The Strategic Alignment of Information Systems Strategy of Ghanaian Banks

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Abstract

Information Technology researchers, consultants, and executives have universally asserted that firms should integrate information technology with overall strategic planning efforts. Banks should continuously align their IS strategy with their overall business strategy: one should complement the other. The two strategies must not be in conflict but rather in harmony. The purpose of this study is to determine the strategic alliance of information system strategy of six banks in the Greater Accra Region of Ghana. The specific objectives of the study are to determine whether the information systems strategy is aligned to the business strategy and also to determine the types of business strategy and information systems strategy typology deploy by the banks. This study adopted the survey methodology. The cases investigated were three local banks and three foreign banks. The six banks used were named Bank A, Bank B, Bank C, Bank D, Bank E and Bank F for the sake of anonymity. The populations for the study were the strategic and the operational staff. All the strategic staff and the operational staff were considered at their Head Offices in Greater Accra region in Ghana. With adherence to a survey research methodology, this study used the questionnaire instrument. The total number of questionnaire returned was 248 out of 410, presenting a response rate of 60.5%. The Statistical Package for Social Sciences was used to analyze the data representing the responses in tables and charts showing simple frequencies and percentages. It is obvious from the findings that, all the banks have their information systems strategy well aligned to their business strategy. All the foreign banks (Bank D, Bank E, and Bank F) and the local banks (Bank A, Bank B, and Bank C) have information systems strategy fully aligned to the business strategy. Bank A, Bank E and Bank F use the same prospector business strategy whilst Bank B and Bank D also use the same analyzer business strategy. Bank C is the only bank that uses defender business strategy. As an academic work, this research has contributed to already existing knowledge in the area of study. The benefits of information system strategy to banks discovered by the study would be beneficial to the banking industry. The information system model recommended at the end of the study would also assist the banking industry to gain competitive advantage in modern banking.

Keywords: Information Systems Strategy, Strategic Information Systems, Strategy alignment, Banks, Ghana

1. Introduction

The term Strategic Information System (SIS) has for many become synonymous with "the strategic use of information technology". But unlike the short cycles of summer files or the similarly brief lives of buzzwords buried soon after birth, the SIS concept now enters its second decade firmly entrenched world-wide. Yet the meaning and reference of this idea remains a bit elusive. Current approaches to designing a strategic information system aim to obtain top management awareness, and to identify and implement applications that may generate competitive advantage. The systematic approaches are based on two main ingredients: a set of guidelines indicating how information technology (IT) can support the business vis-à-vis the competition and a planning and implementation strategy. The guidelines refer to specific models of competition, while planning and implementation methodologies are grounded on the understanding of how an effective business strategy should be formulated and carried out (Wiseman, 1988).

As the pace of competition is intensifying, the use of strategic information systems as competitive weapons is increasing day by day. Today, business operations and information systems (IS) are so tightly integrated with each other that it would almost be impossible to improve business processes unless corresponding IS support the change. To support any change in the organization, information should be properly planned, developed, implemented and maintained in any organization. The designing of information system is an important phase because, if IS are not properly designed it may lead to organization's failure.

Information systems strategy is concerned mainly with aligning IS development with business needs and with trying to gain a strategic advantage through the proper using of IT in the firm. It is a planning process for the development of systems towards some future vision of the role of information systems in the organization. IS strategy defines the organization's demand for IS/IT – the requirements or 'demand' for information and systems to support the overall business strategy. It brings together the business aims of the organization, a clear understanding of the information needed to support those aims, and the implementation of computer systems to provide that information. IS strategy is firmly grounded in the business, taking into consideration both the competitive impact and alignment requirements of IS/IT. Basically, IS strategy defines and prioritizes the

investments required to achieve the 'ideal' application portfolio, the nature of the benefits expected and the changes required to deliver those benefits, within the constraints of resources and systems interdependencies (Ward & Peppard, 2002).

The banking sector has seen considerable transformation in the 1980s starting from the United States, then Europe and now the global village. The main forces behind this significant transformation in the banking industry are deregulation and innovation in IT. These forces have brought about increased competition, not only among banks, but also in other financial and non-financial industries. Over the years, IT has contributed to the blurring differences in retail, corporate and investment banking all over the world as universal banking seems to be the most favoured and preferred form of banking to specialized banking. Harold and Jeff (1995) contend that financial service providers should modify their traditional operating practices to remain viable in the 1990s and the decades that follow. They claim that the most significant shortcoming in the banking industry today is a wide spread of failure on the part of senior management in banks to grasp the importance of technology and incorporate it into their strategic plans accordingly. Woherem (2000) claimed that only banks that overhaul the whole of their payment and delivery systems and apply ICT to their operations are likely to survive and prosper in the new millennium. He advices banks to re-examine their service delivery systems in order to properly position them within the framework of the dictates of the dynamism of information and communication technology. The banking industry in Ghana has witnessed tremendous changes linked with the developments in ICT over the years. The quest for survival, global relevance, maintenance of existing market share and sustainable development has made exploitation of the many advantages of ICT through the use of automated devices imperative in the industry. This study looks at the impact of information systems strategy on bank performance in Ghana.

The purpose of this study is to determine the strategic alliance of information system strategy of six banks in the Greater Accra Region of Ghana. The specific objectives of the study are;
- To determine whether the information systems strategy (ISS) is aligned to the business strategy
- To determine the types of business strategy and information systems strategy typology deploy by the banks.

As an academic work, this research has contributed to already existing knowledge in the area of study. This study would act as a source of future reference, and it would also add to existing knowledge in this area since "the meaning and reference of this idea remains a bit elusive" (Ciborra & Jelassi, 1994). The benefits of information system strategy to banks discovered by the study would be beneficial to the banking industry. The information system model recommended at the end of the study would also assist the banking industry to gain competitive advantage in modern banking.

2. Literature Review
2.1 Competitive Strategy
When a firm sustains profits that exceed the average for its industry, the firm is said to possess a competitive advantage over its rivals. The goal of much of business strategy is to achieve a sustainable competitive advantage. Porter (1985) identified two basic types of competitive advantage:
- Cost advantage
- Differentiation advantage

A competitive advantage exists when the firm is able to deliver the same benefits as competitors but at a lower cost (cost advantage), or deliver benefits that exceed those of competing products (differentiation advantage). Thus, a competitive advantage enables the firm to create superior value for its customers and superior profits for itself. Cost and differentiation advantages are known as positional advantages since they describe the firm's position in the industry as a leader in either cost or differentiation. A resource-based view emphasizes that a firm utilizes its resources and capabilities to create a competitive advantage that ultimately results in superior value creation. Competitive advantage is created by using resources and capabilities to achieve either a lower cost structure or a differentiated product.

2.2 Information Systems Strategy
The literature on Information system strategies is extensive, much of it anecdotal in character, or exhorting managers or chief executives to make more use of information technology. The function of an information Systems (IS) strategy itself is best described by Wilson (1999) who states that: "An information systems strategy brings together the business aims of the company, an understanding of the information needed to support those aims, and the implementation of computer systems to provide that information. It is a plan for the development of systems towards some future vision of the role of information systems in the organization". An IS strategy is something which is essentially a planning process in the minds of the decision makers, users and developers of the systems. It is supported with written reports and plans, but they are of secondary importance.

The IS strategy is concerned mainly with aligning IS development with business needs and with trying to gain a strategic advantage through the proper using of IT in the firm. It is a planning process for the development of systems towards some future vision of the role of information systems in the organization. IS strategy defines the organization's demand for IS/IT – the requirements or 'demand' for information and systems to support the overall business strategy. It brings together the business aims of the organization, a clear understanding of the information needed to support those aims, and the implementation of computer systems to provide that information. IS strategy is firmly grounded in the business, taking into consideration both the competitive impact and alignment requirements of IS/IT. Basically, IS strategy defines and prioritizes the investments required to achieve the 'ideal' application portfolio, the nature of the benefits expected and the changes required to deliver those benefits, within the constraints of resources and systems interdependencies (Ward and Peppard, 2002).

Information systems strategy is of central importance to IS practice and research. Chen et al., (2010) in their extensive review of the literature suggest that the concept of IS strategy is a term that is used readily. However, it is also a term that is not fully understood. In their study, they follow a perspective paradigm based on the strategic management literature to define IS strategy as an organizational perspective on the investment in, deployment, use, and management of IS. Through a systematic literature search, they identified the following three conceptions of IS strategy employed implicitly in 48 articles published in leading IS journals that focus on the construct of IS strategy:

(1) IS strategy as the use of IS to support business strategy;

(2) IS strategy as the master plan of the IS function; and

(3) IS strategy as the shared view of the IS role within the organization.

They find that the third conception best fits the IS strategy. As such, they consequently propose to operationalize IS strategy as the degree to which the organization has a shared perspective to seek innovation through IS. Specifically, they proposed IS strategic typology and suggest that an organization's IS strategy falls into one of the two defined categories (i.e. IS innovator or IS conservative) or is simply undefined. They also developed measures for this new typology. They argue that the proposed instrument, which was cross validated across both chief information officers and senior business executives, has the potential to serve as a diagnostic tool through which the organization can directly assess its IS strategy. They contend that their reconceptualization and operationalization of IS strategy provides theoretical and practical implications that advance the current level of understanding of IS strategy from extant studies within three predominant literature streams: strategic IS planning, IS/business strategic alignment, and competitive use of IS.

Salmela and Spil (2002) indicate that early attempts to formulate information systems (IS) strategies concentrated on the analytical task of deriving IS strategies from business plans. The limitations of the static plans that often resulted from these formal studies were, however, soon discovered. The critics suggested informal and incremental planning to ensure flexibility, creativity and strategic thinking to comprise emergent strategies as well as planned strategies. In previous IS planning research, there appears to be a contradiction between the published planning methods and the generally held views about effective implementation of IS planning process. The explicit methods described in IS literature predominantly assume a comprehensive IS planning process. Despite the fact that many researchers consider incremental approaches to be more effective, methods that can be used to facilitate incremental IS planning are few, not detailed enough and not comprehensive. The four cycle's method introduced attempts to combine the strengths of both the comprehensive and incremental planning to be able to recognize emerging trends and to make an e-business strategy. The method provides a basic schedule for organizing planning activities. IS planning is seen as a continuous process that is periodically adjusted to the expectations of the participating managers. Practicing managers can use the method to facilitate implementation of an incremental and continuous IS planning process. For e-business strategy research, Salmela and Spil (2002) provide a theoretically based method that can be tested in future action research projects. The first results of conducted action research show that the method should not be used as a checklist but as a choice list. Each period had a constant focus on external developments and the fit with internal possibilities. The method provided a flexible and dynamic basis for actions. The emergent nature of the changes and the difficulty of formalizing creativity and innovation placed restrictions on the planning process. They learned that a thematic approach where each cycle is given a creative subject helped to ''open up'' the users in the organization.

2.3 Information Systems Strategy Alignment with Business Strategy

Strategic business and information technology (IT) alignment has many synonyms such as alignment (Silvius, 2007), harmony (Luftman et al., 2005), linkage (Reich & Benbazat, 1996) and business – IT alignment (Maes et al., 2000). Tallon and Kraemer (1998) define strategic alignment as the extent to which the information system (IS) strategy supports and is supported by the business strategy. Silvius (2007) defines strategic alignment as the degree to which the IT applications, infrastructure and organization, the business strategy and processes enables

and shapes, as well as the process to realize this. Reich and Benbazat (1996) define strategic alignment as the degree to which the IT mission, objective and plans support and are supported by the business mission, objectives and plans. Strategic alignment has consistently appeared as a top concern for IT practitioners and company executives (Luftman et al., 2005) and it has been constantly and repeatedly ranked as the most important issue facing corporations since the mid- 1980s (Benbya and McKelvey, 2006). Despite the importance of strategic alignment, there is debate in the literature about what strategic alignment actually is (Avison et al., 2004). Luftman (2000) argues that strategic alignment refers to applying information technology in an appropriate and timely way, in harmony with business strategies, goals and needs.

Aligning information systems to the organizational strategy goals has appeared to be a concern for managers over the last decade. Alignment is defined as "the capacity to demonstrate a positive relationship between information systems and the accepted financial measures of performance" (Strassmann, 1997). One of the most extensively used models of alignment is the strategic alignment model proposed by Henderson and Venkatraman (1999). This multidimensional model identifies the internal and external dimensions and how these can be integrated functionally with the organizational strategy (Henderson and Venkatraman, 1999). Basically, the majority of alignment models are based on the organizational structure and their objectives. This model places alignment at the heart of the organization's needs. Many of these models also reveal the influence of the organization's objectives on the alignment and this type of model focuses on the connection between strategy and technology. To develop an attainable level of alignment within an organization, the IT/IS purpose has to be located within the organizational structure. A direct advantage of strategic alignment is a perception of higher business value of IT/IS. Segars and Glover (1998) suggest that alignment produced by strategically positioned IT/IS improves the stature of IT/IS within an organization. Henderson and Venkatraman (1999) advocate the importance of strategically positioning of IT/IS within organizations. They argued that successful applications of this model result in organizational capability to leverage IT/IS resources on a continuous basis to support competitive advantage in the marketplace. They also indicate the need for a change in IT/IS orientations from an exclusively internal focus to one that fits strategically with the external IT/IS domain environment (Bhatnagar, 2007).

Managers should foresee to achieve a good alignment between information systems and business for smooth work of the organization. Many organizations structure IT/IS and information flow in a way to be centralized thus resulting in the control of information which in turn may result significant power structure within the company (Bhatnagar, 2007). Technology is an important aspect in the alignment of information systems with business strategy. This is dependent on the type of information systems infrastructure used as a resource to assist in granting business goals. Slater (1999) argues that in aligning infrastructure with business strategy it is the hardest when changing business strategy and information systems infrastructure. For business and information systems strategies to be aligned it is necessary to clearly define business and IT/IS goals and review the formulation of these goals (Slater, 1999). It is important for good alignment that IT/IS professionals be involved during business planning and business professionals to be involved during IT/IS planning (Bhatnagar, 2007). King and Teo (2000) suggested that information systems planning is becoming important as the "organizations attempt to leverage IS applications to improve efficiency, reengineer business processes, gain competitive advantage, and compete more effectively". It was interesting to know that there was no particular strategy being used for the development of plans. King and Teo (2000) reported that there is no actual model or theory available for developing the IS plan but one have to keep the IT staff trained up to date and fully aware of new technologies, along with the business needs and requirements.

According to Henderson et al., (2012), the potential for using information technology to affect the competitive position of the firm has served to highlight the importance of effective information systems planning. As the criticality of effectively linking the strategic IS plan to the strategic business plan has increased, the need to better understand the nature of strategic planning, in general, and strategic IS planning, in particular, has also increased. It is now particularly relevant to ask how strategic IS planning adds value to efforts to devise a strategic business plan. A better understanding is required of both the types of products produced by a strategic IS plan as well as the impact on the overall planning process. Venkatraman (1989) argues that the intersection of interest between IS planning and strategic planning stems not only from a common critical assumption, i.e., a belief that planning positively affects the performance of the firm, but also from the similarity in the research questions and methodological issues that have been pursued. Strategic planning is often approached from a systems view of planning and design.

2.4 Strategic Information Systems
A Strategic Information System (SIS) is a system that helps companies change or otherwise alter their business strategy and/or structure. It is typically utilized to streamline and quicken the reaction time to environmental changes and aid it in achieving a competitive advantage. Key features of the Strategic Information Systems are as following:

- Decision support systems that enable organizations to develop a strategic approach to align Information Systems (IS) or Information Technologies (IT) with an organization's business strategies
- Primarily Enterprise resource planning solutions that integrate/link the business processes to meet the enterprise objectives for the optimization of the enterprise resources
- Database systems with the "data mining" capabilities to make the best use of available corporate information for marketing, production, promotion and innovation. The SIS systems also facilitate identification of the data collection strategies to help optimize database marketing opportunities.
- The real-time information Systems that intend to maintain a rapid-response and the quality indicators.

Hopkins and Hopkins (1997) conduct a research into strategic planning and financial performance in banks. An integrative model of relationships among managerial, environmental, and organizational factors, strategic planning intensity, and financial performance was developed and tested using data from 112 banks. The results suggested that the intensity with which banks engage in the strategic planning process has a direct, positive effect on banks' financial performance, and mediates the effects of managerial and organizational factors on banks' performance. Results also showed a reciprocal relationship between strategic planning intensity and performance. That is, strategic planning intensity causes better performance and, in turn, better performance causes greater strategic planning intensity. The results hold implications for other financial services institutions subject to similar conditions that banks must operate under.

2.5 The Miles and Snow Typology
Miles and Snow (2007) suggest that business level strategies generally fall into one of four categories: prospector, defender, analyzer, and reactor.

- Prospector: An organization that follows a prospector strategy is a highly innovative firm that is constantly seeking out new markets and new opportunities and is oriented toward growth and risk taking.
- Defender: Rather than seeking new growth opportunities and innovation, an organization that follows a defender strategy concentrates on protecting its current markets, maintaining stable growth, and serving its current customers.
- Analyzer: An organization that follows an analyzer strategy both maintains market share and seeks to be innovative, although usually not as innovative as an organization that uses a prospector strategy. Most large companies fall into the third category, because they want both to protect their base of operations and to create new market opportunities
- Reactor: According to Miles and Snow, an organization that follows a reactor strategy has no consistent strategic approach; it drifts with environmental events, reacting to but failing to anticipate or influence those events. Not surprisingly, these organizations usually do not perform as well as organizations that implement prospector, defender, or analyzer strategies. Most organizations would probably deny using reactor strategies.

2.6 The Banking System
Banks are financial institutions that provide a range of services to their customers: savings, money transmission and credit services, safe custody and portfolio management functions, and in the process making profits. As commercial activities increased and people developed more banking awareness, the volume of work grew and so did the demands on the bankers' services from the customers. The manual system could no longer cope with the demands from customers. Neither did it meet managements' need for timely and accurate information to cater for the dynamic business environment (Andoh, 1998). The banking sector is comprised largely of commercial banks, savings and loans associations as well as rural and community banks. The Central Bank often called Bank of Ghana (BOG) exercises oversight responsibility over all the financial institutions in the country. In an effort to ensure systematic development of the banking system, the Central Bank has the responsibility of ensuring that banking is responsive to the needs of the Ghanaian public. The Ghanaian economy has experienced high influx rate of foreign banks in recent times. Banking operations are characterized with complexity and competition. To remain competitive, there is the need for a scientific approach in operations. One such an approach is information systems strategy. Ghana has 27 universal banks, 135 rural banks and 49 non-bank financial institutions, including leasing firms, mortgage providers, finance houses, and savings and loan institutions and that is without counting the thousands of 'susu' collectors, who serve as informal, small-scale depository institution for market traders and shopkeepers. Of the 27 universal banks, 10 are locally owned while the remaining are backed by international owners; a mixture of European, American and African banking groups (The Report, Ghana 2014).

2.7 Theoretical Framework
A theory can be defined as a set of definitions and propositions that specify the relationship among variables.

They help to explain or predict phenomena that occur in the world. A theory for a study guides the entire study, an organizing model for the research questions and for the data collection procedure (Creswell, 2003). The DeLone and McLean (2003) theoretical framework was used because it fits perfectly into the study and many authors have also used this model. Many studies have empirically tested the updated model (Tsai et al., 2012, Shareef et al., 2011, Pitt et al., 2011). The theoretical framework incorporates the following dimensions: systems quality, information quality, and service quality, intention to use, user satisfaction, and net benefits. The framework is depicted in figure 1 below.

Figure 1: Information Systems Success Model
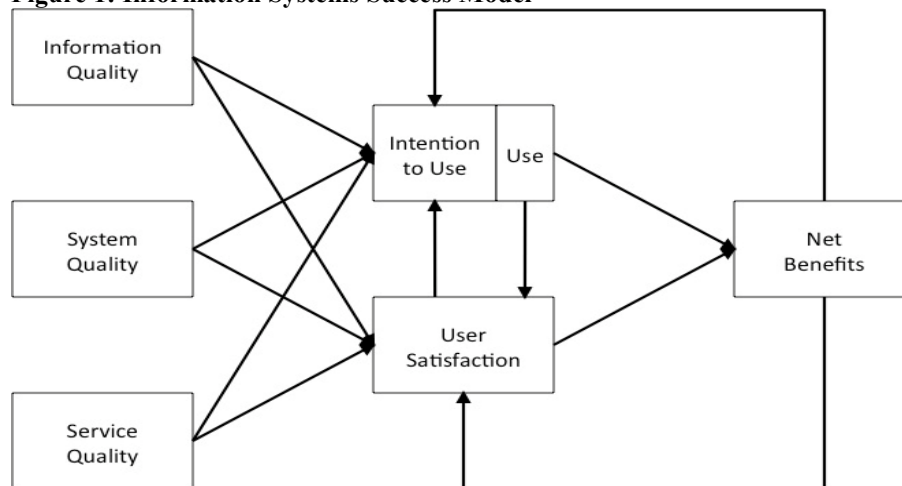
Source: DeLone and McLean (2003)

3. Methodology

This study adopted the survey methodology. The method allows the results of the study to be generalized from the sample perspective, to the entire population. Thus the results obtain also give high level of reliability. Taking into account the purpose and the objectives of the study, this study is comfortably placed within a scientific epistemology of logical positivism because it allows IS researchers to answer research questions about the interaction of humans and computers and it also emphasis on quantitative data. The cases investigated were three local banks and three foreign banks. The six banks used were named Bank A, Bank B, Bank C, Bank D, Bank E and Bank F for the sake of anonymity. The populations for the study were the strategic and the operational staff. All the strategic staff and the operational staff were considered at their Head Offices in Greater Accra region.

With adherence to a survey research methodology, this study used the questionnaire instrument. Out of the 62 copies of questionnaire admitted to the strategic staff, 32 (51.6%) copies of questionnaire were completed and returned. Similarly, for the operational staff, 348 copies of questionnaire were administered, and 216 (62.1%) copies were completed and returned. The total number of questionnaire returned was 248 out of 410, presenting a response rate of 60.5%. The sampling technique for the operational staff was simple random sampling. Random sampling includes choosing operational staff from a population through unpredictable means. But because the population is relatively small, the researcher decided to use all the strategic staff instead of a sample. The Statistical Package for Social Sciences (SPSS) was used to analyze the data. A simple frequency, percentages and Chi-Square test of independence to ascertain the significance of the relationship between variables were used to present the results of the study. Ethics were observed accordingly in conducting this research. Introductory letters were sent to all the banks for permission to use them in the study. In the data collection process, informed consent of the respondents was sought and respondents were guaranteed anonymity and confidentiality by the researcher. All citations were duly acknowledged and all participants treated respectfully.

4. Discussions on Major Findings

This section covers the discussion of major findings in relation to both the research objectives and existing knowledge. The discussion segment provides the researcher the opportunity to highlight the reflections, differences, similarities, and extends current knowledge of the area in which the study has been carried out. It is also a chance to demonstrate exactly what the researcher knows about the topic by interpreting the findings and outlining what they mean.

Information System (IS) Strategy

An information systems strategy brings together the business aims of the company, an understanding of the information needed to support those aims, and the implementation of computer systems to provide that information. It is a plan for the development of systems towards some future vision of the role of information systems in the organization. If Information Systems is not structured, it would be very difficult to follow and implement. It was for this reason that the strategic staff were asked whether they have information system strategy. The researcher presents the responses of the strategic staff by banks in Table 1.

Table 1: Availability of Information Systems Strategy

N = 32	Bank A		Bank B		Bank C		Bank D		Bank E		Bank F	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Yes	6	100.0	6	100.0	5	100.0	5	100.0	5	100.0	5	100.0
No	-	-	-	-	-	-	-	-	-	-	-	-
Total	6	100.0	6	100.0	5	100.0	5	100.0	5	100.0	5	100.0

Source: Field data, 2016

All the responses from the strategic staff 32 (100.0%) affirmed the availabity of information system strategy in the banks. It is apparent from the above table that both the local banks (Bank A, Bank B, and Bank C) and the foreign banks (Bank D, Bank E, and Bank F) all have IS strategy. This finding supports that of Wilson (1999), when 75 percent of the respondents claimed to have an information system strategy, suggesting that the idea of an information system strategy has been widely adopted. He further stated that, in general, financial services companies are most likely to have adopted information system strategies than other industrial firms. Subsequently, since the strategic staff are more linked to IS strategy formulation, they were asked to indicate the components that are present in the IS strategy. Table 2 shows the response from the strategic staff by banks.

Table 2: Components of IS Strategy by Banks

Ns = 32	Bank A		Bank B		Bank C		Bank D		Bank E		Bank F	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
IS Manual	-	-	6	100.0	-	-	5	100.0	5	100.0	5	100.0
IS Training	6	100.0	6	100.0	5	100.0	5	100.0	5	100.0	5	100.0
IS Formulation	6	100.0	6	100.0	5	100.0	5	100.0	5	100.0	5	100.0
IS Implementation	6	100.0	6	100.0	5	100.0	5	100.0	5	100.0	5	100.0
IS Monitoring	-	-	6	100.0	-	-	-	-	5	100.0	5	100.0
IS Control	6	100.0	6	100.0	5	100.0	5	100.0	5	100.0	5	100.0

Source: Field data, 2016

Any structured IS strategy must have IS Training, IS Formulation, IS Implementation, IS Monitoring, and IS Control. In the same way, any documented IS strategy has a manual. It could be inferred from the above table that, IS monitoring was absent in three banks. This suggests that some of the banks do not monitor their IS strategy to satisfaction. All the foreign banks have IS manuals in the IS strategy but only one of the local banks (Bank B) has IS manual in the IS strategy. All the foreign banks (Bank D, Bank E, and Bank F) have all the components of IS strategy except Bank D which does not have IS monitoring. Only one of the local banks (Bank B) has all the components of IS. The remaining two banks (Bank A and Bank C) do not have IS manual and IS monitoring in the IS strategy. Both the foreign and the local banks have IS training, IS formulation and implementation, and IS control in the IS strategy. Only three of the banks (Bank B, Bank E, and Bank F) have all the components present in the IS strategy.

Wilson (1999) in his research, found out that, the IS strategy was said to be a 'formal, documented part of business strategy' by fewer than half of those claiming to have a strategy. He concluded that, the strategy should be formally documented, should be initiated by the Board, monitored by planned reviews, and should base information provision on key indicators, critical success factors, or on a detailed analysis of management information needs. According to a study conducted by Chen et al., (2010), IS strategy is a term routinely used among organizations, but its meaning is not clearly articulated. Davis (2000) states that there are multiple components collectively addressed by an information system strategy which includes the IT infrastructure, data, software applications, and IT personnel. Other research indicates that the information system strategy must also address the planning, design, and implementation of the systems, themselves (Davis, 2000). Somewhere between these two ideologies, it appears that the information system strategy must not only address the technical side, but the business process aspects of information systems as well.

Types of Business Strategy

Every business has a philosophical strategy that it drives on. Miles and Snow (2007), classify firms within a

given industry into four groups, i.e. defenders, prospectors, analyzers and reactors, depending on how a firm responds to the three major problems facing the firm (entrepreneurial, engineering, and administrative problems). Defenders have a limited range of products and focus on efficiency and process improvement; Prospectors have a broad market/product domain and tend to lead change in the industry; Analyzers fall between the above two groups and are likely to follow a second-but-better strategy; Reactors have no consistent strategy and they merely respond passively to environment pressure. IS strategic issues are more synonymous to strategic staff, so they were asked to indicate the type of business strategy that the bank is deploying. The analysis of the responses by banks is presented in Table 3.

Table 3: Reponses on Business Strategy by Banks

N = 32	Bank A		Bank B		Bank C		Bank D		Bank E		Bank F	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Prospector	6	100.0	-	-	-	-	-	-	5	100.0	5	100.0
Analyzer	-	-	6	100.0	-	-	5	100.0	-	-	-	-
Defender	-	-	-	-	5	100.0	-	-	-	-	-	-
Reactor	-	-	-	-	-	-	-	-	-	-	-	-
Total	6	100.0	6	100.0	5	100.0	5	100.0	5	100.0	5	100.0

Source: Field data, 2016

Banks A, B and C constitute the local banks whilst Banks D, E and F constitute the foreign banks. Two of the foreign banks (Bank E and Bank F) use prospector business strategy meaning that they have a broad market/product domain and tend to lead changes in the industry. The third foreign bank (Bank D) uses analyzer business strategy which is a second but better strategy. It is noticeable that, none of the foreign banks use the defender and reactor business strategy. All respondents for each of the local banks indicated that the bank uses one strategy. One of the local banks (Bank A) uses prospect business strategy. Another bank uses the analyzer business strategy whilst the third bank uses defender business strategy meaning that they have a limited range of products and focus on efficiency and process improvement. The absence of a reactor business strategy suggests that the banks have consistent business strategy. In effect, Bank A, Bank E and Bank F use the same prospector business strategy whilst Bank B and Bank D also use the same analyzer business strategy. Bank C is the only bank that uses defender business strategy.

Competitive Advantage of Information Systems

A company is said to have a competitive advantage over its rivals when its profitability is greater than the average profitability of all other companies competing for the same set of customers. It can also be said that, competitive advantage occurs when an organization acquires or develops an attribute or combination of attributes that allows it to outperform its competitors. Information technology has become such a prominent part of the modern business world that it can also contribute to competitive advantage by outperforming competitors with regard to internet presence. For this reason, the strategic staff respondents were asked to give out sale values and profit margins for the past three years. After analyzing these figures it came to light that the IS strategy of the banks (both foreign and local) is being used competitively and yielding results. Many successful financial institutions have clearly demonstrated that information systems and technologies can be a powerful competitive weapon that can be used to capture market share, improve customer service, reduce operating costs, and create new products and services.

Types of Competitive Strategies

Different banks use different competitive strategies in order to survive the competition. A firm's relative position within its industry determines whether a firm's profitability is above or below the industry average. The fundamental basis of above average profitability in the long run is sustainable competitive advantage. There are three basic types of competitive advantage a firm can possess: cost leadership, differentiation, and generic. In cost leadership, a firm sets out to become the low cost producer in its industry. In a differentiation strategy a firm seeks to be unique in its industry along some dimensions that are widely valued by buyers. It selects one or more attributes that many buyers in an industry perceive as important, and uniquely positions itself to meet those needs. It is rewarded for its uniqueness with a premium price. The generic strategy of focus rests on the choice of a narrow competitive scope within an industry. Then strategic staff respondents were asked to indicate the type of competitive strategy that the bank uses. The researcher represents the responses of the strategic staff by banks in Table 4 below.

Table 4: Responses on Competitive Strategy by Banks

Ns = 32	Bank A		Bank B		Bank C		Bank D		Bank E		Bank F	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Cost leadership	5	50.0	5	50.0	4	80.0	-	-	-	-	-	-
Differentiation	1	16.7	1	16.7	1	20.0	5	100.0	5	100.0	5	100.0
Generic	-	-	-	-	-	-	-	-	-	-	-	-
Total	6	100.0	6	100.0	5	100.0	5	100.0	5	100.0	5	100.0

Source: Field data, 2016

Out of the three competitive strategies, Bank D, Bank E, and Bank F only use differentiation strategy. These banks again constitute the foreign banks. All the local banks; Bank A, Bank B and Bank C use a combination of cost leadership, and differentiation strategy.

IS Strategy Alignment to Business Strategy

Alignment between business strategy and IS strategy is widely believed to improve business performance. Information system strategy is a subset of the overall business strategy and the two must be in harmony. Information system strategy must always be aligned to the business strategy. When information system strategy is aligned with the business strategy, it is apparent and widely accepted that the system has an important role in achieving business's goals. The organization's members have an incentive to ensure the system's successful implementation. Considering this alignment, both the strategic and the operational staff were asked to indicate the level of IS strategy alignment with business strategy. For the sake of clarity, the researcher decided to present the responses of the strategic staff by banks in Table 6. The researcher also analyzed all the responses from the strategic and operational staff and presents the responses in Table 5 to bring out the general alignment of the banks.

Table 5: Responses on Alignment of Information System Strategy by Business Strategy

Ns = 32	Strategic Staff		Operational Staff	
No = 216	Frequency	Percent	Frequency	Percent
Well Aligned	32	100.0	186	86.2
Semi Aligned	-	-	30	13.8
No Alignment	-	-	-	-
Total	32	100.0	216	100.0

Source: Field data, 2016

It is obvious from the operational staff perspective that, most of the banks have their IS strategy well aligned to their business strategy even though 30 (13.83%) of the operational staff stated semi alignment. The business aligning techniques assume that IS will fulfill its most appropriate role if the organization's strategy is used as the basis for developing the IS strategy. One technique that explicitly translates business strategies into IS terms is strategy set transformation. Any business can be said to have a set of business strategies, whether they are formally articulated or not. Henderson et al., (2012) work on critical sets, a variant of CSF analysis intends to align IS to business demands. This particular approach attempts to be both business aligning and business impacting in its effect, but it is obviously going to be mainly about aligning. All aligning techniques work by identifying business goals and plans, and deduce IS requirement via a formal method for translating them. As the criticality of effectively linking the strategic IS plan to the strategic business plan has increased the need to better understand the nature of strategic planning in general and strategic IS planning in particular, has also increased (Henderson et al., 2012). The relationship between the IS strategy and the business strategy is very momentous for the success of the bank.

Table 6: Responses on Alignment of Information System Strategy by banks

Ns = 32	Bank A		Bank B		Bank C		Bank D		Bank E		Bank F	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Well Aligned	6	100.0	6	100.0	5	100.0	5	100.0	5	100.0	5	100.0
Semi Aligned	-	-	-	-	-	-	-	-	-	-	-	-
Total	6	100.0	6	100.0	5	100.0	5	100.0	5	100.0	5	100.0

Source: Field data, 2016

It is obvious from the above table that, all of the banks have their IS strategy well aligned to their business strategy. All the foreign banks (Bank D, Bank E, and Bank F) and the local banks (Bank A, Bank B, and Bank C) have IS strategy fully aligned to the business strategy. The potential for using information technology to affect the competitive position of a firm has served to highlight the importance of effective information systems planning (Henderson et al., 2012). As the criticality of effectively linking the strategic IS

plan to the strategic business plan has increased, the need to better understand the nature of strategic planning, in general, and strategic IS planning, in particular, has also increased. From the outset, IT researchers advocated tight IT strategy linkages, asserting that IT affects firm strategies that strategies have IT implications and that firms must somehow integrate strategic thrusts with IT capabilities (Porter and Miller, 1985).

Concept of IS Strategy Typology
A typology of IS strategy has recently emerged in the literature in which IS strategy is categorized into three types: Innovative, Conservative, and Undefined. Swanson and Ramiller (2004) argue that a mindful organization addresses IS innovation based on a grounded understanding of its own specific organizational situation. Consequently, mindful organizations are more likely to reach a shared organizational perspective and the strategy they pursue is more likely to have meaningful implications to organizational outcomes. In contrast, an organization with an undefined IS strategy, by definition, appears to be representative of a "mindless" organization since this type of organization has an undefined and/or inconsistent IS strategy. It is improbable that a mindless organization would consistently outperform its competitors. It was for this reason that the strategic staff were asked to indicate the type of IS strategy typology they have adopted. The responses are analyzed by banks in Table 7.

Table 7: Information Systems Strategy Typology by Banks

| N = 32	Bank A		Bank B		Bank C		Bank D		Bank E		Bank F	
	Freq	**%**	**Freq**	**%**	**Freq**	**%**	**Freq**	**%**	**Freq**	**%**	**Freq**	**%**
IS Innovator	3	50.0	3	50.0	-	-	5	100.0	5	100.0	5	100.0
IS Conservative	3	50.0	3	50.0	5	100.0	-	-	-	-	-	-
Undefined	-	-	-	-	-	-	-	-	-	-	-	-
Total	**6**	**100.0**	**6**	**100.0**	**5**	**100.0**	**5**	**100.0**	**5**	**100.0**	**5**	**100.0**

Source: Field data, 2016

All the banks do not use the Undefined IS strategy typology. From the above table, all the foreign banks use IS Innovator strategy typology. For the local banks, only two banks use IS Innovator strategy typology. It is worth noting that in addition to the IS Innovator strategy typology deployed by the local banks they also use IS Conservative strategy typology. Bank C is the only bank that uses IS Conservative strategy typology alone. The presence of inherent "first-mover" benefits provides the basis for the sustainability of an IT advantage. Inevitably, the technology itself can be imitated. But given sufficient time before followers catch up, a firm's leadership position may allow it to use the technology to unique advantage. In addition, innovators may achieve advantage that continues even after the technology is widely diffused.

Time Frame of Strategy
Every strategy must be reviewed with time. This is because of the changing scene of life. The time frame may span from one year to ten years. The strategic staff normally review the IS strategy. It was, therefore, important to find out the time frame for the IS strategy. To find out the general time frame for the IS strategy, the researcher analyzed all the responses to produce Figure 2.

Figure 2: IS Strategy Time Frame
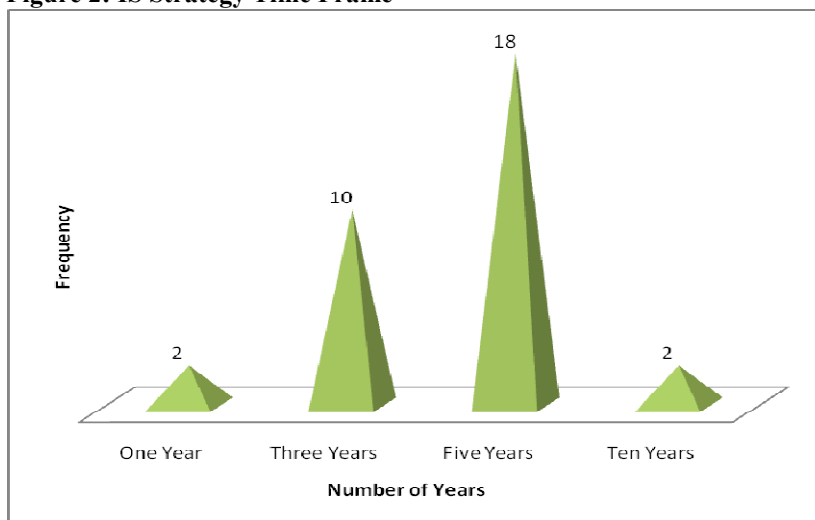
Source: Field data, 2016

Most of the information system strategies according to the respondents have a time span of five years.

This implies that the IS strategy is reviewed every five years. Ten (31.3%) of the respondents indicated that the IS strategy is reviewed every three years. Relatively small number of 2 (6.3%) of the respondents indicated that the IS strategy is reviewed every year and every ten years.

5. Conclusion

The term strategic information system (SIS) has for many become synonymous with "the strategic use of information technology". But unlike the short cycles of summer files or the similarly brief lives of buzzwords buried soon after birth, the SIS concept now enters its second decade firmly entrenched world-wide. Yet the meaning and reference of this idea remains a bit elusive. The potential for using information technology to affect the competitive position of a firm has served to highlight the importance of effective information systems planning (Henderson et al., 2012). It is obvious from the findings that, all the banks have their IS strategy well aligned to their business strategy. All the foreign banks (Bank D, Bank E, and Bank F) and the local banks (Bank A, Bank B, and Bank C) have IS strategy fully aligned to the business strategy. From the findings, Bank A, Bank E and Bank F use the same prospector business strategy whilst Bank B and Bank D also use the same analyzer business strategy. Bank C is the only bank that uses defender business strategy. The findings revealed that all the foreign banks use IS Innovator strategy typology. For the local banks, only two banks use IS Innovator strategy typology. It is worth noting that in addition to the IS Innovator strategy typology deployed by the local banks they also use IS Conservative strategy typology. Bank C is the only bank that uses IS Conservative strategy typology alone. The business aligning techniques assume that IS will fulfill its most appropriate role if the organization's strategy is used as the basis for developing the IS strategy.

Aligning information systems to the organizational strategy goals has appeared to be a concern for managers over the last decade. One of the most extensively used models of alignment is the strategic alignment model proposed by Henderson and Venkatraman. This multidimensional model identifies the internal and external dimensions and how these can be integrated functionally with the organizational strategy. Basically, the majority of alignment models are based on the organizational structure and their objectives. The strategic alignment model places alignment at the heart of the organization's needs. Many of these models also reveal the influence of the organization's objectives on the alignment as this type of model focuses on the connection between strategy and technology. To develop an attainable level of alignment within an organization, the IT/IS purpose has to be located within the organizational structure.

Banks must consider the 'mechanistic' perspective on strategy formulation from the business strategy literature into current SIS frameworks. According to such a perspective, management should in a first phase engage in a purely cognitive formulation process: through the appraisal of the environment, its threats and opportunities, and the strengths and weaknesses of the organization, key success factors and distinctive competencies are identified and translated into a range of competitive strategy alternatives. Once the optimal strategy has been selected, agreed upon and laid out in sufficient detail, the next phase of implementation follows. The perspective is based on a set of premises or assumptions, to be found in most SIS models, such as the Critical Success Factors, the value chain, the strategic thrusts, and the sustainability analysis. Specifically, the approach can be characterized as being conscious and analytic, top-down and control-oriented, simple and structured, and separating action and structure. This study investigated six banks out of twenty seven banks in Ghana. More banks could also be investigated. Further research into the analysis of the individual IS strategy of the banks to determine whether it conforms to IS standards would be a vital venture. This study adopted a survey approach. It would be very interesting to subject this study to a case study approach to compare the findings.

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