4.0 FINDINGS AND RECOMMENDATIONS

This chapter will try to discuss the major findings and explore the relevant factors to be considered for Bank Rakyat future IS planning. It will further emphasis the need for proper IS planning and present recommendation base on the discussions. However, the performance of the on going IS project will not be discussed since it is still in the implementation stage.

4.1 Major Findings

There are several reasons to support the importance of proper IS planning as discussed in the previous sections. Amongst them; to anticipate any type of corporate changes, to avoid over dependency on the vendors and to ensure proper management of IS.

a) Change of Corporate Direction

The existing FINWARE systems initially was designed and planned for retail conventional banking systems. But in 1993 the Bank decided to change from traditional conventional banking to Islamic banking (Syariah) operation. The change of direction caught the IS project by surprise and caused problems to the overall implementation stage. The program has to be rewritten to accommodate the different needs of Islamic banking. Since the Islamic banking operation was new to the Bank it was difficult for the user to specify their requirements for the analyst to work on. Wrong specification means disaster and delay to the project. The problem was so great that the Bank has to abandoned a number of modules and resorted to manual systems.
b) Over Dependency on Vendors

The problem caused by the sudden change of direction was further aggravated with the over dependency on the vendors. The vendor for the FINWARE system does almost all the programming and customization. To rewrite the new program the vendor’s specialists not only have problems in understanding the Islamic banking concepts but also to communicate with the user. Members of the support team were constantly replaced making the problems even harder to rectify. Every time the replacement occurred, the new member has to go through the learning curve all over again. And as the applications were built from scratch the project were further delayed from its original time frame. For future IS planning the business and corporate strategies must be incorporated to avoid such problems.

c) Lack of IS Human Resource

The human resource infrastructure is as important as any other IS infrastructure in an organization. This is because IS requires technical human resources for building, operating and maintaining the systems. Even though most of these activities can be outsource it does not eliminate the needs for understanding and evaluating the system. Bank Rakyat currently has only one qualified system analysts to support the organization needs. Without the resources the Bank will have to depend on the vendors heavily and this may not be the ideal solution. The vendors might have their own agenda that differ from what the Bank wanted to achieve. To avoid future problem it is important for the bank to incorporate human resource development in its long term IS planning.

4.2 IS Planning for Bank Rakyat

Information systems like any other functions require thorough and proper planning to ensure effective implementation and yield strategic values. It will avoid financial disaster, loss of confidence, loss of direction, and losing
competitive edge amongst other things. The study has proved that in the case of Bank Rakyat. The bank never had a formal IS planning to help them chart their way through the technological maze. What they have in the past and currently are project planning in an almost ad-hoc basis. The analysis done in the previous chapter had shown that it was indeed not enough. For example the decision on the systems architecture should has been made in view of future needs and resource allocation. The following section will discuss on some of the issues that can be used as guide for future IS planning.

4.2 Strategic Issues

Strategic planning issues related to information systems, combine business, technical, and organizational concerns (Alter, 1996). It must be consistent with its corporate plans, its management's view of the role of IS in the organization, and its stage of maturity of use and management of IS (Robsons, 1997). The strategic plan needs reviewing as part of an ongoing process and to be the focal point for all future implementation decisions. Optimal use of information system requires appropriate technology applied to the right business problems in a way that is effective in the organization. When the bank decided to embark on the Islamic banking operation, the FINWARE project was almost abandoned for failing to incorporate it into its IS plan. The IS long term planning could have anticipated the move and consider it in the FINWARE project plan. Some of the strategic concerns are;

- Consistency with business priorities
- IS architecture
- IS infrastructure
- Centralization versus decentralization
- System development
a) Consistency with business priorities

Information systems suppose to support business processes that carry out the company’s plan. In other words, it should always be consistent with its business strategy in order for it to be effective. For Bank Rakyat the IS should at least support the high transaction needs of retail banking. It is critical for them to achieve this since the operation and services cannot function efficiently without it. Among the methods to approach this matter are;

i. the Critical Success Factors (CSF), and

ii. the Business Process Reengineering (BPR)

The critical success factors (CSF) method is an approach for identifying the factors that are critical to a business operation’s success (Alter, 1996). The process of a CSF analysis allows managers, to articulate their needs in terms of the information that is absolutely critical to them (Robsons, 1997). Information systems that support these factors should have the highest priority and should provide important information needed by executives. The CSF method encourages executives to identify what is important to them in their business and focus their effort and resources towards it. Generally the CSF method uses the following steps;

- Identify the firm’s primary mission and the objectives that define satisfactory overall performance
- Identify the firm’s critical success factors
- Identify the measures of performance for each CSF
- To decide which measures are most important and then make sure that IS plans provide means for collecting and using this information

Business process reengineering (BPR) according to Hammer and Champy (1994) is the fundamental rethinking and radical redesign of business processes.
to achieve dramatic improvements in critical performance. The concept promote managers to rethink the very processes by which organizations function and to be courageous about replacing processes that get in the way of organizational efficiency (Stoner et.al, 1995). Both CSF and BPR are approaches for thinking about what information systems should do. For the on-going project Bank Rakyat has taken initiatives to undertake the BPR approach to improve its processes. However, due to high failures in the past by other organizations the bank should approach it carefully (Fidler and Rogerson, 1996).

b) Information system architecture

A firm's information system architecture describes the long-term structural plan for investing in and organizing information technology; it acts as the basic blueprint for the technology part of an organization's information systems infrastructure (Gordon and Gordon, 1996). Specifically it shows how the firm's data processing systems, telecommunications networks, and data are integrated (Alter, 1996). It describes the data to be collected how the data be collected and transmitted, where the data will be stored and how the applications using the data related to the overall systems.

Although IS architecture may seem like a technical issue, it is actually a strategic, managerial view of how an organization operates. It is strongly linked to a firm's business strategy because it determines the practical range of business and product strategies the firm can employ (Alter, 1996). The architecture may specify both the current and future state for the infrastructure as well as a transition plan for reaching the desired state (Gordon et.al, 1996). The bank current location of LOs is part of the system network architecture that was decided for FINWARE configuration.
c) Information system infrastructure

A firm's IS infrastructure is its IS architecture plus the technical human resources for building, operating, and maintaining systems (Alter, 1996). Basically, the IS infrastructure of an organization consists of:

- Its hardware, software, and communication equipment
- Its IS staff and related personnel, and
- Its organization and procedures that effect the use and processing of information.

Bank Rakyat should study the human resource infrastructure needs for future undertakings since it has been crucial in the past. Constant upgrading of skills is important to keep abreast with the technology. Currently they only have one qualified system analysts to oversee the Bank's needs.

d) Centralization versus Decentralization

The balance between needs for centralization and decentralization strongly effects the success of information systems. Organizing the IS function involves deciding how much control to centralize in a corporate IS and how much to distribute throughout the organization. The decision on whether to centralize or decentralize involves the followings:

i. Location of hardware and data
ii. Standards, ownership, and guidelines for action
iii. Position of the IS staff
A centralized system can provide the following benefits to an organization like Bank Rakyat:

- Greater control and standardization
- Reduced duplications of resources, work and expertise
- Capacity to handle large and complex projects
- Provide efficiency and economy of scale

However, centralization also has some drawbacks to be considered:

- The IS function is separated or isolated from the business part of the organization
- Lack of personal attention to specific group or individual needs.
- With a single provider, access can be slowed during peak times.
- The communication costs can be very high due to the physical distance between host and client.

For non-centralized IS function the Bank can benefits from the followings:

- It brings the system closer to the user thus, decreased user resistant.
- Greater involvement from the user.
- Lower the overall data communication cost.
- Increase user perceptions on cost/benefits trade-off.

The disadvantages for non-centralized IS function can be listed as follows:

- High infrastructure cost.
- Risk of incompatibilities.
- Limited to less complex systems.
- Duplications of resources and reduced efficiency.
In the case of Bank Rakyat it seems almost impossible for them to decentralize their IS infrastructure due to the limited IS resources available i.e. the staff, budget etc.. This was true as seen in the location of their current LOs discussed earlier. The infrastructure needed to locate each machine to the four designated location was costly that forced them to centralize the LOs. The nature of the online services also demanded a centralized system over a distributed system. It will provide the standardization and the economy of scale required by the Bank.

e) IS development

There are various way for an organization to develop its IS. The commonly discussed alternatives are systems life cycle, prototyping, application software packages, and outsourcing. Each of these approaches has its advantages and disadvantages. There is no one approach that can be used for all situations and types of systems (Laudon et.al, 1996). This section will discuss and propose the best approach that suits Bank Rakyat needs.

i. Systems Life Cycle Approach

The system life cycle approach is a very formal approach to building systems. The approach consists of a series of tasks that closely follow the steps of the systems approach (McLeod, 1998). It distinct the processes into a number of stages and develops it sequentially. The approach is largely used for building complex technical systems such as air traffic controller or refinery operations (Laudon et. al, 1996). However, the approach is not suited for most of the small systems due to the following limitations. Firstly, it requires large technical resources i.e. systems analysts and programmers to do the system analysis, design, and implementation work. Secondly, a tremendous amount of time is required in data gathering, preparing specifications and documents. Due to its nature of development cycle, the approach is also inflexible. The high level of
uncertainty in business environment made the approach inappropriate to organizations.

ii. Prototyping

This approach consists of building an experimental system for the end users to evaluate. A prototype IS is a working model of a system built to learn about the system’s true requirements (Alter, 1996). The prototype will be refined to conform with the user requirements before it is finalize and converted into a finished production system. System analysis, design, and implementation are all done at the same time. This approach is mostly useful when there is uncertainty in user requirements (Laudon, et al., 1996). Prototyping is more likely to produce systems that fulfill user requirement than any other approaches. Nevertheless, the approach may not be appropriate for all applications. It is more suitable for simple data manipulation and records management. Systems that are based on batch processing or that rely on heavy calculations are generally unsuitable for this approach. Larger systems require thorough and comprehensive analysis using the conventional approach rather than on a trial and error basis.

iii. Application Software Packages

An application software package is a set of prewritten application software programs that are commercially available for sale. It is also known as the off the shelf packages. Packages are suitable when the functions are common to many companies such as the payroll system and basic bookkeeping. It is cheaper to purchase the system rather than to have it develop in house. The approach is also suitable for small organization that has very limited IS resources such as limited experienced systems professionals. The organizations can focus their effort to what they are good at instead of having to deal with system building. Again, like any other approaches it has its limitation too. Firstly, it is not appropriate for a complex system. Sophisticated systems require specific
application, which could not be catered by the off-the-shelf packages. Secondly, the application software may need costly customization to meet the organization requirements.

iv. **Outsourcing**

Outsourcing refers to the contracting of a service, such as information processing and applications development, to a party outside the organization (Gordon et.al, 1996). In general, firms outsource the products and services they do not want to or are unable to produce themselves. There are several reasons as to why organizations should outsource their IS development and maintenance (Ainin, 1996). Amongst them are for financial, business, technical and political reasons. Outsourcing can provide several advantages to organization, amongst them are;

- It provides skills the organization does not have by using the vendor’s specialist.
- It provides high quality system due to competition among vendors.
- It reduces uncertainty of costs since the contract price is determined earlier.
- It provides flexibility to the IS infrastructure for any major changes.
- It allows internal specialist to focus on higher value project.

The approach however, does have its disadvantages, amongst them are;

- Loss of control and heavy dependency on vendor.
- Vulnerability of strategic information such as trade secrets and proprietary information.

Bank Rakyat policies on outsourcing had clearly shown that it was necessary since they do not have the capacity to develop it in house. For the new project they decided to outsource its telecommunication network to Telekom Malaysia
with COINS. Not only it will reduce the burden on the in house IS team but COINS provided them an almost perfect network (99.7%) plus backup. However, the Bank need to emphasis in managing outsourcing to avoid loss of control and over dependency on the vendor. Managing outsourcing can be done through service level agreement (SLA) to ensure delivery on specifications. Creating competition among vendors can also enhance this approach. This can be done by awarding contract to multiple vendors instead of one. Not only it will ensure quality delivery but it will also reduce the dependency on a single vendor. Outsourcing together with the various approaches should be used to develop IS in future IS planning.

4.3 Project management issues

This maybe the critical and the most important part of IS planning. A project plan outlines the who, what, how, and when for implementing IS project. It is important because it helps in identifying possible surprises and evaluating their impact on the undertaken project. Among the issues related to project plans are;

- division of labor between the IS department and users,
- keeping the project on schedule
- goals, deliverables and schedules
- project scope and duration
- minimizing rework on completed steps
- recovering from delays

Bank Rakyat as mentioned earlier had engaged a consultant to assist them in the new project implementation and management. It is a good move on their part since it is critical for them to complete the new project in time for the year 2000 problems. IS plan implementation is the hardest part of any project due to the unforeseen circumstances or problems. However with the right experience and a clear view of the direction will help to overcome it effectively. The new IS project
structure has the control and monitoring required for this undertaking and should be able to achieved their objectives. In addition, the steering committee should be able to increase the likelihood that IS investments and activities will align with organisational goals (Gordon et al., 1996).