**Research Paper**                                              **Management**

# The Study of Alignment of Business and Information Technology Strategy in Indian Banking Sector

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**ABSTRACT**

*The alignment of business and information technology strategy has long been recognized as a key issue for managers and has grown in importance as IT has become strategically significant. Previous studies have noted the elusiveness of alignment of business and information technology strategy and identified a number of alignment indicators that promote alignment. This paper builds on previous work and categorizes the indicators as people, process, culture, organizational, corporate contribution, end user, operational excellence or future orientation A survey of Indian Banking sector is then used to determine the perceived benefits of alignment and the perceived importance of each indicator and how successful it was in promoting alignment. The findings of the study show that Indian Banking sector perceive that alignment is important and can bring considerable benefits. Furthermore the study highlights the relative importance of the factors and indicates where organizations should focus their attention in order to successfully achieve alignment.*

## Introduction

Most organizations in all sectors of industry, business and commerce, government and academia and healthcare in the modern world are fundamentally dependent on their information systems and information technology (IS/IT) [Earl, 1992; Ward and Peppard, 2002; Peppard and Ward, 2004]. For organizations to stay competitive in a dynamic business environment, they have to determine and understand how to manage IS/IT strategically. A key success factor for a successful business in such a dynamic business environment is an effective and efficient information technology strategy supporting business strategies and processes [Henderson and Venkatraman, 1993]. From 1960s and onwards, information systems (IS) and information technology (IT) have characterized with the rapid development, and emerged in business and become essential parts of most business firms and industrial organizations. The importance of the strategic use of technology based IS/IT for effective organizational performance that makes a contribution to the creation of business value is addressed and well recognized [Henderson and Venkatraman, 1993; Luftman et al., 1993]. The alignment between the business strategy and the strategic choices of IS/IT deployment are therefore a prominent area of concern that stays on a high priority business IT issues that business and IT management struggle with [Silvius, 2007; Kefi and Kalika, 2005; Ward and Peppard, 2002]. Achieving alignment between business and information technology (IT) strategies has long been acrucial issue for many organisations. There was much interest in strategic alignment in the early 1990s as IT became seen to be an integral component of organisations (Broadbent and Weill 1993, Henderson and Venkatraman 1993. Keen (1991) notes that "IT has become an important aspect of everyday business. It is potentially a key element in competitive positioning". IT had moved from being an operational function to being a critical strategic organisationsal tool or resource that should be shaped to deliver business needs. The alignment between business and IT strategies again rose to prominence in the early 2000s with the rise of eBusiness (Choe 2003, Pollalis 2003).

This paper is structured as follows. The next section reviews key research in business strategy, IT strategy and alignment between business and IT strategies and provides definitions of key concepts. A set of factors that promote alignment between business and IT strategies is discussed. The third section describes the research design and explains how the survey instrument was developed and how data was collected and analyzed. The next section presents conclusion and discusses their implications. The final section concludes the paper and presents some suggestions for future work.

## ALIGNMENT OF BUSINESS AND INFORMATION TECHNOLOGY STRATEGY

### Business Strategy
There are many views on what constitutes "business strategy". Definitions for business strategy and its features include the following. A business strategy …

- should encapsulate a statement of an organisation's mission or vision so that there is a clear and consistent point of focus (King, 1978);
- provides the ability to understand competitive complexities through a systematic approach with the aim of achieving competitive advantage. Organisations need to evaluate both their internal and external environment in order to determine a position and market approach (Henderson, 1989; Rigby et al, 2002; Henderson & Venkatraman, 1993; Barney 1992A & B; Black & Boar, 1994, Porter, 1980; Porter, 1985);
- provides a deliberate plan of action (Henderson, 1989; Kaplan & Norton, 1996: Henderson & Venkatraman, 1993, King 1978);
- can be used as a tool for accelerating change by defining the directions to be followed to change the current state (Henderson, 1989);
- is partly formulated by performing environmental scanning and may be used as an analytical tool to predict future business risks and opportunities (Henderson, 1989; Kaplan & Norton, 1996; Beinhocker, 1999; Porter, 1991; Peteraf, 1993; Barney, 1993; Learned et al, 1965);
- can be used to allocate company resources as decision makers can refer to it to ensure decisions are in line with an overall company focus (Henderson, 1989; Rigby et

al, 2002; Henderson & Venkatraman, 1993; Beinhocker, 1999; Porter, 1991; Porter, 1980; Porter, 1985; Peteraf, 1993; Barney, 1993);

- can be used as an internal assessment tool which identifies strengths and weaknesses as part of the internal scanning process during strategy formation (Porter, 1991; Peteraf, 1993; Barney, 1993; Black & Boar, 1994; Learned et al, 1965);
- calls for strong senior management commitment in its formulation and during implementation (Henderson, 1989; Kaplan & Norton, 1996);
- should include outcomes and key performance indicators to determine if the strategy is successful (Kaplan & Norton, 1996);
- should be adaptable to enable organisations to be nimble and guard their core competitive advantage from competitors (Kaplan & Norton, 1996, Porter, 1996:62);
- is a rich channel of information which lessens uncertainty and ambiguity through its use of the planning and analysis process (Broadbent & Weill; 1993)

**IT Strategy**
IT strategy is similar to business strategy although the focus is specifically on technology. From an IT management perspective the following additional components are specific to IT strategy. An IT strategy …

- addresses the management of organisational hardware and software resources and enables organisations to support planned change in future directions and resources(Broadbent & Weill, 1993; King, 1978; Henderson & Vankatraman, 1993; Gadiesh & Gilbert, 2001);
- defines how IT will be used to facilitate electronic communication to support business processes and needs (Broadbent & Weill, 1993; Henderson & Venkatraman, 1993; Clark, 1989; Gadiesh & Gilbert, 2001);
- defines the management of data including approaches for gathering, storing and presenting data (Broadbent & Weill, 1993);
- defines internal and external business relationships in order to structure liaison between the business and vendors (Henderson & Venkatraman, 1993);
- includes management of IT human resources to ensure that these are in line with the firm's IT strategy (Henderson & Venkatraman, 1993);
- acts as a strategic business tool reflecting the relationship between business strategy and IT strategy making the inference that IT strategy is indeed primarily a business tool (Simons & Davila, 1998; Kantrow, 1980; Haeckel & Nolan, 1993; Amit & Shoemaker, 1993).

**OPTIMUM ALIGNMENT BETWEEN BUSINESS AND IT STRATEGY**
The success of alignment between business and IT strategy may be understood from a number of different perspectives. Mintzberg (1978) argues that in order for alignment to be successful it must be realised, that is, where business strategy is evident in IT decision-making as opposed to remaining in a document. Chan et al (1997). Rockart, Earl & Ross (1996) simply state that successful alignment understands business opportunities through IT.

Henderson & Venkatraman (1993: 472- 473) added a financial aspect to the definition of successful strategic alignment stating that it is achieved when "economic performance is directly related to the ability of management to create a strategic fit between the position of an organization in the competitive product-market arena and the design of an appropriate administrative structure to support its execution". They argue that strategic fit is dynamic and "not an event but a process of continuous adaptation and change".

**RELEVANCE OF ALIGNMENT BETWEEN BUSINESS AND IT STRATEGY**
IT is having an increasingly important influence on a business environment that becoming more complex and uncertain ((Amit & Schoemaker 1993, Stopford 2001). Porter and Millar (1985)

argued that IT was changing the structure of industries in the economy, altering the rules and allowing organisations to create competitive advantage throughout all aspects of the value chain.

Keen (1991) claimed that "IT has become an important aspect of everyday business. It is potentially a key element in competitive positioning". Keen (1991) also predicted seven key influences of IT on business including online processing, image technology, changes to business relationships and achieving location independence.

Rockart, Earl & Ross (1996) added the concept of processes reengineering as a major IT influence, noting that in 1996 "more than 50% of capital equipment invested in the United States was being devoted to information technology". In 2003 alone Australian organisations spent $20.189 billion on IT services (Gartner, 2004: 15). Clearly the importance of IT to business is increasing.

Given the important role that IT plays in business strategy it is then vital that the two are in alignment. Henderson & Venkatraman (1993) argue that no IT system on its own will deliver competitive advantage, the advantage comes from being able to exploit that functionality to achieve business goals. They further add that the inability to achieve these goals is due to lack of alignment between business strategy and IT strategy. Clearly, business leaders should be seeking ways to achieve successful alignment between IT and business strategies. The alignment of business and IT strategy has consistently been found to be a major concern for business executives (Chan et al 1997, Luftmann 2005).

**Use of Balance Scorecard for Alignment**
The basic idea about a BSC is that performance measurement should not be restricted to a traditional financial evaluation, but has to be supplemented with measures concerning intangible items, as is also suggested by the word "multi-dimensional" in the definition of Bourne mentioned before.

Kaplan and Norton suggest that the financial measures have to be supplemented with additional measures about customer satisfaction, internal business processes and the ability to learn and grow. This is needed to maintain a balance "between short- and long-term objectives, between financial and non-financial measures, between lagging and leading indicators, and between internal and external performance perspectives" (Kaplan & Norton, 1996). The last is in line with Bourne's (2003) definition of a multi-dimensional PMS. The lagging outcome measures tell management afterwards whether expected results are realised.

The leading performance drivers tell how well processes are currently performing, forecasting if goals will be achieved.

In the BSC, each perspective is focused on answering a specific question about the organization's performance (ITGI, 2003; Kaplan & Norton, 1996):

- **Financial Perspective**
To satisfy our stakeholders, what financial objectives must we accomplish?

- **Customer Perspective**
To achieve our financial objectives, what customer needs must we serve?

- **Internal Business Process Perspective**
To satisfy our customers and stakeholders, in which internal business processes must we excel?

- **Learning and Growth Perspective**
To achieve our goals, how must our organisation learn and innovate?

**INDICATORS THAT PROMOTE ALIGNMENT BETWEEN BUSINESS AND IT STRATEGY**
A useful means of understanding how organisations can

achieve successful alignment between business and IT Strategy is to identify factors that promote alignment. Using a comprehensive analysis of relevant literature, ten factors that promote the alignment between business and IT strategies have been identified (Broadbent and Weill 1993, Burns and Szeto 2000, Rockart, Earl and Ross 1996, Henderson and Venkatraman 1993, Choe 2003, Pollalis 2003, Earl and Feeny 1994, Kaplan and Norton 1996, Luftmann, Papp and Brier 1999).

The fifteen factors are:

- Firm wide active involvement;
- Long term focus;
- Meeting of the minds;
- Clarity and consistency;
- Corporate Contribution
- User Orientation
- Operational Excellence
- Future Orientation
- Management skill and capability;
- Alignment facilitating processes;
- Organizational structure;
- Organizational culture;
- Communication;
- IT as an organizational tool.
- Each of these factors is discussed below.

Factors discussed as below

**Firm-wide active involvement**
A two way relationship between the business and IT functions is required during strategy formulation to achieve strategic alignment. This requires extensive firm-wide participation, information flow and interaction between business and IT staff (Henderson & Venkatraman 1993; Kantrow 1980, Choe 2003; Luftman, Papp & Brier 1999). In particular the Chief Information Officer (CIO) should be actively involved in all strategy formulation within the organization (Rockart, Earl & Ross 1996; Ross et al 1996; Keen 1991).

**Long term focus**
Both IT and business strategies should hold a long-term focus on critical issues for successful alignment (Broadbent & Weill, 1993; Kaplan & Norton, 1996). When either IT or business strategy lacks a long-term focus alignment is impeded. In particular, senior management attention is required when formulating IT strategy to ensure a long-term focus (Broadbent & Weill 1993; Rockart 1988).

**Meeting of the minds**
Management must reach consensus about firm-wide strategic issues between the business and IT functions for successful alignment (Broadbent & Weill, 1993; Rockart, Earl & Ross, 1996; Kaplan & Norton, 1996). If this "meeting of the minds" occurs then a clear understanding of key strategies spreads throughout the organisation (Simons & Davila 1998). Consensus is best achieved when both the Chief Executive Officer (CEO) and the CIO share a clear vision and focus and communicate in a common language (Slywotzky & Morrison 2000).

**Clarity and consistency**
Both the business and IT strategies need to be clear and consistent with business goals of the organisation for successful alignment (Broadbent & Weill 1993; Henderson & Venkatraman 1993; Chan et al 1997; Willcocks & Plant 2001; Choe 2003; Pollalis 2003; Kaplan & Norton (1996).

**Management skill and capability**
Management skill and capability needs to be well developed in both IT and business managers to facilitate alignment (Broadbent & Weill 1993; Rockart, Earl & Ross 1996; Choe 2003; Luftman, Papp & Brier 1999; Kaplan & Norton 1996). Kantrow (1980) added that the skill of understanding technology is not just needed at upper management but is central to business thinking at all levels. The need for IT managers to understand business needs is particularly important (Kaplan & Norton 1996).

**Alignment facilitation processes**
Strategically-oriented decision-making processes that are maintained and managed by key stakeholders are important for successful alignment (Broadbent & Weill 1993; Luftman, Papp & Brier 1999; Kaplan & Norton 1996).

**Corporate Contribution perspective**
The Corporate Contribution perspective represents the view of the board and executives on performance of IT investments.

**User Orientation perspective**
The User Orientation perspective addresses the performance of the IT function from the viewpoint of internal customers.

**Operational Excellence perspective**
The Operational Excellence perspective focuses on the performance of internal processes related to IT investments.

**Future Orientation perspective**
The Future Orientation perspective addresses the readiness of the IT function for future IT investments.

**Organizational structure**
Having an organizational structure that provides mechanisms for accountability and ownership of strategy formulation is important for successful alignment (Broadbent & Weill, 1993; Henderson & Venkatraman, 1993; Luftman, Papp & Brier, 1999). Having such mechanisms in place not only ensures that IT and business strategy will be formulated but also holds individuals accountable when alignment is not achieved and business goals remain unfulfilled.

**Organizational culture**
A supportive organizational culture is required to establish a strong working relationship between the business and IT functions and achieve successful alignment (Kantrow 1980). Senior management support is important is the establishment of a supportive organizational culture (Luftman, Papp & Brier, 1999).

**Communication**
Purposeful and strategically focused communication is important for successful alignment (Broadbent & Weill (1993); Broadbent & Weill 1997; Choe 2003; King & Teo 1996; Kaplan & Norton 1996). Communication facilitates understanding and promotes mutually beneficial thinking about strategy (Rockart, Earl & Ross, 1996 ;Pollalis 2003).

**IT as an organisational tool**
IT needs to be perceived by organisations as a resource or business asset (Willcocks & Plant 2001; Haeckel & Nolan 1993; Keen 1991; Luftman, Papp & Brier 1999). This perception needs to be deeply instilled within organisations to ensure that new IT opportunities that emerge are recognized and can impact business strategy formulation (Henderson & Venkatraman 1993).

The fifteen factors vary across the individual, group and organizational levels, indicating that successful alignment is complex and requires transformation of both individuals and organizations.

**RESEARCH DESIGN**
The purpose of the research is to explore the alignment of business and IT strategies in Indian Banking Sector and identify ways that organizations can achieve successful alignment. We use factors as a way of defining how organizations can achieve successful alignment between business and IT Strategy. Factors are easily understood and communicated and well suited to this purpose.

The research design comprised three phases. The first phase involved an analysis of literature to synthesise a set of factors that promote alignment between business and IT strategy. The second phase involved a series of expert interviews in order to confirm and refine the factors and ensure they could be

readily understood by practitioners. The third phase involved a survey of Indian Banking sector to identify the importance and degree of success of each factor in achieving successful alignment.

The first phase is reported in the previous section of the paper and resulted in the identification of fifteen factors that promote alignment between business and IT strategy. In the second phase eight case studies were conducted with senior managers who had extensive consulting experience with business and IT strategy. The interviews were semi-structured and comprised a number of questions based on the fifteen factors described earlier in the paper. Interviewees were asked to comment on the definition and importance of each of the factors and how they related to each other. They were also asked to nominate any further factors. As a result of the expert interviews, two changes were made to the list of factors:

1.  The factors were grouped into three clusters – People, Process, Structure, Culture, Corporate Contribution, User Orientation, Operational Excellence, Future Orientation – for presentation in the survey questionnaire;
2.  Rests of the factors were removed from the paper for further analysis.

In the third phase the survey questionnaire was designed, piloted, administered and the results analysed. The survey comprised five sections together with a covering letter that explained the purpose of the research study and offered a copy of the results and their interpretation to those who responded. Due to space limitations this study focused on analyzing and reporting the other parts of the survey. The survey questionnaire was piloted after analyzing 8 case studies of banks experienced business and IT strategy consultants and several changes were made to the wording of the questionnaire to clarify meaning. The population of the survey was conducted from senior managers and CIO's of Public, Private, Cooperative, Foreign and Regional Rural Banks. It is very important that these senior people complete the survey questionnaire, as we need to capture their perceptions regarding organizational performance. Sample size was of 98 banks for survey and 8 case studies were conducted.

**Conclusion**
A number of important conclusions about the alignment of IT and business strategy may be drawn from this study. Respondents perceive that alignment brings both tangible and intangible benefits. When compared with previous research involving mainly US base organizations, it is apparent that Indian Banking Sector is perceived to be more successful than US companies in achieving alignment. Respondents perceived that people factors were the most important and the most successfully performed, followed by organizational and process factors. Organizational factors were deemed the hardest to successfully perform.

People factors were generally found to be both important and successfully performed. Of the people factors, the business decision maker's skill and capability are the most important factors in achieving successful alignment. Furthermore, the study found that business decision makers may not always be comfortable being involved in a strategy formation process outside of their own area.

Process factors were found to be both important and successfully performed by a third of respondents. The most important process factors were having a process that promotes clarity and consistency and a process that ensures IT goals are linked with business goals. Furthermore a hierarchical relationship was found suggesting that IT strategy tend to be driven by business strategy in Indian Banks. Another surprising outcome was that a third of all respondents indicated that implementing a process that promotes clarity and consistency and having a formal communication process between the business and IT decision makers was challenging. Managers perceived that ensuring business goals are linked to IT goals was difficult to successfully perform. This is consistent with the earlier finding that IT strategy tends to be driven by business strategy.

Organizational factors were found to be important and successfully performed by a third of respondents. Organizational structure and culture are seen to be most important factors in facilitating alignment. A third of all respondents indicated that an alignment promoting organizational culture and an attitude that IT is an organizational tool are difficult to successfully perform. Managers perceive that generating an organizational culture that promotes alignment and treating IT as an organizational tool can be difficult to successfully perform.

It was found in the Corporate Contribution perspective Cost control is measured to some extent on a very high level. But there is lack of detailed insight in budgets and progress of projects, which are considered very important. There is limited measurement of and insight in Business value and Strategic alignment. Alignment is realized to some extent with the five-year-plan, but that plan is written by IT with limited business participation.

Concerning the User Orientation perspective there is some insight in internal customer satisfaction. Although not formally measured, internal customers, Business management as well as End-users, are considered to be quite content. Both are considered to be of average importance but do not have much priority to be actually measured.

It was difficult to judge the Operational Excellence perspective. There is no formal measurement of internal processes effectiveness and not much insight. Most processes are considered important but are not formally implemented in any way.

In the Future Orientation perspective, there is limited insight in the IT architecture and IT human resources. Especially IT architecture is considered important. There is not much insight in Knowledge management and Research into emerging technologies. Knowledge management is not considered very important, while research into emerging technologies is considered of average importance.

In summary, Indian Banking sector are heavily reliant on IT and achieving alignment between business and IT strategy translates into realizing tangible and intangible benefits both internally and in the market place. Alignment between business and IT strategy allows organizations to exploit IT functionality to achieve business goals. Inability to achieve these goals is partly due to a lack of alignment. The findings of this study will help Indian Banking sector to understand how to best achieve successful alignment and reap the benefits that alignment can bring.

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