CHAPTER 1

1. INTRODUCTION

During the last two decades, Information Technology (IT) has become very crucial in supporting, sustaining and enabling the growth of business. As a result of this, IT has emerged with a very important role and that calls for a critical look at IT governance. ITGI (2003) states that IT governance consists of the leadership and organizational structures and processes which ensure that the organization’s IT sustains and extends its strategy and objectives. However the alignment of IT with business strategy has been consistently ranked as the single most important issue facing business and IT executives, not only in North America but also in Europe as well (Computer Science, 1996).

This persistent interest in strategic alignment is especially warranted as researchers argue that the firms inability to realize sufficient value from their IT investments due to the absence of strategic alignment (Henderson and Venkatraman 1993; and Woolfe 1993). This argument is supported in the research of Rupinder and Jyotsna (2011) where they were conducting a survey to understand the reasons for the failure of software. Their findings indicate that majority of the projects fail to meet their objectives due to poorly defined applications, miscommunication between business and IT, poor requirements gathering, analysis and management costing U.S. businesses about $30 billion every year.

So it is attempted to understand the definition of alignment made by different researchers, key dimensions of the alignment, levels of alignment, challenges involved in attaining the alignment and finally the motivation for studying these areas.
1.1 ALIGNMENT DEFINITIONS

Alignment has been defined and understood in the academic literature in several ways. (Sauer & Yetton, 1997) argue that its basic principle is that IT should be managed in a way that mirrors strategy of the business. Reich and Benbasat (1996) define alignment as “the degree to which the IT strategy supports the mission, objectives, and plans contained in the business strategy”. Henderson and Venkatraman (1993) state that “alignment is the degree of fit and integration among business strategy, IT strategy, business infrastructure and IT infrastructure”. McKeen and Smith (2003) argue that strategic alignment of IT exists when an organization’s goals and activities are supported by information systems and mutually compatible. Good alignment means that the organization is applying appropriate IT in given situations in a timely way, and that these actions stay congruent with the business strategy, goals, and needs (Luftman and Brier, 1999).

When the focus group participants were asked to define alignment, Campbell (2005) was given the following answer: ‘Alignment is the business and IT working together to reach a common goal.’ Similarly, Abraham (2006) described alignment using a rowing analogy; ‘Strategic Alignment, is then, everyone rowing in the same direction.’

These perspectives do not refer to visions, strategies, plans, structures, etc. that are mentioned in many academic definitions of alignment but their meaning is very clear. However, the above definitions are not precise, so they are relatively less helpful in articulating the elements that contribute to good alignment and measure it.

So the definition derived from the above definitions for the purpose of this research study is as follows. Alignment is defined as the “the degree to which the IT strategy is integrated with the Business Strategy, is implemented and managed to enable the Business to achieve its mission, objectives, and plans.”

1.2 ALIGNMENT DIMENSIONS

In the management Information Systems literature, we often observe several dimensions of alignment: Strategic/Intellectual, Structural, Social, and Cultural. In general,
people are paying more attention to Strategic and Structural IT alignment due to their direct influence on business performance. In addition, alignment depends on many of the social and cultural dimensions of an organization (Reich and Benbasat, 1996; Chan, 2001).

1.2.1 Strategic and Intellectual Dimensions

These refer to the degree to which the business strategy & plans, and the IT strategy & plan implement each other. Reich and Benbasat (2000) define intellectual Alignment in terms of ‘the state in which a high quality set of inter-related IT and business plans exist. Given this perspective, it would be difficult to achieve alignment if there is no business formal plan with the business (Vitale et al.,1986; Lederer and Mendelow, 1989; Wang and Tai, 2003).

Kearns and Lederer (2000) differentiate between the Information Systems Plan (ISP)–Business plan (BP) and BP–ISP model of Alignment. The Information System plan’s (ISP) Alignment with the BP, or the ISP–BP model, describes IS Management’s understanding of Business Strategy (Reich and Benbasat, 1996). The BP–ISP alignment model, on the other hand, ensures that the business plan leverages & reflects the experience and knowledge of the organization utilizing IT based resources, and brings in better top management understanding and commitment (Bensaou and Earl, 1998).

If payoffs from IT investment are a function of strategic alignment, then any attempt to increase IT business value must consider the extent to which IT is aligned with the business strategy. Strassmann (1997) echoes this point in arguing that “if the consequences of individual computer projects are clearly linked with a firm’s planning and budgeting commitments… then computer investments have a chance of becoming catalysts of organizational change instead of discrete expenses” (p. 4).

1.2.2 Structural Dimensions

Structural alignment refers to the degree of structural fit between IT and the business. Structural alignment is influenced by the location of IT decision-making rights, reporting relationships, (de)centralization of IT, and the deployment of IT personnel (Chan,
Pyburn (1983) found that the perception about IT is supporting the critical needs of the business when there are few levels between Senior Management and IT Management.

Earl (1989) outlined five ideal IT arrangements: centralized, business unit, business venture, decentralized, and federal. In this model, ‘arrangement’ connotes the structures, processes, and accommodations that evolve when organizing IT. These arrangements are to be aligned with factors such as the host organization characteristics, technology assimilation, the strategic impact of IT, and the IT heritage. Brown and Magill (1994) recommended a simpler structural typology involving IT structures that are centralized, decentralized, or hybrid. They provided circumstances under which each structure can be effective. In their study, the selection of a decentralized IT structure was impacted by a corporate strategy of unrelated diversification, a decentralized overall firm structure, a culture of strong autonomy without the desire for a CIO, satisfaction with the management and use of technology, and total business unit control over system approvals. The selection of a centralized IT structure resulted from a corporate strategy of related diversification, an overall firm structure of hybrid strategic business units, a culture of central direction, a CIO who was part of the top management team, satisfaction with the management and use of technology, and some business unit control of systems approvals.

Empirically, Tavakolian (1989) found that IT structure is correlated to competitive strategy. So organizations that have a conservative strategy tend to have a centralized IT structure and organizations that are more entrepreneurial and risk-taking tend to have a decentralized IT structure.

Bergeron et al. (2001) identified that increasing structural complexity alone has very limited impact on performance. Highly complex IT structures need not provide superior results. However, complementing a stronger IT management with increase in structural complexity can have better impact on competitive positions resulting in growth and profitability.
1.2.3 Social dimension

Reich and Benbasat (2000) define the social dimension of strategic alignment in terms of ‘the state in which business and IT executives within an organizational unit understand and are committed to the business and IT mission, objectives, and plans.’ They argue that researchers should study the social and intellectual dimensions of alignment together. This will help in understanding the complexity and challenges of IT alignment.

Feeny et al (1992) argue that there are many barriers to achieve both intellectual and social dimensions of alignment and one of the prerequisite strong CEO–CIO relationship. The collaboration between business and IT people across the organization is essential for the alignment. However this may be hindered by many issues such as the invisibility of the IT staff, communication barriers, history of IT/business relationships, attitudes of organization members to IT, shared domain of knowledge, and leadership (Earl, 1989; Campbell, 2005).

The corporations with more focused goals for IT will realize higher levels of IT business value: The following research will extend this argument and propose that firms with more focused goals for IT will also achieve higher levels of strategic alignment within the organizations overall business structure by not focusing solely on IT but those social factors that contribute to alignment as well (Compus Group, 1999).

1.2.4 Cultural dimension

Pyburn (1983), in an early study on strategic IT issues, describes that successful IS planning requires cultural fit between business and IT and it is a prerequisite for successful IS planning. He argues that IS planning can adopt either an informal or a written-formal approach. In order to bring in effectiveness, it needs to be aligned with cultural elements such as the business planning style and the top management communication style. In essence then, cultural factors need to support alignment. Chan (2002) suggests that a strong organization culture is a prerequisite to the in case of informal structures that foster alignment. Tallon (2003) emphasizes the importance of mind-set that encourages shared networks and common IT procurement policies, and an across-the-board willingness to
design the best of-breed systems. He states that the ‘alignment paradox’ cannot be avoided just by selection of technologies and avoiding others.

CIO Insight Staff (2004) states that alignment is fundamentally about cultural and behavior change. Top Management’s support is essential for effective alignment. People would mostly be influenced by the actions of CEO and actions of business partners rather than the CIOs actions. In addition to their Engineering focus, IT personnel also need to understand the business and improve their relationship building skills. Top management buy-in, proactive CIOs, and socially adept IT professionals are vital for making alignment a cultural phenomenon. Van Der Zee and de Jong (1999) and CIO Insight Staff (2004) raised the issue of the lack of a common ‘language’ between business and IT executives. The common language would help to understand better and build the relationship which in turn assists with alignment in thought and action. Hunt(1993) states that in highly aligned organizations, top management envisions the role of IT, while formulating IT enabled business strategies to resolve business issues in their organization on account of their understanding of both the worlds.

Burn (1993) recommends a cultural audit to understand the relationships between organizational and IT strategy formulation processes. Burn suggests two independent audit checks: one to review the alignment of organizational strategy and structure, and the other to review the alignment of IT strategy and structure. The two audit checks, when applied together, are referred to as the organizational ‘cultural’ audit framework.

1.3 CHALLENGES FOR ALIGNMENT

The challenges from practitioner’s perspective relate to knowledge, locus of control, and organizational change.

1.3.1 Alignment challenges related to knowledge

Major challenges related to knowledge are the lack of business knowledge by the IT people and lack of IT exposure to business people. Also, managers are not always knowledgeable about key business and industry drivers.
Reich and Benbasat, (2000) observed that lack of knowledge about corporate/business strategy is a continuing phenomenon. Even if there is an awareness of corporate/business strategy very often it is unclear and is difficult to adapt (Baets, 1992). Formal business strategies are most of the times ambiguous (Campbell, 2005). Managers face ambiguity surrounding the differences between espoused strategies, strategies in use, and managerial actions, many of which may not be in harmony with one another. This issue of understanding can be present in internal and external to the IT organization. Internal comprehension is affected by mental models and world views, relationships, shared domains of knowledge, and shared systems of meaning. External comprehension is influenced by education and training, the organizational structure and visibility of the IT staff in the structure, and the IT environment. Failures or weaknesses in any of these areas may result in poor alignment.

1.3.2 Lack of awareness or belief in the Importance of Alignment

Despite the empirical support for the notion that alignment provides organizational value; many business managers are unaware of the importance of IT alignment and/or have little belief that IT can solve important business problems (Baets, 1996). For instance, in Baets’ study of European banks, it was found that the influence of mindsets on IT alignment awareness was significant. Although there was a trend in the use of IT from a support function to a business enabling capability, and IT issues were perceived to have a great influence on the banking industry. There was no strong and clear belief that IT could solve specific banking problems. The managers who could see specific ways to resolve banking problems via IT had more positive attitudes towards IT strategy and planning.

1.3.3 Lack of industry and business knowledge

Baets (1996) found IT alignment was hindered by a lack of knowledge about the banking industry (not just skills and knowledge about IT among banking managers. In particular, it was found that IT alignment was negatively influenced by the following industry factors: (i) when awareness of the banking industry issues was low and (ii) when the interaction of different elements within the corporate/business strategy was not well
understood by the managers. Therefore, a deeper knowledge of the banking industry became a prerequisite before managers could use IT solutions to help solve their banking problems. In a multiple case study of insurance business units, Reich and Benbasat (2000) showed that shared domain knowledge between business and IT executives was the strongest predictor of the social dimension of alignment. When there is a high level of shared domain knowledge, communication between the two groups was strategic and frequent resulting in high level of alignment.

1.3.4 Alignment challenges related to locus of control and the status of IT

Campbell et al. (2005) suggest that when managers are confronted with a business challenge, they make decisions based on their locus of comprehension (understanding) and their locus of control (authority to make decisions). These constraints impact alignment. From this perspective, strategic alignment can be seen as an array of bounded choices made in order to resolve strategic ambiguity (Campbell, 2005).

Another contributing factor in the attainment of alignment is the status of IT within the business unit or organization. In a study of cultural assumptions about IT, Kaarst-Brown and Robey (1999) found five separate archetypes. In several of these archetypes, notably the ‘fearful’ and the ‘controlled’, managers felt that IT was not a benign force within the organization. Therefore, although managers cognitively knew what was needed to achieve IT alignment, practically it was not feasible.

1.3.5 Alignment challenges related to organizational change

The business environment is constantly changing, and thus there may be no such thing as a ‘state’ of alignment. Strategic choices made by one organization frequently result in imitation by other organizations. Thus, strategic alignment is a process of change over time and continuous adaptation (Henderson and Venkatraman, 1993). Van Der Zee and De Jong (1999) cite a main problem with alignment as the time lag between business and IT planning processes. If the IT plan is created subsequent to the creation of the business plan, there is a high probability that there was a change in the business
environment and the technology, hence the IT plan may not represent the needs of the business. So creation of IT plan should happen while the business plan is being created.

1.4 LEVELS OF ALIGNMENT

Ideally, alignment should be present at all levels of the organization, including the level (Jenkin and Chan, 2006), and the individual/cognitive level (Tan and Gallupe, 2006). According to Floyd and Woolridge (1990), misalignment can often explain system implementation difficulties. Formal strategies are often only implemented at the upper levels of the organizations, yet strategy is implemented on the front line. The focus of alignment at the lower levels of an organization involves translating business unit goals into personal goals (Campbell, 2005).

Recognizing this problem, Bleistein et al. (2006) attempt to use requirements engineering to link higher level strategic goals to lower level explicit organizational processes. Their model provides a mechanism for verifying alignment as requirements are explicitly verified with super-ordinate goals and subordinate goals. Jenkin and Chan (2006) examine alignment at the project level. They define IT project alignment as the degree to which an IT project’s deliverables are compatible with the organization’s IT strategy and the project’s objectives. Critical to project alignment is the project’s response to business changes. These changes can be both internal (e.g., amid-term project evaluation) and external (e.g., a change in the operating environment). Failure to respond to change triggers effectively leads to project misalignment. Project misalignment can trickle upwards, leading to overall IT strategic misalignment.

Tan and Gallupe (2006) operationalize alignment, at its most micro-level, has shared cognition between the business and IT executives. That is, the higher the level of cognitive commonality between business and IT executives, the higher the levels of IT–business alignment. Similarly the greater the diversity in the cognitive structure and content of business and IT executives, the lower the expected levels of alignment. This perspective has strong connotation with the social dimension of alignment, based on shared domain knowledge (Reich and Benbasat, 2000). It also reflects a view of business–IT alignment in which IT mirrors (vs challenges) ongoing business activities.
1.5 PROCESS MODELS OF ALIGNMENT

Many studies of alignment have emphasized that alignment is a process rather than an end state. (Parker et al., 1988) review various process approaches to the study of alignment. The following are some of the thoughts on the process models of alignment.

1.5.1 Classic vs Processual schools of thought

Two perspectives on the relationship between strategy and technology emerge: the classical school and the processual approach (Whittington, 1993). The classical school is based on a model of rational adaptation. The tenets of this approach are that (i) Organizations are market-driven and constantly adapt to the changes and contingencies of the external environment (ii) IT is seen as a resource to be deployed according to the needs and pressures of that environment, and (iii) The relationship between strategy and IT has to do with recognizing the contingencies of the technology and its potential for application to business objectives (McFarlan, 1984 referenced in Scarbrough, 1998).

The processual school advocates a focus on internal and power issues. Strategy cannot be equated with the business plan and both can become meaningless and ineffective when implemented from the top down. Instead, the processual approach (i) rejects formal plans and methodologies as simply the tip of the organizational iceberg,(ii) exposes hidden social values, political interests, and structural inertia, which shape formal instruments of rationality, and(iii) perceives the role of IT as a resource and an instrument for gaining power – not achieving adaptation. Drawing on Burt’s (1992) work on structural holes, people gain power when they are part of relationships that span the holes in a network. Power is gained since network spanners broker the flow of information between people and control projects that bring people together. To the extent that IT spans holes in the organizational network, it can command power.

Much of the research on the process view of alignment suggests that certain structures, processes, and relationships need continual calibration. Baets (1996) concludes that IT strategy alignment is a process, including business strategy, business organization, IT infrastructure, and IT strategy elements. Alignment is a collaborative process between
all actors and divisions. Thus, it is not enough to simply understand the factors involved in alignment; one must understand the interrelationships among the factors. Rondinelli et al. (2001) studied multinational corporations and suggested that they should continuously readjust and realign four sets of strategic components – business strategy, market penetration decisions, management processes, and organizational structures.

ICEX (2004) identifies the CIO as critical in achieving strategic alignment. Four critical responsibilities to be carried out by the CIO are building shared vision, building relationships, enhancing the CEO relationship, and proactive planning.

Luftman and Brier (1999) conclude that executives should work toward minimizing those activities that inhibit alignment and maximizing those activities that bolster it, such as improving the relationships between the business and IT functional areas, working toward mutual cooperation and participation in strategy development, maintaining executive support, and prioritizing projects more effectively.

Sledgianowski and Luftman (2005) suggest monitoring alignment through the mechanism of service-level agreements. They recommend having periodic formal assessments and reviews of service-level agreements with both IT and business representation, and a formal process in place to make changes based on the results of the assessments.

In a practitioner-based article, Pearlman (2004) gives specific advice for CIOs wishing to achieve alignment. This advice assumes alignment is a process, not an end-state:

(i) Communicate IT performance in business relevant language; shape expectations for an IT-enabled enterprise.

(ii) Demonstrate how IT is contributing to shareholder value; use IT value indicators that are directly linked to business value measures.

(iii) Lead, don’t just manage; you must have a vision for achieving your colleagues’ business goals using technology.
(iv) Collaborate – work with your colleagues to identify the key business needs, strategies and drivers, then articulate the IT guidelines necessary to address those needs.

(v) Govern – create clear and appropriate IT governance to weave together business and IT strategies and to consistently build credibility and trust.

(vi) Build a high-performing IT organization that is lean and focused.

However, in studying the actions that managers take, Hirschheim and Sabherwal (2001) demonstrates three trajectories that can occur in the process of alignment: paradoxical decisions, excessive transformations, and uncertain turnarounds. This work suggests that understanding the key factors explaining these trajectories is necessary for organizations. Pursuing alignment is complex and frequently chaotic (Rondinelli et al., 2001).

Keen (1993) states from the early 1960’s until today, one of the main concerns for business executives has been the issue of the integration and alignment of business with technological thinking and expertise of Information Technology. According to him, this dilemma has intrigued academic researchers and practitioner professionals to study this business phenomenon.

Several researchers have investigated the means of attaining alignment and its impact on organizational outcomes (Chan et al.1997; Das et al. 1991; Nelson and Cooprider, 1996:). Even though attention has been paid to alignment, "no comprehensive model of this construct is commonly used"(Reich and Benbasat, 2000, p.82). Also there was no commonly used construct and most organizations are unaware of the plethora of factors that contribute to alignment. Due to this unawareness, most organizations are still scrambling to discover how to achieve a high level of alignment.

Looking at the data above Business-IT alignment is one of the major issues contributing to the failures of IT. Off late, India has become one of the major IT services provider and contributing to the global IT deliveries. Also very limited or no research was done in this area in India. So in this study an attempt is made to understand the IT governance practices impacting business-IT alignment in the Indian context and create a model describing the relationships among these practices.
Pictorial representation of Business – IT Alignment

Strategic alignment is the extent to which the IT strategy supports, and is supported by, the business strategy (Fig 1.1 represents the pictorial representation)

![Diagram of Business - IT Alignment]

**Figure 1-1 Pictorial representation of IT**

### 1.6 MOTIVATION FOR THE STUDY

India is playing a major role in providing the IT services to the major continents like North America and Europe and very limited/no research was done in India so far.

A close look at the data presented by Rupinder and Jyotsna (2011) indicate issues with respect to IT governance practices starting from initial Business Strategy understanding, translation of this understanding into IT requirements and be able to support the strategy. The impact of this issue is very high and magnitude of this is about 600 billions of dollars.

Also alignment of IT with business strategy has been consistently ranked as the single most important issue facing business and IT executives, not only in North America but also in Europe as well (Computer Science, 1996).

In the previous research, it was observed that the researchers were not providing end-end IT governance practices impacting the business-IT alignment or confined to a specific sector or just describe the IT governance factors but not showing the interrelationship among them.
1.7 SCOPE OF THE STUDY

This is an end-to-end study focusing on IT governance factors involved in understanding of the Vision for IT, Business Value Planning and all the phases of implementation through benefit realization on account of IT implementation in the Indian IT organizations. The nature of business of the IT organizations is System integration, Product development and Captive IT.

1.8 SUMMARY OF CHAPTER 1

This chapter describes the various perspectives from different researches and some of the issues with the Business-IT Alignment are described. The important definitions of the variables used in this research are described. Also, the significance of the IT governance and the problems associated with business-IT alignment in the industry and its financial impact is understood. With the understanding of the above information, the broad problem area (Business-IT Alignment) to investigate has been selected.

Summary of the thesis
Chapter 4 – Data collection and analysis

- Linking of results with the earlier research
- Statistical & Business interpretation of results
- Hypothesis testing
- Is data fine?
- Data Inspection
- Data collection from target sample

Chapter 5 – Discussion of results and review

- Discussion of results, Conclusion, Limitation, Significance, Usefulness to society etc

End