosch Chassis Systems India Ltd.
- Bosch Rexroth India Ltd.
- Robert Bosch Engineering and Business Solutions Ltd.
- Bosch Automotive Electronics India Private Ltd.
- Bosch Electrical Drives India Private Ltd.

## **Business Sectors:**

### **Automotive Technology :**

Bosch innovations have shaped cars from the start and will keep doing so in future. As the world's biggest independent automotive supplier, Bosch focuses on innovations to make driving safer, cleaner and economical. Automotive Technology is the largest business segment of Bosch in India, supplying to the local automotive industry, and exporting components overseas.

- Business divisions: Diesel Systems, Gasoline Systems, Chassis Brakes, Automotive Accessories, Car multimedia, Starters and Generators, Energy and Body Systems, Electrical Drives, Spark Plugs and Glow Plugs.

### **Industrial Technology:**

Bosch Rexroth AG is an expert for all drive, control and motion technologies. The Bosch Packaging Machines division in India brings the global expertise to address the needs of the local confectionary and pharmaceutical industries. The Special Purpose Machines (SPMs) and High Precision Tooling division engineers customized equipment using cutting-edge technologies for industries.

- Business divisions: Automation technology, Packaging Machines, Special Purpose Machines.

### **Consumer Goods and Building Technology:**

The Bosch Power Tools division in India is the market leader in the segment, offers a complete range of power tools for construction, woodworking and metalworking industry; cordless tools, accessories and tools for DIY (Do-It-Yourself) enthusiasts as well. The Security Systems division in India is one of the leading security technology players with a comprehensive portfolio. The Bosch Home Appliances division made its India debut in 2011, and manufactures a range of world-class refrigerators, washing machines, dryers and dishwashers.

### **Engineering and IT Services:**

The Engineering and Information Technology division of Bosch in India is the largest development center of Bosch outside Germany. For over 15 years, it has been the preferred engineering services and solutions partner for the Bosch Group worldwide.

### **Brief History:**

**1998:** Formation of RBEI; wholly owned subsidiary of Robert Bosch GmbH

**1999:** ISO 9001 certified

**2000:** SEI CMM Level 3 appraised

**2003:**

- SEI CMM Level 4 appraised

- Offices in Germany and US launched

- RBEI crosses 1000 associates

**2004:**

- Expansion into 2 new facilities in Bangalore: Naganathapura and Bomanahalli

- Translation and documentation services initiated

- Shared services initiated

**2005:**

- Services for Plants launched

- BINOCULUS - Bosch Institute of Languages launched

- Sales presence in Japan

**2006:**

- Koramangala – Newest facility inaugurated

- New location: Coimbatore

- SEI CMMI L5 appraised

- Semi conductor design center launched

**2007:**

- ISO 14001 Environment certification

**2008:**

- ISO 27001 Information security
- EFQM
- CMML5 V1.2 recertification (2009)

**2009**

- ISO 27001 Certification
- CMMI V1.2 Level 5 Appraisal for Process excellence
- Hardware Library Setup at RBEI/NE1
- CI-India Hotline completes 1 year of operations
- Successful completion of ISO 27001 Surveillance Audit
- Reliability Test Centre, ECU Lab has been inaugurated in Naganathapura plant
- MoU with VTU
- MoU with NITK
- Formation of "Robert Bosch Technical and Business Solutions GmbH (RBEB).

**Managing Director(RBEI) September (2010-till now)**

Mr. Vijay Ratnaparkhe.

**1.4 STATEMENT OF THE PROBLEM**

The engineering departments of Robert Bosch(worldwide) involves in both core and non core activities. The reason for forming departments like BSP was to reduce the burden of non core activities carried out by the engineers.

The cost involved in doing non-core activities is also high in the high cost locations. Hence the noncore activities can be outsourced to low-cost locations. However, the market potential is unknown. Hence a suitable market research is carried out.

## **1.5 OBJECTIVES OF THE STUDY**

### **PRIMARY OBJECTIVE**

- To analyze the market potential of Project Management Office (PMO) Activities in UBK (Automotive) division of Robert Bosch Engineering and Business Solutions.

### **SECONDARY OBJECTIVES**

- To study the profile of the customers and find the activities what each customer is carrying out.
- To classify the non core activities into clusters.
- To determine the new line of project management office activities for BSP2 department.
- To provide the substitute numbers for each cluster formed.

## **1.6 SCOPE OF THE STUDY**

The scope of the study is confined to the Business Service Provider department (BSP) of Robert Bosch Engineering and Business Solutions (RBEI). The study would focus on providing insight on the market potential in their world wide premises and customer profiling that helps in expanding their business operations.

## 2. REVIEW OF LITERATURE

*Marwin Roscoe and Jagdish(2000)*<sup>1</sup> observed that clustering methods used in market research to define homogenous market segment represents the derived clusters as an actual clusters. However the replication and external validation is not always practical. As an alternative cross validation using inter-technique comparison is determined in the studies of heterogenic telephonic industry. To obtain individual-level estimates of learning, we add a hierarchical Bayesian structure to the Bayesian learning model. We exploit the natural hierarchy in the Bayesian learning process to incorporate it within the hierarchical Bayesian model. We use data augmentation, coupled with the Metropolis Hastings algorithm to make inferences about individual-level parameters of learning. We conduct this analysis on a unique panel dataset of physicians, where we observe prescription decisions and detailing (sales force effort) at the individual physician-level for a new prescription drug category.

*Lilian Edwards and Jordan Hatcher(2001)*<sup>2</sup> says that direct marketing online to looking at how consumers are more subtly tracked, profiled and targeted by advertisers, on-line and increasingly offline too, using digital technologies. Tracking technologies have evolved from simple “cookies”, first regulated in the Privacy and Electronic Communications Directive (“PECD”)<sup>3</sup> in 2002 , to far more complex technologies of commercial surveillance. These are currently perplexing privacy advocates, privacy commissioners and the European Commission alike, while users are still largely ignorant of their existence. Will our individual and collective privacy suffer from this new type of scrutiny, and can data protection (DP) law still adequately manage to protect us? In particular, this chapter takes the debate around the Phorm “Webwise” system as a case study to illustrate how difficult it is for the law to tackle these issues.

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<sup>1</sup> *Marwin Roscoe and Jagdish(2000) Intertechnique cross validation in cluster analysis*

<sup>2</sup> *The review of the EC Telecoms Package embraces Directives 2002/21/EC, 2002/19/EC, 2002/20/EC, 2002/22/EC and Regulation (EC) No 2006/2004 as well as the PECD. It commenced in 2007 and the latest Common Position at time of writing was reached in May 2000.*

*Sridhar Narayanan and Puneet Manchanda(2005)*<sup>3</sup> states that there is significant heterogeneity across physicians in their rates of learning about the quality of new drugs. We also find that there are asymmetries in the temporal evolution of responsiveness of physicians to detailing – physicians who are more responsive to detailing in early periods are less responsive later on and vice versa. These findings have interesting implications for targeting of detailing across physicians and over time. We find that firms could increase their revenues if they took these temporal and cross-sectional differences in responsiveness into account while deciding their allocations of detailing.

*Ulas Akkucuk(2007)*<sup>4</sup> suggests that Each year a wealth of data are released concerning the international competitiveness of countries. These socio-economic indicators may be used to guide policy makers around the world. In this study we investigate the relative positioning of world economies using competitiveness data released by the World Economic Forum. We use two well known multivariate techniques, Cluster Analysis and Multidimensional Scaling. Using cluster analysis we compare different solutions with varying number of clusters. We select the five cluster solution and study the correspondence of this solution to the five groups established based on GDP of the countries. The results show that the five group cluster constructed using the 12 variables of the Global Competitiveness Ranking computations correspond moderately to the five groups based on GDP and export structure of the countries, but there are some differences. Using the same twelve variables we also provide a two-dimensional visualization of the countries using the Multidimensional Scaling (MDS) technique. The cluster structure superimposed on the same map of the countries provides a better means of seeing how the clusters are positioned with respect to one another.

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<sup>3</sup> *Sridhar Narayanan and Puneet Manchanda(2005) Heterogeneous Learning and the Targeting of Marketing Communication for New Products*

<sup>4</sup> *Ulas Akkucuk(2007) A Study on the Competitive Positions of Countries Using Cluster Analysis and Multidimensional Scaling*

*Michael N. Tuma, Reinhold Decker and Sören W. Scholz (2008)*<sup>5</sup> Market segmentation is a widely accepted concept in marketing research and planning. Although cluster analysis has been extensively applied to segment markets in the last 50 years, the ways in which the results were obtained have often been reported to be less than satisfactory by both practitioners (Yankelovich & Meer 2006) and academics (Dolnicar 2003). In order to provide guidance to that undertaking market segmentation, this study discusses the critical issues involved when using cluster analysis to segment markets, makes suggestions for best practices and potential improvements, and presents an empirical survey that seeks to provide an up-to-date assessment of cluster analysis application in market segmentation within a six-stage framework. Analyses of more than 200 journal articles published since 2000, in which cluster analysis was empirically used in a marketing research setting, indicate that many critical issues are still ignored rather than addressed adequately.

*William Kaye-Blake and Charles Lamb (2010)*<sup>6</sup> The commercial success of genetically modified food may be improved with appropriately targeted marketing. To that end, data from a survey of supermarket shoppers in New Zealand were analysed with a cluster analysis. A six-cluster solution found three clusters with positive intentions to purchase GM apples and three clusters with negative intentions. Positive intentions appeared to result from either price sensitivity or a desire to obtain a premium product. Negative intentions were especially strong in one cluster but appeared to be partially counteracted in two other clusters by offering respondents a specific benefit from gene technology. These results suggest that GM food may benefit from appropriate marketing to specific consumer segments.

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<sup>5</sup> *Michael N. Tuma, Reinhold Decker and Sören W. Scholz (2008) A survey of the challenges and pitfalls of cluster analysis application in market segmentation*

<sup>6</sup> *William Kaye-Blake and Charles Lamb (2010) Potential Market Segments for Genetically Modified Food: Results From Cluster Analysis*

*Dumitru Ionel and Ionescu Florin Tudor(2010)*<sup>7</sup> In Romania the use of the strategic marketing as a basic element in the relationship to the suppliers by the companies from the B2b market is at an incipient level, sometimes even at the level of the “subconscious”. In order to be able to develop the practice it is necessary to have a theory well organized and adapted to the nowadays requirements of the field of the suppliers relationship marketing on the B2b market. Therefore a need of information about the present degree of implementing the strategic marketing by the companies on the B2b market in their relationship with the suppliers in Romania and especially the identification of the ways in which the organizations use these methods and techniques of segmentation, targeting and positioning in order to develop the relationships with their suppliers appear as necessary. Starting from this premise the following research has as its goal the analysis of the way in which the organizations which are active on the Romanian B2b market use the strategic marketing in the segmentation, targeting and positioning of the suppliers.

*Bruce Cooil and Timothy L. Keiningham(2010)*<sup>8</sup> Customer segmentation has virtually unlimited potential as a tool that can guide firms toward more effective ways to market products and develop new ones. As a conceptual introduction to this topic, we study how an innovative multinational firm (Migros Turk) has developed an effective set of segmentation strategies. This illustrates how firms can construct novel and inventive approaches that provide great value. Then review general approaches to customer segmentation, with an emphasis on the most powerful and flexible analytical approaches and statistical models. This begins with a discussion of logistic regression for supervised classification, and general types of cluster analysis, both descriptive and predictive. Predictive clustering methods include cluster regression and CHAID (Chi-squared automatic interaction detection, which is also viewed as a tree classifier). Finally, we consider general latent class models that can handle multiple dependent measures of mixed

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<sup>7</sup> *Dumitru Ionel and Ionescu Florin Tudor(2010)Segmentation, Targeting and Positioning of the suppliers . basis element in strategic planning on business to business market in Romania*

<sup>8</sup>*Bruce Cooil and Timothy L. Keiningham(2010) Approaches to Customer Segmentation*

type. These models can also accommodate samples that are drawn from a pre-defined group structure (e.g., multiple observations per household). To illustrate an application of these models, we study a large data set provided by an international specialty-goods retail chain.

### **3. RESEARCH METHODOLOGY**

#### **3.1 TYPE OF RESEARCH**

Qualitative research

#### **3.2 SOURCE OF DATA**

##### **Primary Source**

The primary source of data is collected from the company's intranet.

##### **Secondary Source**

The secondary source of data is collected from the company's associates.

#### **3.3 TOOLS USED**

- Cluster analysis
- Percentage analysis

#### **3.4 METHODOLOGY**

##### **Cluster Analysis Types:**

##### **Cluster A:**

Transactional cluster is formed to segregate non core activities that are data documentation and reporting kind of activities from the different department of UBK divisions.

##### **Cluster B:**

Tracking and follow up or coordination cluster is formed to segregate non core activities like activities carried out to track the invoice and the status of the same, warehousing and tracking whether the engineers at high cost locations are notified about the completion of the tasks assigned to them.

**Cluster C:**

Analysis or experience cluster id formed to segregate activities that require analytical knowledge or experience to arrive at a report like charting and project procurement management.

**Cluster D:**

New line of opportunities cluster is formed to find the areas that are new to the business service provider department which has future scope if certain qualities are developed among the associates like FMEA moderation, competitor analysis, market research and CAD design.

**3.5 LIMITATIONS OF THE STUDY**

- Limited time span of the project
- Due to time constraint the study was possible only for the automotive division of the company.

#### 4. ANALYSIS AND INTERPRETATION

Table No. 4.1

Table showing the number of opportunities in each cluster and percentage of opportunities in clusters in each department of Car Multimedia Division:

Department Name	Customer Profiling	Number of opportunities in each cluster				Percentage of opportunities in clusters in each department			
		A	B	C	D	A	B	C	D
CM/ECD	1. Patents 2. Competition investigation 3. MMS-ticket-editing	0	1	0	2	0	3	0	12
CM/ECD1	1. Patents	0	0	0	1	0	0	0	6
CM/ECD2	1. CAD Designing	1	0	0	0	3	0	0	0
CM/EPS	1. Requirements documentation 2. CAD Modeling 3. Cause effect analysis 4. FMEA moderation 5. Competitor Analysis 6. Requirements	1	2	1	3	3	6	25	18

	engineering.								
CM-AI/EAR	1.SPP(Strategic product planning)- Management	0	6	1	0	0	21	25	0
CM-AI/ERM	1. Staff planning	0	0	0	1	0	0	0	6
CM-AI/ERM1	1.Machinery & Equipment procurement	0	1	0	0	0	3	0	0
CM-AI/ERM12	1.Test Administration	1	0	0	0	3	0	0	0
CM-AI/ERM14	1. Project Management	0	1	0	0	0	3	0	0
CM--AI/ERM2	1.R&D costs (EWK) planning and reporting 2.Target time scheduling for R&D projects 3.Project Traffic Light Charts 4. Regel reporting 5. R&D Business Unit Controlling 6. Business Warehouse	2	3	0	1	6	10	0	6
CM-AI/ERM3	1. Parts list Management 2. Patent	0	1	0	1	0	3	0	6

	Administration								
CM-AI/ERM32	1.Product number Management 2.Registry 3.Patent Administration 4.Creation and maintenance of electric part lists	0	2	0	2	0	6	0	12
CM-AI/ERM-P	1. Project Scope Management 2. Project cost Management (staffing cost plan) 3.Project Procurement Management (Make or buy decision)	1	2	1	0	3	6	25	0
CM-IS/EAU	1.CM-DI Engineering	2	0	0	0	6	0	0	0
CM-IS/EAU2	1. Hardware Designs	1	0	0	0	3	0	0	0
CM-IS/EBM	1.Project Management 2. Documentation	4	1	0	0	14	3	0	0
CM-IS/EBM2	1.Hardware Designing	1	0	0	0	3	0	0	0
CM-IS/ECF	1.Marketing 2.Engineering of new	1	0	0	4	3	0	0	24

	products								
CM-IS/ECF2	1.Hardware Designing	1	0	0	0	3	0	0	0
CM-IS/EDA	1.Project administration	1	1	0	0	3	3	0	0
CM-IS/EDA11	1.Software Engineering System Cluster	0	1	0	0	0	3	0	0
CM-IS/EDA2	1.Hardware Designing	1	0	0	0	3	0	0	0
CM-IS/EHM- Bp	1.Engineering Sensors Inertial 2.Project management 3.Hardware development 4. Mechanical Design	1	1	0	0	3	3	0	0
CM-IS/EVA	1.Project management	0	1	0	0	0	3	0	0
CM-IS/EVA2	1.Hardware designing	1	0	0	0	3	0	0	0
CM-PS/EHW	1.Hardware development and design 2. Creation of project documents 3. Invoice tracking 4.Part list maintenance	2	2	0	1	6	6	0	6

CM-PS/END1	<ol style="list-style-type: none"> <li>1. Build up and testing of mechanical engineering models</li> <li>2. Qualification of product design</li> <li>3. Securing mechanical product function in target system and vehicle</li> <li>4. Creation and maintenance of project documents</li> <li>5. Processing of protocols related to mechanical issues</li> <li>6. Processing of modification ideas, improvement suggestions and quality complaints</li> <li>7. Handling and processing of discontinued components</li> <li>8. Processing of customer complaints</li> <li>9. Identification of material and tooling cost and optimized</li> </ol>	2	1	0	0	6	3	0	0
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	product mechanics 10. Input and updating of IMDS data 11. Determine function appropriate components and component groups								
CM-PS/END2	1. Build up and testing of mechanical engineering models 2. Qualification of product design 3. Securing mechanical product function in target system and vehicle 4. Creation and maintenance of project documents 5. Processing of protocol related to mechanical issues 6. Processing of modification ideas, improvement suggestions and quality complaints 7. Handling and processing of	2	1	0	0	6	3	0	0

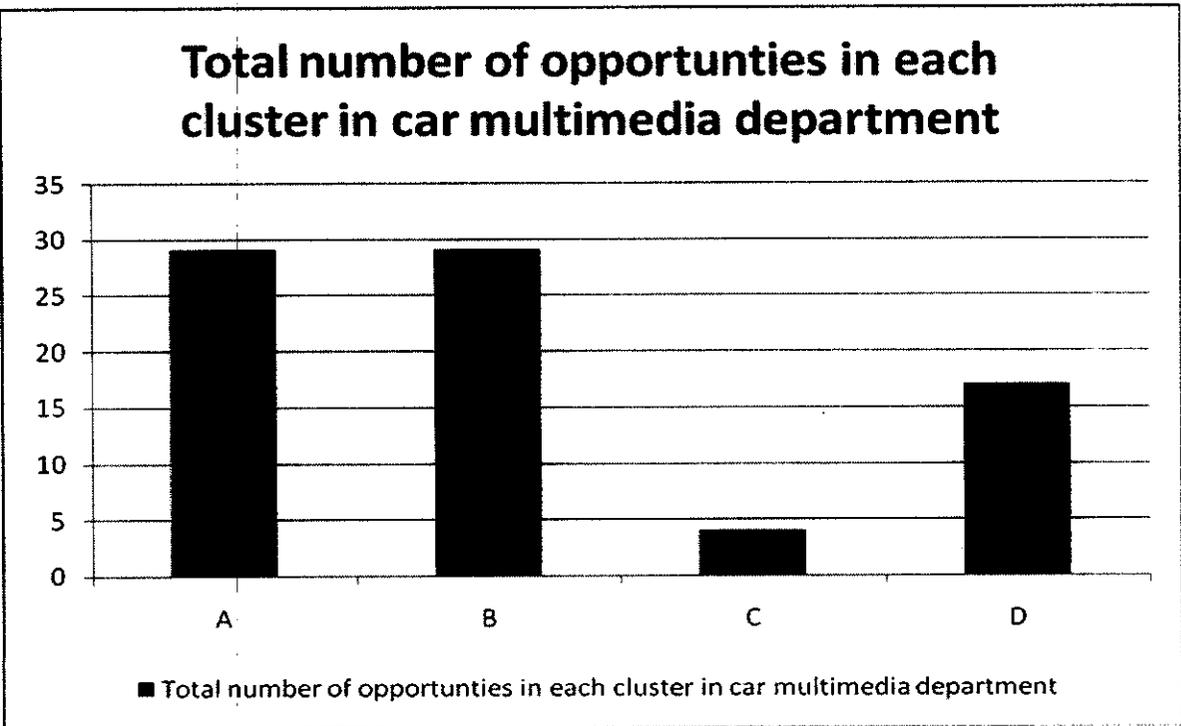
<p>discontinued components</p> <p>8. Processing of customer complaints</p> <p>9. Identification of material and tooling cost and optimized product mechanics</p> <p>10. Input and updating of IMDS data</p> <p>11. Determine function appropriate components and component groups</p> <p>12. Planning of resources, costs and date lines within assigned group</p> <p>13. FMEA Moderation</p>									
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CM-PS/EPM	<p>1. Project management Controlling, Finance &amp; Administration, Purchasing, central Purchasing, Information Systems, Internal Controls Auditing,</p> <p>2. Project office</p> <p>3. Creation of process guidelines and manuals</p> <p>4. Capture hours in SAP, SAP project office</p> <p>5. Project, activation, additional requests, de-planing, activation Budget simulation, project budget distribution</p> <p>6. BMW project and development costs reports, cost center reports, engineering cockpit chart</p>	2	1	1	0	6	3	25	0
CM-PS/EST	1. Engineering System testing and release	1	0	0	0	3	0	0	0

CM-PS/ETC	1.Bosch Patent Intranet System (BPIS)								
	CC-NA Invention to 2.Patenting Process	0	0	0	1	0	0	0	6
	<b>Total</b>	<b>29</b>	<b>29</b>	<b>4</b>	<b>17</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Chart No. 4.1

Chart showing the total number opportunities in each cluster in Car Multimedia division:



**INTERPRETATION:**

The numbers in the above chart reveals the number of opportunities available for Business Service Provider Department in RBEI, Coimbatore in car multimedia division.

The opportunities in documentation clusters are 29 and in that of tracking and follow up it is 29.

The opportunities in the analysis cluster are 4 and the new line of service opportunity it is 17.

#### **INFERENCE:**

From the above chart it can be inferred that documentation and tracking and follow up activities has lot of business to provide for BSP.

Analysis kind of activities that are few in number can bring huge business to business service provider department in terms of numbers. The skill and knowledge will increase when they carry out these activities where business can grow in future with more number of people practicing cluster C activities.

New lines of opportunities have to be considered and necessary steps have to be taken for future growth of BSP.

**Table No. 4.2**

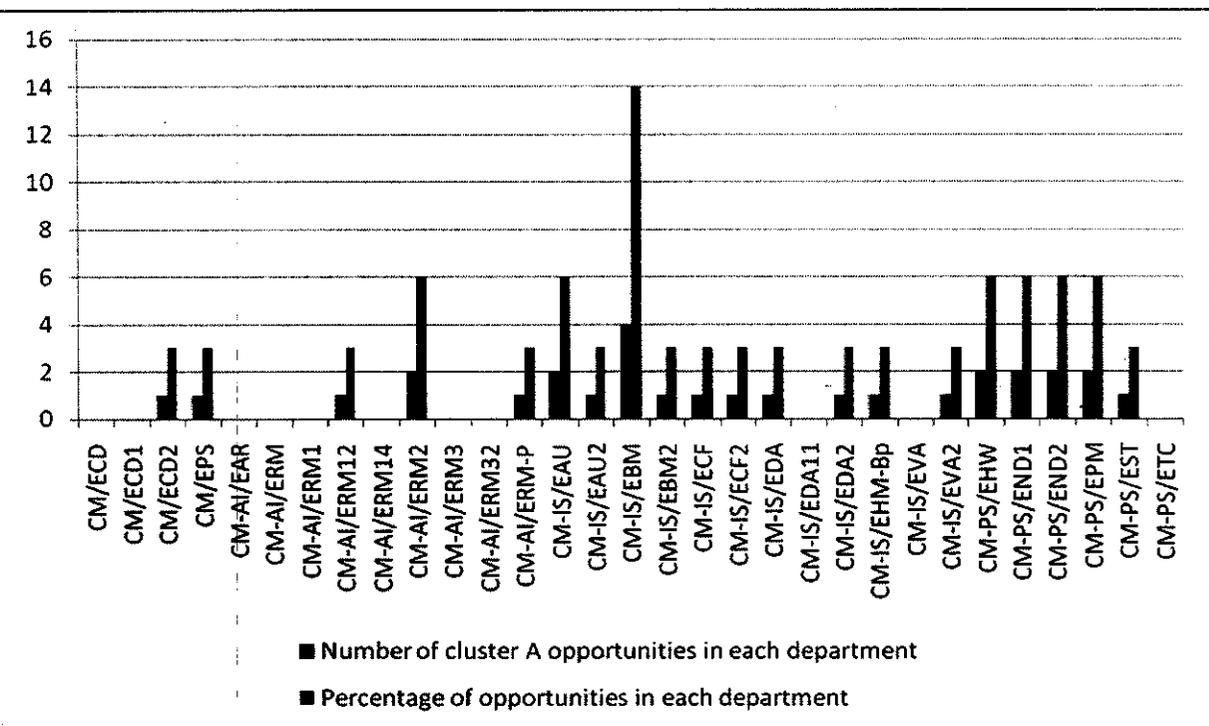
**Table Showing the number of opportunities in cluster A and percentage of clusters in each department of Car Multimedia Division:**

<b>Department Name</b>	<b>Number of opportunities in cluster A in each department</b>	<b>Percentage of opportunities in cluster A in each department</b>
CM/ECD	0	0
CM/ECD1	0	0
CM/ECD2	1	3
CM/EPS	1	3
CM-AI/EAR	0	0
CM-AI/ERM	0	0
CM-AI/ERM1	0	0
CM-AI/ERM12	1	3
CM-AI/ERM14	0	0

CM-AI/ERM2	2	6
CM-AI/ERM3	0	0
CM-AI/ERM32	0	0
CM-AI/ERM-P	1	3
CM-IS/EAU	2	6
CM-IS/EAU2	1	3
CM-IS/EBM	4	14
CM-IS/EBM2	1	3
CM-IS/ECF	1	3
CM-IS/ECF2	1	3
CM-IS/EDA	1	3
CM-IS/EDA11	0	0
CM-IS/EDA2	1	3
CM-IS/EHM-Bp	1	3
CM-IS/EVA	0	0
CM-IS/EVA2	1	3
CM-PS/EHW	2	6
CM-PS/END1	2	6
CM-PS/END2	2	6
CM-PS/EPM	2	6
CM-PS/EST	1	3
CM-PS/ETC	0	0
<b>Total</b>	<b>29</b>	<b>100</b>

Chart No. 4.2

Chart showing the number of Cluster A opportunities in Car Multimedia department and percentage of opportunities in each department:



#### INTERPRETATION:

The departments in the Car Multimedia Division like CM-AI/ERM2, CM-IS/EAU, CM-PS/EHW, CM-PS/END1, CM-PS/END2, CM-PS/EPM have 6% and CM-IS/EBM has 14% of cluster A (transactional activities) kind of activities.

#### INFERENCE:

The documentation and transactional activities carried out in the above departments are already present in the Business Service Provider department. The above departments can be targeted and contacted for bringing business to the Business Service Provider department.

The number of substitutes needed for carrying out the cluster A activities if the activities are offshored can be 8.

**Table No. 4.3**

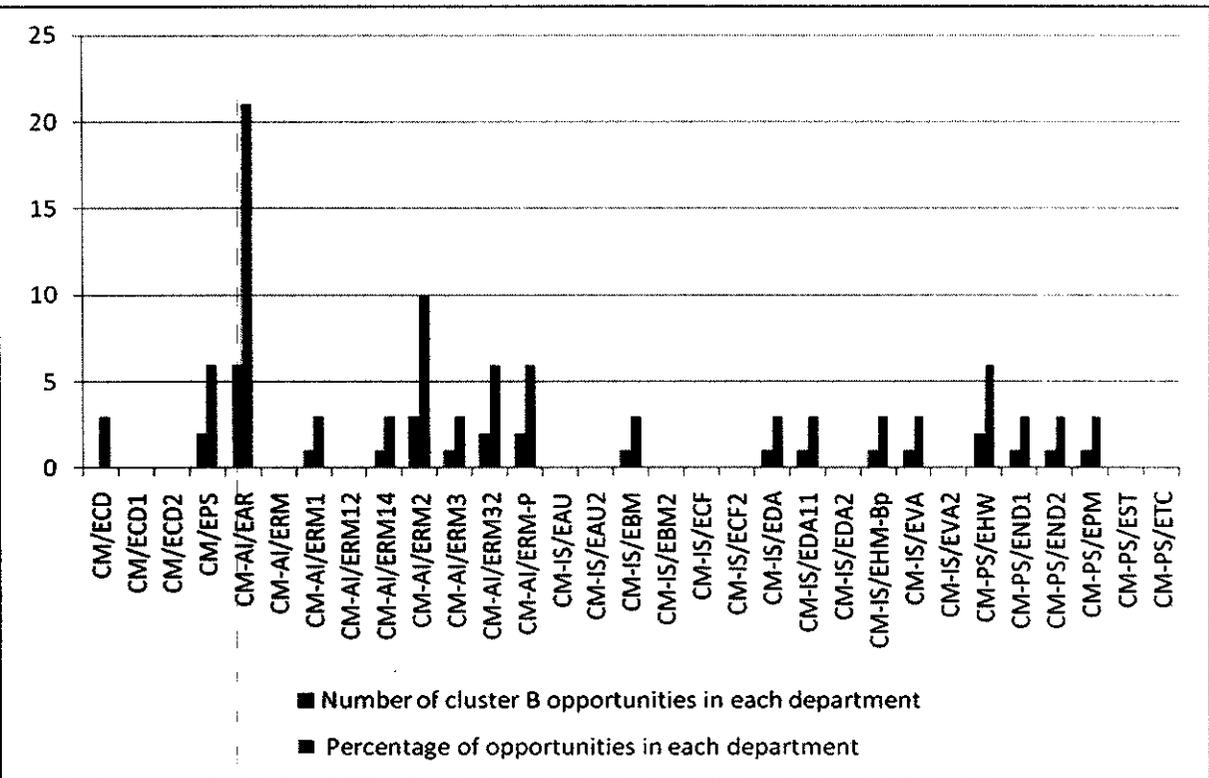
**Table Showing the number of opportunities in cluster B and percentage of clusters in each department of Car Multimedia Division:**

<b>Department Name</b>	<b>Number of opportunities in cluster B in each department</b>	<b>Percentage of opportunities in cluster B in each department</b>
CM/ECD	1	3
CM/ECD1	0	0
CM/ECD2	0	0
CM/EPS	2	6
CM-AI/EAR	6	21
CM-AI/ERM	0	0
CM-AI/ERM1	1	3
CM-AI/ERM12	0	0
CM-AI/ERM14	1	3
CM-AI/ERM2	3	10
CM-AI/ERM3	1	3
CM-AI/ERM32	2	6
CM-AI/ERM-P	2	6
CM-IS/EAU	0	0
CM-IS/EAU2	0	0
CM-IS/EBM	1	3
CM-IS/EBM2	0	0
CM-IS/ECF	0	0
CM-IS/ECF2	0	0

CM-IS/EDA	1	3
CM-IS/EDA11	1	3
CM-IS/EDA2	0	0
CM-IS/EHM-Bp	1	3
CM-IS/EVA	1	3
CM-IS/EVA2	0	0
CM-PS/EHW	2	6
CM-PS/END1	1	3
CM-PS/END2	1	3
CM-PS/EPM	1	3
CM-PS/EST	0	0
CM-PS/ETC	0	0

Chart No. 4.3

Chart showing the number of Cluster B opportunities in Car Multimedia department and percentage of opportunities in each department



**INTERPRETATION:**

The departments in the Car Multimedia Division like CM/EPS, CM-AI/ERM32, CM-AI/ERM-P, CM-AI/ERM-P, CM-PS/EHW have 6%, CM-AI/ERM2 and CM-AI/EAR has 21% of cluster B (Coordination activities) kind of activities.

**INFERENCE:**

The coordination activities carried out in the above departments like requirements engineering coordination, FMEA tracking and follow up, strategic product planning management, warehousing, target time and scheduling for R&D, project management, product number and product part list management and invoice tracking are already carried out in the

Business Service Provider department. The above departments can be targeted and contacted for bringing business to Business Service Provider department.

The number of substitutes needed for carrying out the cluster B activities if the activities are offshored can be 10.

**Table No. 4.4**

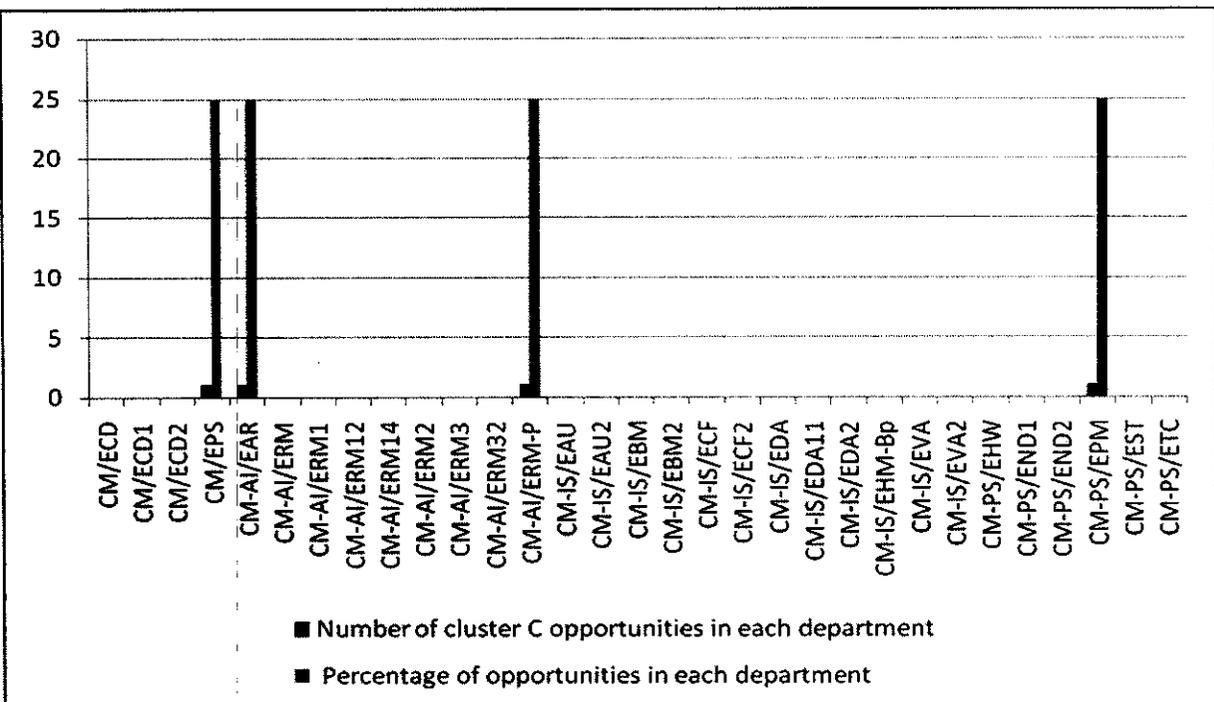
**Table Showing the number of opportunities in cluster C and percentage of clusters in each department of Car Multimedia Division:**

<b>Department Name</b>	<b>Number of opportunities in cluster C in each department</b>	<b>Percentage of opportunities in cluster C in each department</b>
CM/ECD	0	0
CM/ECD1	0	0
CM/ECD2	0	0
CM/EPS	1	25
CM-AI/EAR	1	25
CM-AI/ERM	0	0
CM-AI/ERM1	0	0
CM-AI/ERM12	0	0
CM-AI/ERM14	0	0
CM-AI/ERM2	0	0
CM-AI/ERM3	0	0
CM-AI/ERM32	0	0
CM-AI/ERM-P	1	25
CM-IS/EAU	0	0
CM-IS/EAU2	0	0
CM-IS/EBM	0	0
CM-IS/EBM2	0	0

CM-IS/ECF	0	0
CM-IS/ECF2	0	0
CM-IS/EDA	0	0
CM-IS/EDA11	0	0
CM-IS/EDA2	0	0
CM-IS/EHM-Bp	0	0
CM-IS/EVA	0	0
CM-IS/EVA2	0	0
CM-PS/EHW	0	0
CM-PS/END1	0	0
CM-PS/END2	0	0
CM-PS/EPM	1	25
CM-PS/EST	0	0
CM-PS/ETC	0	0

Chart No. 4.4

Chart showing the number of Cluster C opportunities in Car Multimedia department and percentage of opportunities in each department



#### INTERPRETATION:

The departments in the Car Multimedia Division like CM/EPS, CM-AI/EAR, CM-AI/ERM-P and CM-PS/EPM have 25% of cluster C (Analysis activities) kind of activities.

#### INFERENCE:

The above departments can be targeted and contacted for bringing business to RBEI, India.

The number of substitutes needed for carrying out the cluster C analysis activities if the activities are off shored can be 4 with experience in project management, product procurement and cost analysis.

Table No. 4.5

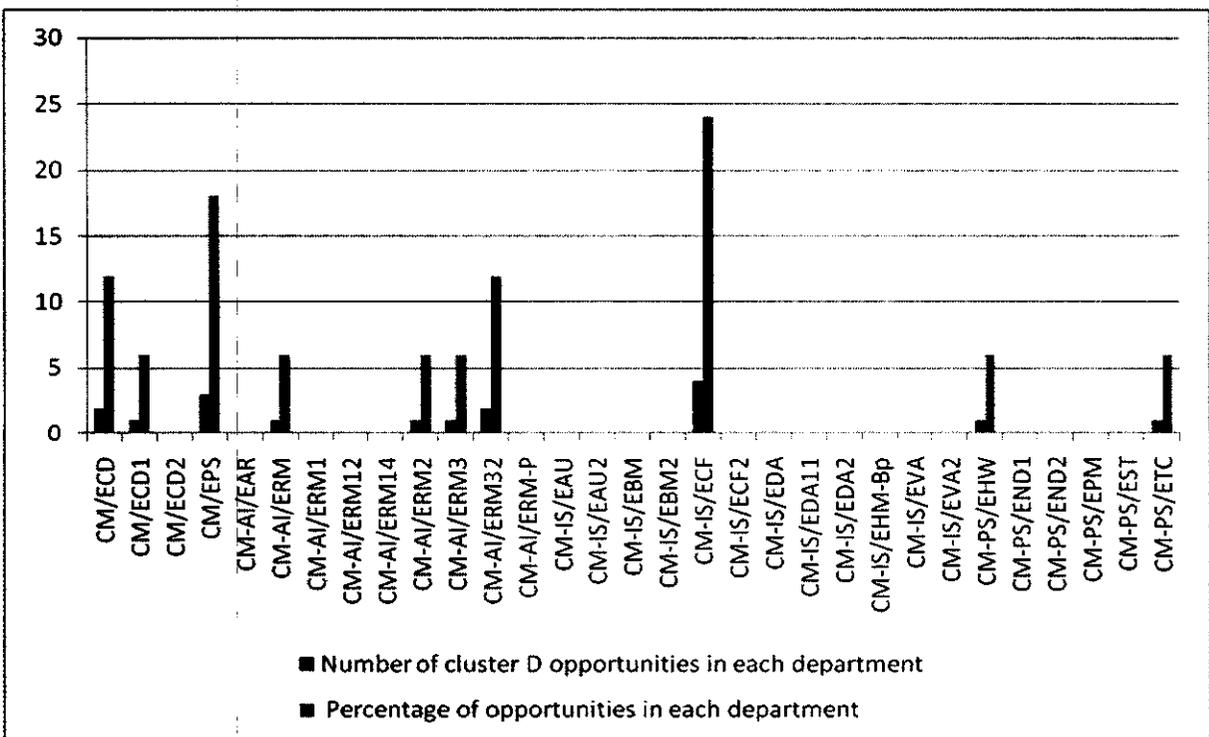
Table Showing the number of opportunities in cluster D and percentage of clusters in each department of Car Multimedia Division:

Department Name	Number of opportunities in cluster D in each department	Percentage of opportunities in cluster D in each department
CM/ECD	2	12
CM/ECD1	1	6
CM/ECD2	0	0
CM/EPS	3	18
CM-AI/EAR	0	0
CM-AI/ERM	1	6
CM-AI/ERM1	0	0
CM-AI/ERM12	0	0
CM-AI/ERM14	0	0
CM-AI/ERM2	1	6
CM-AI/ERM3	1	6
CM-AI/ERM32	2	12
CM-AI/ERM-P	0	0
CM-IS/EAU	0	0
CM-IS/EAU2	0	0
CM-IS/EBM	0	0
CM-IS/EBM2	0	0
CM-IS/ECF	4	24
CM-IS/ECF2	0	0
CM-IS/EDA	0	0
CM-IS/EDA11	0	0

CM-IS/EDA2	0	0
CM-IS/EHM-Bp	0	0
CM-IS/EVA	0	0
CM-IS/EVA2	0	0
CM-PS/EHW	1	6
CM-PS/END1	0	0
CM-PS/END2	0	0
CM-PS/EPM	0	0
CM-PS/EST	0	0
CM-PS/ETC	1	6

Chart No. 4.5

Chart showing the number of Cluster D opportunities in Car Multimedia department and percentage of opportunities in each department



**INTERPRETATION:**

The departments in the Car Multimedia Division like CM/ECD1, CM-AI/ERM, CM-AI/ERM2, CM-AI/ERM3 have 6%, CM/ECD and CM-AI/ERM32 has 12%, CM/EP3 has 18% and CM-IS/ECF has 24% of new line of opportunities.

**INFERENCE:**

The Business Service Provider department has to train existing employees on new line of opportunities like FMEA moderation, competitor analysis, cause effect analysis, patent administration, audit management, staff planning, R&D cost reporting and planning and marketing activities. After which the above departments can be targeted and contacted for enhancing business of Business Service Provider department.

**Table No. 4.6**

**Table showing the number of opportunities in each cluster and percentage of opportunities in the clusters in each department of Automotive Electronics Division:**

Department Name	Customer Profiling	Number of opportunities in each cluster				Percentage of opportunities of a cluster of each department			
		A	B	C	D	A	B	C	D
AE/EAC	1. Product predevelopment	1	0	0	0	2	0	0	0
AE/EAI	1. Documentation	1	0	0	0	2	0	0	0
AE/ECU-Bp	1. Quality Management 2. 8D method 3. Audit Management 4. SAP/E-works 5. Incoming goods	2	2	1	1	3	5	5	3

	posting								
AE/ECU-PDM	1. Creation of bill of materials for series and sample changes 2. Maintenance of documentation data in SAP 3. Monitoring and care of projects for the development area 4. Technical and process support -SAP 5. Documentation	3	1	2	0	4	3	10	0
AE/ECU1-Bp	1. FMEA	1	1	0	1	2	3	0	3
AE/ECU3-Bp	1. Engineering documentation 2. Competitor-analysis 3. CAD 4. Technical documentation	4	0	0	3	5	0	0	8
AE/ECU3-K-Bp	1. CAD 2. Technical documentation	1	0	0	1	2	0	0	3
AE/ECU3-PP-Bp	1. Project management	1	1	1	0	2	3	5	0
AE/EDD-Bp	1. Project management	1	1	1	0	2	3	5	0
AE/EDE	1. Project management	1	2	1	0	2	5	5	0

AE/EDE-IT	1. CAD	0	0	0	1	0	0	0	3
AE/EDE-K-Bp	1. Documentation	1	0	0	0	2	0	0	0
AE/EDE-P-Bp	1. Market research 2. FMEA	1	1	0	1	2	3	0	3
AE/EDE-P1	1. FMEA 2. 8D Method	2	2	1	1	3	5	5	3
AE/EDE-P2	1. FMEA	1	1	0	1	2	3	0	3
AE/EDE3	1. FMEA	1	1	0	1	2	3	0	3
AE/EDP	1. Ratio Project Planning 2. BGN Super editing for AE/EDP websites	1	0	0	1	2	0	0	3
AE/EDP2	1. Design documentation	1	0	0	0	2	0	0	0
AE/EDP3	1. Competitor Analysis 2. FMEA	1	1	0	2	2	3	0	5
AE/EDP4	1. Design documentation	1	0	0	0	2	0	0	0
AE/EDS	1. Secretary tasks	1	0	0	0	2	0	0	0
AE/EDS-A10	1. Documentation	1	0	0	0	2	0	0	0
AE/EDS1	1. Technical documentation	1	0	0	0	2	0	0	0
AE/EDS2	1. Technical documentation 2. 8D Method	3	2	1	0	4	5	5	0

AE/EDS3	1. Engineering documentation 2. Competitor Analysis (Benchmark)	1	0	0	1	2	0	0	3
AE/EDS4	1. Documentation serial production	1	0	0	0	2	0	0	0
AE/EE	1. Secretary tasks	1	0	0	0	2	0	0	0
AE/EEC	1. FMEA	1	1	0	1	2	3	0	3
AE/EED-NA	1. CAD Coordination	0	1	0	0	0	3	0	0
AE/EIC	1. Quality Management 2. 8D method 3. Audit Management 4. Central Directives Quality	1	1	1	1	2	3	5	3
AE/EIC2	1. FMEA	1	1	0	1	2	3	0	3
AE/EIM2	1. Intranet Management 2. DOORS	2	0	0	0	3	0	0	0
AE/EIM4	1. SAP purchaser	1	1	0	0	2	3	0	0
AE/EIQ	1. Market research	0	0	0	1	0	0	0	3
AE/EIS2	1. SAP Ordering	1	0	0	0	2	0	0	0
AE/EIT2	1. SAP	1	1	0	0	2	3	0	0
AE/EIT3	1. Technical documentation	1	1	0	0	2	3	0	0

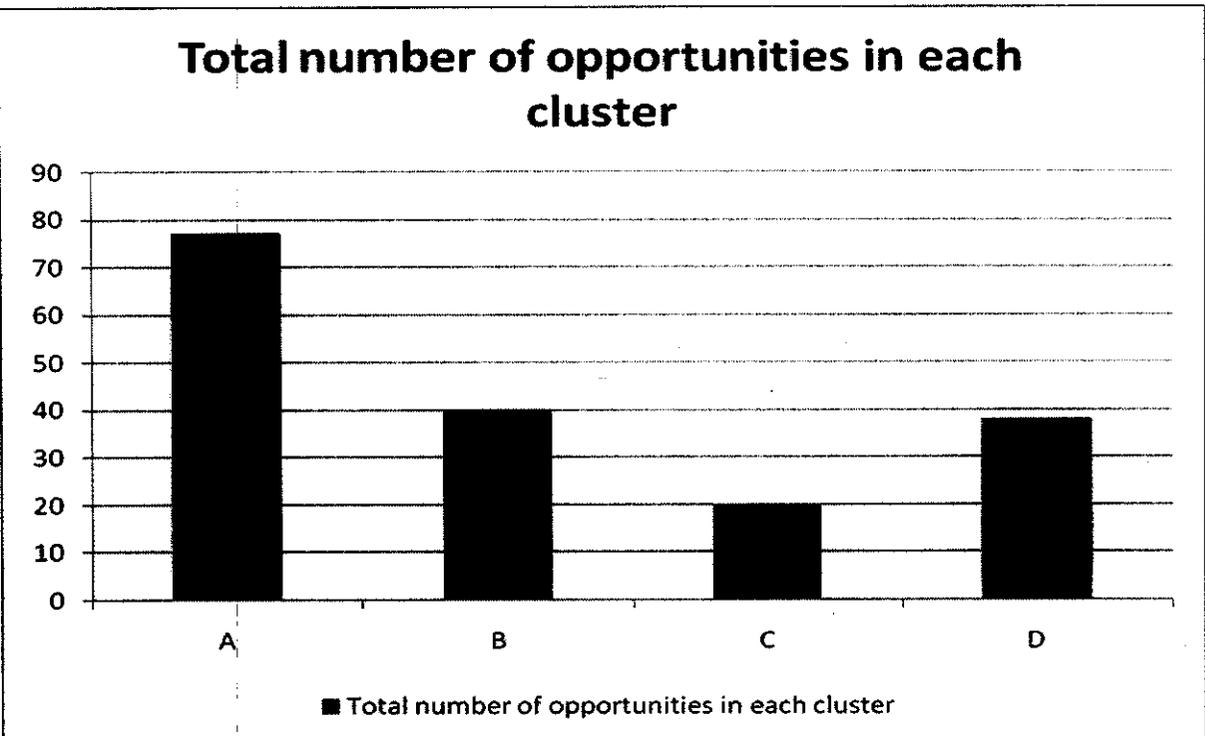
	2. SAP Support								
AE/EIY1	1. SAP Ordering	1	0	0	0	2	0	0	0
AE/EIY2	1. Project Management	1	1	1	0	2	3	5	0
AE/EIY4	1. Market Research	0	0	0	1	0	0	0	3
AE-BE/EKE	1. Competitor's analysis 2. Secretary tasks	1	0	0	1	2	0	0	3
AE/ELS-Bp	1. Technical documentation	1	0	0	0	2	0	0	0
AE/ELS4	1. Quality management 2. 8D method 3. Audit Management 4. Central Directives Quality	1	1	1	1	2	3	5	3
AE/EMC	1. Secretary tasks	1	0	0	0	2	0	0	0
AE/EMC1	1. Secretary tasks	1	0	0	0	2	0	0	0
AE/EMC2	1. Secretary tasks	1	0	0	0	2	0	0	0
AE/EMC3	1. Secretary tasks	1	0	0	0	2	0	0	0
AE-BE/ENG	1. Secretary tasks	1	0	0	0	2	0	0	0
AE-BE/ENG-C	1. SAP	1	1	0	0	2	3	0	0
AE-BE/ENG4-Bp	1. Project Management	1	1	1	0	2	3	5	0

AE/ENP1	1. SAP Coordination 2. Project Management	2	1	1	0	3	3	5	0
AE/ENS	1. Secretary tasks	1	0	0	0	2	0	0	0
AE/EPI	1. Strategic Patent Portfolio Management 2. Competitors analysis	0	0	0	2	0	0	0	5
AE/EPI-CK	1. Project management	1	1	1	0	2	3	5	0
AE-BE/EP1-Bp	1. Project management 2. Auditing	2	2	1	1	3	5	5	3
AE/EQS	1. FMEA	1	1	0	1	2	3	0	3
AE/ESC	1. Assistant Tasks	1	0	0	0	2	0	0	0
AE/ESC3	1. FMEA Moderation	0	0	0	1	0	0	0	3
AE/ESC4	1. Business Process documentation 2. Technical coordination 3. Warehousing	2	2	0	0	3	5	0	0
AE/ESE2	1. Strategic Patent Portfolio Management	0	0	0	1	0	0	0	3
AE/ESE3	1. Competitor analysis	0	0	0	1	0	0	0	3
AE/ESG-Bp	1. 8D method	2	2	2	1	3	5	10	3
AE/ESG2	1. Project management	1	1	1	0	2	3	5	0

AE/ESI-Bp	1. Quality management	0	0	0	1	0	0	0	3
AE/ESI-D-Bp	1. Technical documentation	1	0	0	0	2	0	0	0
AE/ESI2	1. FMEA	3	2	1	1	4	5	5	3
AE/ESI3	1. Competitor Analysis 2. Product evaluations. 3. Business recommendations 4. Comparative cost estimation	1	0	0	1	2	0	0	3
AE/ESM1	1. Orders 2. Purchasing	1	1	1	1	2	3	5	3
AE/EST	1. Assistant Tasks	1	0	0	0	2	0	0	0
AE/EST6	1. 8D-reporting and analysis	1	1	1	0	2	3	5	0
AE-BE/EUS	1. Competitor analysis	0	0	0	1	0	0	0	3
AE-BE/EUS1	1. Competitor's analysis (WBA) 2. Comparative costs estimation 3. Product evaluations	0	0	0	3	0	0	0	8
	<b>Total</b>	<b>77</b>	<b>40</b>	<b>20</b>	<b>38</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Chart No. 4.6

Chart showing the total number of opportunities in each cluster in Automotive Electronics Division:



#### INTERPRETATION:

The numbers in the above chart reveals the number of opportunities available for Business Service Provider Department in RBEI, Coimbatore.

The total number of opportunities in documentation clusters is 77 and in that of tracking and follow up it is 40.

The opportunities in the analysis cluster are 20 and the new line of service opportunity it is 38.

#### INFERENCE:

From the above chart it can be inferred that documentation and tracking and follow up activities has lot of business to provide for BSP.

Analysis kind of activities that are few in number can bring huge business to business service provider department in terms of numbers. The skill and knowledge will increase when they carry out these activities where business can grow in future with more number of people practicing cluster C activities.

New lines of opportunities have to be considered and necessary steps have to be taken for future growth of BSP.

**Table No. 4.7**

**Table Showing the number of opportunities in cluster A and percentage of clusters in each department of Automotive Electronics Division:**

<b>Department Name</b>	<b>Number of opportunities in cluster A in each department</b>	<b>Percentage of opportunities of cluster A in each department</b>
AE/EAC	1	2
AE/EAI	1	2
AE/ECU-Bp	2	3
AE/ECU-PDM	3	4
AE/ECU1-Bp	1	2
AE/ECU3-Bp	4	5
AE/ECU3-K-Bp	1	2
AE/ECU3-PP-Bp	1	2
AE/EDD-Bp	1	2
AE/EDE	1	2
AE/EDE-IT	0	0
AE/EDE-K-Bp	1	2
AE/EDE-P-Bp	1	2
AE/EDE-P1	2	3
AE/EDE-P2	1	2
AE/EDE3	1	2

AE/EDP	1	2
AE/EDP2	1	2
AE/EDP3	1	2
AE/EDP4	1	2
AE/EDS	1	2
AE/EDS-A10	1	2
AE/EDS1	1	2
AE/EDS2	3	4
AE/EDS3	1	2
AE/EDS4	1	2
AE/EE	1	2
AE/EEC	1	2
AE/EED-NA	0	0
AE/EIC	1	2
AE/EIC2	1	2
AE/EIM2	2	3
AE/EIM4	1	2
AE/EIQ	0	0
AE/EIS2	1	2
AE/EIT2	1	2
AE/EIT3	1	2
AE/EIY1	1	2
AE/EIY2	1	2
AE/EIY4	0	0
AE-BE/EKE	1	2
AE/ELS-Bp	1	2
AE/ELS4	1	2

AE/EMC	1	2
AE/EMC1	1	2
AE/EMC2	1	2
AE/EMC3	1	2
AE-BE/ENG	1	2
AE-BE/ENG-C	1	2
AE-BE/ENG4-Bp	1	2
AE/ENP1	2	3
AE/ENS	1	2
AE/EPI	0	0
AE/EPI-CK	1	2
AE-BE/EP1-Bp	2	3
AE/EQS	1	2
AE/ESC	1	2
AE/ESC3	0	0
AE/ESC4	2	3
AE/ESE2	0	0
AE/ESE3	0	0
AE/ESG-Bp	2	3
AE/ESG2	1	2
AE/ESI-Bp	0	0
AE/ESI-D-Bp	1	2
AE/ESI2	3	4
AE/ESI3	1	2
AE/ESM1	1	2
AE/EST	1	2
AE/EST6	1	2

AE-BE/EUS	0	0
AE-BE/EUS1	0	0
<b>Total</b>	<b>77</b>	<b>100</b>

Chart No. 4.7a

Chart showing the number of Cluster A opportunities in Automotive Electronics Division department and percentage of opportunities in each department:

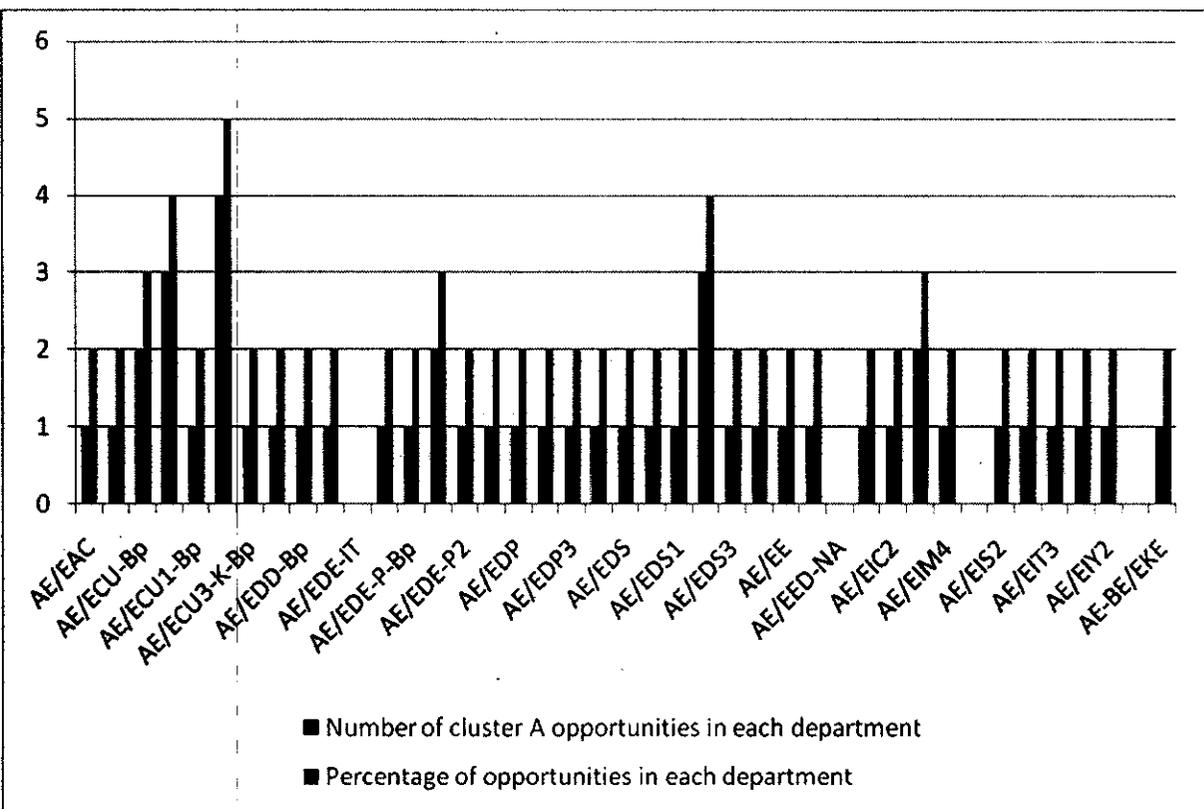
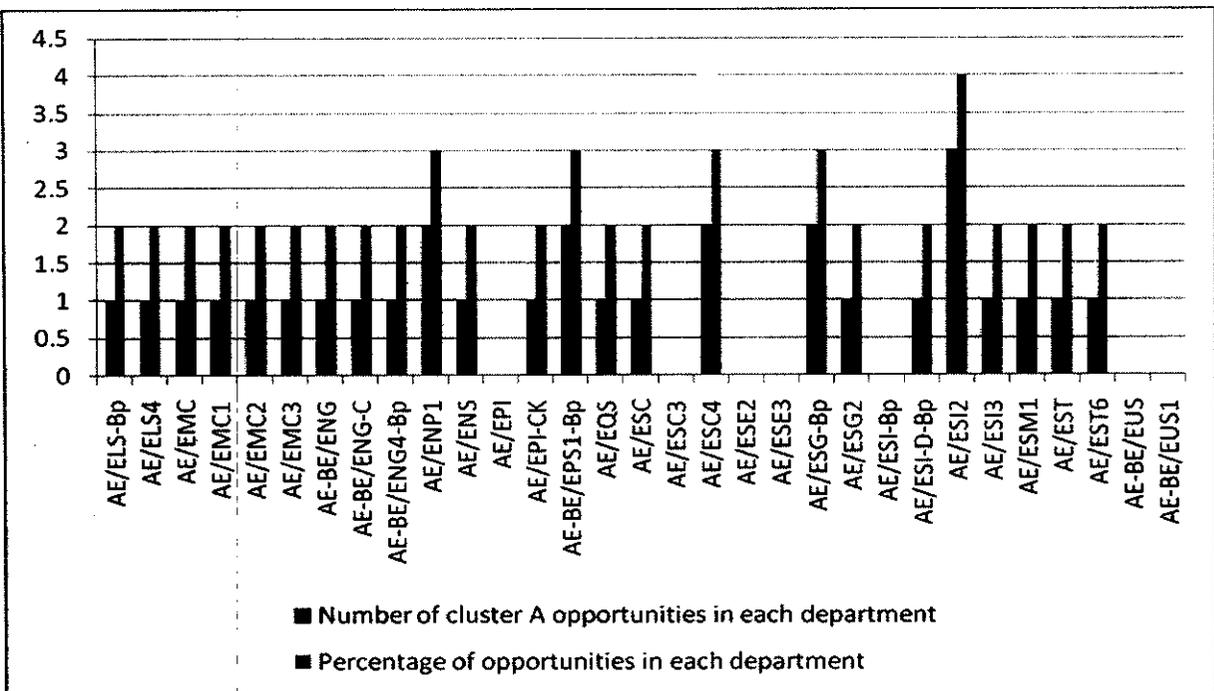


Chart No. 4.7b

Chart showing the number of Cluster A opportunities in Automotive Electronics Division department and percentage of opportunities in each department:



#### INTERPRETATION:

The departments in the Automotive Electronics Division like AE/ECU-Bp, AE/EDE-P1, AE/EIM2, AE/ENP1, AE-BE/EP1-Bp, AE/ESC4, AE/ESG-Bp have 3%, AE/ECU-PDM, AE/EDS2, AE/ESI2 have 4% and AE/ECU3-Bp has 5% of cluster A (transactional activities) kind of activities.

#### INFERENCE:

The documentation and transactional kind of activities carried out in the above mentioned departments are carried out in the Business Service Provider department. The above departments can be targeted and contacted for bringing business to the Business Service Provider department.

The number of substitutes needed for carrying out the cluster A activities if the activities are off shored can be 12.

**Table No. 4.8**

**Table Showing the number of opportunities in cluster B and percentage of clusters in each department of Automotive Electronics Division:**

<b>Department Name</b>	<b>Number of opportunities in cluster B in each department</b>	<b>Percentage of opportunities cluster B in each department</b>
AE/EAC	0	0
AE/EAI	0	0
AE/ECU-Bp	2	5
AE/ECU-PDM	1	3
AE/ECU1-Bp	1	3
AE/ECU3-Bp	0	0
AE/ECU3-K-Bp	0	0
AE/ECU3-PP-Bp	0	0
AE/EDD-Bp	1	3
AE/EDE	2	5
AE/EDE-IT	0	0
AE/EDE-K-Bp	0	0
AE/EDE-P-Bp	1	3
AE/EDE-P1	2	5
AE/EDE-P2	1	3
AE/EDE3	1	3
AE/EDP	0	0
AE/EDP2	0	0
AE/EDP3	1	3

AE/EDP4	0	0
AE/EDS	0	0
AE/EDS-A10	0	0
AE/EDS1	0	0
AE/EDS2	2	5
AE/EDS3	0	0
AE/EDS4	0	0
AE/EE	0	0
AE/EEC	1	3
AE/EED-NA	1	3
AE/EIC	1	3
AE/EIC2	1	3
AE/EIM2	0	0
AE/EIM4	1	3
AE/EIQ	0	0
AE/EIS2	0	0
AE/EIT2	1	3
AE/EIT3	1	3
AE/EIY1	0	0
AE/EIY2	1	3
AE/EIY4	0	0
AE-BE/EKE	0	0
AE/ELS-Bp	0	0
AE/ELS4	1	3
AE/EMC	0	0
AE/EMC1	0	0
AE/EMC2	0	0

AE/EMC3	0	0
AE-BE/ENG	0	0
AE-BE/ENG-C	1	3
AE-BE/ENG4-Bp	1	3
AE/ENP1	1	3
AE/ENS	0	0
AE/EPI	0	0
AE/EPI-CK	1	3
AE-BE/EPS1-Bp	2	5
AE/EQS	1	3
AE/ESC	0	0
AE/ESC3	0	0
AE/ESC4	2	5
AE/ESE2	0	0
AE/ESE3	0	0
AE/ESG-Bp	2	5
AE/ESG2	1	3
AE/ESI-Bp	0	0
AE/ESI-D-Bp	0	0
AE/ESI2	2	5
AE/ESI3	1	3
AE/ESM1	0	0
AE/EST	0	0
AE/EST6	1	3
AE-BE/EUS	0	0
AE-BE/EUS1	0	0
<b>Total</b>	<b>40</b>	<b>100</b>

Chart No. 4.8a

Chart showing the number of Cluster B opportunities in Automotive Electronics Division department and percentage of opportunities in each department:

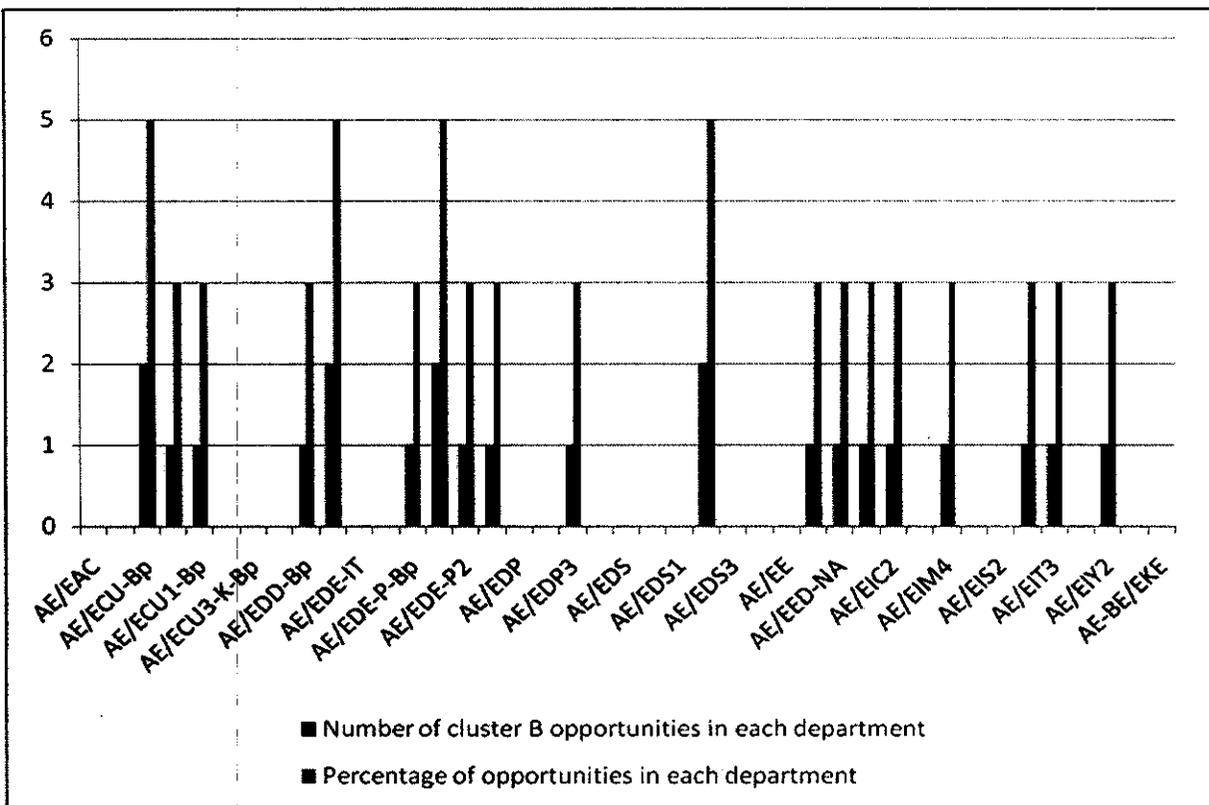
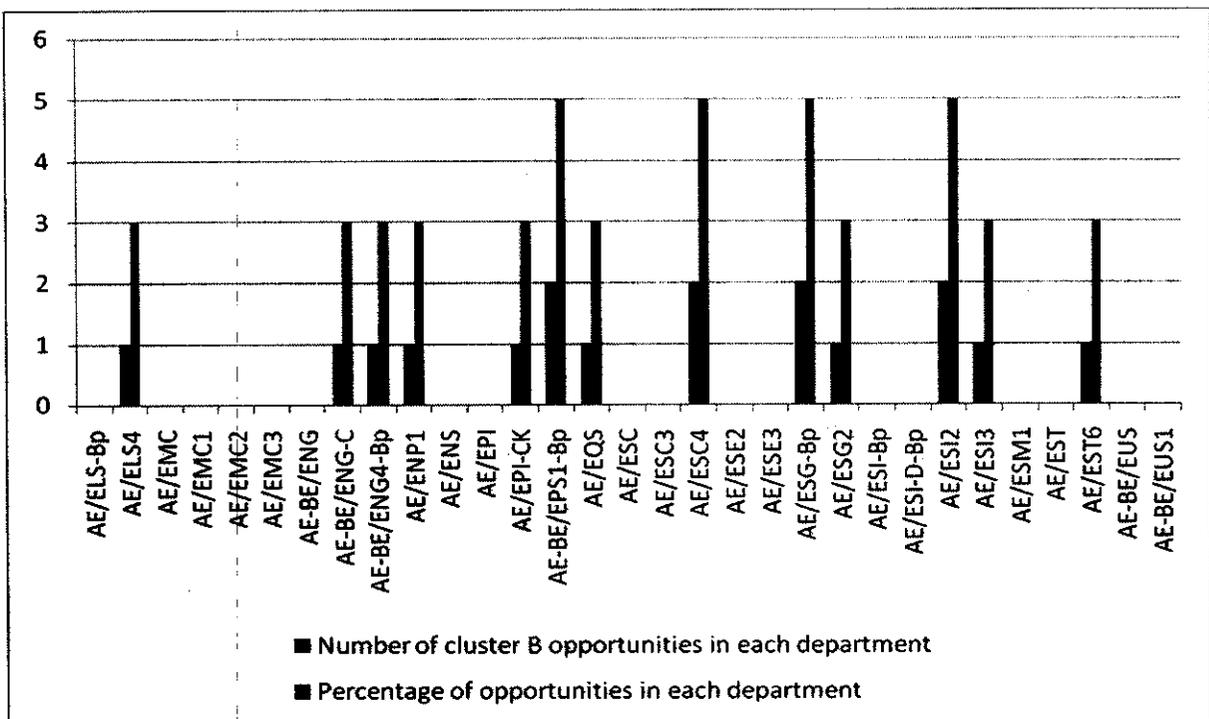


Chart No. 4.8b

Chart showing the number of Cluster B opportunities in Automotive Electronics Division department and percentage of opportunities in each department:



#### INTERPRETATION:

The departments in the Automotive Electronics Division like AE/ECU-Bp, AE/EDE, AE/EDE-P1, AE/EDS2, AE-BE/EP1-Bp, AE/ESC4, AE/ESG-Bp and AE/ESI2 has 5% of cluster B (Coordination activities) kind of activities.

#### INFERENCE:

The coordination activities carried out in the above departments like 8 D method, FMEA tracking and follow up, project management and warehousing are already carried out in the Business Service Provider department. The above departments can be targeted and contacted for bringing business to Business Service Provider department.

The number of substitutes needed for carrying out the cluster B activities if the activities are off shored can be 8.

**Table No. 4.9**

**Table Showing the number of opportunities in cluster C and percentage of clusters in each department of Automotive Electronics Division:**

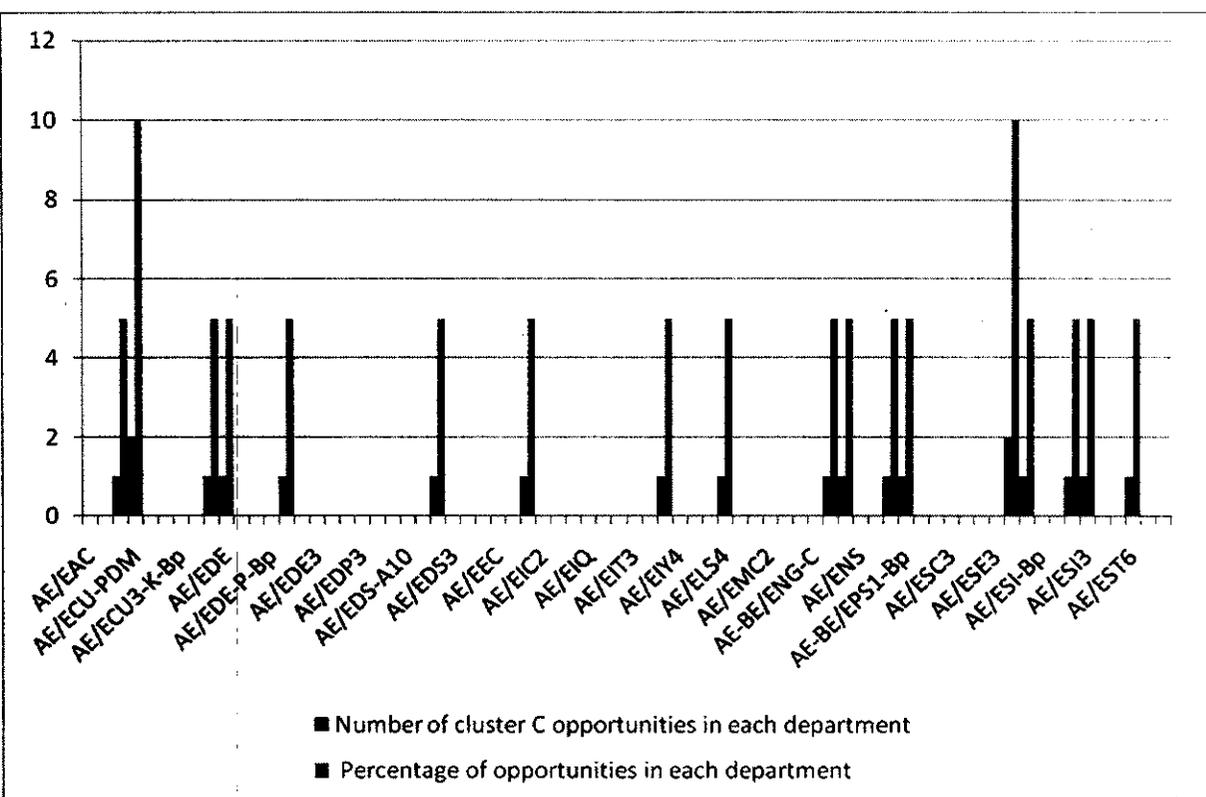
<b>Department Name</b>	<b>Number of opportunities in cluster C in each department</b>	<b>Percentage of opportunities in Cluster C in each department</b>
AE/EAC	0	0
AE/EAI	0	0
AE/ECU-Bp	1	5
AE/ECU-PDM	2	10
AE/ECU1-Bp	0	0
AE/ECU3-Bp	0	0
AE/ECU3-K-Bp	0	0
AE/ECU3-PP-Bp	0	0
AE/EDD-Bp	1	5
AE/EDE	1	5
AE/EDE-IT	0	0
AE/EDE-K-Bp	0	0
AE/EDE-P-Bp	0	0
AE/EDE-P1	1	5
AE/EDE-P2	0	0
AE/EDE3	0	0
AE/EDP	0	0
AE/EDP2	0	0
AE/EDP3	0	0

AE/EDP4	0	0
AE/EDS	0	0
AE/EDS-A10	0	0
AE/EDS1	0	0
AE/EDS2	1	5
AE/EDS3	0	0
AE/EDS4	0	0
AE/EE	0	0
AE/EEC	0	0
AE/EED-NA	0	0
AE/EIC	1	5
AE/EIC2	0	0
AE/EIM2	0	0
AE/EIM4	0	0
AE/EIQ	0	0
AE/EIS2	0	0
AE/EIT2	0	0
AE/EIT3	0	0
AE/EIY1	0	0
AE/EIY2	1	5
AE/EIY4	0	0
AE-BE/EKE	0	0
AE/ELS-Bp	0	0
AE/ELS4	1	5
AE/EMC	0	0
AE/EMC1	0	0
AE/EMC2	0	0

AE/EMC3	0	0
AE-BE/ENG	0	0
AE-BE/ENG-C	0	0
AE-BE/ENG4-Bp	1	5
AE/ENP1	1	5
AE/ENS	0	0
AE/EPI	0	0
AE/EPI-CK	1	5
AE-BE/EPS1-Bp	1	5
AE/EQS	0	0
AE/ESC	0	0
AE/ESC3	0	0
AE/ESC4	0	0
AE/ESE2	0	0
AE/ESE3	0	0
AE/ESG-Bp	2	10
AE/ESG2	1	5
AE/ESI-Bp	0	0
AE/ESI-D-Bp	0	0
AE/ESI2	1	5
AE/ESI3	1	5
AE/ESM1	0	0
AE/EST	0	0
AE/EST6	1	5
AE-BE/EUS	0	0
AE-BE/EUS1	0	0
<b>Total</b>	<b>20</b>	<b>100</b>

Chart No. 4.9

Chart showing the number of Cluster C opportunities in Automotive Electronics Division department and percentage of opportunities in each department:



#### INTERPRETATION:

The departments in the Automotive Electronics Division like AE/ECU-PDM, AE/ESG-Bp have 10%, AE/ECU-Bp, AE/EDD-Bp, AE/EDE, AE/EDS2, AE/EIC, AE/EIY2, AE/ELS4, AE-BE/ENG4-Bp, AE/ENP1, AE/EDE-P1, AE/EPI-CK, AE-BE/EP31-Bp, AE/ESG2, AE/ESI2, AE/ESI3 and AE/ESI6 have 5% of cluster C (Analysis activities) kind of activities.

#### INFERENCE:

The above departments can be targeted and contacted for bringing business to RBEL, India.

The number of substitutes needed for carrying out the cluster C activities if the activities are offshored can be 8 with experience in 8D method, project management, product procurement and monitoring projects.

**Table No. 4.10**

**Table Showing the number of opportunities in cluster D and percentage of clusters in each department of Automotive Electronics Division:**

<b>Department Name</b>	<b>Number of opportunities in cluster D in each department</b>	<b>Percentage of opportunities in cluster D in each department</b>
AE/EAC	0	0
AE/EAI	0	0
AE/ECU-Bp	1	3
AE/ECU-PDM	0	0
AE/ECU1-Bp	1	3
AE/ECU3-Bp	3	8
AE/ECU3-K-Bp	1	3
AE/ECU3-PP-Bp	0	0
AE/EDD-Bp	0	0
AE/EDE	0	0
AE/EDE-IT	1	3
AE/EDE-K-Bp	0	0
AE/EDE-P-Bp	1	3
AE/EDE-P1	1	3
AE/EDE-P2	1	3
AE/EDE3	1	3
AE/EDP	1	3
AE/EDP2	0	0

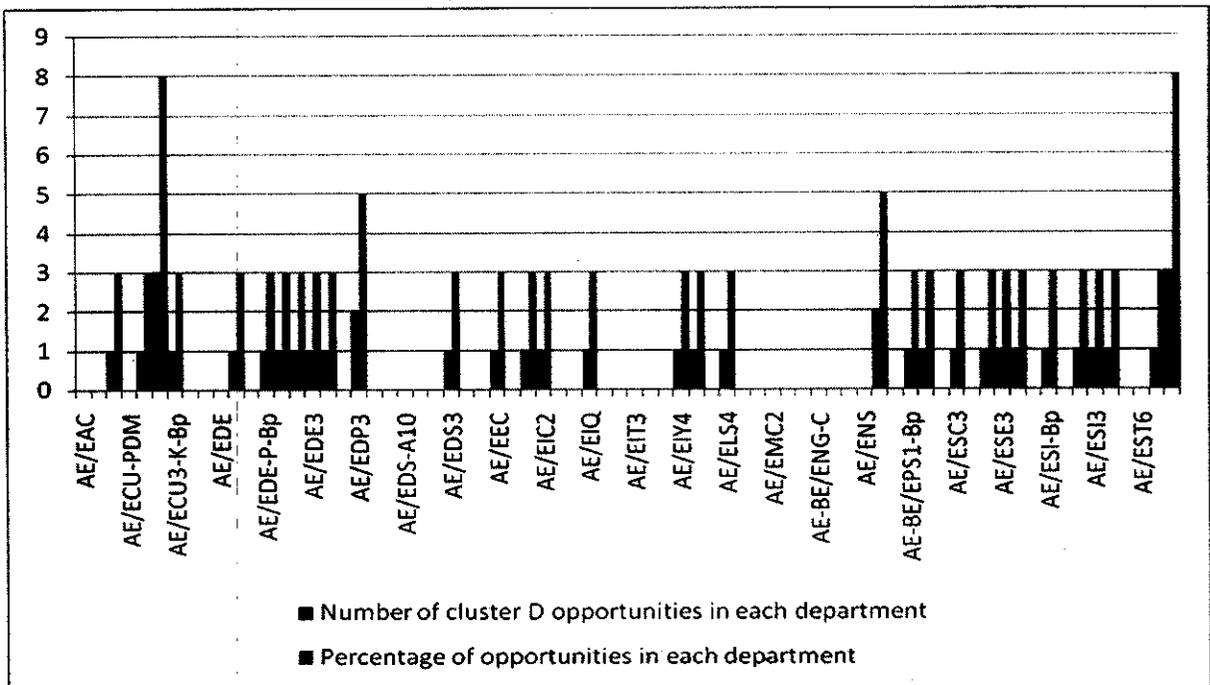
AE/EDP3	2	5
AE/EDP4	0	0
AE/EDS	0	0
AE/EDS-A10	0	0
AE/EDS1	0	0
AE/EDS2	0	0
AE/EDS3	1	3
AE/EDS4	0	0
AE/EE	0	0
AE/EEC	1	3
AE/EED-NA	0	0
AE/EIC	1	3
AE/EIC2	1	3
AE/EIM2	0	0
AE/EIM4	0	0
AE/EIQ	1	3
AE/EIS2	0	0
AE/EIT2	0	0
AE/EIT3	0	0
AE/EIY1	0	0
AE/EIY2	0	0
AE/EIY4	1	3
AE-BE/EKE	1	3
AE/ELS-Bp	0	0
AE/ELS4	1	3
AE/EMC	0	0
AE/EMC1	0	0

AE/EMC2	0	0
AE/EMC3	0	0
AE-BE/ENG	0	0
AE-BE/ENG-C	0	0
AE-BE/ENG4-Bp	0	0
AE/ENP1	0	0
AE/ENS	0	0
AE/EPI	2	5
AE/EPI-CK	0	0
AE-BE/EP1-Bp	1	3
AE/EQS	1	3
AE/ESC	0	0
AE/ESC3	1	3
AE/ESC4	0	0
AE/ESE2	1	3
AE/ESE3	1	3
AE/ESG-Bp	1	3
AE/ESG2	0	0
AE/ESI-Bp	1	3
AE/ESI-D-Bp	0	0
AE/ESI2	1	3
AE/ESI3	1	3
AE/ESM1	1	3
AE/EST	0	0
AE/EST6	0	0
AE-BE/EUS	1	3

AE-BE/EUS1	3	8
<b>Total</b>	<b>38</b>	<b>100</b>

Chart No. 4.10

Chart showing the number of Cluster D opportunities in Automotive Division department and percentage of opportunities in each department:



#### INTERPRETATION:

The departments in the Automotive Electronics Division like AE/ECU3-Bp, AE-BE/EUS1 have 8%, AE/EDP3, AE/EPI have 5%, AE/ESI, AE/ESM1, AE/ESE3, AE/ESC3, AE/EQS, AE-BE/EP31-Bp, AE/EDE and AE/ECU have 3% of new line of opportunities.

#### INFERENCE:

The Business Service Provider department has to train existing employees on new line of opportunities like FMEA moderation, competitor analysis, cause effect analysis, patent

administration, audit management, staff planning, R&D cost reporting and planning and marketing activities. After which the above departments can be targeted and contacted for enhancing business of Business Service Provider department.

**Table No. 4.11**

**Table showing the number of opportunities in each cluster and percentage of opportunities in the clusters in each department of Gasoline Systems Division:**

Department Name	Customer Profiling	Number of opportunities in each cluster				Percentage of opportunities of a cluster of each department			
		A	B	C	D	A	B	C	D
GS/EFO	1. System Design 2. Budget Controlling 3. Responsible for BGN	3	0	1	0	3	0	3	0
GS/EAP-AU	1. Test documentation	1	0	0	0	1	0	0	0
GS/EC	1. Order processing 2. Project Management for ECUs 3. Ordering 4. Quality management 5. Budget controlling 6. Competitor analysis	4	4	5	3	4	8	15	7

	7. Computer aided engineering								
GS/ECC-CS	1. Technology planning and coordination	0	1	0	0	0	2	0	0
GS/ECC-FA	1. Fatigue testing documentation 2. Audit and Gap-analysis	1	0	0	2	1	0	0	5
GS/ECC-FA-MAT	1. Materials management 2. Market observation	1	1	0	1	1	2	0	2
GS/ECC-MA	1. Technology management-coordination 2. Design documentation	1	1	0	0	1	2	0	0
GS/ECC-PL	1. Plastic Parts designing 2. Testing documentation	2	0	0	0	2	0	0	0
GS/ECC-PL-Bj	1. Plastic Parts designing 2. Testing documentation	2	0	0	0	2	0	0	0
GS/ECS1	1. Customer Studies	0	0	0	2	0	0	0	5

	2. Combustion System 3D CAD construction								
GS/ECS2	1. Customer Studies 2. Combustion based 3D CAD construction	0	0	0	2	0	0	0	5
GS/EDA	1. Project Management	1	1	1	0	1	2	3	0
GS/EFI	1. Project Management	1	1	1	0	1	2	3	0
GS/EFO-EU	1. Anticipating the market, the future needs of customers and the direction of competitors 2. Controlling BGN 3. Budget Controlling	2	0	0	1	2	0	0	2
GS/EFO-NA	1. Project management 2. Anticipating the market, the future needs of customers and the direction of competitors 3. Controlling	2	1	1	1	2	2	3	2

	BGN								
GS/EGM	1. Project Management	1	1	1	0	1	2	3	0
GS/EGM-EU	1. Documentation	1	0	0	0	1	0	0	0
GS/EJP	1. Global project budget 2. Technical "window" to customer	2	0	0	0	2	0	0	0
GS/EMP1-NA	1. Project Managements 2. Requirements Management 3. Supplier Management	3	3	1	0	3	6	3	0
GS/EMP4-NA	1. Computer Aided Designing 2. Data exchange 3. Storage 4. Translation 5. Organizing	4	0	0	1	4	0	0	2
GS/EMP5-NA	1. Computer Aided Engineering documentation	1	0	0	0	1	0	0	0
	1. PMAP (Process Maturity)	2	1	0	1	2	2	0	2

GS/EMP-LA	Assessments for Projects) auditing 2. BGN Intranet Pages 3. Project Status Value Support 4: Coordination of EID projects								
GS/EMP-NA	1: CAD (Designing)	1	0	0	1	1	0	0	2
GS/ENA	1: CAD Designing	1	0	0	1	1	0	0	2
GS/ENA-LA	1: Spark plug designing	1	0	0	0	1	0	0	0
GS/ENC1	1. Track projects 2. Machinery and equipment procurement 3. Order processing 4. Machinery and equipment market research	1	3	0	1	1	6	0	2
GS/ENG-LA	1. Spark plugs designing 2. Project management 3. Coordination of EID Projects	2	2	1	1	2	4	3	2

GS/EPC	1. 8D method 2. Audit Management 3. BGN Management	2	1	1	1	2	2	3	2
GS/EPR	1. mCAD - Unigraphics 2. 8 D method 3: Audit management 4. Statistics 5: International material data system (IMDS)	2	1	2	2	2	2	6	5
GS/EPR1-TR	1. Test assessment and reporting	1	0	0	0	1	0	0	0
GS/EPR2-TR	1. Testing gasoline components	1	0	0	0	1	0	0	0
GS/EPR4-TR	1. Vibrating table or shaker tests, 3D random vibration tests , Drop tests, Over speed tests, Speed change tests, Cable bend tests documentation	1	0	0	0	1	0	0	0
GS/EPR5-TR	1. Climatic testing, Corrosion testing, Endurance testing	1	0	0	0	1	0	0	0

	documentation								
GS/EPR8-DR	1. Market survey	0	0	0	1	0	0	0	2
GS/EPR-DEE	1. 8D methods 2. Audit management	1	1	1	1	1	2	3	2
GS/EPR-DR	1. GS-wide coordination of the 3D-simulation 2. Simulation Process and Data Management (SPDM)	1	1	0	0	1	2	0	0
GS/EPR-EEI	1. mCAD - Unigraphics / ADM (Application Data Management)	1	0	0	0	1	0	0	0
GS/EPR-EEP	1. mCAD - Unigraphics / ADM (Application Data Management) 2. Simulation Process and Data Management (SPDM) 3. 8D method 4. Audit Management 5. Statistics	3	1	2	2	3	2	6	5

	analysis								
GS/EPR-EEQ	1. mCAD - Unigraphics / ADM (Application Data Management) 2. Simulation Process and Data Management (SPDM) 3. 8D method 4. Audit Management 5. Statistics analysis	3	1	2	2	3	2	6	
GS/EPR-K	1. mCAD - Unigraphics / ADM (Application Data Management) 2. Simulation Process and Data Management (SPDM) 3. 8D method 4. Audit Management 5. Statistics analysis	3	1	2	2	3	2	6	5

GS/EPR-PMO	1. Requirements Management 2. Auditing of GS-FS and RBCB 3. Intranet pages GS/EPR, GS/BV editing	2	1	0	1	2	2	0	2
GS/EPR-TR	1: 8D method 2. Audit Management 3: Statistics	1	1	2	1	1	2	6	2
GS/ES	1. Sales & Marketing	3	2	0	0	3	4	0	0
GS/ESA-NA	1. Laboratory testing service for all GS-NA EMS Components	1	0	0	0	1	0	0	0
GS/ESC	1. FMEA 2. Fault Tree Analysis	2	1	0	1	2	2	0	2
GS/ESC2	1. Supports sales 2. Quality methods (S-FMEA), Fault Tree Analysis	3	1	0	0	3	2	0	0
	1. Sales and marketing 2. Project management 3. System design,	4	3	1	0	4	6	3	0

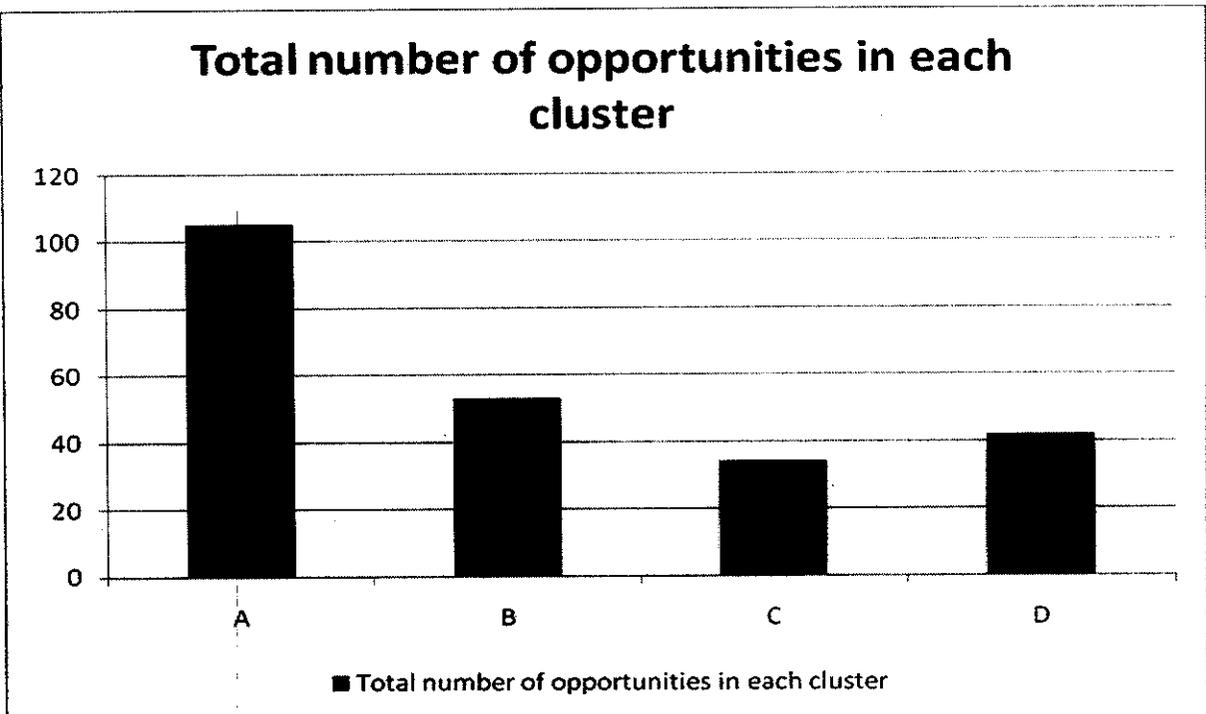
GS/ESE-NA	software and function development 4. Electronic Control Unit hardware development 5: System calibration for both GS and DS								
GS/ESP1	1. SAP user administration 2. Machinery and Equipment Order	2	2	0	0	2	4	0	0
GS/ESP-PFI	1. FMEA	1	1	0	1	1	2	0	2
GS/EVW	2. Project management	1	1	1	0	1	2	3	0
GS-AM/ENC2	1. CAD-data 2. Document storage 3. Design purge valves	3	0	0	0	3	0	0	0
GS-AM/ENC-PRM	1. Product management	1	1	0	0	1	2	0	0
GS-AM/ENC-Q	1. 8 D methods 2. Audit management	1	1	1	1	1	2	3	2

GS-AM/ENG	1. Project management 2. Customer support	1	1	1	0	1	2	3	0
GS-AM/ENG5	1. Project Management 2. Ratio project planning	3	2	1	0	3	4	3	0
GS-AM/ENG6	1. Project management 2. CAD tool	1	1	1	1	1	2	3	2
GS-CT/ENA	1. Budget planning and controlling 2. Research work	0	0	1	1	0	0	3	2
GS-CT/ENA2	1. Benchmarking	0	0	0	1	0	0	0	2
GS-CT/ETP	1. Design documentation 2. Project management	2	1	1	0	2	2	3	0
GS-DI/ENG3-NA	1. Customer meetings minutes documents 2. D-FMEA, P-FMEA	1	1	0	1	1	2	0	2

GS-DI/ENI2	1. Wear analysis 2. Test results documentation	1	0	1	0	1	0	3	0
GS-DI/ENI4	1. Data Management	1	0	0	0	1	0	0	0
GS-DI/ENI5	1: FMEA (Failure mode effect analysis) 2: Sample Orders 3: IMDS (International material data system)-Data Management 4: Purchase Orders for Hardware and Software	4	2	0	1	4	4	0	2
GS-EH/EHC	1. Project Management of Acquisition	1	1	1	0	1	2	3	0
GS-EH/ENA1	1. Ordering system 2. BGN Editing 3. Inventions and patents review 4. Benchmarking	2	1	0	2	2	2	0	5
GS-EH/ENA2	1. Norms and Patents	0	0	0	1	0	0	0	2
	<b>Total</b>	<b>105</b>	<b>53</b>	<b>34</b>	<b>42</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Chart No. 4.11

Chart showing the total number opportunities in each cluster in Gasoline Systems division:



**INTERPRETATION:**

The numbers in the above chart reveals the number of opportunities available for Business Service Provider Department in RBEI, Coimbatore.

The total number of opportunities in documentation clusters is 105 and in that of tracking and follow up it is 53.

The opportunities in the analysis cluster are 34 and the new line of service opportunity it is 42.

**INFERENCE:**

From the above chart it can be inferred that documentation and tracking and follow up activities has lot of business to provide for BSP.

Analysis kind of activities that are few in number can bring huge business to business service provider department in terms of numbers. The skill and knowledge will increase when they carry out these activities where business can grow in future with more number of people practicing cluster C activities.

New lines of opportunities have to be considered and necessary steps have to be taken for future growth of BSP.

**Table No. 4.12**

**Table Showing the number of opportunities in cluster A and percentage of clusters in each department of Gasoline Systems Division:**

<b>Department Name</b>	<b>Number of opportunities in cluster A in each department</b>	<b>Percentage of opportunities in cluster A in each department</b>
GS/EFO	3	3
GS/EAP-AU	1	1
GS/EC	4	4
GS/ECC-CS	0	0
GS/ECC-FA	1	1
GS/ECC-FA-MAT	1	1
GS/ECC-MA	1	1
GS/ECC-PL	2	2
GS/ECC-PL-Bj	2	2
GS/ECS1	0	0
GS/ECS2	0	0
GS/EDA	1	1
GS/EFI	1	1
GS/EFO-EU	2	2
GS/EFO-NA	2	2

GS/EGM	1	1
GS/EGM-EU	1	1
GS/EJP	2	2
GS/EMP1-NA	3	3
GS/EMP4-NA	4	4
GS/EMP5-NA	1	1
GS/EMP-LA	2	2
GS/EMP-NA	1	1
GS/ENA	1	1
GS/ENA-LA	1	1
GS/ENC1	1	1
GS/ENG-LA	2	2
GS/EP	1	1
GS/EPC	2	2
GS/EPR	2	2
GS/EPR1-TR	1	1
GS/EPR2-TR	1	1
GS/EPR4-TR	1	1
GS/EPR5-TR	1	1
GS/EPR8-DR	0	0
GS/EPR-DEE	1	1
GS/EPR-DR	1	1
GS/EPR-EEI	1	1
GS/EPR-EEP	3	3
GS/EPR-EEQ	3	3
GS/EPR-K	3	3
GS/EPR-PMO	2	2

GS/EPR-TR	1	1
GS/ES	3	3
GS/ESA-NA	1	1
GS/ESC	2	2
GS/ESC2	3	3
GS/ESE-NA	4	4
GS/ESP1	2	2
GS/ESP-PFI	1	1
GS/EVW	1	1
GS-AM/ENC2	3	3
GS-AM/ENC-PRM	1	1
GS-AM/ENC-Q	1	1
GS-AM/ENG	1	1
GS-AM/ENG5	3	3
GS-AM/ENG6	1	1
GS-CT/ENA	0	0
GS-CT/ENA2	0	0
GS-CT/ETP	2	2
GS-DI/ENG3-NA	1	1
GS-DI/ENI2	1	1
GS-DI/ENI4	1	1
GS-DI/ENI5	4	4
GS-EH/EHC	1	1
GS-EH/EHC2	1	1
GS-EH/ENA1	2	2
GS-EH/ENA2	0	0
<b>Total</b>	<b>105</b>	<b>100</b>

Chart No. 4.12a

Chart showing the number of Cluster A opportunities in a Gasoline Systems Division department and percentage of opportunities in each department:

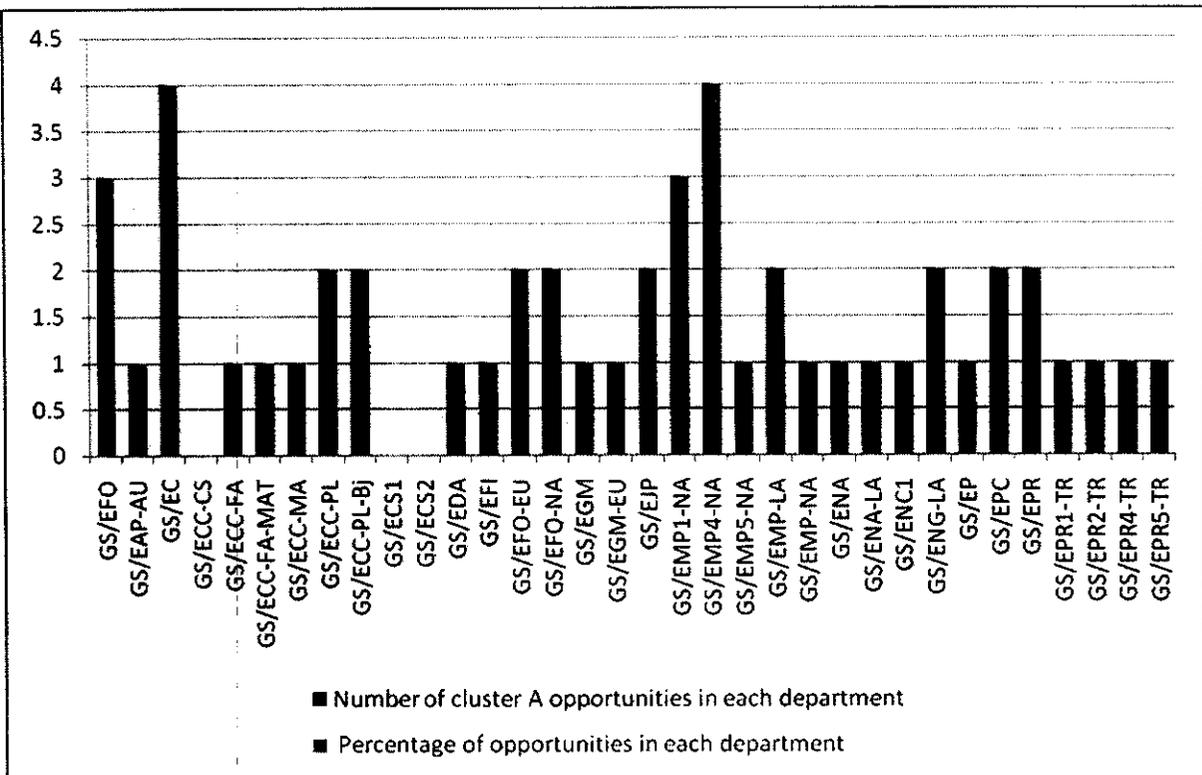
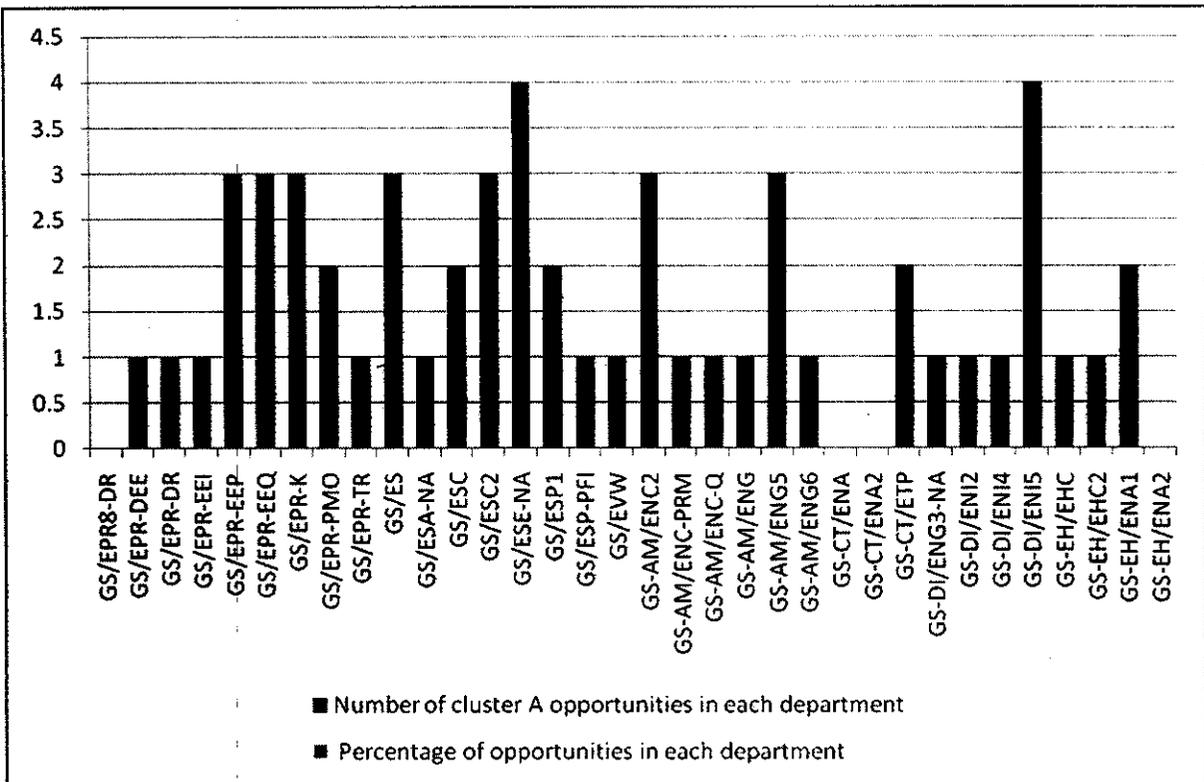


Chart No. 4.12b

Chart showing the number of Cluster A opportunities in a Gasoline Systems Division department and percentage of opportunities in each department:



**INTERPRETATION:**

The departments in the Gasoline Systems Division like GS/ EFO, GS/EMP1-NA, GS/EPR-EEP, GS/EPR-EEQ, GS/EPR-K, GS/ES, ES/ESC2, GS-AM/ENC2, GS-AM/ENG5 have 3% and GS/EC, GS/EMP4-NA, GS/ESE-NA, GS-DI/ENI5 have 4% of cluster A (transactional activities) kind of activities.

**INFERENCE:**

The documentation and transactional kind of activities carried out in the above mentioned departments are already carried out in the Business Service Provider department. The above

departments can be targeted and contacted for bringing business to the Business Service Provider department.

The number of substitutes needed for carrying out the cluster A activities if the activities are offshored can be 12.

**Table No. 4.13**

**Table Showing the number of opportunities in cluster B and percentage of clusters in each department of Gasoline Systems Division:**

<b>Department Name</b>	<b>Number of opportunities in cluster B in each department</b>	<b>Percentage of opportunities in cluster B in each department</b>
GS/EFO	0	0
GS/EAP-AU	0	0
GS/EC	4	8
GS/ECC-CS	1	2
GS/ECC-FA	0	0
GS/ECC-FA-MAT	1	2
GS/ECC-MA	1	2
GS/ECC-PL	0	0
GS/ECC-PL-Bj	0	0
GS/ECS1	0	0
GS/ECS2	0	0
GS/EDA	1	2
GS/EFI	1	2
GS/EFO-EU	0	0
GS/EFO-NA	1	2
GS/EGM	1	2
GS/EGM-EU	0	0

GS/EJP	0	0
GS/EMP1-NA	3	6
GS/EMP4-NA	0	0
GS/EMP5-NA	0	0
GS/EMP-LA	1	2
GS/EMP-NA	0	0
GS/ENA	0	0
GS/ENA-LA	0	0
GS/ENC1	3	6
GS/ENG-LA	2	4
GS/EP	0	0
GS/EPC	1	2
GS/EPR	1	2
GS/EPR1-TR	0	0
GS/EPR2-TR	0	0
GS/EPR4-TR	0	0
GS/EPR5-TR	0	0
GS/EPR8-DR	0	0
GS/EPR-DEE	1	2
GS/EPR-DR	1	2
GS/EPR-EEI	0	0
GS/EPR-EEP	1	2
GS/EPR-EEQ	1	2
GS/EPR-K	1	2
GS/EPR-PMO	1	2
GS/EPR-TR	1	2
GS/ES	2	4

GS/ESA-NA	0	0
GS/ESC	1	2
GS/ESC2	1	2
GS/ESE-NA	3	6
GS/ESP1	2	4
GS/ESP-PFI	1	2
GS/EVW	1	2
GS-AM/ENC2	0	0
GS-AM/ENC-PRM	1	2
GS-AM/ENC-Q	1	2
GS-AM/ENG	1	2
GS-AM/ENG5	2	4
GS-AM/ENG6	1	2
GS-CT/ENA	0	0
GS-CT/ENA2	0	0
GS-CT/ETP	1	2
GS-DI/ENG3-NA	1	2
GS-DI/ENI2	0	0
GS-DI/ENI4	0	0
GS-DI/ENI5	2	4
GS-EH/EHC	1	2
GS-EH/EHC2	1	2
GS-EH/ENA1	1	2
GS-EH/ENA2	0	0
<b>Total</b>	<b>53</b>	<b>100</b>

Chart No. 4.13a

Chart showing the number of Cluster B opportunities in a Gasoline Systems Division department and percentage of opportunities in each department:

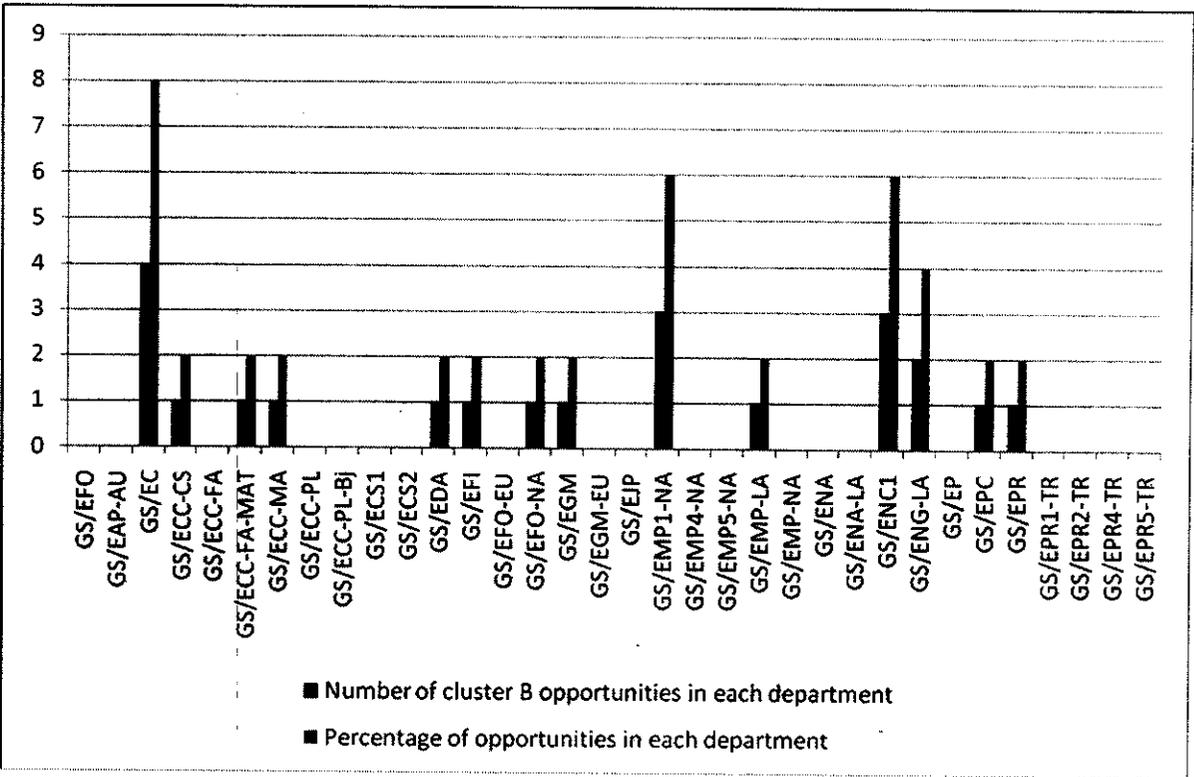
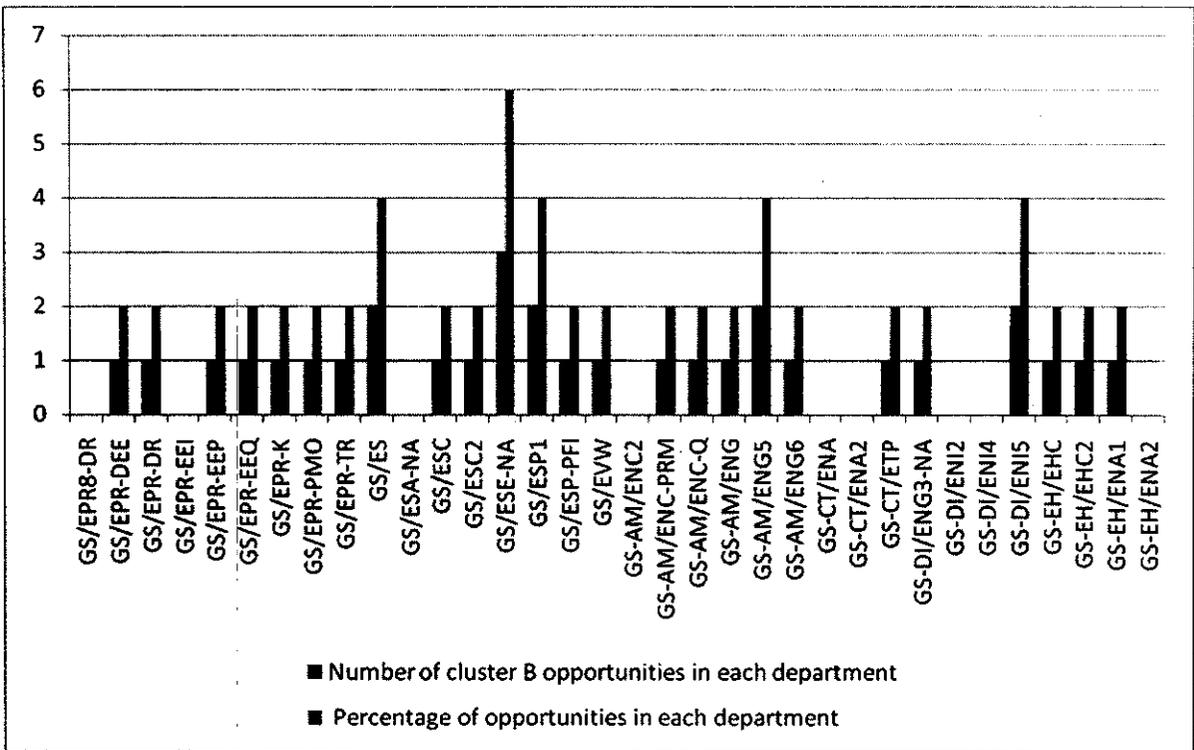


Chart No. 4.13b

Chart showing the number of Cluster B opportunities in Gasoline Systems Division department and percentage of opportunities in each department:



**INTERPRETATION:**

The departments in the Gasoline Systems Division like GS/ENG-LA, GS/ES, GS/ESP1, GS-AM/ENG5, GS-DI/ENI5 have 4%, GS/EMP1-NA, GS/ENC1, GS/ESE-NA have 6% and GS/EC has 8% of cluster B (Coordination activities) kind of activities.

**INFERENCE:**

The coordination activities carried out in the above departments like 8 D method, FMEA tracking and follow up, project management, order processing and warehousing are already carried out in the Business Service Provider department. The above departments can be targeted and contacted for bringing business to Business Service Provider department.

The number of substitutes needed for carrying out the cluster B activities if the activities are off shored can be 9.

**Table No. 4.14**

**Table Showing the number of opportunities in cluster C and percentage of clusters in each department of Gasoline Systems Division:**

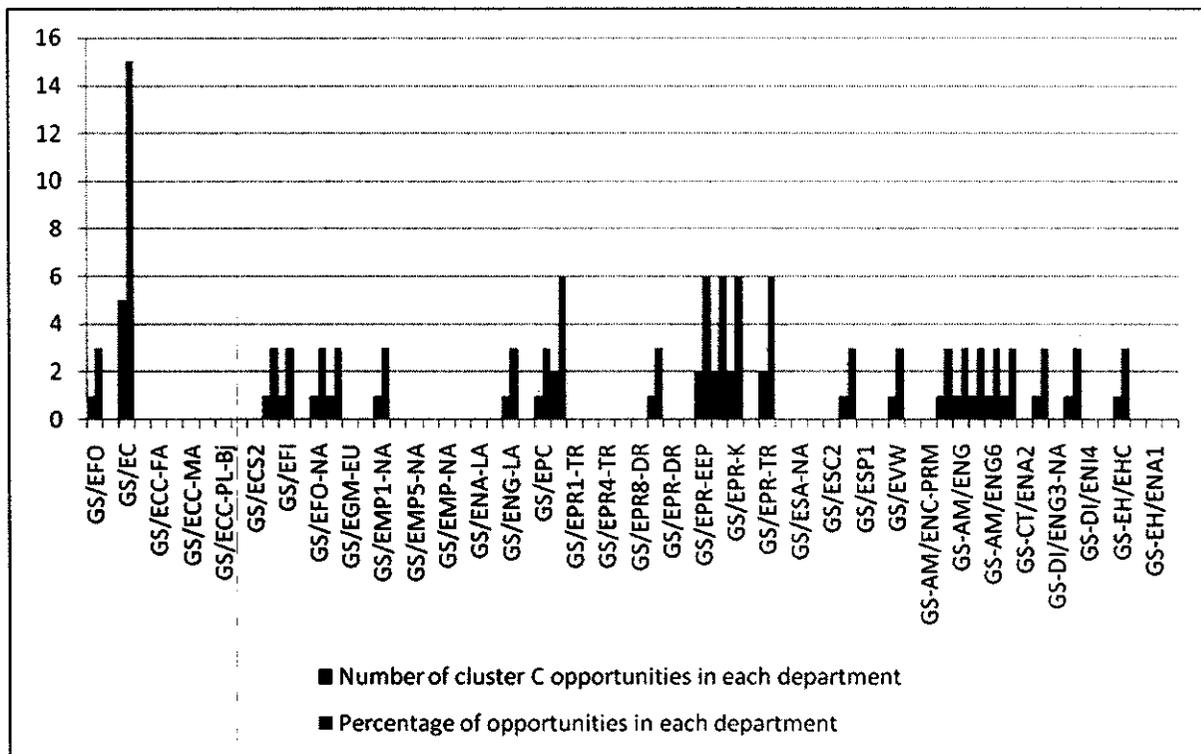
<b>Department Name</b>	<b>Number of opportunities in cluster C in each department</b>	<b>Percentage of opportunities in cluster C in each department</b>
GS/EFO	1	3
GS/EAP-AU	0	0
GS/EC	5	15
GS/ECC-CS	0	0
GS/ECC-FA	0	0
GS/ECC-FA-MAT	0	0
GS/ECC-MA	0	0
GS/ECC-PL	0	0
GS/ECC-PL-Bj	0	0
GS/ECS1	0	0
GS/ECS2	0	0
GS/EDA	1	3
GS/EFI	1	3
GS/EFO-EU	0	0
GS/EFO-NA	1	3
GS/EGM	1	3
GS/EGM-EU	0	0
GS/EJP	0	0
GS/EMP1-NA	1	3

GS/EMP4-NA	0	0
GS/EMP5-NA	0	0
GS/EMP-LA	0	0
GS/EMP-NA	0	0
GS/ENA	0	0
GS/ENA-LA	0	0
GS/ENC1	0	0
GS/ENG-LA	1	3
GS/EP	0	0
GS/EPC	1	3
GS/EPR	2	6
GS/EPR1-TR	0	0
GS/EPR2-TR	0	0
GS/EPR4-TR	0	0
GS/EPR5-TR	0	0
GS/EPR8-DR	0	0
GS/EPR-DEE	1	3
GS/EPR-DR	0	0
GS/EPR-EEI	0	0
GS/EPR-EEP	2	6
GS/EPR-EEQ	2	6
GS/EPR-K	2	6
GS/EPR-PMO	0	0
GS/EPR-TR	2	6
GS/ES	0	0
GS/ESA-NA	0	0
GS/ESC	0	0

GS/ESC2	0	0
GS/ESE-NA	1	3
GS/ESP1	0	0
GS/ESP-PFI	0	0
GS/EVW	1	3
GS-AM/ENC2	0	0
GS-AM/ENC-PRM	0	0
GS-AM/ENC-Q	1	3
GS-AM/ENG	1	3
GS-AM/ENG5	1	3
GS-AM/ENG6	1	3
GS-CT/ENA	1	3
GS-CT/ENA2	0	0
GS-CT/ETP	1	3
GS-DI/ENG3-NA	0	0
GS-DI/ENI2	1	3
GS-DI/ENI4	0	0
GS-DI/ENI5	0	0
GS-EH/EHC	1	3
GS-EH/EHC2	0	0
GS-EH/ENA1	0	0
GS-EH/ENA2	0	0
<b>Total</b>	<b>34</b>	<b>100</b>

Chart No. 4.14

Chart showing the number of Cluster C opportunities in Gasoline Systems Division department and percentage of opportunities in each department:



#### INTERPRETATION:

The departments in the Gasoline Systems Division like GS/EPR, GS/EPR-EEP, GS/EPR-EEQ, GS/EPR-K, GS/EPR-TR have 6% and GS/EC has 15% of cluster C (Analysis activities) kind of activities.

#### INFERENCE:

The above departments can be targeted and contacted for bringing business to RBEI, India. The number of substitutes needed for carrying out the cluster C activities if the activities are off shored can be 6 with experience in 8D method, project management, product procurement and monitoring projects.

Table No. 4.15

**Table Showing the number of opportunities in cluster D and percentage of clusters in each department of Gasoline Systems Division:**

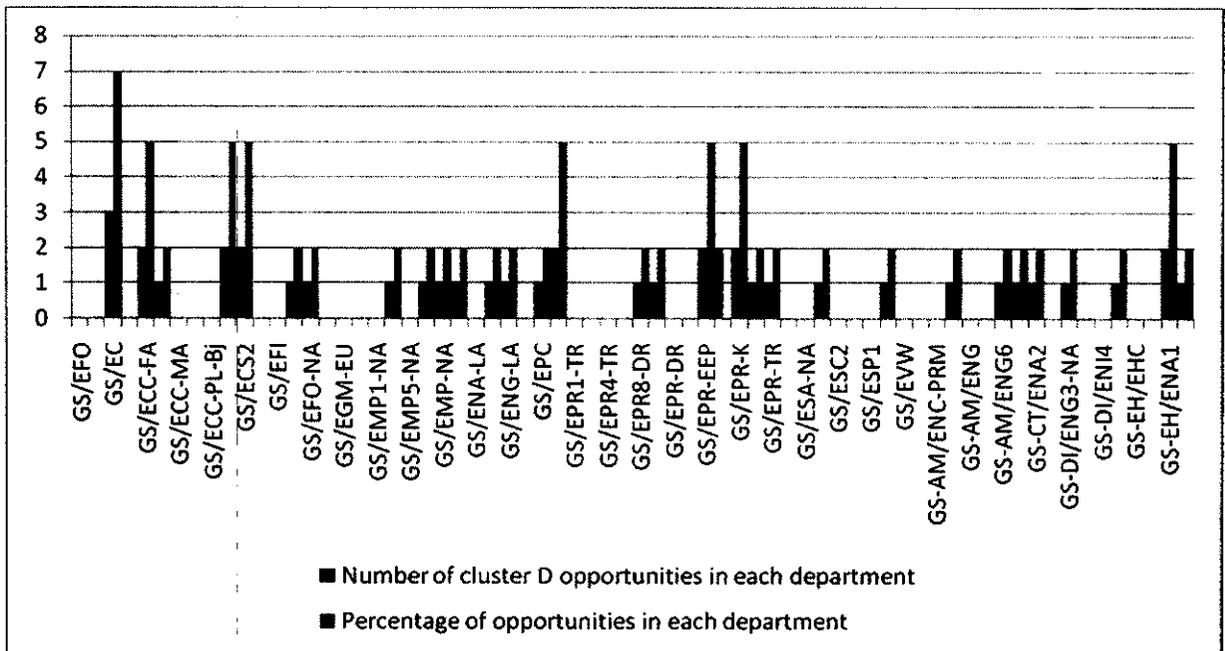
<b>Department Name</b>	<b>Number of opportunities in cluster D in each department</b>	<b>Percentage of opportunities in cluster D in each department</b>
GS/EFO	0	0
GS/EAP-AU	0	0
GS/EC	3	7
GS/ECC-CS	0	0
GS/ECC-FA	2	5
GS/ECC-FA-MAT	1	2
GS/ECC-MA	0	0
GS/ECC-PL	0	0
GS/ECC-PL-Bj	0	0
GS/ECS1	2	5
GS/ECS2	2	5
GS/EDA	0	0
GS/EFI	0	0
GS/EFO-EU	1	2
GS/EFO-NA	1	2
GS/EGM	0	0
GS/EGM-EU	0	0
GS/EJP	0	0
GS/EMP1-NA	0	0
GS/EMP4-NA	1	2
GS/EMP5-NA	0	0
GS/EMP-LA	1	2

GS/EMP-NA	1	2
GS/ENA	1	2
GS/ENA-LA	0	0
GS/ENC1	1	2
GS/ENG-LA	1	2
GS/EP	0	0
GS/EPC	1	2
GS/EPR	2	5
GS/EPR1-TR	0	0
GS/EPR2-TR	0	0
GS/EPR4-TR	0	0
GS/EPR5-TR	0	0
GS/EPR8-DR	1	2
GS/EPR-DEE	1	2
GS/EPR-DR	0	0
GS/EPR-EEI	0	0
GS/EPR-EEP	2	5
GS/EPR-EEQ	2	5
GS/EPR-K	2	5
GS/EPR-PMO	1	2
GS/EPR-TR	1	2
GS/ES	0	0
GS/ESA-NA	0	0
GS/ESC	1	2
GS/ESC2	0	0
GS/ESE-NA	0	0
GS/ESP1	0	0

GS/ESP-PFI	1	2
GS/EVW	0	0
GS-AM/ENC2	0	0
GS-AM/ENC-PRM	0	0
GS-AM/ENC-Q	1	2
GS-AM/ENG	0	0
GS-AM/ENG5	0	0
GS-AM/ENG6	1	2
GS-CT/ENA	1	2
GS-CT/ENA2	1	2
GS-CT/ETP	0	0
GS-DI/ENG3-NA	1	2
GS-DI/ENI2	0	0
GS-DI/ENI4	0	0
GS-DI/ENI5	1	2
GS-EH/EHC	0	0
GS-EH/EHC2	0	0
GS-EH/ENA1	2	5
GS-EH/ENA2	1	2
<b>Total</b>	<b>42</b>	<b>100</b>

Chart No. 4.15

Chart showing the number of Cluster D opportunities in Gasoline Systems Division department and percentage of opportunities in each department:



**INTERPRETATION:**

The departments in the Gasoline Systems Division like GS/ECC-FA, GS/ECS1, GS/ECS2, GS/EPR, GS/EPR-EEP, GS/EPR-EEQ, GS/EPR-K, GS-EH/ENA1 have 5% and GS/EC has 7% of new line of opportunities.

**INFERENCE:**

The Business Service Provider department has to train existing employees on new line of opportunities like FMEA moderation, competitor analysis, cause effect analysis, patent administration, audit management, staff planning, R&D cost reporting and planning and marketing activities. After which the above departments can be targeted and contacted for enhancing business of Business Service Provider department.

## 5.1 FINDINGS:

### CAR MULTIMEDIA DIVISION

- The documentation and transactional activities carried out in the CM-AI/ERM2, CM-IS/EAU, CM-PS/EHW, CM-PS/END1, CM-PS/END2, CM-PS/EPM, CM-IS/EBM departments are already present in the Business Service Provider department. The above departments can be targeted and contacted for bringing business to the Business Service Provider department.

The number of substitutes needed for carrying out the cluster A activities if the activities are off shored can be 8.

- The activities carried out in the CM/EPS, CM-AI/ERM32, CM-AI/ERM-P, CM-AI/ERM-P, CM-PS/EHW, CM-AI/ERM2 and CM-AI/EAR departments like requirements engineering coordination, FMEA tracking and follow up, strategic product planning management, warehousing, target time and scheduling for R&D, project management, product number and product part list management and invoice tracking are already carried out in the Business Service Provider department. The above departments can be targeted and contacted for bringing business to Business Service Provider department.

The number of substitutes needed for carrying out the cluster B activities if the activities are off shored can be 10.

- The CM/EPS, CM-AI/EAR, CM-AI/ERM-P and CM-PS/EPM departments can be targeted and contacted for bringing business to RBEI, India.

The number of substitutes needed for carrying out the cluster C activities if the activities are off shored can be 4 with experience in project management, product procurement and cost analysis.

- The Business Service Provider department has to train existing employees on new line of opportunities like FMEA moderation, competitor analysis, cause effect analysis, patent administration, audit management, staff planning, R&D cost reporting and planning and marketing activities. After which the CM/ECD1, CM-AI/ERM, CM-AI/ERM2, CM-AI/ERM3,

CM/ECD, CM-AI/ERM32 CM/EP3 and CM-IS/ECF departments can be targeted and contacted for enhancing business of Business Service Provider department.

## **AUTOMOTIVE ELECTRONICS DIVISION**

- The documentation and transactional kind of activities carried out in the AE/ECU-Bp, AE/EDE-P1, AE/EIM2, AE/ENP1, AE-BE/EP31-Bp, AE/ESC4, AE/ESG-Bp, AE/ECU-PDM, AE/EDS2, AE/ESI2 and AE/ECU3-Bp departments are carried out in the Business Service Provider department. The above departments can be targeted and contacted for bringing business to the Business Service Provider department.

The number of substitutes needed for carrying out the cluster A activities if the activities are off shored can be 12.

- The coordination activities carried out in the above departments like 8 D method, FMEA tracking and follow up, project management and warehousing are already carried out in the Business Service Provider department. The above departments can be targeted and contacted for bringing business to Business Service Provider department.

The number of substitutes needed for carrying out the cluster B activities if the activities are off shored can be 8.

- The AE/ECU-PDM, AE/ESG-Bp, AE/ECU-Bp, AE/EDD-Bp, AE/EDE, AE/EDS2, AE/EIC, AE/EIY2, AE/ELS4, AE-BE/ENG4-Bp, AE/ENP1, AE/EDE-P1, AE/EPI-CK, AE-BE/EP31-Bp, AE/ESG2, AE/ESI2, AE/ESI3 and AE/ESI6 departments can be targeted and contacted for bringing business to RBEI, India.

The number of substitutes needed for carrying out the cluster A activities if the activities are off shored can be 8 with experience in 8D method, project management, product procurement and monitoring projects.

- The Business Service Provider department has to train existing employees on new line of opportunities like FMEA moderation, competitor analysis, cause effect analysis, patent administration, audit management, staff planning, R&D cost reporting and planning and

marketing activities. After which the above departments can be targeted and contacted for enhancing business of Business Service Provider department.

## **GASOLINE SYSTEMS DIVISION**

- The documentation and transactional kind of activities carried out in GS/ EFO, GS/EMP1-NA, GS/EPR-EEP, GS/EPR-EEQ, GS/EPR-K, GS/ES, ES/ESC2, GS-AM/ENC2, GS-AM/ENG5, GS/EC, GS/EMP4-NA, GS/ESE-NA, GS-DI/ENI5 are already carried out in the Business Service Provider department. The above departments can be targeted and contacted for bringing business to the Business Service Provider department.

The number of substitutes needed for carrying out the cluster A activities if the activities are off shored can be 12.

- The coordination activities carried out in GS/ENG-LA, GS/ES, GS/ESP1, GS-AM/ENG5, GS-DI/ENI5, GS/EMP1-NA, GS/ENC1, GS/ESE-NA, GS/EC like 8 D method, FMEA tracking and follow up, project management, order processing and warehousing are already carried out in the Business Service Provider department. The above departments can be targeted and contacted for bringing business to Business Service Provider department.

The number of substitutes needed for carrying out the cluster B activities if the activities are off shored can be 9.

- The GS/EPR, GS/EPR-EEP, GS/EPR-EEQ, GS/EPR-K, GS/EPR-TR and GS/EC departments can be targeted and contacted for bringing business to RBEI, India.

The number of substitutes needed for carrying out the cluster C activities if the activities are off shored can be 6 with experience in 8D method, project management, product procurement and monitoring projects.

- The Business Service Provider department has to train existing employees on new line of opportunities like FMEA moderation, competitor analysis, cause effect analysis, patent administration, audit management, staff planning, R&D cost reporting and planning and marketing activities. After which the GS/ECC-FA, GS/ECS1, GS/ECS2, GS/EPR, GS/EPR-EEP, GS/EPR-EEQ, GS/EPR-K, GS-EH/ENA1 and GS/EC departments can be targeted and contacted for enhancing business of Business Service Provider department.

## 5.2 SUGGESTIONS :

- Can carry out Gap analysis to find the level of skill required and the skill level available.
- Competitor analysis can be done initially for Bosch and can be extended for global customers.
- Utilizing the documents available in BGN to get a prior knowledge about the projects that is expected in future.
- Training employees to acquire new projects for which expertise level is required.
- On the job of training can be provided.
- The department can provide FMEA moderation training for associates who carryout FMEA tracking and follow up.
- Quality check has to be carried out by the person on whom the customers are relying on and training can also be given by the same person so the associates are trained by a person who is an expert in the work.
- As most of the engineering departments definitely carry out documentation work, the Business Service Provider department can target those departments to enhance their business.
- Experienced and certified associates in engineering departments can be recruited to provide training for activities that might require
- Statistical tools - SPSS ( Statistical Package for Social Science), SAS (Statistical Analysis Software System) tools can be used instead of excel sheet for analysis activities.
- Provide internship for BE graduates to check whether their knowledge is useful for the Business Service Provider department.
- The Business Service Provider department should properly manage the knowledge and skills available in the department as it will be easy to plan the successor of any activity in the department.

- Associates who are well experienced in the Cluster C and Cluster D activities can be brought on deputation to Business Service Provider department.

### **5.3 CONCLUSION**

The study states there are numerous opportunities for business service provider department in transactional and coordination activities and a few opportunities in the analytical activities in the car multimedia, automotive electronics and gasoline systems divisions of Bosch. The study has also found new line of opportunities for the department. The researcher after analysis have given suggestions in order to bring businesses from high cost locations to business service provider department at Robert Bosch Engineering and Business Solutions, Coimbatore. The implementation of the suggestions would help the business service provider department to widen their business.

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