Chapter XIII
Challenges in Implementing Information Technology Plan

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ABSTRACT

The chapter will present the challenges in implementing information technology plan pertaining to two dimensions: literature and practical. The chapter will also suggest ways to rectify and deflect the negative impact of the challenges. In addition, the chapter will show some of the challenges' manifestations shown in some case studies.

INTRODUCTION

The implementation of an information technology plan defined by (Hoffer, George, & Valacich, 2005) as a phase of the systems development plan that includes six major activities: Coding, Testing, Installation, Documentation, Training, and Support, in order to convert final physical system specifications into working and reliable software. In this regard, the phase of implementation follows many phases comprising of planning and analysis, followed by the design of the solution, as such, it is imperative that the work being done during the implementation phase is to be documented, in
view that documenting the implementation phase will provide help not only for current but also for future efforts in the same field.

In this context, there should be a list of what must be done over the course of implementation of an IT plan (Hoffer, George, & Valacich, 2005), as follows: First; coding, testing and system conversion, second; preparing the test plan for the information system, third; installing the system, then preparing the documentation and training the user. The implementation of the IT project is usually followed by a maintenance phase, which may take up to 70% of the system development life cycle as claimed by (Hoffer, George, & Valacich, 2005).

**CHALLENGES IN IMPLEMENTING INFORMATION TECHNOLOGY PLAN**

Although text books in the field of “Software Engineering” discuss the implementation phase as any other phase in the development life cycle, nonetheless, lucidly such an idea is only a summer’s night dream. In fact there are many challenges that face the implementation of information technology plan, where challenges stem from certain sources, *inter alia*: money, technology, time, culture, environment, project location/site, and human, as illustrated in Figure 1. In the next paragraphs, the sources of challenges will be discussed.

**Money**

Money is the most important source of challenges that face implementing information technology plan. As a matter of fact, many system development life cycles came to life because IT projects usually run over budget. Within this context, money has two aspects to a project: expenditure and revenue. Retrospectively, in order for projects to generate revenue, there should be cost incurred, whether that may be in terms of time or manpower (i.e. effort/ operating cost) that are, ultimately, translated into money. Accordingly, there are three main challenges that stem from this first source of challenges, namely: budget, spending regulations, and currency exchange rate.

Furthermore, the issue pertaining to *project run over budget* can be attributed to either miscalculations in time of the project, and/or efforts needed for the efficient completion of the project, and/or the over promising made by the sales department (Millett, 1996).

However, vis-à-vis the time of the project, if estimated to be 10 months, for instance, would not necessarily entail that the efficient completion of the project will be 10 months. In this context, many rationales could cause the delay; as such an adept contingency plan (Cadle & Yeates, 2004) should be in place.

Moreover, with respect to estimating the effort needed for the project, many justifications can be identified; although mainly attributed to human error and technical miscalculations, for example, what programmer X can do in 19 working hours while programmer Y may take 25 working hours.

Likewise, a propos the spending regulations, which may be attributed to red tape, particularly when dealing with government agencies, can be source for the challenges of implementing IT projects. This can be time consuming, especially if dealing with red tape; it is noteworthy, nonetheless, that such feature is customarily never included in the original estimation of the timeline of the project. More importantly, it is noteworthy that such rationale may be reflected as delay, cost, yet unaccounted for in terms of effort. Thus the sufficient funding and financial independence is essential in the implementation of information systems projects (Plattner, 2004).

Similarly, in connection with currency exchange rates being relatively unstable, thereby many projects may account for unforeseen expenses, if it entails purchasing technology (hardware and software) from other countries with different
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