

# Facilities of eProject Management System

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## **Abstract**

*Information is king to any business. Optimum utilization of information for efficient and timely retrieval is crucial to every business and people for their well being and proper nurturing. Every business functions with knowledge and effective use of it reflects in solving issues and conflicts.*

*Every enterprise places great importance for its customers who drive their organization. Providing online facilities to them would prove access anywhere anytime. Businesses learned with time the project management techniques for effective delivery and service. Library of templates, checklists and pre-approved processes take a project from idea generation stage to completion. The customized dynamic applications which are pre-configured help in the process of adding a shining touch to the finished product.*

*Basically, the efficient tracking mechanism in eProject management would result in greater flexibility of operations and larger*

*penetrations to detect risks and associated problems. It also facilitates the risk handling process by identifying and capitalizing on them timely to prevent efficient managing of resources. The greatest incentive is the importance given to knowledge and its appropriate use. The use of knowledge repositories and capabilities of internet has facilitated the process of concept through revenue generation taking into account the dynamic movements in schedule, cost and resources.*

## **1. Introduction**

According to Cleland and Gareis (1994), projects should transform an unsatisfactory (existing or future) state to a better state within a certain time, using a limited effort. In a more pragmatic terms, a project means that there is someone who always has the unique needs for something new tangible outcomes (the creation) of it, and requires knowledge and resources to conduct the realization of the concept within the specific constraints of time, money and specifications (Cicmil, 1997). Furthermore, required expertise

and resources are needed, either in-house or from the market, need to be pooled together to create the change – the transition from the idea to the creation, according to the client's expectations, which are provided by professionals, consultants, contractors and sub-contractors (Cicmil, 1997).

Rationally, eProject management plays an important role in the process of the project because it is the only way to organize the activity process within the project effectively. eProject management is simply the process of managing, allocating, and timing resources to achieve a given goal in an efficient and expedient manner with the use of technology (Badiru, 1993). Projects come in simple or complex. Moreover, the objectives that constitute the specified goal may be in terms of time, costs, or technical results. Several techniques have been created in order to execute this type of management with ease. eProject management techniques are used widely in many enterprises, including construction, banking, manufacturing, marketing, health care services, transportation, R&D, public services, and so on. Some examples of eProject management techniques include: the statement of requirements; work breakdown structure; dependency structure matrix; cost management approaches; and resource allocation matrix. Because requirement gathering is an important part in project management, statement of requirements would be a valuable tool in avoiding problems (Project Smart, 2003).

With this regard, this paper will be discussing the process of installation of e-based project management system within organizations.

## 2. Discussions

Information has become one of the main assets in information era. The efficient use of

information is significant in determining the success of a certain organisation. Making awareness of information value and the ability to manage information organisation-wide will have great impact on organisation progress results. Since information is used in every feature of business and generated in every process, a centralised supervision function is needed to structure, combine and distribute it effectively and efficiently. Where the finance department monitors and manages the financial aspects of organisation and the legal department handles all legal affairs, the Information Organisation should manage this important business asset.

With regards to the contents and quality of the new eProject management systems, one of the most vital and difficult tasks is determining important information and the proper way of using it. Where legal concerns and financial matters tend to identify themselves automatically, although often too late, with information this is not always simple. Data is engendered in all processes in and outside the organisation. Determining the possible information value of these processes and creating a system to effectively use it requires specialised skills. Meaning to say, we need to combine in-depth business knowledge with in-depth system/process knowledge. Eventually, when the information value is close to the procedure, e.g. obtaining direct process competence, this link can often be made by the organisation. This can be very difficult when information value is business-logically separated from the information source. Information is an asset that needs processing and care. Handling it wrongly can render valuable information useless where money can be transformed and traced easily. On the other hand, information can be copied and used on different locations multiplying its value. Like money the optimal use of information requires strict procedures for

handling it. As for money this depends on the specific organisation.

From the discussion, this paper aims to conduct a project plan regarding e-based project management systems implementation. Basically, an organization may plan to have a complete of eProject management system to suffice the needs of their employees and patients. Some of the activities needed to get the system started are:

- Negotiation with the IS company
- Shipping the equipment
- Recruitment of IT and Staff
- Installation of the system
- Pilot operation

Making computer and eProject management system more secure is both a technological challenge and a managerial problem. The technology exists to incorporate adequate safeguards within these systems, but the managerial demand for secure systems is virtually nonexistent outside of the defence and financial industries. That so many of commercial systems provide marginal security at best is a reflection of the lack of managerial awareness and understanding of the need to protect the information stored in, and transmitted between, computers.

From this, it is essential to determine the technical and non-technical concerns of the possible eProject management system requirements of the company. Basically, the technical problems that may arise in this project include the suitability of the software and hardware to the type of information to be protected.

In addition, employees/members of an organization should be aware of how this systems works. Apparently, issues such as system design, system capacity, system control, system maintenance, and system

response to requests for information should also be considered. The systems to be used by the organization must be appropriate, to capably meet the needs of both employees and customers.

With regards to non-technical issues of e-based project management systems implementation, the inclusion of project constraints, such as money, time and staff must be analysed. The company must be able to evaluate the financial aspect needing to accomplish the project. As part of non-technical issues in the project, time in accomplishing the project should also be observed. This is important since time and the amount of money the company will be spending to accomplish its projects are intercorrelated. Every organisation wishes to lessen expenditures, so identifying the project's specific time frame would enable the company to allocate enough resources for the project. Lastly, staff participation is also essential in the project since they are responsible for making the project move forward.

Typically, the function of an eProject management system in an organisation is to optimise decision-making by delivering the right information in the right format at the right time. Basically, the information needs changes continuously. They explained that to be useful the supplied information must keep matching the evolving information need of the individual users.

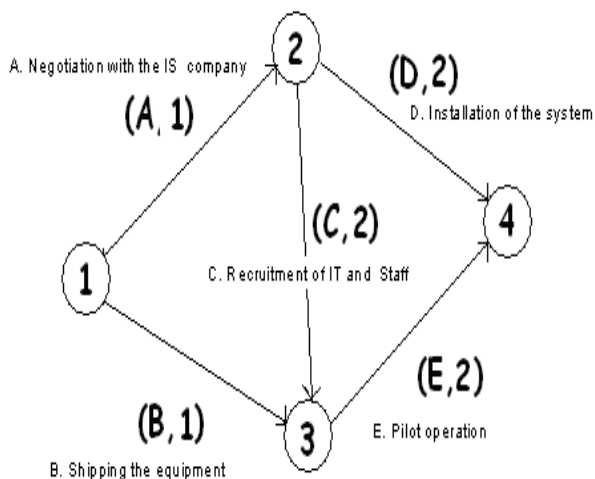
Conversely, an eProject management system should understand the organisation's need to deliver the right information. Interaction with users is critical to determine the best content and format for new information. Furthermore, to be able to continuously deliver necessary information, the system in an organization should anticipate the future information needed and gathered data beforehand. Actually, the

relationships with the data sources are necessary to maintain a reliable source for information. The relationships with business and sources together with organisation wide information value awareness are the base of e-based project management system.

Lamentably, organisation is not immune to eProject management system failures precipitated by inadequate management capacities. Many systems failed to perform up to specifications and, hence, had to be scrapped. The report attributes the difficulties squarely to poor management, ineffective planning, and lack of user involvement in implementation.

In addition, a certain organisation needs to create a data bank that enhances the production function of an eProject management system. It is a tool supporting the eProject management system since it consists of a centralised historical database with data management and reporting functions. Normally, the data bank maintains data integrity and consistency and supports the administration of business rules and information definitions. Currently most eProject management system in other organisations are built as Data Storages, i.e. a significant database with reporting effectivity.

From the list of activities presented, the critical path analysis as part of Task Management Plan is important. As previously discussed, this project contains of



five separate activities. A, B, C, D and E. The time required and precedence relations among them are listed in Table 1(See Appendix)

These activities and their precedence relation are presented by the following network:

Figure 1. Activity Network

Actually, the notation (A, 1), indicates that the arc in question represents activity A, whose completion time is 1 week. A path is a sequence of arcs connecting two nodes as a path.

For example:



is a path between 1 and 3



is a path between 1 and 4

An observation of the network diagram will show that the eight weeks represent the longest path between nodes 1 and 4, which is called the critical path. Because it is wanted to expedite some of the activities in order to lessen the total completion in eight weeks. Thus, reduction of the completion time of some of the activities lying on the critical path; say activity C for two weeks must be done. Then the chances of reducing the completion time of the whole project by two weeks are possible. Unforeseen delays in the activities not on the critical path may affect the completion time of the entire project. Any delay in the activities on the critical path will lengthen the completion time of the entire project.

From this network analysis, finding the earliest event times, earliest finish times, latest event times and slack may contribute in determining the critical path for these activities. The complete event including the critical path of activities that should be observed in this project is presented in the following Table 2 (see Appendix).

If an organisation wanted to reduce the completion time of the entire project, then they must reduce the completion times for some of the constituent activities. Such an action is called crashing of activities. If activity is to be crashed, it should be on critical path.

While every organisation seems to invest in technology, there are other aspects that should be considered in attaining a holistic performance of their respective organisation. One aspect that needs as much, if not more attention and investment than technology is human capital management. An organisation's human capital management philosophy must value the workforce as a key asset that will define an organisation's character and performance capacity (Lipiec, 2001). "In fact, human capital is a critical factor that would either lead the organisation to success or to failure," as stated by Lipiec (2001).

Furthermore, organisations must realise that in order for them to recruit, develop, and retain skill employees for future missions, they need to unleash their human resource employee relation's imagination to create capability and flexibility to institutionalise a well-defined system to expedite the handling of disputes and grievances. Therefore, it is imperative that human resource departments adopt a modern day progressive employee relation's paradigm that embraces and enhances the recruitment, development, and retention of employees in concert with human capital strategic management planning initiatives.

According to Ward (2002), the coach and a mentor frequently perform their work using similar skills tests, such as strong interpersonal and communication skills. Actually, effective mentors, like supervisors, managers, and executives also use effective coaching skills (Ward 2002). Although analogous, these two terms are actually

different in each other. Basically, coaching is teaching someone certain skills, techniques and other things to allow them to reach their full potential in activities. On the other hand, mentoring has to do with knowledge and helping them developing their thinking skills.

In any business organizations, there are lots of things that the company, managers and staff can do in order to arrive at a successful implementation of eProject management systems. As part of coaching and mentoring capabilities of managers, they need to talk to people, inspire them and get them excited to the possible growth of the company. They may also use reward and recognition for good response. Apparently, team effect and inclusion of people from the union should not be neglected.

### **3. Conclusion and Recommendations**

From the previous discussion, the important role task managers play in e-based project management system design and implementation becomes clear. Due to the importance of their role in attaining project success, task managers must then be equipped with the right knowledge and skills, particularly in handling the different problems that could arise in the process. Task managers should not only be skilled when it comes to performing different tasks, but they must also be people-oriented, involved, committed, enthusiastic, creative and innovative. The different aspects of task management also indicated that while there are many methods or styles that a task manager may apply, no single method can be considered as the most effective or appropriate. Thus, it is recommended that task managers take an individualised approach in managing, leading, communicating, mentoring and coaching the project team. Through this, task managers will be able to employ the right project



## Appendix

Table 1. Precedence Relation

| Activity                           | Activity Time | Preceding Activity |
|------------------------------------|---------------|--------------------|
| A. Negotiation with the IS company | 1 week        | none               |
| B. Shipping the equipment          | 1 week        | none               |
| C. Recruitment of IT and Staff     | 2 weeks       | A                  |
| D. Installation of the system      | 2 weeks       | A                  |
| E. Pilot operation                 | 2 weeks       | B, C               |

Table 2. Critical Path Table

| Event | Activity                           | Activity Time | Start Time |        | Finish Time |        | Slack | Critical Path                       |
|-------|------------------------------------|---------------|------------|--------|-------------|--------|-------|-------------------------------------|
|       |                                    |               | Earliest   | Latest | Earliest    | Latest |       |                                     |
| 1, 2  | A. Negotiation with the IS company | 1 week        | 0          | 0      | 1           | 1      | 0     | <input checked="" type="checkbox"/> |
| 1, 3  | B. Shipping the equipment          | 1 week        | 0          | 0      | 1           | 3      | 2     | <input type="checkbox"/>            |
| 2, 3  | C. Recruitment of IT and Staff     | 2 weeks       | 1          | 1      | 3           | 3      | 0     | <input checked="" type="checkbox"/> |
| 2, 4  | D. Installation of the system      | 2 weeks       | 1          | 1      | 3           | 3      | 0     | <input checked="" type="checkbox"/> |
| 3, 4  | E. Pilot operation                 | 2 weeks       | 2          | 3      | 4           | 4      | 0     | <input checked="" type="checkbox"/> |