Implementation Common Failure Reasons for an Enterprise Resource Planning and how to avoid

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Abstract: The purpose of this article is to explain the main reasons for the failure of the ERP and how to avoid them. The reasons are divided into two types, reasons related to the company intending to implement the program, and the reasons related to the consulting company contracted for the purpose of providing support and advice to the implementing company in the implementation of the ERP program. The analytical descriptive approach was adopted. This approach refers to the attempt to reach precise and detailed knowledge of the elements of a particular phenomenon by collecting the necessary data from a group of respondents associated with the phenomenon in question. The main conclusion of this study is that the successful implementation of such programs requires a large and joint effort from all the participating parties. And need time as well as a budget to ensure that the application costs are covered.

Keywords: ERP, Failure, Package, avoid, Implementation.

1. Introduction:

Enterprise Resource Planning (ERP) systems developed by ERP vendors are designed not only to standardize the existing business processes of the implementing organization, but also to bring in some of the best practices of the industry. [14,8] Such information systems automate the business processes of organizations thereby improving their operational efficiency substantially, [10] as well as provide extensive benefits and facilities to the whole enterprise, help the enterprise to share and transfer data and information across all functional units inside and outside the enterprise. Sharing data and information between enterprise departments helps in many aspects and aims to achieve different objectives [9]. Implementing ERP systems in business organizations aims to integrate all business units of an organization. Configuring and customizing ERP systems are the main challenges that face the implementation process [17].

ERP implementation can be a big project, and therefore may have many factors that contribute to its success or failure. In this study, the researcher focuses on the factors that lead to the failure of ERP implementation projects, and how to avoid them.

What is ERP?

ERP is a software system that aims to integrate all functional units of the enterprise in a cooperative manner. It may also extend to include parties outside the enterprise, such as suppliers and customers to involve them in the integration process (as shown in Figure 1). It is defined as a comprehensive software

packaged that seeks to integrate the complete range of a business's processes and functions in order to present a holistic view of the business from a single information and IT architecture [17] .

With the right ERP system, it is easier to provide coordination between the units, eliminate waste and make faster and better decisions. Adopting an ERP system is a significant investment decision for a firm, therefore a great deal of attention should be given to the selection of the right system. Since there is a large number of elements to consider when selecting an ERP system, the process itself is regarded as a complex multi-criteria decision making problem [15].

Figure 1: ERP System Overview [15]

The Problem of the Study

This study illustrate failure of ERP implementation. By showing main reasons of this failure and how to avoid them.

This article is intended to guide companies that are planning to implement ERP system, by highlighting the main reasons that contribute to the failure of ERP implementation, and how to avoid them. This article will also guide ERP providers/consultants who help companies implement ERP systems, through illustrating the challenges leading to the failure of ERP implementation, and proposing ways to avoid them. ERP projects are complex and resource demanding, and many of projects fail due to what is called *'misfit'* between the adopting organization's business requirements and the ERP's functionalities [2].

Modules of ERP package:

ERP software typically consists of multiple enterprise software modules that are individually purchased, based on what best meets the specific needs and technical capabilities of the organization. Each ERP module is focused on one area of business processes [3], such as product development or marketing. Some of the more common ERP modules include those for product planning, material purchasing, inventory control, distribution, accounting, marketing, finance and HR. below are some of the main ERP modules with a brief description of each:

1. General Ledger (GL) is the heart of the finance package of an ERP system. Through integration with logistics, business processes, as well as with accounting sub ledgers of other finance modules such as accounts payable, accounts receivable, cash management. The GL provides a central pool of

accounting data required for financial reporting (including statutory reports) and other purpose. One of the important functions of GL is the real time update of sub ledger, thus eliminating the time consuming reconciliation. GL also provides summarized data for use in planning, control and reporting [6].

2. Accounts Receivable (AR) is one of basic ERP modules that handles all customers' related setup and transactions. Example of AR setup is Customer master file, Customer method of payments. Example of AR transactions are Sales Quotation, Sales Orders and customer Invoices [5].

3. Accounts Payable (AP) is another basic ERP module that handles all vendors' related setup and transactions. Example of AP setup is Vendor master file, Vendor method of payments. Example of AP transactions are Request of Quotation (RFQ), Purchase Orders and vendor invoices.

4. Cash and Banks Management is a module that handles cash and banks related setups and transactions. Example of cash and bank setup is Bank Accounts master. Example of cash and bank transactions are all bank deposits, transfers and bank accounts settlement related transactions.

5. Inventory Management: This module usually handles all information related to items that company use in their manufacturing Process as raw material or finished goods or items that the company purchases from suppliers and sell it to customers. This module also handles all the information related to company inventory like sites, warehouses, Locations and other inventory breakdown structure if it's available, such information represent examples of Inventory management setup data. Examples of inventory management transactions include item picking and packing, item transfers, item counting and others.

6. Manufacturing (Production): This module is considered a basic module for manufacturing industries that use raw materials to produce a final product to be sold to customers. This module handles manufacturing setup like defining Bill of Materials (BOM) of products, required production routes and work centers. It also maintains manufacturing transactions like production orders and job orders.

7. Human Capital Management (HCM) and Payroll: This module maintains company employee information. As setup data, it maintains employee master, company organizational structure, positions, job descriptions, compensation, employee benefits, employee deductions and others. As transactions, it maintains data such as employee training courses, employee appraisals and employee calculated Salaries. [13]

8. Sales and marketing, Budgeting, Fixed Asset Modules, Project Management and others.

Note: Some modules maybe added as a vertical solutions over the ERP system to meet customer special business needs. Such as developing a new module over ERP system to manage a hospitals business (HIS), or a module to handle ticketing system.

Related Works

2015 ERP REPORT [A Panorama Consulting Solutions Research Report]. This research Report developed to investigate ERP software selection, implementation and satisfaction trends across industries, organization sizes and geographic locations. Also this report discusses different reasons of implementing ERP and it is mentioned that "Improving Business Performance "is Priority One". Many graphs related to ERP implementation subject. Like "ERP Software Satisfaction Levels", "Most frequently short-listed ERP vendors", "Overall experience with ERP vendors", "ERP deployment options", "levels of customizations" and others.

Panorama's research continues to reveal the extent to which organizations struggle with ERP implementations. The majority of organizations report extended implementation durations and over-budget projects. ERP failure is also on the rise as 5-percent more respondents compared to last year noted that their ERP implementation was a failure [7].

In 2017, at the article named" gartner-75-of-all-erp-projects-fail-but-why?" , mentioned that According to analyst firm Gartner, approximately 75 percent of all ERP projects fail, despite the industry's focus on delivering better customer service and advanced IT systems. The author depends on the findings of Independent researcher Vanson Bourne who spoke to financial and IT decision makers about the challenges they face implementing new ERP solutions, to shape the following five resolutions for the channel to create clarity in a world of ERP confusion.

1. Hold the client's hand tightly during the first steps
2. Minimize the implementation drama
3. Communicate clearly
4. Go above and beyond
5. Appreciate the simple things in life [1].

In 2016, After a Successful Business Case of ERP – What Happens then? In this research, researches mentioned that ERPs systems are increasingly playing a central role in many organizations. However, before implementing ERPs organizations create business cases that are used when deciding on an ERP investment. The research discusses how do organizations evaluate ERP investments? Research covers five manufacturing organizations, by conducting semi-structured interviews with executives. The main conclusion from the research is that the business case is made to put together arguments to "sell" a specific investment to management and decision makers. When a decision then is made and there is consensus within the organization that the project is necessary, it is expressed that there is no longer any need to monitor returns from an investment in ERPs [12].

In 2015, Analysis of the Critical Success Factors for Enterprise Resource Planning Implementation from Stakeholders' Perspective: A Systematic Review. 51 critical success factors of ERP were identified and ordered based on their appearance frequency in the literatures. Also this study showing stakeholders groups in ERP implementation project in addition to classifications of critical success factors according to them.as conclusion of this study is that considering all the factors that might affect the success of ERP project is considered as priority for all parties involved in it [16].

Finally, in 2015 Traci Barker and Mark N. Frolick indicated that while successful implementation of an ERP system is a task of herculean proportions, it is not impossible. If the organization is to reap the benefits of ERP, it must first develop a plan for success, but it should be "prepared to see the organization reengineered, staff disrupted, and productivity drop before the payoff is realized. Implementing ERP must be viewed and undertaken as a new business endeavor and a team mission, not just a software installation. Companies must involve all employees, and unconditionally and completely sell them on the concept of ERP for it to be a success. Also a successful implementation means involving, supervising, recognizing, and retaining those who have worked or will work closely with the system. Without a team attitude and total backing by everyone involved, an ERP implementation will end in less than an ideal situation. This was the situation for a soft drink bottler that tried to cut corners and did not recognize the importance of the people so heavily involved and depended on [4].

2. Results and Discussion

The main reasons of ERP implementation failure related to customer and venders are as follows:

Customer related reasons:

1. No enough budget to Budget limitations for proper ERP system implement ERP system. It is known that ERP system implementation takes a long time and need extra effort from company employees. This means that the company may need to pay overtime and extra salaries for the employees involved in the ERP system implementation to increase their motivation. In addition, the implementer consulting and implementation fees is high and usually divided into two parts: The licenses and yearly enhancement fees: Which is the license of using the ERP system that the vendor/partner will transfer to the company that owns the ERP system (such as Microsoft or Oracle), the partner will also charge a shared percentage of license and yearly enhancement fees. The second part is the implementation fees: Which are the fees that the vendor/partner will take against its effort to implement ERP system for the customer. The implementation phase usually has the following milestones:

    a. Functional Requirement gathering, for which the Functional Requirement Documents (FRD) is one of its major deliverables.

b. Functional Design, for which the Functional Design Document (FDD) is one of its major deliverables.

c. Development, if there is any customization required.

d. Deployment and testing, which include testing of customization functionality and making sure that there is are no conflicts that have any impact on standard ERP functionality. This step is usually done internally by the partner before customer training and testing.

e. Customer key users training, usually mentioned as Conference Room Pilots (CRP) where both partner key implementers and customer key users make sure that functional requirements are reflected on the system based on approved design document and full business processes reflected on the system and give needed result.

f. End user training and user's acceptance testing (UAT).

g. Going live.

Returning back to main point, ERP implementation is expensive and if the customer does not have the correct budget which also considers the risks that may raise during implementation, the implementer will be forced to cut corners to complete the implementation within the available budget. This will have a big impact on the ERP system functionality. To illustrate this point more. Assuming that during testing phase a major customization was requested by the customer, and this customization was not mentioned before and it was not clear enough for both implementer and customer during previous stages. Due to budget issue, the customer cannot not ask the implementer for a Change Request which is usually chargeable, and agreed to go live without it and approved a workaround or manual solution provided by implementer as free solution. Both workaround and manual solutions will be incomplete solutions and sure will lead to human errors that will affect respective module and sure other modules. So customer may lost the trust of ERP system because wrong and misleading information given by workaround or manual solutions.

To avoid this problem: Enough budget should be considered for ERP implementation and the customer should inquire from similar customers on the implementation cost, and then add at least extra half amount on the original implementation cost to handle any ad hocks that maybe raised during implementation phase. In addition, employee overtime cost and extra salaries should be considered in the ERP budget.

2. No clear aim of implementing ERP system and no clear requirements: Customer should have a clear view of what exactly is needed from implementing ERP system and not to keep it open without boundaries. This will lead to a lot of change requests that has big impact on project timeline and cost. Also may some major changes in latest ERP implementation stage, require entire ERP reimplementation. How to avoid: Customers should list all problems they are currently facing which

direct them towards implementing a new ERP system. They also have to consider their business mission for the coming 5-10 years and make sure to implement the ERP system in way that will enable them to reflect future business changes and expanding easily [3].

3. Standard operating procedures (SOP) are not available: The ERP system is a computer software package. This means it should be set-up correctly to handle logical business processes to make sure it will give the needed results and outputs. Therefore, regardless of the ERP system, the company should have clear operational procedures that need to be automated and reflected in the ERP system. Otherwise corrupted data will result and errors in output will be given by the ERP system. How to avoid: The customer has two options here:

   a. Prepare SOPs and make sure that all employees are familiar with them, and know how to follow and implement the SOP related to their work and the tasks they handle. These SOPs will be the main guideline for ERP main requirements that the implementer should know as same as company worker. To be able to reflect it on ERP system, or "Automate the SOPs".

   b. If customer has no SOP and he doesn't want to pay for consulting company to prepare SOPs based on his business needs. Usually global ERP system like Microsoft and Oracle provide standard SOP for different business segments, this is because it is built on business best practices. So once customer has a good implementer with enough experience and knowledge in the ERP system functionalities and capabilities. The customer also needs to follow the ERP system as it is, without any major customization. The ERP system will organize the business operation processes based on the best practice. For example, the ERP system purchasing cycle built as:
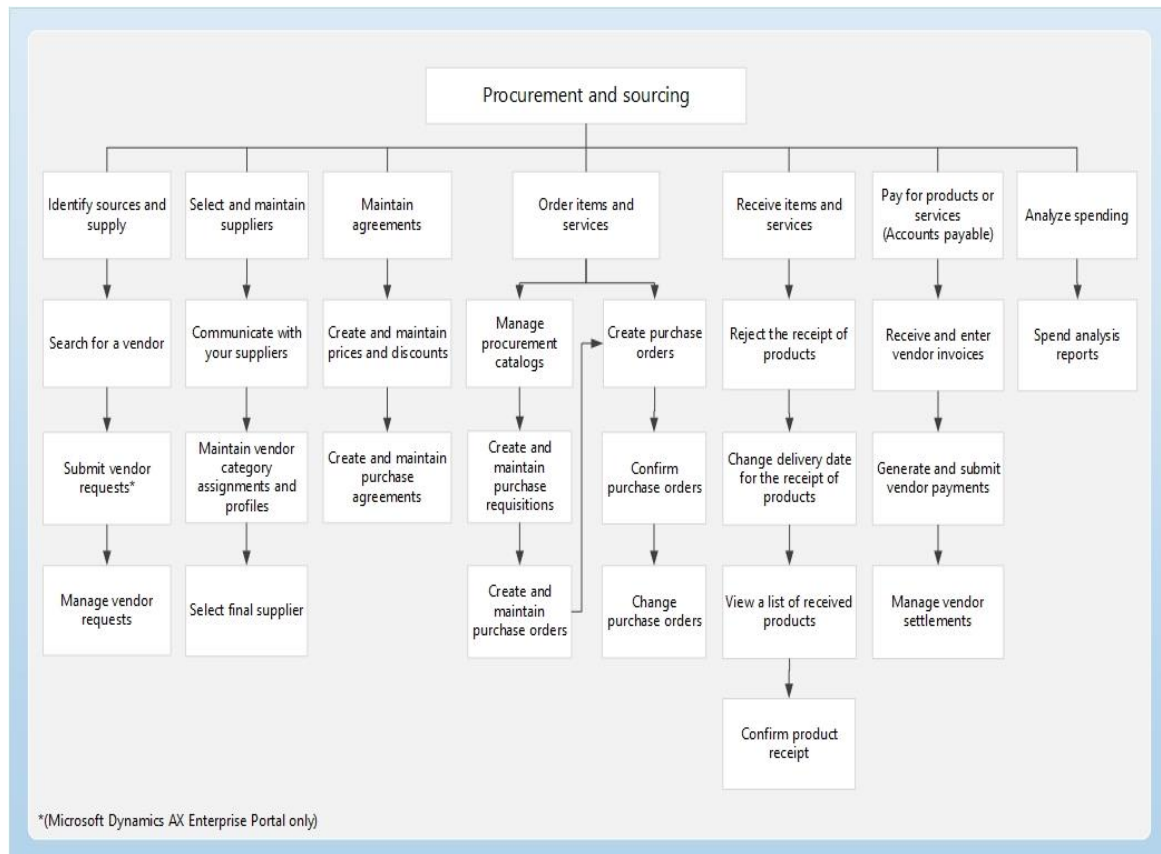
Figure 2: ERP Procurement Cycle [2]

4. No process owner is defined for each and every business process, the process owner is a person who has the ultimate responsibility for the performance of a process in realizing its objectives as measured by key process indicators, and has the authority and ability to make necessary changes. If the process owner for each process in known to the implementer (maybe one person is considered as process owner for more than one process within the organization). The process owner will be the main and usually the only reference to get any information required for ERP implementation related to the process he owns. If there are no process owner and implementer have more than one resource to get information about respective process, he will get corrupted information that will have big impact on the ERP implementation output. How to avoid: The process owner for each and every process has to be determined before starting ERP implementation. Process owners also have to understand that they will be held accountable if the ERP implementation related to the processes failed.

5. Reliance on end user's feedback: If the management take critical decisions like go-live date or legacy system cut-off date, based on their end users feedback, ERP implementation will fail, because usually employees will show high resistance to system change so they will give wrong and negative feedback about new ERP system. How to avoid: Management should have clear decision that ERP system will be implemented, and staff should be part of ERP implementation success story or they have to leave. In this case only, ERP system will be in top of end user's priority and they will give correct feedback about

ERP. Sure company have to support employees with required training and all things they need to be efficient members during ERP implementation [3].

CONSULTING ENGINEERING CENTER. (CEC - Sajdi & Partners). Has successfully implemented Microsoft Dynamics AX. The main reason of this success story is that they have clear decision that new ERP "Dynamics AX" will be implemented and they will stop their legacy system.

6. Wrong ERP selection: If the customer selects the wrong ERP system. The implementation will fail or the customer will have minimum business processes implemented on wrong selected ERP system. How to avoid: The customer has to ask the implementer to have a proof of concept sessions on ERP system to handle major business processes which have a big impact on the customer business. He can also ask the implementer to build test cases on real customer business data to make sure that they will have the correct ERP system which gives the required results. The customer can also ask the implementer to provide a list of partner customer references with same business segment. Also he can ask for a visit to one of partner live implementation for the same business segment.

ABDIN INDUSTRIAL Est. has a failure story in implementing of Microsoft Dynamics AX. The main reason of this failure related to wrong ERP selection.

7. Wrong implementer selection How to avoid: Customer have to ask about implementer and also asking for CV's of implementer team that they will work on ERP implementation project. Asking for implementer customer's reference list.

ABU TAWILEH GROUP. (ATG) has successfully re-implemented Microsoft Dynamics AX after changing ERP implementer.

8. Do not give ERP system required priority How to avoid: ERP has big impact on business and have to be on the top of organization priorities, if they decide to implement ERP system

9. No clear implementation plan. How to avoid: Project plan should be prepared, reviewed and discussed with implementer and make sure its reliable plan and can be implemented. Daily progress review of the plan and good follow up has big impact.

10. Change resistance How to avoid: Motivate employees that they will be part of the implementation, remove the idea of, ERP implementation will reduce number of workers.

11. Bad infrastructure How to avoid: This point has big impact on ERP implantation. Because if ERP implantation was 100% completed successfully with zero bugs, but system is slow or user lost connection with main server. This will leave bad impression on ERP system and some business like retail business. Employee cannot ask customer to wait one hour to get his invoice! Customer investment on infrastructure is part of ERP investment. Also customer can go to cloud option to reduce infrastructure and maintenance cost.

MOTOR VEHICLES PERIODIC INSPECTION (MVPI). Has successfully implemented Microsoft Dynamics AX system. One of the main reason of this success story is that they have well organized infrastructure and high specs servers and related hardware.

12. Resigning of stakeholders during ERP implementation How to avoid: Customer can ask implementation team to sign a commitment letter to stay in the company during ERP implementation period. Also team will get overtime for their extra effort and working hours, and extra salaries as bonus if ERP implantation successes. Create task force for ERP implantation will be great idea, that's because employees belongs to this task force will be dedicated to work on ERP system implementation with implementer team.

13. Not enough user training. The management shouldn't hurry to start using the tool without adequate training to users. Today's modern ERP systems are being used by more and more personnel within a company. Beyond the Finance and Accounting departments, modern systems also cover procurement, supply chain functions, compliance, customer relationships, sales, and much more. If the system includes human resources or expense reporting, then essentially all employees use the system. Training hundreds or thousands of users, to the right depth, at just the right time, is no easy task. Leaving training to a small phase at the end of the project makes it very difficult for users to get the training they need to understand the system and have a positive first impression at the rollout. If ERP systems are the nervous system of a company, then doing an ERP implementation is like brain surgery: only to be attempted if there is a really good reason and not to soon be repeated. Unfortunately, ERP implementation projects often fall victim to some of the same problems of any large, complex project. However, there are some repeatable problems that good planning early in a project can work to avoid [3].

14. No IT staff within the company, who have an idea about ERP system and have good knowledge about company business cycle. How to avoid: Hire new IT staff who has experience on ERP implementation. This will have big impact on ERP implementation because he will act as bridge between company staff and implementer team.

JORDAN WOOD INDUSTRIES Co. (JWICO). Has successfully implemented Microsoft Dynamics AX system. The main reason of this success story is that they have qualified IT Manager and IT team who knows Jwico core business details aligned with good understanding of ERP implementation.

3. Vendor related reasons:

ERP software suppliers come in all shapes and sizes, with the vital business process software available as a client server application, a hosted ERP service or even via a web-based portal [2].

1. Over promising in presales stage. How to avoid: Vendor should be honest and clear with customer about ERP functionality and capability. Because if he success to get the deal, by not telling the truth for customer, he will not success in the implementation and he will lost a lot.

2. Lack of experience. How to avoid: Actually, here a big blame on ERP owner companies like Microsoft and Oracle because they have to make sure that their partners are good enough to handle ERP implementation and they have to keep continuous training for partners.

3. Accept major customization. How to avoid: Vendor have to try to keep implementation of ERP system with minimum customizations as he can. That's because global ERP systems built based on best practices and developed by huge number of developer. So whatever expertise that partner have, he cannot cover all ERP functionalities that maybe affected after he did a customization. And this will affect ERP outputs and customer will lost trust of ERP.

4. Approved law budget. How to avoid: Vendor has to provide reliable financial proposal that take in consideration all risks that may affect ERP implementation. Also he should consider high salaries of ERP consultant, overtime and bonus salaries of his team. Specially, because ERP implementation period is long and need at least one year based on business size. Also payment terms should be scheduled correctly to have good cash flow during project period and vendor can handle project expenses.

5. No reliable project plan. How to avoid: Reliable plan should be provided and it should give all milestones its correct time to be completed in good manner. Not squeeze the plan to complete milestones related payment, quickly, regardless quality of deliverables.

6. No clear implementation methodology. How to avoid: Vendor have to follow global ERP implementation methodology that make sure success of implementation process. Like Sure Steps Methodology of Microsoft Dynamics ERP systems.

7. Cutting corners. How to avoid: Usually, vendors used cutting corners if he didn't plan for project correctly and start feeling that project took longer time than planned. So he starts lost in this project. That's mean good plan and correct financial proposal should avoid this reason.

8. Resigning of key implementer staff during ERP implementation. How to void: In every part of ERP areas, vendor should have backup resources and at least two seniors' persons can cover same area of ERP system. Also well documentation of projects stages will have big impact on tasks handover of resigned employees.

9. Lack of change management skills. How to avoid: Vendor implementation team have a direct contact with customer team. So vendor has to have good communications skills and know how to lead the discussion and he has to respect customer team and follow customer communication hierarchy if he need to raise any project issue. This is because customer team usually shows resistance and delay to response to vendor requirements, so vendor should have a smooth way to get customer team trust to be able to get whatever he needs related to ERP project.

These are major of ERP failure reasons and these are not the only reasons and may its changed and has different impact based on customer business.

4. Conclusion

The paper finds that ERP implementation is a team work and both company and implementer should work as a one team with one goal which is the success of ERP implementation. Considering that well over half of all ERP implementations efforts end in failure, excellent planning, incorporating employee involvement, and good communication should be at the top of any organization's list when considering an ERP implementation effort. Although success is not guaranteed by getting first rank ERP system and getting top implementer. Without dedicated people to implement and apply the system, the company will be wasting its money on purchasing an ERP package that will never be used to its fullest capabilities. Although an ERP implementation effort can be completed by implementer, the problems will arise if the proper company team are not available or not ready to support it. Consultants should consider each and every information and notes of company team. Because some of these ignored information or notes will be one of major failure reason in latest stage of ERP implementation. Also both company and implementer should make sure that with day one of go-live all daily work processes and company services that related to company customers will be completed smoothly without any issue, like printing customer invoice. For other processes specially that considered as "back office" processes, even if it has minor issue like printing trail balance in specific format. It can be handled based on fixing plan.

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الملخص

تهدف هذه المقالة لبيان أهم أسباب فشل تطبيق برامج ادارة وتخطيط المنشآت وكيفية تجنبها. الأسباب قسمت الى نوعين، الأسباب المتعلقة بالشركة التي تنوي تطبيق البرنامج و الأسباب المتعلقة بالشركة الداعمة التي تمثل شركة الاستشارات التي تتعاقد معها الشركة لغايات تقديم الدعم والمشورة في تطبيق البرنامج.تم اعتماد المنهج الوصفي التحليلي، حيث يشير هذا المنهج الى محاولة الوصول الى المعرفة الدقيقة و التفصيلية لعناصر ظاهرة معينة من خلال جمع البيانات اللازمة من مجموعة من المبحوثين المرتبطين بالظاهرة محل البحث.أهم ما توصلت اليه من خلال هذه الدراسة، أن نجاح تطبيق مثل هذه البرامج يحتاج الى جهد كبير ومشترك من جميع الأطراف المشاركة. وبحاجة الى وقت وكذلك لميزانية تضمن تغطية تكاليف التطبيق.

الكلمات المفتاحيه: ERP ، فشل ، حزمه، تجنب ،تطبيق