Impact of ERP in Indian Education System

{With Special reference to M.P.University}

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INTRODUCTION

India has made progress in terms of increasing primary education attendance rate and expanding literacy to approximately two thirds of the population. India should aspire for the international standard in education. To achieve that goal it should adopt new modern technology and standards in all educational institutions. Many universities have committed considerable time and resources in modifying their curriculum to incorporate Enterprise Resource Planning Systems (Hawking, Shackleton & Ramp, 2001; Lederer-Antonucci, 1999; Watson and Schneider, 1999). For many universities it has been a struggle even though ERP vendors have developed a number of initiatives to facilitate curriculum development. As companies' ERP system usage has become more strategic in nature, ERP curriculum needs to evolve to reflect and support this usage. Information Systems curriculum in universities has undergone rapid and continuous change in response to the evolution of industry requirements. However, further in-depth research here seems justified in order to provide useful information for practitioners and a research framework for understanding critical factors and how those factors influence ERP implementation. The present study aims at achieving the following objectives: examining the problems and prospects of ERP implementation based on an "ERP System Life Cycle" (Markus et al., 2000); and identifying the factors contributing towards ERP implementation success and failure.

PURPOSE OF USING ERP IN HIGHER EDUCATION

Higher education administrators grapple both with the costs and possibilities afforded by enterprise resource planning (ERP) software, a significant feature given an ERP software implementation's sustained impact on the academic institution. ERP software applications integrate the data processing across the institution and automate administrative processes like student registration and financial accounting. However, an ERP software implementation stresses a campus under the best of circumstances. Depending upon the organization's readiness to accommodate change, the implementation creates great turmoil or promotes sustained changes that help the institution better achieve its mission. As an ERP application implementation

becomes a way of life rather than a project with a finite end, campus leaders are well advised to identify implementation best practices in order to increase their chances of success. ERP packages are implemented to manage the existing and prospective business plans and policies in an efficient manner under strict deadlines. It can be referred to as the ultimate business solution package that is predominantly concerned with making sure that the available resources of the organization are utilized in the best possible manner and coordinated with the business objectives of the organization. It is crucial that modern day business organizations have a single unified system, which aims at harmonizing its business efforts. This can prove to be a crucial determinant in deciding the scope, area and net results of the organization as a whole, rather than running many different systems that don't work well together. What makes ERP different from any other business solution package is the presence of a single and unified database system. ERP software is as essential to the needs of a business today as food is for living. The more effective implementation and follow-up, the better are the results. ERP software is needed by all modern-day organizations, irrespective of the size, area of operations and business objectives.

Thus, ERP software can effectively change the outlook of any business organization that exists in today's cutthroat business world. Proper implementation of the ERP software is the key factor, which can benefit the growth prospects of any organization.

NATURE OF ERP SYSTEM IN MP UNIVERSITIES

ERP systems include several configurable modules that integrate core business activities into a single environment based on an integrated, shared database. Enterprise Resource Planning (ERP) systems have been recognized as the most important development in the corporate use of information technology in the 1990s (Davenport, 1998), promising seamless integration of all the information flows throughout a firm. This applies to ERP system applications, which are seen as key in supporting business processes in many organizations. ERP involves the seamless integration of processes across functional areas such as finance, human resources, manufacturing and logistics. They support improved workflow, standardization of business practices, and improved capabilities. Implementation of enterprise resource planning (ERP) systems improves corporate performance. But implementing an ERP system is a costly and time-consuming task and these costs are due mainly to the short supply of professionals with ERP skills. This paper discusses about the demand of ERP professionals in the industry, ERP education Scenario in Indian context requiring integration of Business Schools with industries. To strengthen the entire education system in universities of MP, various modules are required to integrate in an ERP such as –

1. Student Enrollment (Admission Management)
2. Student Database Management
3. Faculty Management
4. Attendance Management
5. Fee Management
6. Examination Management
7. Reports Management
8. Students Database Management
9. Payroll Management
10. Library Management

PROFILE OF UNIVERSITIES IN MADHYA PRADESH

Madhya Pradesh has a well-administered education structure. It has different constitutional bodies which guarantee the soft performance of each and every educational sector within the state at all stages. The government of Madhya Pradesh keeps on making ongoing efforts to revamp its educational policies.

Following is a list of major nine universities taken into consideration for research work to study the problems and prospects of ERP applications in MP region.

1. **Awadesh Pratap Singh University, Rewa**
2. **Barkatullah University, Bhopal**
3. **Devi Ahilya Vishwavidyalaya, Indore.**
4. **Jawaharlal Nehru Krishi Vishwavidyalaya, Jabalpur**
5. **Jiwaji University, Gwalior**
6. **Rajiv Gandhi Prodoyogiki Vishwavidyalaya, Bhopal**
7. **Rani Durgavati Vishwavidyalaya, Jabalpur**
8. **Vikram University, Ujjain**
9. **Oriental University, Indore**

REVIEW OF LITERATURE

The basic concept of an enterprise resource planning system evolved over the past 30 years. The American Production and Inventory Control Society [APICS, 1998b] has been a strong advocate for ERP systems. APICS defines ERP [APICS, 1998b] as "an accounting-oriented information system for identifying and planning the enterprise-

wide resources needed to take, make, ship, and account for customer orders. An ERP system differs from the MRPII system in technical requirements such as graphical user interface, relational database, use of fourth generation language, and computer-aided software engineering tools in development, client/server architecture, and open-systems portability." Before ERP was introduced, the departments within an institution would each have their own computer networks. A number of processes would have to take place in order for information to be transferred from one department to another. In most cases, one department may not have been interested in the various aspects of another department. While this may have seemed logical at first, it gave rise to a number of problems. If the two departments didn't work together on specific issues, it could lead to complications that could disrupt the operations of the university, thus leading to a loss in profits or the productivity of employees. The introduction of ERP solved a number of these problems. It did this by taking the data from multiple applications, and once this data was collected, it could make the organization operate more efficiently. A standard was created. The number of software packages that a university used could be greatly reduced. In addition to making the university more efficient, it also allowed the university to save money on the cost of software and frequent updates.

ERP IN EDUCATION SYSTEM

Education is one of India's prime Industries. While its contribution to nation building is well known and widely reported, its importance in terms commercial value is less appreciated. Apart from being among the largest sectors, education sector is also among the fastest growing sectors of the country. With the enviable combination, of large size and high growth, no wonder education sector is among the most attractive industry sectors in the country today.ERP is an information technology solution that integrates enterprise functions such as planning, financials, sales, purchasing, human resources, logistics, customer service, and manufacturing. For universities, ERP is an information technology solution that integrates and automates recruitment, admissions, financial aid, student records, and most academic and administrative services. By some estimates, 7.5 out of 10 or 75% of ERP projects fail, giving rise to a large body of literature. ERP refers to the use of commercial solutions for both administrative and academic purposes by universities. Typical administrative functions may include human resources, accounting, payroll, and billing. Academic functions include recruitment, admissions, registration, and all aspects of student records. With the stupendous growth of the education sector, educational institutions are becoming increasingly complex organizations. They are no longer institutions limited to education delivery. Educational institutes are confronted with managing a wide range of activities encompassing marketing of institutes to students for

admissions and corporate for placements, managing internal operations (like smooth conducting of classes or recruitment and motivation of the human resource viz. faculty and staff), sophistical financial and cash flow planning, co-ordination with regulatory & statutory authorities etc.

Category	Factor
Employee	Awareness
	Involvement
	Recognition
	Retention
	Selection
	Training
Management	Change
	Commitment
	Communication
	Consultants
	Cost Control
	Decisions
	Preparation
	Project
	Risk
	Strategy
	Support
	Vision
Organization	Benchmarking
	Culture
	Expectations
System	Conversion
	Data
	Hardware
	Legacy
	Life Cycle
	Realization
	Requirements
	Scope
	Vendor
Team	Cooperation
	Concurrent
	Environment
	Leadership
	Testing

2.3 NEED OF AN ERP APPLICATION IN MP UNIVERSITIES

Madhya Pradesh is a central state in India known for its woodcrafts, prehistoric caves etc. Many people are drawn towards Madhya Pradesh due to its culture and well-developed education system. Here is Small Overview of Colleges in Madhya Pradesh as per the web source

Universities in Madhya Pradesh	**19**
Medical Colleges in Madhya Pradesh	**28**
Teacher Training Colleges in Madhya Pradesh	**21**
Engineering Colleges in Madhya Pradesh	**56**
Arts and Science Colleges in Madhya Pradesh	**513**
Others colleges in Madhya Pradesh	**209**

The management of information in universities is set to play an increasingly dominant role in determining how successfully our educational institutions are being administered. Institution administrators are therefore among those who will have to adapt to the new paradigm taking on new strategies and embracing new technologies. With limited resources and a budget that must be managed effectively in the face of conflicting priorities, administrators will need all the tools that can help to enhance the management of the institution, while providing the greatest transparency and accountability.

The major areas identified from university's perspective are:

- Decision-making
- Follow-up with colleges
- Staff and student development
- Time management
- Evaluation; and
- Reporting.

More specifically however are the management and administrative tasks within the university environment. These include:

- Administrative planning
- Budgeting
- Financial control
- Bookkeeping
- Personnel records
- Time-tabling
- Student records
- Examination systems

- Regulations; and
- Reporting

CHALLENGES FACED DURING IMPLEMENTATION OF ERP /FAILURE FACTORS

Practitioners tend to discuss the impact of the failure of ERP implementation in a relative sense, referring to the shutting down of the system, being able to use only part of the ERP system, suffering business loss, dropping market price, losing both market share and competitive advantage due to implementation failure, and so on (Deutsch, 1998; Diederich, 1998; Nelson and Ramstad, 1999). However, there have been various definitions of failure of ERP implementation. Failure has been defined as an implementation that does not achieve a sufficient Return on Investment (ROI) identified in the project approval phase. Using this definition, it has been found that failure rates are in the range of 60–90% (Ptak, 2000). However, the majority of studies have failed to take into account the richness of the ERP failure phenomenon. In this study, we have conducted empirical investigations into problems of using and ERP which ultimately leads to its failure from the perspectives of management, students and administration involved in using ERP, also studying the prospects of using it in universities. Perhaps one of the biggest disadvantages to this technology is the cost. At this time, only large corporations can truly take advantage of the benefits that are offered by this technology. This leaves most small and medium sized businesses in the dark. A number of studies have shown that the biggest challenges universities will face when trying to implement ERP deals with investment. The employees must be continually trained on how to use it, and it is also important for universities to make sure the integrity of the data is protected. ERP has a number of limitations. The success of the system is fully dependent on how the workers utilize it. This means they must be properly trained, and a number of universities have attempted to save money by reducing the cost of training. Even if a university has enough money to implement ERP, they may not be able to successfully use it if they do not have enough money to train their workers on the process of using it. One of the biggest problems with ERP is that it is hard to customize. Very few universities can effectively use ERP right out of the box. It must be modified to suit their needs, and this process can be both expensive and tedious. Even when a university does begin changing the system, they are limited in what they can do.

CONCEPTUAL BENEFITS OF USING AN ERP

First let's consider the main benefits of an ERP system:

- Improves access to accurate and timely information
- Enhances workflow, increases efficiency, and reduces reliance on paper
- Tightens controls and automates e-mail alerts

- Provides user-friendly Web-based interfaces
- Streamlines processes and eases adoption of best business practices
- Establishes a foundation for new systems and integrates existing systems

A main advantage of ERP systems is improved access to accurate and timely information. As presidents, chief financial officers, or boards attempt to understand a university's overall performance with existing legacy systems, they may find many different versions of the truth. An ERP system creates a single version of the truth because everyone uses the same system. Furthermore, some legacy systems make developing reports or tapping into transaction data stored on the computer quite challenging. Modern ERP systems often improve upon this process by offering a strong foundation for moving to a data warehouse that can provide even more capability to extract data from administrative information systems. Another reason to consider an ERP application is to improve workflow and efficiency. For example, following completion of online requisitions, workflow processes can forward the form along the approval path more rapidly than with traditional paper methods. This can shorten the time to complete the process, reduce the likelihood of lost or missing documents, and return quick feedback on the status of a request. ERP systems can also improve controls and program alerts.

Benefits for students

- Better flow of information regarding calendar, assignments & announcements better.
- Get connected with alumni to gain from their vast and varied experiences.
- Better access to library material and other references.

Benefits for Parents

- More Open and easy interaction with Administration & Faculty.
- Complete online and offline functionality leaving nothing unturned to bring it as an effective management system.
- Save hours and money in lots of communication aspects.
- Access to Grades, Attendance, Fee status, exam schedule, announcements for students.

Benefits for Faculty

- More concentration on students as paper work is less.
- Improves Teaching Effectiveness through content and information about student.
- Complete attendance automation
- Manage class information and analytical reports.
- Greater focus on teaching and less on time consuming administrative functions viz. Student records, class schedules, reports, attendance etc.

- Improved Quality of interaction between Parents and Institutes Administrators.

Benefits for Administration

- Reduces paper work, no data redundancy, reduces piles of files.
- Save man hrs in managing information with automation.
- Instant Access to the Information required for Quick and Accurate Decision making.
- All kind of reports can be generated daily, weekly, monthly and annually from anywhere in the world
- Integrated solution to manage academic, administrative and business processes..

CONCEPTUAL DRAWBACKS OF USING ERP

ERP provides cross-functional, enterprise wide integrated system which has deep functionality for core business processes and store data at one place which is accessible by all the modules for retrieval and storage. It also provides analysis tool to convert the data into more meaningful and helpful information to help the management in making timely decisions. It can automate various processes spread across the whole organization which are repetitive and interactive hence reducing the cost by saving valuable man hours and also reducing the chances of wrong entries. The biggest disadvantage associated with ERP is its tedious, long, time consuming, expensive implementation. Even if cost of purchasing the software is ignored the implementation process in itself can take months and consume huge sum of money if done properly.

- The **cost** of ERP Software, planning, customization, configuration, testing, implementation, etc is too high.
- ERP deployments take **1-3 years** to get completed and fully functional.
- Too little **customization** may not integrate the ERP system with the business process & too much customization may slow down the project and make it difficult to upgrade.
- The **cost savings/ payback** may not be realized immediately after the ERP implementation & it is quite difficult to measure the same.
- The **participation** of users is very important for successful implementation of ERP projects – So, exhaustive user training and simple user interface might be critical. But ERP systems are generally difficult to use (and learn).
- There maybe additional **indirect costs** like new IT infrastructure, upgrading the WAN links, etc.

- **Migration** of existing data to the new ERP systems is always difficult to achieve as with integrating ERP systems with other stand alone software systems.
- ERP implementations are difficult to achieve in **decentralized organizations** with disparate business processes and systems.
- Once an ERP systems is implemented it becomes a **single vendor lock-in** for further upgrades, customizations etc

RESEARCH METHODOLOGY

Research in common parlance refers to a search for knowledge. Research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically. In it we study the various steps that are generally adopted by a researcher in studying his research problem along with the logic behind them.

OBJECTIVES OF RESEARCH STUDY

The purpose of research is to discover answers to questions through the application of scientific procedures. The present study discusses the given objectives reviewing the mentioned factors in mind:

1) To study the impact of ERP Implementation in MP universities
2) To study the major problems faced by the MP universities while implementing an ERP application.
3) To study the major prospects of ERP application when applied in MP universities
4) To study if the problems are more than prospects or vice versa of using ERP applications in MP universities
5) To study the perceptions of target audiences about the problems and prospects that can arise with the implementation of ERP in MP universities

HYPOTHESIS OF RESEARCH STUDY

A research hypothesis is the statement created by researchers when they speculate upon the outcome of a research or experiment. Our major hypothesis for this research are-

Null Hypothesis: There is no significant difference between the ratoi of problems and prospects of ERP application in MP universities

Hypothesis 1: There is a significance difference between the perceptions of Readers, Associate professors, Professors and Head of Departments on the basis of their experience for prioritizing the major problems among various variables taken into consideration.

Hypothesis 2: There is a significance difference between the perceptions of Readers, Associate professors, Professors and Head of Departments on the basis of their experience for prioritizing the major prospects among various variables taken into consideration.

4.4 RESEARCH DESIGN

The data for the study was collected from both the secondary and primary sources for the purpose of primary data a questionnaire for assessing the view and perception of senior people in the universities who can contribute in the decision making for universities. The sample size for the research is 261 respondents and the target group is the senior people in the universities like, Professors, Associate professors, Readers, Head of Departments, Directors working in the various universities in Madhya Pradesh.

4.5 DATA COLLECTION

Before applying any specific mode of data collection, a Pilot Study for testing the questionnaire is conducted. We have conducted that survey in Indore University, DAVV and named that pilot testing as Alpha Test. This test basically reveals the weaknesses, if any, of the questionnaire. Questionnaire to be used must be prepared very carefully so that it may prove to be effective in collecting the relevant information.

Later the data is collected from 8 different universities by the following methods-

- **Through telephone interviews**: This method of collecting information involves contacting the respondents on telephone itself. This is not a very widely used method but it plays an important role in industrial surveys in developed regions, particularly, when the survey has to be accomplished in a very limited time.
- **By mailing of questionnaires**: Questionnaires are mailed to the respondents with a request to return after completing the same.

SCOPE OF RESEARCH STUDY

The study focuses on identifying the problems faced by universities in MP in implementing an ERP system. Therefore, the scope of this study is –

- The research will mainly focus on major Problems of ERP application in universities in MP region.
- The research will define in process the successful implementation of ERP in some University.
- This research will also define in detail the various steps that can be taken in future for successful implementation ERP application in MP universities.

LIMITATIONS

The following are the major limitations of my research work-

- The study is limited to major cities of Madhya Pradesh.
- The study is emphasizing on only major universities in Madhya Pradesh.
- Due to limited resources and contacts, the study covers 8-9 universities for research data collection out of 19 universities in Madhya Pradesh
- Due to unavailability of some target prospects for data collection, there is some variance in number of sample size
- The study limits itself to Madhya Pradesh and therefore all the data collection, results are concentrated to MP region.
- The major problems and prospects identified through literature review have been the only source of doing the alpha test.

ANALYSIS AND FINDINGS

Following are the findings from the analytical tools being used to get the result. We are using the SPSS software for accurate analysis of our data being collected from various universities in MP. The major tools that are being used for analysis are distributive statistics and Frequency Statistics. These tools enabled us to derive an output of the above mentioned hypothesis and also give a detailed analysis of each factor being considered.

Analysis:

To test the hypothesis, we have calculated the frequency and means of all the variables being considered under Problems of ERP application in MP universities were analyzed and all the variables whose mean were higher than 3.5 were considered as major Problems of using an ERP application in MP universities.

Similarly the frequency and means of all the variables being considered under Prospects of ERP application in MP universities were analyzed and all the variables whose mean were higher than 3.5 were considered as major prospects of using an ERP application in MP universities.

Secondly we have calculated the factor load using Factor Analysis. The Factor Analysis method is used to convert ‘n’ number of variables in limited factors and the

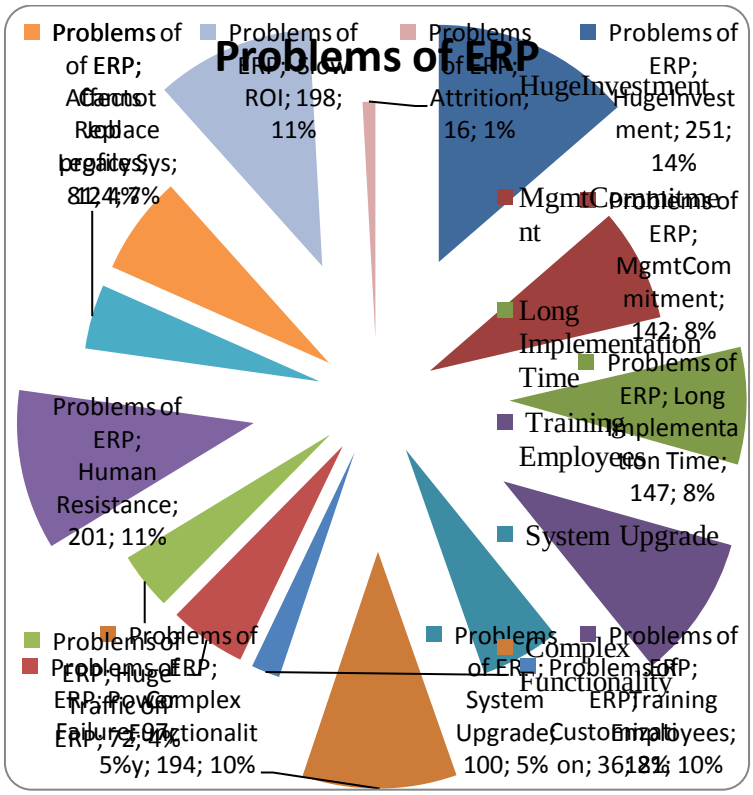
factor whose factor load is maximum will be taken into consideration for further analysis.

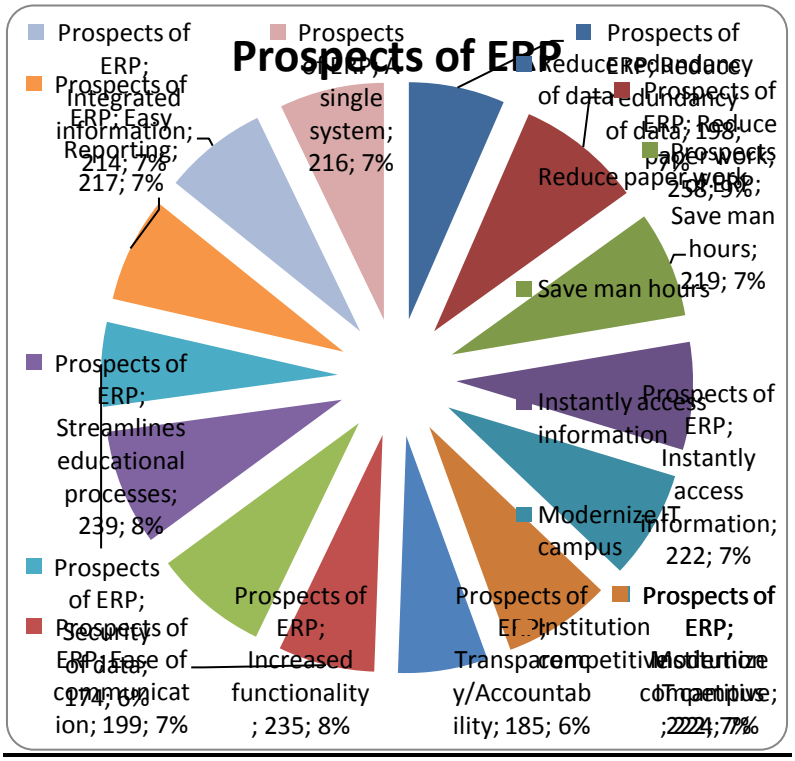
Using the mean values , we will be able to prioritize the problems and prospects of using ERP in MP universities according to the perception of Readers, Associate professors, Professors and Head of Departments. This hypothesis testing will allow us to be in a position to identify if our outcomes are in favor of the hypothesis.

Findings-

Findings of percentile analysis are as followed:

1. Respondents (75.8%) perceive that Return on Investment is slow
2. Respondents (96.1%) perceive that ERP is a huge investment to bear for the university
3. Respondents (56.32%) perceive that ERP involves long implementation time.
4. Respondents (77.01%) perceive that there will be lot of Human resistance towards implementation of ERP due to its automation process
5. Respondents (74.32%) perceive that some of the legacy systems cannot be replaced in ERP implementation
6. Respondents (69.34%) perceive that Training employees on the new system is a major problem with ERP implementation
7. Respondents (75.86%) perceive that With the use of ERP, there will be minimal redundancy of data
8. Respondents (98.8%) perceive that ERP helps in reducing paper work
9. Respondents (83.90%) perceive that ERP reduces man working hours
10. Respondents (85.05%) perceive that ERP helps in instant access to information
11. Respondents (85.82%) perceive that ERP helps in making an university a Modern IT campus
12. Respondents (85.05%) perceive that ERP makes a university competitive
13. Respondents (70.88%) perceive that ERP increases transparency, accountability in a university
14. Respondents (76.24%) perceive that ERP increases communication
15. Respondents (90.03%) perceive that ERP gives increased functionality
16. Respondents (91.57%) perceive that ERP streamlines the education process


Problems of ERP
Problems of ERP; Cannot Replace Legacy Sys; 124; 7%
Problems of ERP; Slow ROI; 198; 11%
Problems of ERP; Attrition; 16; 1%
Problems of ERP; HugeInvestment; 251; 14%
Problems of ERP; MgmtCommitment; 142; 8%
Problems of ERP; Long Implementation Time; 147; 8%
Problems of ERP; Training Employees; 181; 10%
Problems of ERP; System Upgrade; 100; 5%
Problems of ERP; Complex Functionality; 361; 21%
Problems of ERP; Customization; 194; 10%
Problems of ERP; Traffic on ERP; 72; 4%
Problems of ERP; Power Failure; 97; 5%
Problems of ERP; Huge Human Resistance; 201; 11%


Prospects of ERP
Prospects of ERP; Integrated information; 214; 7%
Prospects of ERP; Easy Reporting; 217; 7%
Prospects of ERP; single system; 216; 7%
Prospects of ERP; Reduce redundancy of data; 198; 7%
Prospects of ERP; Reduce paper work; 238; 8%
Prospects of ERP; Save man hours; 219; 7%
Prospects of ERP; Streamlines educational processes; 239; 8%
Prospects of ERP; Instantly access information; 222; 7%
Prospects of ERP; Modernize IT campus; 224; 7%
Prospects of ERP; Security of data; 174; 6%
Prospects of ERP; Ease of communication; 199; 7%
Prospects of ERP; Increased functionality; 235; 8%
Prospects of ERP; Institution competitive; 222; 7%
Prospects of ERP; Transparency/Accountability; 185; 6%

Ranks as per weighted average analysis for Problems of ERP:

Factors	Load
Technical Factors	1
Time and Money	2
Return on Investment	3
Convenience	4
Attrition	5

Ranks as per weighted average analysis for Prospects of ERP:

Factors	Load
Ease	1
Functionality	2
Security	3
Competition	4
Process	5
Comfort	6

The variables which are part of Technical factors are as follows-

Variables	
Power Failure	0.687
System Upgrade	0.663
Huge Traffic On ERP	0.633
Training Employees	-0.620
Affects Job Profiles	0.571
Human Resistance	0.536
Mgmt Commitment	0.485
Factor Load	**2.955**

Further, we will compare the means of the specific variables included in the highest factor load. The following table is a representation of our results for our target audiences- Readers, Asst Professors, Professors and Head of Departments.

Report								
Designation		**Mgmt Commitment**	**Training Employees**	**System Upgrade**	**Power Failure**	**HugeTraffic on ERP**	**Human Resistance**	**Affects Job Profiles**
Asst Prof	**Mean**	**3.570**	**3.701**	**3.965**	**3.351**	**3.456**	**4.263**	**2.719**
	N	57	57	57	57	57	57	57
	Std. Dev	0.884	0.626	0.654	0.813	0.781	0.745	0.701
	Median	4.000	4.000	4.000	3.000	3.000	4.000	4.000
HOD	**Mean**	**3.804**	**3.893**	**3.518**	**3.589**	**3.518**	**4.054**	**2.971**
	N	56	56	56	56	56	56	56
	Std. Dev	1.069	0.779	1.027	1.005	1.079	0.840	1.059

	Median	4.000	3.000	3.000	4.000	3.000	4.000	3.000
Prof	**Mean**	**3.607**	**3.646**	**3.514**	**3.446**	**3.143**	**3.979**	**2.804**
	N	57	57	57	57	57	57	57
	Std. Dev	1.358	1.043	0.414	0.685	0.883	0.664	0.840
	Median	3.500	5.000	2.000	2.000	3.000	4.000	3.000
Reader	**Mean**	**3.555**	**3.516**	**3.640**	**3.044**	**3.374**	**3.769**	**2.948**
	N	91	91	91	91	91	91	91
	Std. Dev	0.970	0.621	1.031	1.074	0.661	0.804	0.780
	Median	3.000	5.000	3.000	3.000	2.000	4.000	3.000
Total	**Mean**	3.450	3.973	3.231	3.100	3.023	3.919	3.008
	N	261	261	261	261	261	261	261
	Std. Dev	1.150	1.000	1.040	1.008	0.970	0.799	0.934
	Median	4.000	4.000	3.000	3.000	3.000	4.000	3.000

On the comparison, we were able to find that there is no difference in the perception of target audience who can help in the decision making of universities. This result helps us and the decision makers of any university to keep a check on these variables while planning an ERP implementation

Factor Load- Prospects

Since there is no significant difference in the load of Functionality, Ease and Security factors, therefore, we will take all the variables included in these three factors into consideration which are as follows- Factor 1

Functionality Variables	
Integrated Information	0.593
Easy Communication	0.590
Reduce Redundancy of Data	0.536
Ease Variables	
Transparency	0.714
Increased Functionality	0.619
Easy Reporting	0.577
Security Variables	
Security of Data	0.550
Modern IT Environment	0.514
Instant Access To Information	0.494

Further, we will compare the means of the specific variables included in the highest factor load. The following table is a representation of our results for our target audience- Readers, Asst Professors, Professors and Head of Departments.

Report										
Designation		**Reduce Redundancy of Data**	**Instant Information**	**Modern IT Campus**	**Transperancy**	**Easy Communication**	**Increased Functionality**	**Security of Data**	**Easy Reporting**	**Integrated Information**
Asst Prof	**Mean**	**3.737**	**4.614**	**4.474**	**3.877**	**4.054**	**4.228**	**3.719**	**4.649**	**4.225**
	N	57	57	57	57	57	57	57	57	57
	StdDev	0.877	0.526	0.538	0.683	0.739	0.627	0.726	0.582	0.658
	Median	4.000	5.000	4.000	4.000	4.000	4.000	4.000	5.000	4.000
HOD	**Mean**	**3.482**	**4.571**	**4.589**	**3.954**	**4.500**	**4.393**	**3.625**	**4.393**	**4.450**
	N	56	56	56	56	56	56	56	56	56
	StdDev	0.991	0.568	0.496	0.519	0.661	0.528	0.822	0.705	0.640
	Median	4.000	5.000	5.000	4.000	4.000	4.000	4.000	5.000	4.000
Prof	**Mean**	**3.500**	**4.393**	**4.500**	**3.946**	**4.357**	**4.393**	**3.750**	**4.164**	**4.536**
	N	57	57	57	57	57	57	57	57	57
	StdDev	0.505	0.652	0.505	0.724	0.483	0.562	0.745	0.602	0.503
	Median	4.500	4.000	4.500	4.000	4.000	4.000	4.000	4.000	5.000
Reader	**Mean**	**3.943**	**4.143**	**4.055**	**3.648**	**4.110**	**4.011**	**3.637**	**4.413**	**4.264**
	N	91	91	91	91	91	91	91	91	91
	StdDev	0.676	0.926	1.079	0.887	0.781	0.624	0.796	0.613	0.630
	Median	4.000	4.000	5.000	4.000	4.000	4.000	4.000	4.000	4.000
Total	**Mean**	**3.988**	**4.392**	**4.358**	**3.850**	**4.254**	**4.223**	**3.677**	**4.154**	**4.115**
	N	261	261	261	261	261	261	261	261	261
	StdDev	0.850	0.746	0.790	0.754	0.755	0.612	0.773	0.708	0.682
	Median	4.000	5.000	5.000	4.000	4.000	4.000	4.000	4.000	4.000

On the comparison, we were able to find that there is no difference in the perception of target audience who can help in the decision making of universities. This result helps us and the decision makers of any university to know that these are the major advantages/ benefits that can be viewed of ERP implementation in universities.

Each of the variables in Problems and Prospects are being separately analyzed as follows-

Huge Investment to bear for University

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3.00	10	3.8	3.8	3.8
	4.00	130	49.8	49.8	53.6
	5.00	121	46.4	46.4	100.0
	Total	261	100.0	100.0	

Table 1: Frequency Distribution for Variable 1

Top Management Commitment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	8	3.1	3.1	3.1
	2.00	63	24.1	24.1	27.2
	3.00	48	18.4	18.4	45.6
	4.00	89	34.1	34.1	79.7
	5.00	53	20.3	20.3	100.0
	Total	261	100.0	100.0	

Table 2: Frequency Distribution for Variable 2

Long Implementation Time

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	5	1.9	1.9	1.9
	2.00	4	1.5	1.5	3.4
	3.00	5	1.9	1.9	5.4
	4.00	122	46.7	46.7	52.1
	5.00	125	47.9	47.9	100.0
	Total	261	100.0	100.0	

3: Frequency Distribution for Variable 3

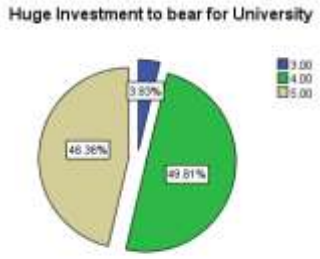


Figure 1: Pie-chart for Variable 1

Figure 2: Pie- chart for Variable 2

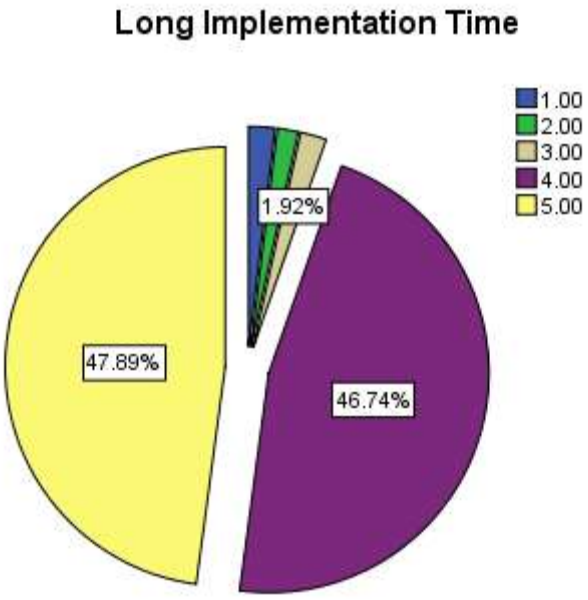
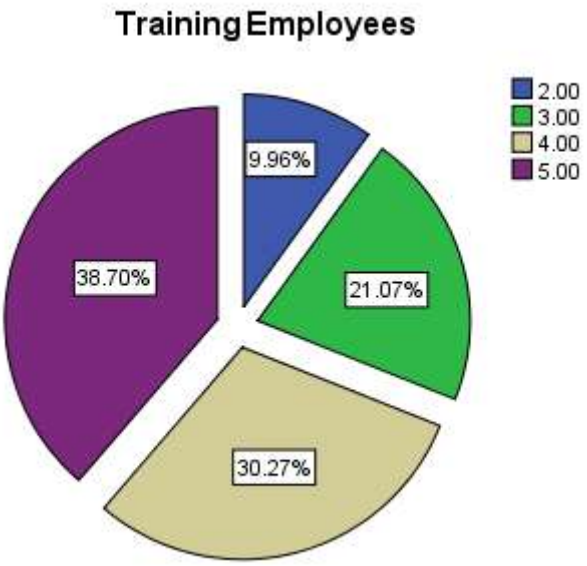


Figure 3: Pie- chart for Variable 3

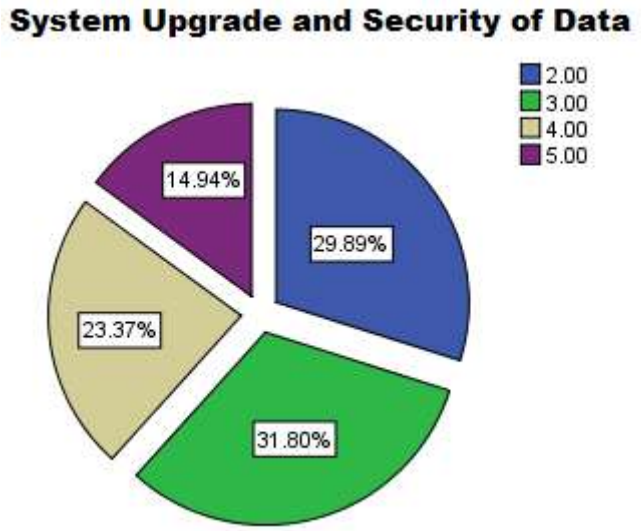
Training Employees

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00	26	10.0	10.0	10.0
	3.00	55	21.1	21.1	31.0
	4.00	79	30.3	30.3	61.3
	5.00	101	38.7	38.7	100.0
	Total	261	100.0	100.0	



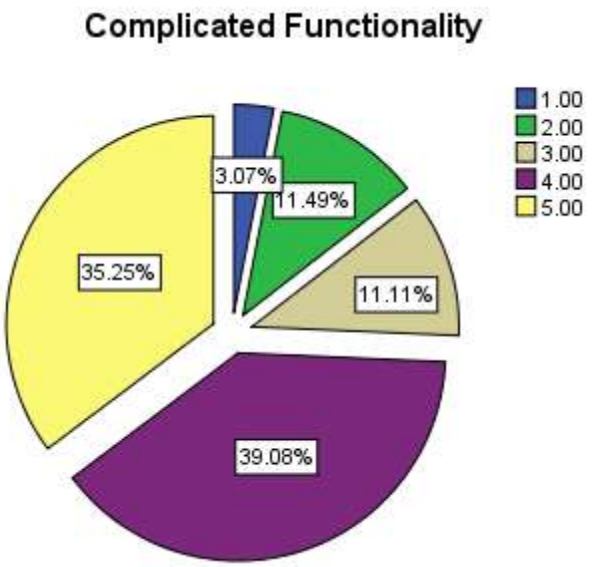
System Upgrade and Security of Data

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00	78	29.9	29.9	29.9
	3.00	83	31.8	31.8	61.7
	4.00	61	23.4	23.4	85.1
	5.00	39	14.9	14.9	100.0
	Total	261	100.0	100.0	



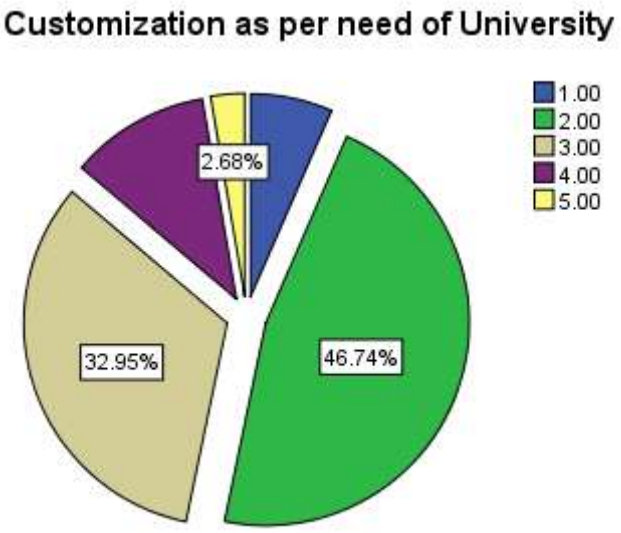
Complicated Functionality

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	8	3.1	3.1	3.1
	2.00	30	11.5	11.5	14.6
	3.00	29	11.1	11.1	25.7
	4.00	102	39.1	39.1	64.8
	5.00	92	35.2	35.2	100.0
	Total	261	100.0	100.0	



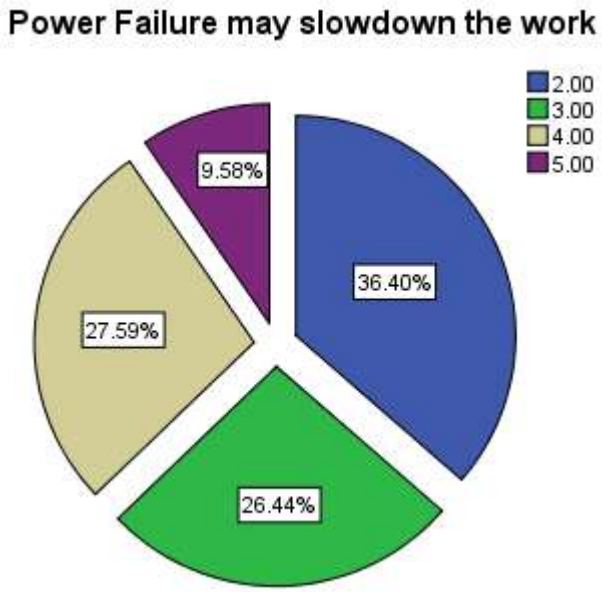
Customization as per need of University

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	17	6.5	6.5	6.5
	2.00	122	46.7	46.7	53.3
	3.00	86	33.0	33.0	86.2
	4.00	29	11.1	11.1	97.3
	5.00	7	2.7	2.7	100.0
	Total	261	100.0	100.0	



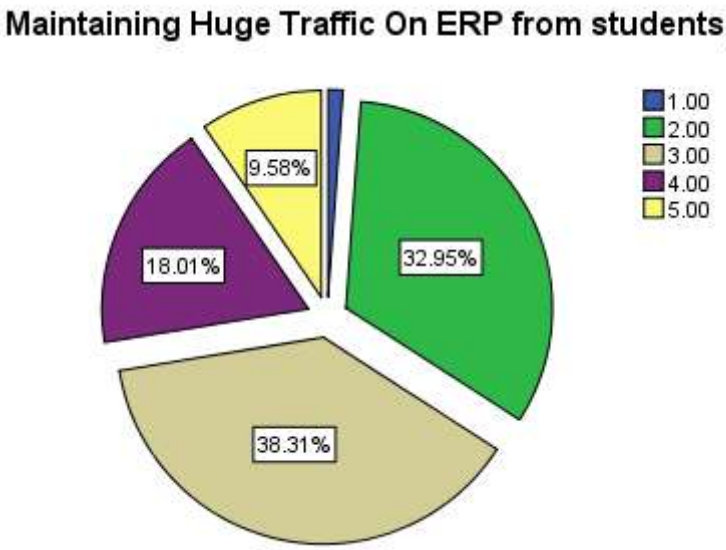
Power Failure may slowdown the work

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00	95	36.4	36.4	36.4
	3.00	69	26.4	26.4	62.8
	4.00	72	27.6	27.6	90.4
	5.00	25	9.6	9.6	100.0
	Total	261	100.0	100.0	



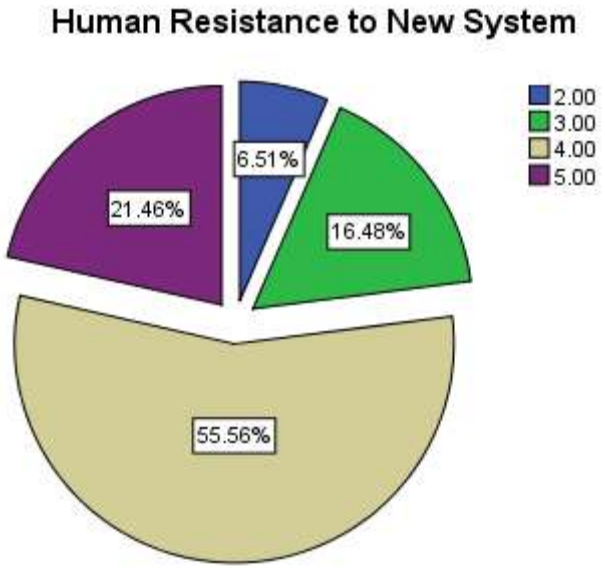
Maintaining Huge Traffic On ERP from students, staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	3	1.1	1.1	1.1
	2.00	86	33.0	33.0	34.1
	3.00	100	38.3	38.3	72.4
	4.00	47	18.0	18.0	90.4
	5.00	25	9.6	9.6	100.0
	Total	261	100.0	100.0	



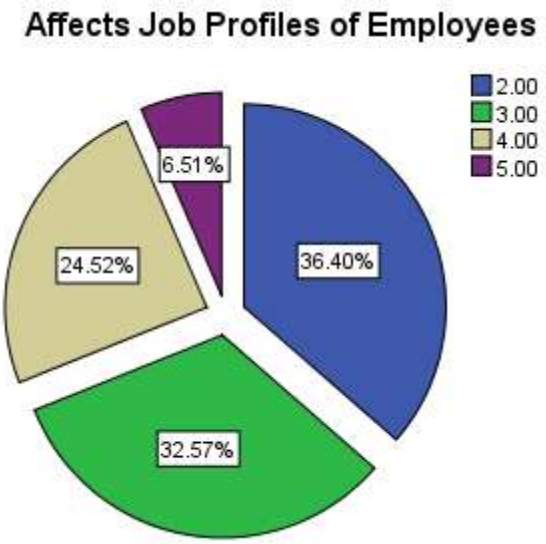
Human Resistance to New System

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00	17	6.5	6.5	6.5
	3.00	43	16.5	16.5	23.0
	4.00	145	55.6	55.6	78.5
	5.00	56	21.5	21.5	100.0
	Total	261	100.0	100.0	



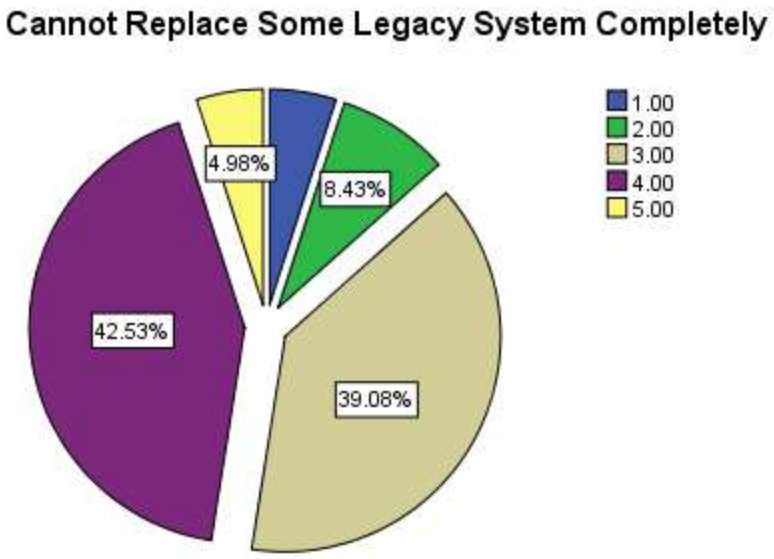
Affects Job Profiles of Employees

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00	95	36.4	36.4	36.4
	3.00	85	32.6	32.6	69.0
	4.00	64	24.5	24.5	93.5
	5.00	17	6.5	6.5	100.0
	Total	261	100.0	100.0	



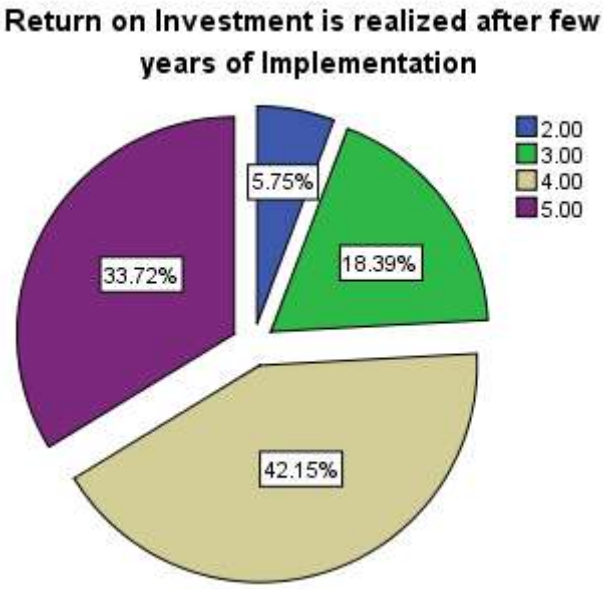
Cannot Replace Some Legacy System Completely

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	13	5.0	5.0	5.0
	2.00	22	8.4	8.4	13.4
	3.00	102	39.1	39.1	52.5
	4.00	111	42.5	42.5	95.0
	5.00	13	5.0	5.0	100.0
	Total	261	100.0	100.0	



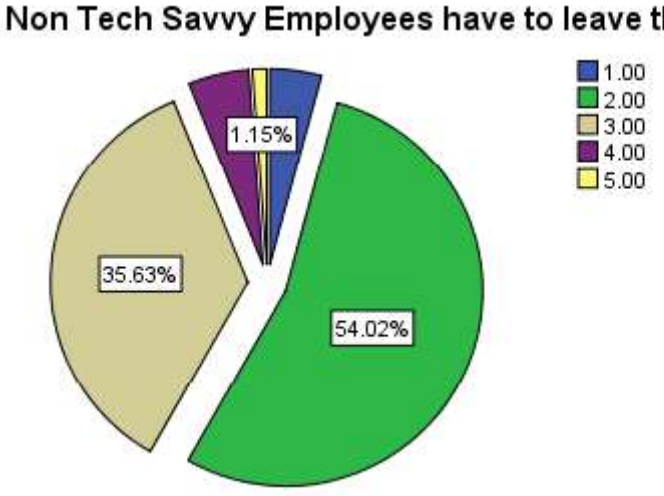
Return on Investment is realized after few years of Implementation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00	15	5.7	5.7	5.7
	3.00	48	18.4	18.4	24.1
	4.00	110	42.1	42.1	66.3
	5.00	88	33.7	33.7	100.0
	Total	261	100.0	100.0	



Non Tech Savvy Employees have to leave their Jobs

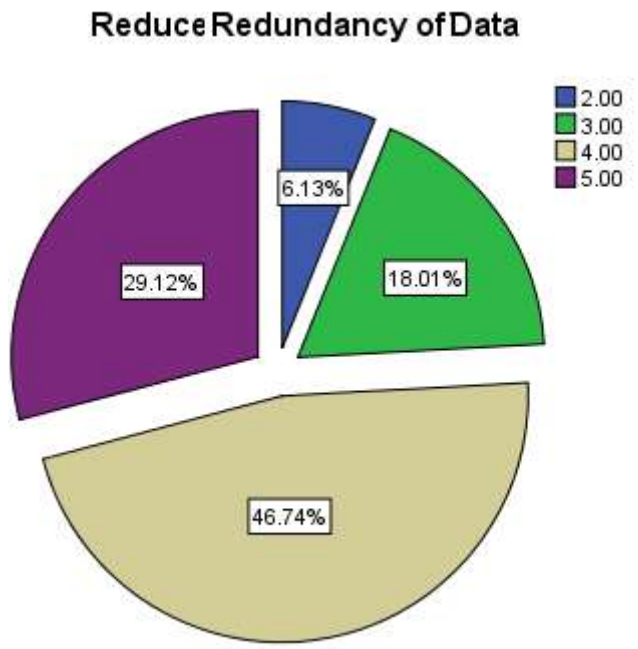
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	11	4.2	4.2	4.2
	2.00	141	54.0	54.0	58.2
	3.00	93	35.6	35.6	93.9
	4.00	13	5.0	5.0	98.9
	5.00	3	1.1	1.1	100.0
	Total	261	100.0	100.0	



Prospects of ERP application in MP Universities-

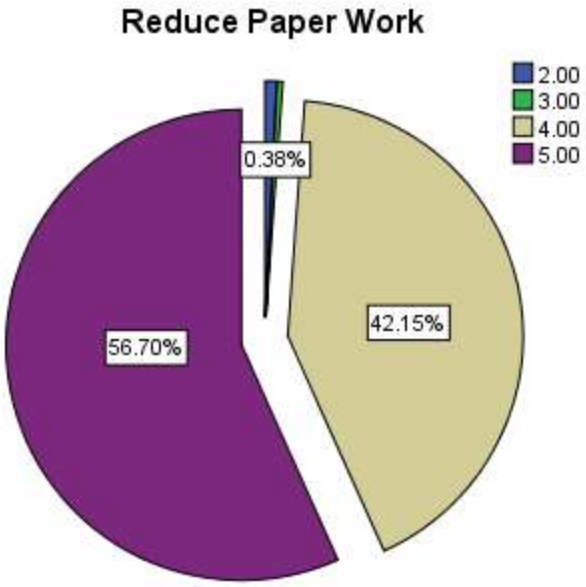
Reduce Redundancy of Data

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00	16	6.1	6.1	6.1
	3.00	47	18.0	18.0	24.1
	4.00	122	46.7	46.7	70.9
	5.00	76	29.1	29.1	100.0
	Total	261	100.0	100.0	



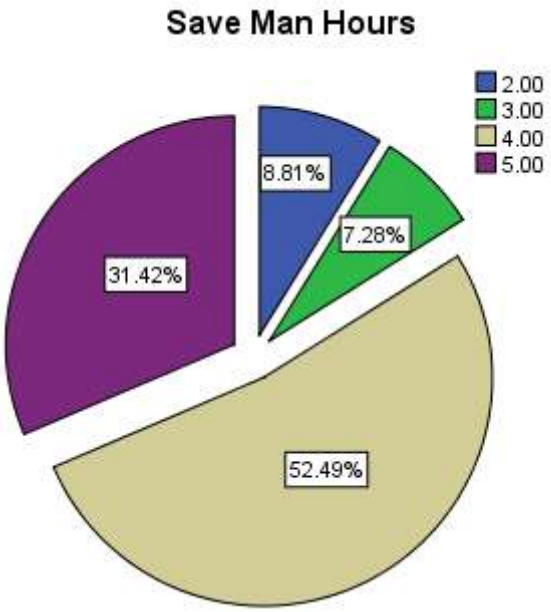
ReducePaperWork

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00	2	.8	.8	.8
	3.00	1	.4	.4	1.1
	4.00	110	42.1	42.1	43.3
	5.00	148	56.7	56.7	100.0
	Total	261	100.0	100.0	



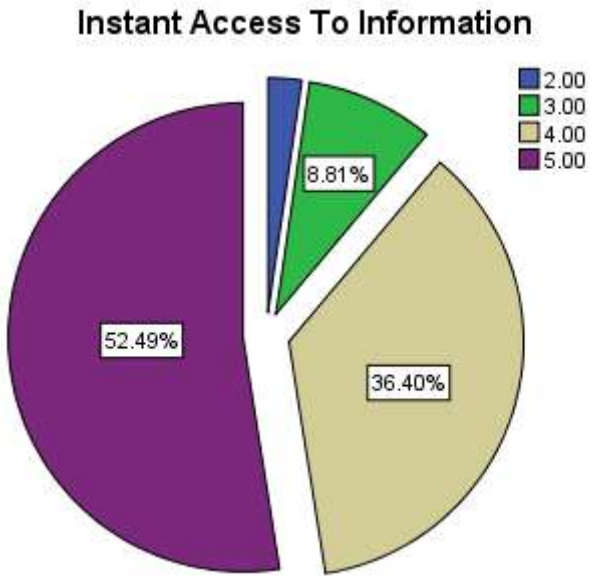
SaveManHrs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00	23	8.8	8.8	8.8
	3.00	19	7.3	7.3	16.1
	4.00	137	52.5	52.5	68.6
	5.00	82	31.4	31.4	100.0
	Total	261	100.0	100.0	



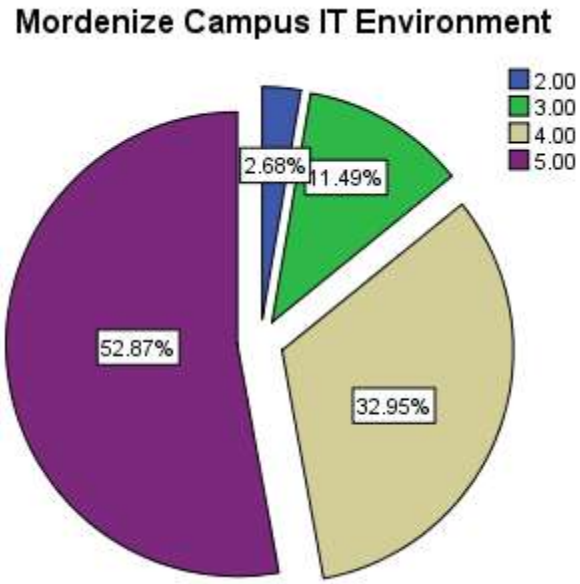
Instant Access To Information

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00	6	2.3	2.3	2.3
	3.00	23	8.8	8.8	11.1
	4.00	95	36.4	36.4	47.5
	5.00	137	52.5	52.5	100.0
	Total	261	100.0	100.0	



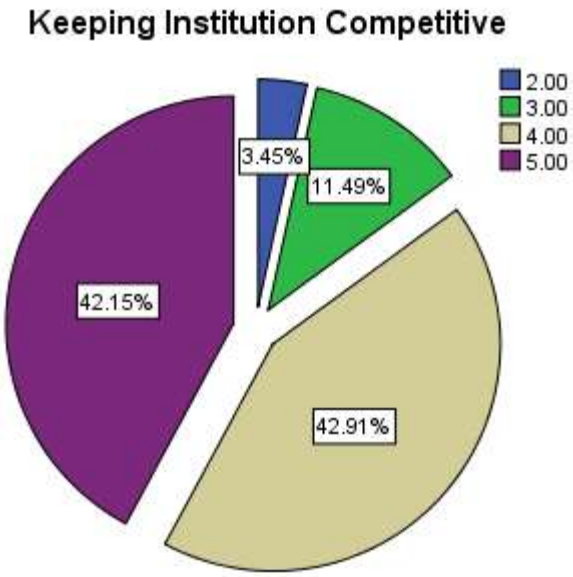
Morden IT Environment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00	7	2.7	2.7	2.7
	3.00	30	11.5	11.5	14.2
	4.00	86	33.0	33.0	47.1
	5.00	138	52.9	52.9	100.0
	Total	261	100.0	100.0	



Keeping Institution Competitive

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00	9	3.4	3.4	3.4
	3.00	30	11.5	11.5	14.9
	4.00	112	42.9	42.9	57.9
	5.00	110	42.1	42.1	100.0
	Total	261	100.0	100.0	

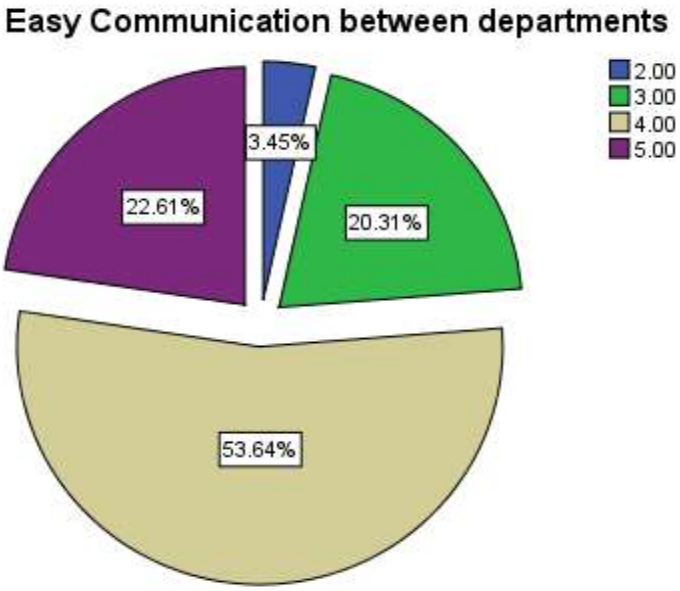


Transparency/Accountability & Regulatory Compliance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00	10	3.8	3.8	3.8
	3.00	66	25.3	25.3	29.1
	4.00	138	52.9	52.9	82.0
	5.00	47	18.0	18.0	100.0
	Total	261	100.0	100.0	

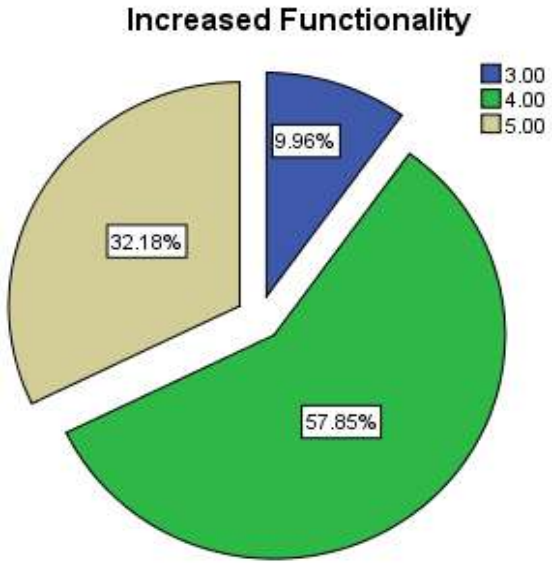
EasyCommunication

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00	9	3.4	3.4	3.4
	3.00	53	20.3	20.3	23.8
	4.00	140	53.6	53.6	77.4
	5.00	59	22.6	22.6	100.0
	Total	261	100.0	100.0	



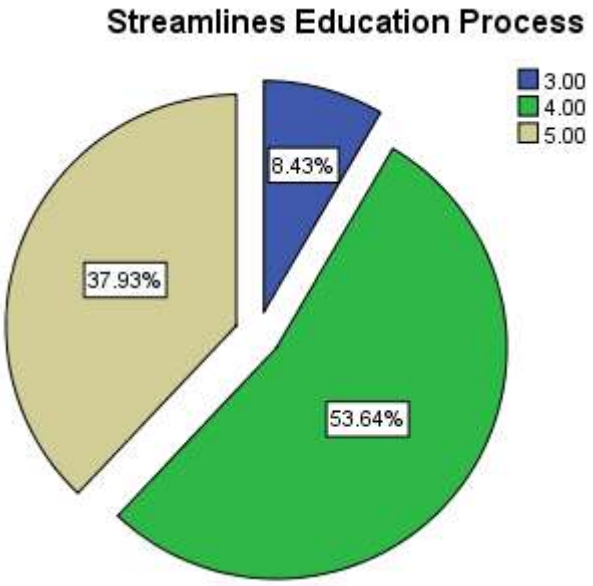
Increased Functionality

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3.00	26	10.0	10.0	10.0
	4.00	151	57.9	57.9	67.8
	5.00	84	32.2	32.2	100.0
	Total	261	100.0	100.0	



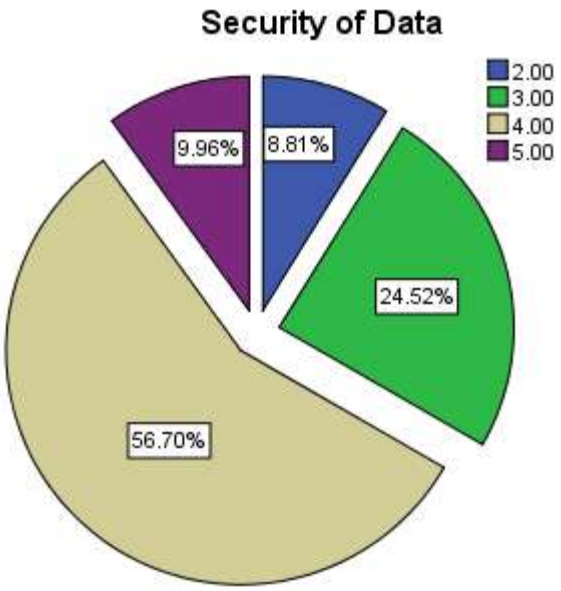
Streamlines Education Process

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3.00	22	8.4	8.4	8.4
	4.00	140	53.6	53.6	62.1
	5.00	99	37.9	37.9	100.0
	Total	261	100.0	100.0	



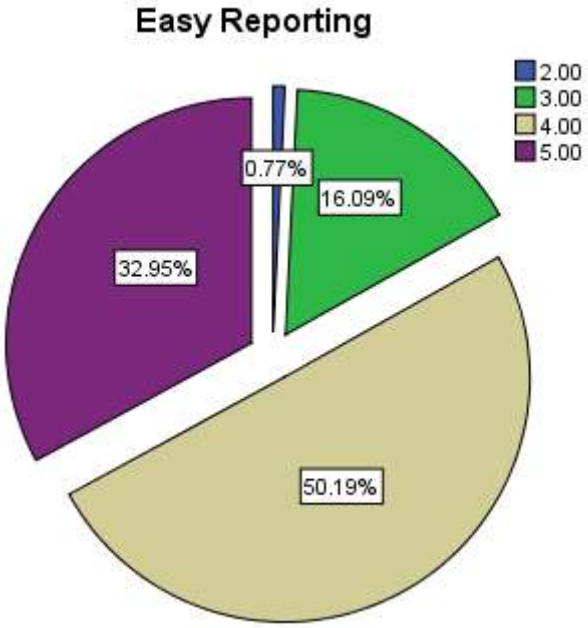
Security of Data

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00	23	8.8	8.8	8.8
	3.00	64	24.5	24.5	33.3
	4.00	148	56.7	56.7	90.0
	5.00	26	10.0	10.0	100.0
	Total	261	100.0	100.0	



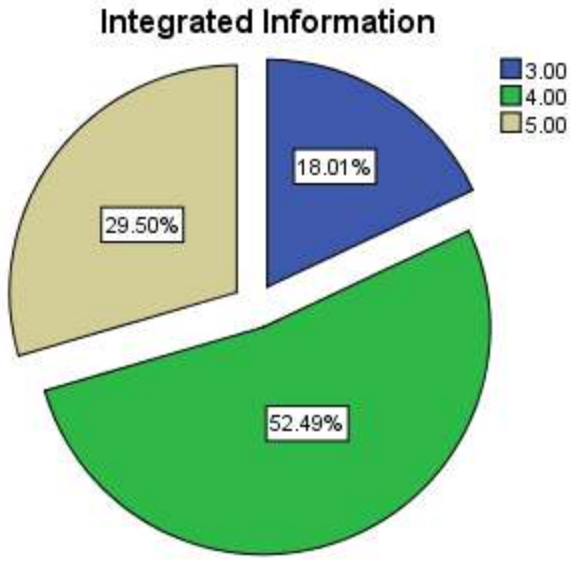
Easy Reporting

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00	2	.8	.8	.8
	3.00	42	16.1	16.1	16.9
	4.00	131	50.2	50.2	67.0
	5.00	86	33.0	33.0	100.0
	Total	261	100.0	100.0	



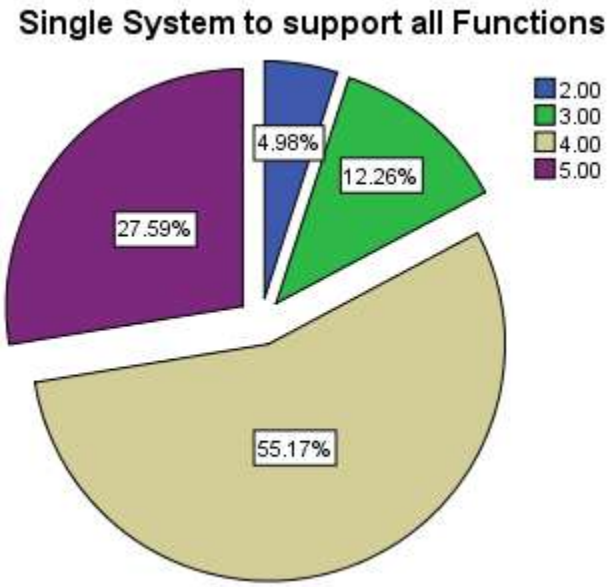
Integrated Information

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3.00	47	18.0	18.0	18.0
	4.00	137	52.5	52.5	70.5
	5.00	77	29.5	29.5	100.0
	Total	261	100.0	100.0	



Single System to support all Functions

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00	13	5.0	5.0	5.0
	3.00	32	12.3	12.3	17.2
	4.00	144	55.2	55.2	72.4
	5.00	72	27.6	27.6	100.0
	Total	261	100.0	100.0	



CHAPTER 6: FUTURE OF ERP IN MP UNIVERSITIES

The ERP space in higher education is moving rapidly. ERP systems producers have rapidly begun to embrace the demands for e-commerce applications such as online billing and payment, e-procurement, and so forth. Maturing data warehouse and data retrieval tools will play a more important role in the future as well. Sooner or later higher education will wake up to the fact that not every university is terribly different. Given that, ERP vendors should provide some best practice models to reduce the cost of ERP implementation. ERP has evolved much in recent years. The basic concept has stayed the same, but the technicalities and design have evolved. What began as an application meant only for internal use, now extends beyond enterprise boundaries. Through continuous innovation, ERP has evolved from automated processes to Material Requirement Planning (MRP), and then to Manufacturing Resource Planning II (MRP II). After that, it integrated all departments in an enterprise, and became the ERP we know so well.

ERP system implementation now can be customized according to the needs of the customer and the business of the organization. It can be altered using the tools and coding by the vendor. The ERP can be used to provide a customized solution across the entire organization which enables it to improve the business and increase profitability. The future of Enterprise Resource Planning software has high demand at an international level if it can adapt to the latest technologies. The ERP software seems to be undergoing a transformation to offer clear innovated and enhanced software without problems. ERP has become an integral part of business today due to its proven benefits and huge capacities but it is very easily evident that there is much to be explored and

need to give up a previously set goal. Utilization of resources at the disposal of the software can help organizations in much more effective way than today, particularly for larger and smaller educational institutions are going to be benefited by this feature as they have less to invest on hiring planners compared to large organization.

CHAPTER 7: RECOMMENDATIONS

Enterprise Resource Planning (ERP) is seamlessly integrated computer-based application used to manage internal and external resources, including tangible assets, financial resources, materials, and human resources covering all the functions and processes of an enterprise/institution.In Education sector, it is playing a tactical role in designing and managing academic resources. Education institutions and universities all over the world are facing challenges in designing robust Enterprise Resource Planning applications and methodologies to align themselves with the expectations of students and other stakeholders. Thus, there is a growing demand for action-oriented research to provide insights into the challenges, issues, and solutions related to the design, development, implementation and management of education institutions' resources through Enterprise Resource Planning applications. Education sector, being a huge service sector and having a high social and economic impact value with its unique set of challenges, has a high potential for using ERP application. In the academic sector and the fields of information systems and management, there exists a need for an edited collection of articles in this area. ERP for a university will be a platform for e-University where following activities can be easily done without any failure-

- Academic program services including on-line learning services and e-Learning
- Inter-institute and university collaboration and virtual campus for academia
- Course structuring and evaluation, and Quality Assurance models for academia
- Digital library, Library management services, and Publication management: journal, conference proceedings, news letter and other documents
- Institutional strategic planning, and governance of colleges
- Infrastructure management including project management services, and systems integration
- Management of university centre operations.

REFERENCES

1. **Text**
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