The Role of IT in Achieving Organization Strategic Goals

* Omid Ardalan, ** Farhad Vafai

* School of Business, Islamic Azad University of Sanandaj, Sanandaj, Kurdistan, Iran, M.A in Executive Management, ardalan62omid@yahoo.com
** Assistant Professor at Kurdistan University, Tel. 09188394685, vafa408@yahoo.com

Hadi Pairo

Department of Management, Kermanshah Branch, Islamic Azad University, Kermanshah, Iran.
hadi.pairo@yahoo.com

Abstract: This paper explains the experiences of Petro Iran Development Company. At first it was tried to prepare a flexible program and an accurate scheduling. Top management support for transmitting to a new system was vital form beginning. Although there was no prepared and tested solution to meet the needs of organization, the ability to recognize the related soft ware's and make them integrated was accessible by means of developing and improving company Intranet and internal data base. Scheduling projects is more accurate, therefore the management is able to determine the long-term strategy. These improvements and developments have increased the competitive capability of the company.

Introduction:

Chaffey and wood (2005) explain IT as: "Technology resources which are applied to business information management ".

These resources including soft ware, hard ware and communicative networks for managing information. According to Benemati (1997) and Iran and Love (2003), IT changes fast and it is highly important to consider the strategic impact of IT on business Operations. Even if IT is managed successfully, a question is asked again as "what is the role of IT in achieving organization strategic goals?" to answer this question, Venkatraman et al (1993) and Franz and Klepper (1995) have declared that the appropriate role of IT in an organization can be seen in being coordinated with the goals of that organization. Therefore, it is effective whenever the organization goals are defined correctly, in other words IT is a supporter of the goals and the managerial methods of organization. However, the role of IT in achieving the organization strategic goals among companies is different. This study is done in petro Iran Development Company[1] which has over

---

[1] -petro Iran company – which is one of the subcategory companies of national Iran company- established in 1998 in order to providing determined goals about improving oil industry high goals and also due to increasing production and protecting form tanks, particularly joint tanks, performing and managing oil and gas development plans, transmitting

300 staff and their attempt to achieve the strategic development goals through IT systems. In our opinion a comprehensive IT system can be beneficial for the company through improving operations, smoothing information, more effectiveness and reducing repeated actions in internal process.

1. IT Goals in the Company Strategic Development

a) Communications improvement of Tehran, Kish, Ahwas offices and excavation platforms.
b) Controlling Costs better
c) Storages management
d) Contracts cost
e) Projects management and planning
f) Accessibility of all sections to required information
g) Increasing the competitive capability of the company

2. Preliminary Evaluation of IT System of Petro Iran Development Company

It was necessary to evaluate IT system of petroIran Development Company because of better understanding of problems related to IT. The following goals were considered:

a) Evaluating company processes and necessary IT system through studying present systems and performing an extended interview by organization staff because of determining staff's needs.

---

technical knowledge and finally the maximum use of internal resources.

b) Planning and analyzing business processes and IT systems in order to identifying equipments and places.

c) Presenting offers, redesigning business process and performing necessary IT systems .was next step. A subject that should be considered in this step – according to Chenny (1983) and Wood (2000) - is the interference of the prime decision- makers of organization because of increasing success possibility.

1.2. Findings from Preliminary Evaluation

Although data were distributed along the company, they were not accessible easily by staff. Main aspect that should be considered was as follows: information system, satellite communication and education of information systems.

2.2. Communication and education

Another important problem in the company was certain conditions and extended excavation operation in the sea that made management and supervision on operation more sophisticated.

Another problem was limitation in using external electronic post and the lack of appropriate management about internal electronic post. Using electronic post reduces paper communications and saves paper prints. Moreover, some administrative units need to preliminary education of IT. This subject is very important because of the effective use of the produced soft ware. Zinatelli et al (1996) and Igbaria et al (1998).

3. Appropriate Directing

After completing the above steps, management team needs to a new business system in order to determining main business aspects (financial accounts, management accounting, planning and production estimate, commodity and contracts management and creating required information for managers.

According to Ward and Elvin (1999), the need for the change is necessary when an organization process is problematic now or will be in the future. Here the main problem was the lack of an appropriate IT system in the company. Although IT is not cheap and as Heo and Han (2003) have stated: performing IT lead to cost increase and the anxiety of the business organization managers at first- the result of studying on 200 companies is that about %20 or %40 of their operational budget was spent for IT system because of staying at competition market. Early studies by Shoal and Lionel (1998) shows that organizations need to IT because of staying at business market and increasing their benefits. But there are some problems. Brown et al (1995) found out weakness of using IT for competitive goals is that it can be copied by competitors easily and also its protection is demanding. this problem is also studied by Teo and Ang (2000) and this problem was the result of reducing IT rank from 2nd 17th between years (1986-

1994). Sohal and Lionel (1997) consider manpower as the most important preventive factor for this problem. In petroIran Development Company, IT performing process included key staff and prime decision- makers in organization.

The Formed team included agents from all important sections of the company and main criteria of systems evaluation, present soft ware packages and soft ware's that should be produced were determined by cooperating those company agents. After evaluating process a series of soft ware packages were chose. It was holding several meetings with customers in order to obtaining the first information about the effectiveness of the soft wares.

Although at first we hoped to find a comprehensive soft ware which covers all necessary aspects, we found out later that purchasing the best kind of software from independent companies for different sections (such as project management, purchase orders, accounting, evaluating and costing is the best solution for the needs of IT organization . An Intranet [2] site was designed in order to connecting systems and preparing company reports and appropriate reports for staff. Project management software was prepared named "primawra"[3] in order to more effective planning for the project and easier pursuit of actions and also helps to managers in estimating the necessary manpower. Therefore, the company avoided contracting when the resources are incomplete and insufficient.

Hardware and network substructure were identified and a plan for keeping new system was prepared during the second step. Then we started to operate those systems that had been purchased out of the company.

4. Performing Information Systems Development Project

1.4. Information Systems

Since knowledge plays a key role in petroIran company activities, all experts use computer as a work tool. These computers, under an integrated communicative network, create an electronic environment for exchanging and obtaining experts' required information. On the other hand, creating and developing software services like e- mails and intranet site have remarkable effects on smoothing the information shifting.

a)   Need to Managerial Systems in the Company

Dealing with people or groups in order to achieving to an organization goals is called "management". This definition indicates necessity to management understanding about IT. Since this

---

[2] -Company Internet network

[3] -project planning

technology can be the common language between management and staff. Organization management can organize and supervise the organization affairs by means of particular managerial soft ware's; also, mid-managers and staff can send the required information to management through electronic forms and in technology language. Management information systems are those kinds of systems which provide management information needs and help the management to make important decisions through their reports and without needing to direct contact with subcategory.

Information systems data are entered the system during doing activities in lower levels of the organization and their various reports are effective for managers in different levels. The lack of these information systems results in reporting to higher management by hand. Particularly reporting about common activities in different sections of the organization. This problem not only makes staff do repeated actions but involves delay or mistake.

b)   Adjusting Systems to the Company Organization

In the matrix structure of petroIran Development Company, management presents some services to under- performing projects as specialized excavation teams, law affairs, contacts and logistics affairs. Providing services and commodities for the plans is one of the important affairs that if does on time, it will lead to project development based on planned programs and if it does with delay, it will lead to financial and credits losses about the company. The resources for providing many commodities and services are external and creating logistics and commodities management, law affairs and contracts management and also excavation management shows their importance. Establishing managerial systems based on web pages provide some facilities for managers. For example they can pursue the services and commodities demands. On the other hand, company management and projects supervisors can obtain required reports through managerial systems.

c)   Developed Systems in PetroIran Development Company

We take effective steps to do "the contractors, Payment Control", "external purchases pursuit", "commodity consumption management" and "costs control" as follows:

• Paying different contractors' bills. Considering remarkable number of bills is one of the important tasks of the company. Bills payment process is regular now through creating a system in order to pursuing bill and making receive different reports possible. In this system by registering information about bills, it is possible to be aware of the last staff's status and also to receive different reports of payments based on contract, contractor or excavation wells and plans. Establishing this system has resulted in not only clear payment bills of the contractors with company but making both satisfied.

• Commodity providing management system in order to registering and saving information was established. This system is able to not only registering and saving information about demands, inquiries, purchase orders, cargoes, payments but determining scheduling program and their last status.

• Commodity management system: commodity management system estabilish after carrying commodity by seller. This system has some advantages such as being aware of commodities inventory indifferent places after getting commodities from sellers, being aware of cost for each oil well based on real price and also being aware of commodities transportation. Continuity and comprehensiveness in establishing commodity and services management systems cause these systems play a key role in computing wells cost daily in two following sections: service costs which and paid by contractors and materials and commodities costs.

2-4 Communications

Certain conditions and extension amount of excavation operations in the sea make management and supervision on operations too difficult. In order to helping to these operations, an extended network of petroIran Development Company has established by using installed satellite and radio equipments on four excavation machines and one plat form in Persian Gulf operational area. This Network not only provides an appropriate communication between operations and supervision groups in Tehran but creates the following abilities for operation and supervision groups:

Excavation engineers and studies groups in Tehran Central Office send strategies and changed in Excavation program after processing received data of well holding technical meetings.

Operation group in operational area and also supervision group in Tehran send and receive all technical post equipments.

Voice and video reciprocal connection between operational area and Tehran office has provided and these facilities have expanded internal phone network of petroIran Development Company until operational area and have made phone contact (without cost) trough company internal phones possible.

5. Experiences of Establishment Step

Fisher and Kenny (2000) have emphasized that required prerequisite for successful establishing IT in business processes. Establishment step in PetroIran Development Company included flexible scheduling from beginning to end because of avoiding sudden changes. The changes were done down- to top by

which users were participated in performing and planning process potentially.

Top management support is necessary for performing step. According to studies by Martin (1989). Raghunath an (1988) al Yapet al (1992), Top managers, support and interference of any function lead to tangible increase in possible success of that function in organization. Although there were some criteria for making sure that the reports being prepared according to organization method, some problems took place again. For example, sometimes a number of suppliers had claimed orally (not written) on being reports in their system but there weren't any company technical group was forced to prepare those reports itself. This problem shows the necessity to written guarantee about all affairs. Also, it took a long time to smooth purchased systems completely. Preparing reports which were produced based on different systems and based on data which were registered by users in their daily activities, was another important action.

These reports without any cost. Reports preparation tools were also prepared and it was tried to present most reports schematically because of better understanding of the reports. It was also hold a number of educational classes because of familiarizing Staff Company with systems. Since some staff were opposed to "changes" and they were interested in doing works as (because of lacking in related IT skills being uninterested in entering more information), it was tried to make them interested in new system, for example, it was put down on company intranet some helpful reports, last status of roll call and other daily needs (company daily news, country daily news, company public notice, etc).
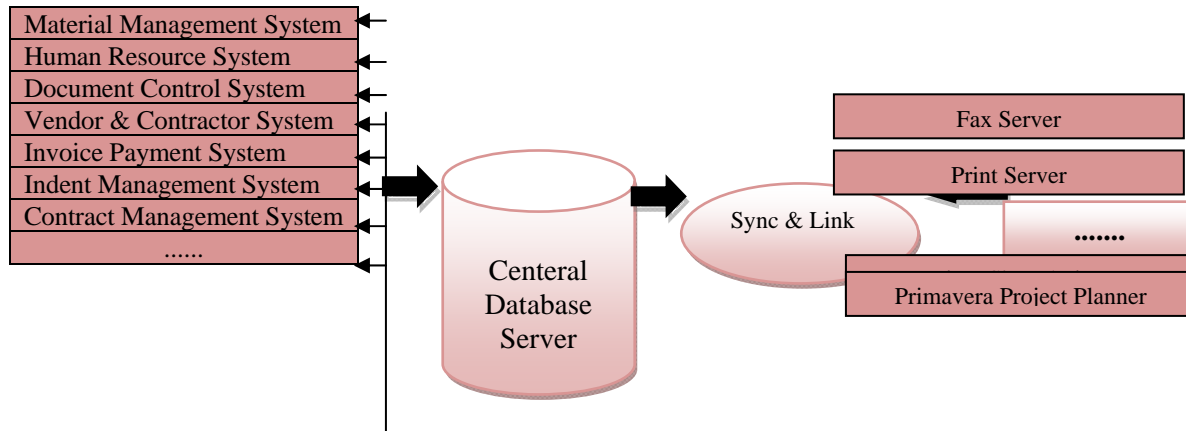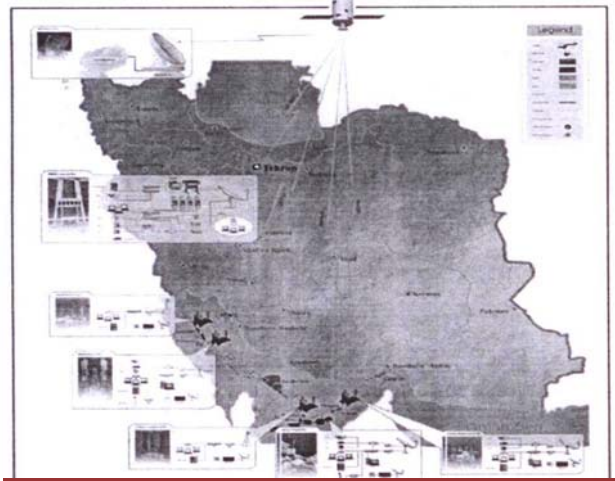

Network Schmatics

Figure 1: The Schematic Systems of Petro Iran Development Company- Accessible Through Intranet or VPN OF The Company Petoiran Development Co.

6. Conclusion

The role of IT in company strategic has been a permanent discussion. According to Sohal and Lionel (1998), IT is traditionally a tool for cost reduction. But nowadays IT plays more active and influential role in utilization and effectiveness of the company in the market. Martinsons (1993) states a large number of business leaders have been convinced that IT plays an important and potential role in competitive strategy of their companies. A study about industrial companies by Betts et al (1991) showed IT an important and strategic tool in improving Functions facilitating new management, developing and organizing methods. Martinsons (1993) and Bocj et al (1999) have also stated comprehensive information about the effect of IT by means of making affairs electronic.

A study which is by parsons (1983) presents more details about the effect of IT on business operation in 3 levels:

• Industrial level affects services, industrial products, economy, production and market.

• In company level affects 5 prime factors of competition.

• In strategic level affects company strategy in low- level costs management, variety and position of production. After performing system, early reports showed company competition potency is increasing through better cost control, more effectiveness and marketing. Now all sections are collective effectively and useful information is produced by less effort and more effectiveness. This development achieved through increasing knowledge about gross profit resources, company cash management, cost saving, strict controls, more regular structure of contracts and regular cost reports about suppliers, second – hand contracts and management team. This paper showed that how an integrated IT system can help us to achieve organization strategic goals. Establishing a business system leads to organization efficiency and more profit. Now information is accessible by less effort and the reports can be prepared easily.

The role of IT in achieving the organization strategic goals has been a permanent discussion. In this research, the company could increase its competitive capacity through improving cost Control, operational efficiency and marketing. These problems were not accessible without IT.

References:
[1] Chaffey, Wood Business information management: improving performance using information systems. Essex: Pearson Education Limited, 2005.
[2] J. Benemati, A. Lederer, M. Singh., Changing Information Technology. Information Technology Management, Inform.Manage. 31 (5) (1997) 276-288.
[3] Z. Irani, P. Love, Evaluating the impact of IT on the organisation: the propagation of technology management taxonomies for evaluating investments in information systems, in: R. Galliers, D. Leidner (Eds.), Strategic Information Management: Challenges and Strategies in Managing Information Systems, third Ed, Butterworth- Heinemann, Oxford, 2003.
[4] N. Venkatraman, J. Henderson, S. Oldach, Continuous strategic alignment: exploiting information technology capabilities for

competitive success, Eur. Manage. J. 11 (2) (1993) 139-149.

[5] C. Franz, R. Klepper, Information Technology and Business Strategy in Romania, Int. J. Inform. Manage. 15 (6) (1995) 451- 461.

[6] P. Chenney, Getting the most out of your computer system, Am. J. Small Bus. 7 (3) (1983) 50-60.

[7] C. Martin, Information Management in the Smaller Business: the Role of the Top Manager, Int. J. Inform. Manage. 9 (3) (1989) 187-197.

[8] M. Caldeira, J. Ward, Understanding the successful adoption and use of IS/IT in SMEs: an explanation from Portuguese manufacturing industries, Inform. Syst. J. 12 (2000) 121-152.

[9] N. Zinatelli, P. Cragg, A. Cavaye, End User Computing Sophistication and Success in Small Firms, Eur. J. Inform. Syst. 5 (3) (1996) 172-181.

[10] M. Igbaria, N. Zinatelli, P. Cragg, A. Cavaye, Analysis of information technology success in small firms in New Zealand, Int. J. Inform. Manage. 18 (2) (1998) 103-119.

[11] E. Brynjolfsson, L. Hitt, beyond computation: Information Technology, Organisational Transformation and Business Performance, J. Econ. Perspect. 14 (4) (2000) 23-48.

[12] Y. Malhotra, D. Galletta, Building Systems that Users Want to Use, Commun. ACM 71 (12) (2004) 89-94.

[13] W. Delone, E. Mclean, Information Systems Success: the Quest for the Dependent Variable, Inform. Syst. Res. 3 (1) (1992) 60-95.

[14] J. Ward, R. Elvin, A new Framework for Managing IT Enabled Business Change, Inform. Syst. J. 9 (1999) 197-221.

[15] J. Heo, I. Han, Performance Measure of Information Systems (IS) in Evolving Computing Environments: an Empirical Investigation, J. Inform. Manage. 40(2003) 243-256.

[16] A. Sohal, N. Lionel, The Role of Information Technology in Australian Business, J. Inform. Technol. 13 (1998) 201- 217.

[17] R. Brown, A. Gatian, J. Hicks, Strategic Information Systems and Financial Performance, J. Manage. Inform. Syst. 11 (4) (1995) 215-248.

[18] T. Teo, J. Ang, How Useful are Strategic Plans for Information Systems, J. Behav. Inform. Technol. 19 (4) (2000) 275- 282.

[19] B. Raghunathan, T. Raghunathan, Impact of Top Management Support on IS planning, J. Inform. Syst. Spring (1988) 15- 20.

[20] C. Yap, C. Soh, K. Raman, Information Systems Success Factors inSmall Business, Omega Int. J. Manage. Sci. 20 (5/6) (1992) 597-609.

[21] G. Martinsons, Cultivating the Strategic Use of Information Technology: lessons from Hong Kong, Technol. Anal. Strategic Manage. 5 (2) (1993) 179-186.

[22] M. Betts, C. Lim, K. Marthur, G. Ofori, Strategies for the Construction Sector in the Information Technology era, Construct. Manage. Econ. 10 (1991) 511-532.

[23] P. Bocij, D. Chaffey, A. Greasley, S. Hickie, Business Technology, Information Development, Systems and Management. Pearson Education, London, 1999, p. 27.

[24] S. Haag, M. Cumming, D. McCubbrey, Management Information Systems for the Information Age, fourth ed, McGraw Hill, New York, 2004.

[25] G. Parsons, Information Technology: A New Competitive Weapon, Sloan Manage. Rev. 24 (1983) 3-14.

[26] B. Fisher, R. Kenny, Introducing a Business Information System into an Engineering Company, J. Inform. Knowl.Syst. Manage. 2 (2000) 207-221.

7/24/2013