

**Alignment of IT strategy with Business Strategy: Impact on IT  
Effectiveness and Business Performance.**

**A Research Report  
Presented to the**

**Graduate School of Business Leadership  
University of South Africa**

**In partial fulfillment of the  
Requirements for the**

**MASTERS DEGREE IN BUSINESS LEADERSHIP,  
UNIVERSITY OF SOUTH AFRICA**

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**30 November 2006**

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## **Acknowledgements**

First and foremost, I would like to thank God the Almighty for providing me with the courage, strength and determination to complete my dissertation. It has not been the easiest of tasks balancing work pressures, family commitments and the energy draining requirements of research work.

To my lovely children Tinashe, Rutendo and Danai, a big thanks to you for the enormous support, love and encouragement. I do not know what I would have done without you. God bless you all.

I am truly grateful to my study leader Dr. RM Kuppen. His commitment and constructive comments at each crucial stage of the research programme made sure I remained focused, motivated and inspired to delivering a quality product. I am confident that my work will to a large extent contribute significantly to research.

Had it not been the generosity of my employers in giving me time off to study and sponsoring part of my financial requirements, I would not have completed this dissertation.

Last but by no means least, my friends Ben and Panganai deserve special mention for encouraging me to soldier on and the moral support they unselfishly offered whenever I needed it.

I certify that the report is my own work and all references used are accurately reported.

Signed

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Patrick Musuka

## **Abbreviations & Acronyms**

BPM	-	Business Process Mapping
BPR	-	Business Process Re-engineering
BSC	-	Balanced Scorecard
CIO	-	Chief Information officer
CEO	-	Chief Executive Officer
CSF	-	Critical Success Factor(s)
EDI	-	Electronic Data Interchange
IS	-	Information System(s)
IT	-	Information Technology
ROE	-	Return On Equity
ROI	-	Return On Investment
ZABG	-	Zimbabwe Allied Banking Group

## Definitions

**Alignment** – “applying IT in an appropriate and timely way and in harmony with business strategies, goals, and needs” (Luftman & Brier, 1999: 1).

**Business performance** – “range of performance measurements available for the organisation to choose to assess whether targets, goals and achievements were attained” (Thompson & Strickland, 2003: 116)

**Business strategy** – “the actions that managers take to attain the goals of the firm” (Hill, 2003: 405).

**CEO** – the top most position in the organisation that is ultimately responsible for managing an organisation.

**CIO** – the individual who is responsible for the provision of IT/IS services in an organisation. He/she is the overseer of the entire information systems operation.

**Competitive advantage** – “a marketing mix that the target market sees as better than a competitor’s mix” (Perreault & McCathy, 2002: 62).

**IT Effectiveness** – the correct application of IT technology that leads to improved business performance.

**IT strategy** – “determines the technological infrastructure of the organisation. It ensures the most appropriate technologies and best standards are used in terms of cost, efficiency and supporting the needs of the business users and integration with customers and other partners” (Bocij *et al*, 2003: 517).

**IS strategy** – “determines how IT is applied within an organisation. It should ensure that the IT deployed supports business strategies and the appropriate resources and processes are in place for the deployment to be effective” (Bocij *et al*, 2003: 517)

**Strategic dissonance** - mismatch of strategic actions and strategic intent (Burgelman *et al*, 2004: 478)

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## **Chapter 1:           Orientation**

For most organisations, IT spend continues to be a major if not the single largest component of capital investment. Tangible benefits however have continued to be elusive for many organisations. A number of pertinent issues and questions have been raised as to why organisations have failed to reap the benefits of huge IT investments.

Technology continues to have a significantly huge effect on the market place and the business landscape of many organisations. The goal of IT should therefore be directed towards the alignment of IT strategy and initiatives with an organisation's overall business strategy (Mulcay, 2001). It is argued that the inability to realize consummate value from IT investments is, in part as a result of the lack of alignment between IT and business strategies.

This study focuses on the effect of strategic alignment on business performance and the factors that lead to a positive alignment of IT strategy with business strategy. It is primarily targeted at CEOs and CIOs of organisations in the developing world who have a keen interest in ensuring that IT investments contribute effectively to the bottom line. Business leaders and IT practitioners will also benefit from the study. The study seeks to highlight basic alignment models that have been applied in the developed world and how these can be pig-backed in the developing nations where generally technology evolves at a slower rate and scale. The strategic issue of alignment applies irrespective of which part of the world is in question. Companies can therefore leverage IT as a dominant asset by ensuring a tight alignment of IT initiatives with business strategy.

A lot of research on the factors that contribute to effective IT and business strategy alignment has been done and more than ninety five percent of this research has been carried out in the developed world. This study explores the issue and relationship of strategy alignment with business performance in a developing world scenario and in particular in a financial services environment. The particular environment within which the study is carried is typically characterized by hyper-inflationary pressures, acute

shortages of foreign currency and a decline in manufacturing capability. Invariably, almost all of the IT infrastructure and software is imported. This makes IT investment a major challenge within all sectors of the economy. More still there is need to ensure that every cent spent on IT is 'accounted' for. Such a volatile environment requires a shift in paradigm for both IT and business leaders. IT should no longer be run as an operational department but rather as an integral part of the overall business strategy.

There is no IT application, no matter how sophisticated it is, that will build and sustain competitive advantage for an organisation. The organisation on the contrary needs to continuously exploit the IT functionality to develop and better still sustain competitive advantage (Henderson & Venkatraman, 1999). This calls for a radical and evolutionary thinking amongst both IT and business leaders. They both need to appreciate the role that IT plays in supporting and re-shaping their business strategy decisions as a way of improving IT effectiveness and ultimately business performance.

The strategic Alignment model developed by Henderson and Venkatraman (1993) identifies two types of integration between business and IT domains. Strategic integration is the link between business strategy and IT strategy while operational integration deals with the link between organisational infrastructure and processes and IT infrastructure and processes. The former type of alignment is the one that this study seeks to examine.

IT plays a role as driver or enabler of business strategy (Henderson & Venkatraman, 1993). IT managers should possess the know-how of new technologies and how these technologies can be integrated into business and must also be privy to senior business managers' both strategic and operational strategy. Alignment is a process and not an event and this explains why out of the numerous research on strategic alignment, there is very little evidence to provide a definitive route to take in aligning IT and business strategies.

However, the strategy for IT should be a major component of the business strategy as is true for all business functions such as Marketing and Human Resources (Luftman & Brier, 1999). Luftman & Brier (1999) in the same article continue to argue that IT can

play an important role in attracting and retaining customers, the result which should flow to the bottom line. A climate of clear communication is inherently necessary for alignment (Reich & Benbasat, 2000) . Therefore for organisations to succeed, effective relationships with line managers are a must.

Venkatraman and Henderson (2000) further argue that it is no longer acceptable for business strategists to take a leading role whilst that of IT strategist is a support role. Both should take the lead in designing the business platform. They went further to provide a new meaning of alignment in the 21<sup>st</sup> century which means “business and IT strategists working together to shape new business; IT is not subordinate to business strategy but an extricate part of it”.

## **1.1 Purpose of Research**

The primary purpose of this research is to establish to what extent, if any Zimbabwean companies proactively align their IT strategy with the business strategy as a way of building and sustaining business competitive advantage.

The research seeks to provide further insights into the business performance implications of the alignment between IT and business strategies. It also seeks to determine if there are any linkages between strategic alignment, IT managerial resources and IT effectiveness. Last but not least, it examines whether alignment directly leads to increased business performance which Sabherwal & Chan (2001) terms ‘perceived business performance’.

## **1.2 Research Question**

Is there a deliberate effort to ensure that existing or future IT investments are an integral part of the organisation’s business strategy to enhance business performance.

The following sub-problems are examined:

- a) To investigate the level of IT involvement in business strategy formulation

- b) To investigate the level of IT support provided by senior executives
- c) To investigate the existence of business/IT partnership and communication levels
- d) To investigate the existence of plans for IT to understand the business

### **1.3 Delimitation of study**

The study will be limited to one diversified financial institution in Zimbabwe, the Zimbabwe Allied Banking Group. The group consists of a commercial bank, a leasing division, a stock broking division and an Asset Management division. The survey will cover all the divisions of the group. Research analysis will be limited to staff who have been with the group for at least one year.

### **1.4 Importance of the Study**

There has been a great deal of research and insight into the linkages between business and IT, the role of partnerships between IT and business management as well as the need to understand the transformation of business strategies resulting from the competitive use of IT (Luftman & Brier, 1999). Most if not all of the research carried out was in the developed world where naturally, the use of technology is much higher and at an advanced scale.

This research seeks to strike a balance by looking at alignment strategies within a developing economy like Zimbabwe that is characterised by high investment costs due to hyperinflationary pressures. It seeks to provide strategic direction for Chief Executives and Chief Information officers who have a keen interest in aligning IT with business strategy. The research also seeks to test theories and models that have been designed and applied in the first world against developing economies.

Most companies in Zimbabwe are looking across the borders for business opportunities and the research will provide insight on why it is important to leverage IT to improve efficiency within value chain activities and improve business performance.

## **1.5 Possible constraints to the Research**

- i. Return of reasonable number of responses
- ii. Time constraints in covering a comprehensive research
- iii. Adequate responses from target segments for comparative analysis
- iv. Work commitments

## **1.6 Key Assumptions**

- a) The business and IT strategies for the group are in place and well documented. Revisions may necessarily not be in sync.
- b) The business and IT strategies for the individual divisions are in place and well documented. Revisions may necessarily not be in sync.
- c) The respondents understand the basic and underlying meaning of IT strategy, business strategy and business performance measures.

The rest of this report is structured as follows: Chapter 2 discusses the theoretical foundation of strategic alignment and business performance. Chapter 3 provides literature review of the research topic. Details of the methodology in terms of the target population, sampling method and frame and measuring instrument are covered in Chapter 4. Chapter 5 analyses the research results. Finally Chapter 6 discusses the research findings, limitations of the study and recommendations to IT and business practitioners based on the research findings. The appendices section gives a background to the questionnaire design and the covering letter, structured interview questions and the letter from the Group's CEO authorizing the research.

## **Chapter 2: Theoretical Foundation**

Sabherwal & Chan (2001) highlights the difference between IS and IT strategy. IS strategy focuses on systems or business applications, the concern being mainly with aligning them with business needs and using them to derive strategic benefits while IT strategy is concerned mainly with technology policies. In this study the two are synonymous and where ever IT strategy is mentioned, it also means IS strategy.

Organisations especially those with a global mindset are aware of the ever dynamic and diverse business landscape in which they are operating. They are also aware of the role that IT can play in transforming and shaping their businesses if it is properly applied and aligned to the business strategy. Hence there is a deliberate and concerted effort among business managers to use IT to build and sustain competitive advantage. The process of alignment just like the business strategy is extremely dynamic. It is in this light that for over a decade now, there has been a great deal of research and insights into the linkages between business and IT (Luftman & Brier, 1999).

IT innovation requires that the role of partnership between business and IT is clearly defined as well as the need to understand how the competitive use of IT can in essence transform businesses.

Traditionally, IT has been viewed and treated as a cost centre or expense. However, IT should ideally be viewed as a key driver and enabler of business. Strategic alignment therefore is important in defining the 'new' role of IT and how it can lead to the development and execution of effective business strategies. Bergeron *et al* (2004) notes that firms whose strategy and structure are aligned should be less vulnerable to shocks resulting from external change and internal inefficiencies and should thus perform better.

Strategic alignment calls for closer relationship between IT and business. Luftman & Brier (1999) suggest that business executives and IT should be present when corporate strategies are mapped and discussed. In this way, IT managers are able to determine

how existing and new technologies can be integrated into the business and likewise business executives appreciate the value that IT can add to the business.

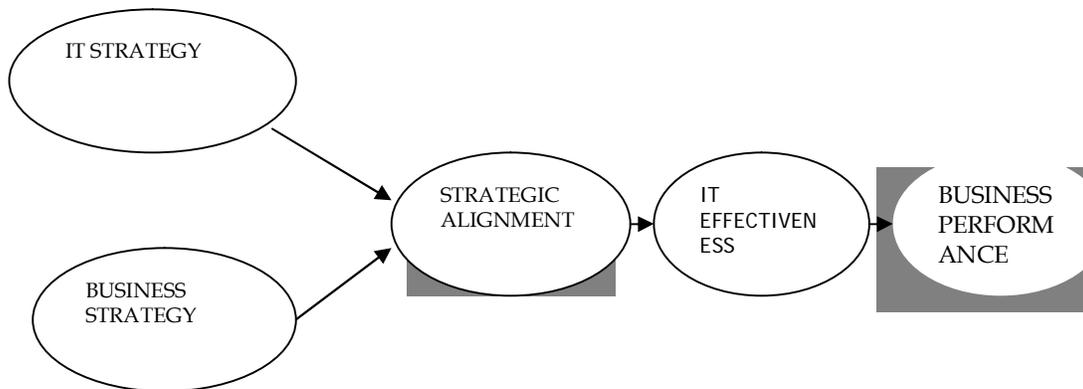
Kinsey TD (2005) offers the following short checklist for organisations to determine if their business strategies are aligned with IT:

- i. Existence of a cross departmental process for prioritising, approving and implementing projects that add value to the business
- ii. IT and business are both engaged during the entire project life cycle and work as a team
- iii. IT and business objectives and measurements are integrated for success
- iv. Existence of cross departmental training and mentorship programmes. IT is made to understand daily operational problems and the needs of business and external customers.

Although alignment is discussed extensively from both a theoretical and practical perspective, there is very limited evidence regarding the definitive route which organisations should take to aligning IT and business strategies (Henderson & Venkatraman, 2000).

The model depicted in Figure 2.1 below summarises the theoretical foundation for strategic alignment upon which this study is based.

Figure 2.1: Strategic alignment Model.



Adopted from Sabherwal & Chan (2001:13)

## 2.1 Business Strategy

To keep the entire organisation focused and on track, executives must establish clear objectives, initiatives and organisational linkages. A business strategy is the foundation for getting the most return from IT investments. The concept of alignment therefore becomes meaningless if there is no clearly articulated business strategy. Luftman & Brier (1999) in the twelve components of alignment identify the business strategy as made up of three components i.e. the business scope, distinctive competencies and business governance. The business scope includes the organisation's products/services, markets, customers, location as well current and potential competitors. The distinctive competencies identify those capabilities that a firm has and which keeps it ahead of the pack. Business governance describes the roles and relationship between the organisation and all its stakeholders.

The main driving force of business strategy is how to build and sustain competitive edge in the long term (Thompson & Strickland, 2003). One of the key components of an organisation's business strategy is how well it responds and reacts to changes in the macroeconomic environment and the industry's key competitive conditions.

## **2.2 IT Strategy**

The IT strategy according to the same article by Luftman & Brier (1999) covers the technology scope, system competencies and IT governance. The technology scope covers the important IT technologies and applications. System competencies covers those capabilities that distinguishes the IT services and is important to the achievement of a company's strategies. The IT governance among other things covers responsibility areas for both IT and business to be partners.

Many researchers advocate for an establishment of an IT dashboard which according to the Gartner Group is 'a multi-dimensional, linked set of metrics used to define, measure and modify performance'. This is important so that IT can demonstrate the value added to the organisation. The dashboard requires that a set of measures be established to determine IT effectiveness. Measures of performance guide the creation of IT strategic plans which then link into operational plans. It is critical that a framework be established for IT management reporting. IT performance in key business areas should be communicated and motivated.

## **2.3 Strategic Alignment**

Bruce (1998) argues that in any progressive organisation, the IT department must view itself as an internal business that has its own stakeholders, customers, business proposition and services. It is thus imperative that the IT organisation creates and measures business value. Table 2.1 below gives examples of how the Value proposition can be used to link business and IT strategies.

IT and business must view themselves as strategic partners and as partners, the strategy, vision and measures of success and value should be created jointly (Reich & Benbasat, 2000). The project selection process must incorporate an evaluation mechanism which in turn reflects the key business objectives and their relative importance (Graham & Englund, 2004). IT must strive to build its relationship with the business community through trust, credibility and influence. The acceptance of

performance measures should not be a question of facts alone but rather of trust and perception. It is fundamental that a relationship is built between IT and business for strategic alignment to be a reality. Part of the relationship building requires that IT learns to market its capabilities and success. In situations where there is 'no' business strategy (the business strategy is survival), IT might find itself trying to align an IT strategy to an elusive strategy. Consequently, the IT organisation must act as a catalyst and facilitates the definition of a business strategy (Bruce, 1998). Kearns & Lederer (2000) used two dimensions to measure the alignment of IT strategy with business strategy. These were alignment of the IS plan with the business plan and alignment of the business plan with the IS plan.

Table 2.1: Using Value propositions to link Business and IT strategies

<b>Business Strategy</b>	<b>Business Focus</b>	<b>Impact on IT strategy</b>
Cost Leadership, Convenience	<ul style="list-style-type: none"> <li>• Cost management</li> <li>• Use IT to reduce costs, automate processes and provide management control</li> </ul>	<ul style="list-style-type: none"> <li>• Centralize for economies of scale</li> <li>• Standardize technologies and applications - use them to standardize business processes</li> <li>• Outsource as appropriate</li> <li>• Deploy advanced technology when a major leap in excellence of operations is possible</li> </ul>
Product Leadership	<ul style="list-style-type: none"> <li>• Focus on creating new products that create new market segments</li> <li>• Use IT to accelerate product differentiation while managing the costs of product diversity</li> </ul>	<ul style="list-style-type: none"> <li>• Prioritize deployment of advanced technologies in those parts of the organisation where segments are created</li> <li>• Develop highly decentralized applications for new solutions</li> <li>• Invest heavily in applications development</li> </ul>
Outstanding Customer Service, Precisely Satisfy Customers' needs	<ul style="list-style-type: none"> <li>• Focus on knowing and meeting specific needs of the customer, customer retention and relationship management</li> </ul>	<ul style="list-style-type: none"> <li>• Invest in technology that emphasizes knowledge management and decision support systems.</li> </ul>

*Adopted from Bruce (1998)*

## **2.4 IT Effectiveness**

The partnership relationship between IT and business should ideally lead to IT investments adding a strategic value to the business. IT effectiveness is then measured by the value that the information technologies and applications add to the business value proposition. The following list though not exhaustive can be used to evaluate the strategic value of IT (Hussin *et al*, 2002):

- To assist in reducing costs
- To help in distinguishing products/services from those of competition (competitive advantage)
- To assist in improving product quality
- To provide first mover advantage
- To help in improving the efficiency of production processes and value chain
- To enable the organisation to diversify its product range and offerings
- To enable the organisation to provide quality customer service
- To help the organisation in identifying new markets
- Empower the organisation through knowledge management

## **2.5 Business Performance**

An organisation can use ROI, market share, customer satisfaction levels, operational efficiency and revenue amongst other measures to determine whether its business objectives are being met (Sabherwal & Chan, 2001).

Bruce (1998) notes that business executives must no longer use financial benefits alone to measure the value added by IT investments. Instead, they now consider non-financial benefits such as improved customer satisfaction, better information availability and shorter production cycle times. They now make IT selection decisions based upon the perceived value of the investment. The greater the benefits of the investment in relation to the cost, the higher the value the IT project will add to the business.

Perreault & McCarthy (2002) describes market share as the proportion of the market which the organisation holds in relation to competition. An organisation's market share is the result of the success of its marketing efforts, product attributes, quality of service/products, and its pricing strategy. An effective IT strategy should then help the organisation to monitor and forecast its revenue and market share.

Customer satisfaction is another measure upon which the organisation can measure its performance. Modern customers are more demanding and selective. An organisation should continuously monitor its ability to fulfill the needs of all its customers. It must build capacity to adapt to the dynamic environment and provide solutions to meet the ever changing customer needs.

Bocij *et al* (2003) contends that almost every business process is created to take advantage of some application technology. Operational efficiency results from automation and optimization of the business environment to reduce costs to target levels. Standardization and process automation reduce total cost of ownership. Operational efficiency creates and support new capabilities and these capabilities contribute directly to improved business performance, improved customer service and increased revenues.

## **2.6 Tentative Propositions**

The main proposition is that:

*The alignment between IT strategy and business strategy is positively associated with perceived business performance.*

Use of actual financial business performance measures is beyond the scope of this study. What will be measured is the respondents' perception on how realised strategic alignment contributes to business performance in terms of market share, ROI, operational efficiency, customer service and sales revenue. The following propositions will also be tested:

- i. Business executives perceive their IT and business strategies to be improperly aligned
- ii. Business managers and IT managers perceive the strategic benefits of aligning IT and business strategies differently
- iii. Operational staff and senior management perceive strategic alignment of IT with business strategies differently.

## **Chapter 3: Literature Review**

### **Bocij *et al*, 2003.**

Organisations that make the most effective use of IT systems are those that make IT strategy an integral part of their overall business strategy. Large investments are made in IT but it is not clear the extent to which such investments benefit an organisation. Merely spending on IT is not the issue but rather the effective use of IT is more important.

IT strategies that support an existing business strategy directly result in business alignment. Business impacting IT strategies are those that are intended to indicate new opportunities which may positively impact on the business strategy.

The IT strategy, in a business alignment situation is generated from the business strategy through such techniques as CSF analysis. CSFs measure the performance or efficiency of the different parts of the organisation. CSFs exist in every business functional area. They indicate what tasks/activities are important for success. For instance, the accurate and speedy recording and updating of sales data is very critical in a sales environment.

Value chain analysis, a process where an organisation is decomposed into its individual activities and determining the value added at each stage, can be used to identify strategic IT opportunities within and between the value chain elements. Value chain analysis assist in ensuring that IT initiatives are tightly coupled with the business activities resulting in good business performance.

Bocij *et al* (2003) postulates that IT and business strategies run the risk of never being fully and consistently aligned. In extreme cases, the resulting misalignment may eventually lead to business failure. They suggest using the BSC as a method of achieving IT and business strategies alignment. "The balanced scorecard popularized in

a 1993 Harvard Business Review article by Kaplan and Norton can be used to translate vision and strategy into objectives”.

The four main areas of the BSC are:

- Financial perspective
- Customer perspective
- Learning and growth perspective
- Internal process perspective.

The alignment process then considers how the influence of IT can contribute to each area. Not only is the BSC used as a performance management system. It also provides a framework for business strategic alignment process. Additionally, the BSC considers measures that are performance drivers which in turn affect the outcomes, and examples of such performance drivers are none other than investment in IT.

Kim and David (2004) used the BSC framework to assess the business performance of IT expenditures in the Korean banking industry. Their findings revealed that banks that maintained high IT levels & IT expenditure appear to have the following effects:

- Increased labour productivity
- Decreased payroll and increased operating and total administration expenses
- Increased market share
- Increased revenue and profit

The learning points from this study are that banks can use IT strategy to improve competitive advantage and that bank managers can use the balanced scorecard framework to measure business performance of both IT and management strategies.

### **Sabherwal & Chan (2001)**

Their investigation was an attempt to determine the relationship of aligning IT strategies to business strategy with business performance. They used Miles and Snow’s classification of Defender, Analyser and Prospector business strategies. IT strategies

were developed in terms of four types of systems namely operational support system, market information system, strategic decision support system and inter-organisational systems.

Two separate interviews were administered for 164 and 64 companies respectively in four different industries over a four year time gap. Empirical data was analysed for each of the two surveys and also for the combined data set. The results were inconclusive in that it was found that alignment affects perceived business performance only in some organisations. Alignment seemed to positively influence overall business performance in Prospectors and Analysers but not in Defenders.

Although this study did not use objective financial measures, it has a significant impact on the topic of IT and business strategies alignment. Implications are that it is important to determine first what the type of business strategy the organisation is following. For some strategies like defenders in this study, IT alignment does not necessarily improve IT effectiveness and business success. The study leaves a gap for future research in which it calls for studying the factors that influence alignment between business and IT strategy. The researcher has used this gap to find out the factors that affect strategy alignment in the 3<sup>rd</sup> world environment.

### **Hussin, King & Crag (2002).**

The study sought to examine IT alignment in small firms and investigate some factors that might influence a firm's level of IT alignment. The research covered 256 small UK firms in the manufacturing industry. Small firms were defined as those firms that do not have a CIO or an IT department where the CEO is likely to play a significant role in influencing alignment.

Three variables that influenced IT were measured. These are IT sophistication, CEO commitment to IT and External IT expertise. IT alignment was treated as a dependent variable.

To measure IT alignment on each strategy, the rating of the business strategy item was multiplied by the rating of the corresponding IT strategy item. A high score indicated high alignment.

One group of firms was found to have achieved success in aligning their IT strategy with business strategy while IT alignment was lower in the other group. Evidence suggested that the major factors influencing IT alignment were IT maturity, technical IT sophistication and the CEO's software knowledge. The CEO's personal involvement in IT planning and personal IT usage seemed to have little influence on IT alignment. IT alignment in the small firms was related to IT maturity in the firm.

The study was exploratory in nature and further research should be aimed at validating the IT alignment instrument used. However, the study brings an important contribution to the current study. The CEO and other senior business managers must appreciate and be aware of the existing technologies and emergent technologies to be able to strategically align these technologies with business strategies. One of the sub-problems of the current study is to investigate the level of IT support provided by senior executives.

**Luftman & Brier (1999).**

Their findings were based on a survey done with executives representing over 500 firms in 15 industries attending classes at IBM's Business Institute over a six year period. The executives were asked to identify enablers and inhibitors to achieving harmony between business and IT in their organisations. They were also asked to rank the perceived strength of alignment within their companies. 50% believed that their IT strategies and business strategies were aligned, 42% said they were not aligned while the rest were not sure.

Enablers lead to higher alignment and were identified as follows in rank order:

- Senior executive support for IT
- IT involved in strategy development

- IT understands business
- Business/IT partnership
- Well prioritized projects
- IT demonstrates leadership.

Inhibitors are inhibitive to alignment and the study listed them as follows in rank order:

- IT/Business lack close relationships
- IT does not prioritise well
- IT fails to meet its commitment
- IT does not understand business
- Senior executives do not support IT
- IT management lacks leadership.

The main thrust should therefore be on leveraging enablers and inhibitors through minimizing the latter and maximizing the former.

The current study borrows much from this article. The study seeks to identify the existence of factors that ensures that an environment exists for the proper alignment of IT strategy and business strategy. In other words, it seeks to determine the existence of enablers.

The research on enablers and inhibitors was carried over a six year period and was able to capture experienced responses. Although one would argue that it was limited to the executives' perception, the study provides important findings in identifying those factors that are critical to the successful alignment of IT strategy to business strategy in increasing business performance levels. IT alignment is important to ensuring that IT is being used to appropriately enable or drive the business strategy.

### **Henderson & Venkatraman (1999).**

They argue that organisations fail to realize value from IT investment partly because of lack of alignment between business and IT strategies. They propose a concept of

alignment that is based on two fundamental assumptions. Strategic fit is inherently dynamic and strategic fit leads to economic performance.

They further propose that strategic alignment should be based on strategic fit and functional integration. Strategic fit recognizes the need for any strategy to address both the external and internal domains of the business. The fit between external positioning (product market offering, differentiation) and internal domain (administrative structures) should be key if the organisation is to maximize economic performance. Functional or operational integration involves linking organisational infrastructure and processes with IT infrastructure and processes. The focus of the current research is based on the strategic fit and draws substantial learnings and experience from Henderson & Venkatraman's study. It helps in identifying those focus areas that constitute strategic alignment.

Henderson and Venkatraman identify what they call four dominant alignment perspectives and these are:

- Strategy execution
- Technology transformation
- Competitive potential
- Service level

They argue that all perspectives should be considered if the organisation is to derive the best linkage between business strategy and IT strategy. Strategic choices pertaining to IT should always be viewed from both an external and internal point of view.

The model of alignment they developed though it covers both the external and internal environments is not specific as to how alignment should be done for companies pursuing totally different types of strategies.

**Motjoloane & Brown (2004).**

They investigated the success of aligning IT strategies with business using a tertiary institution as a case study. They argued that tertiary institutions just like commercial enterprises have invested heavily in IT to improve efficiency and effectiveness of the administration processes as well as for teaching and educational purposes. It is recognized that achieving alignment to a large extent contributes to ensuring that IT investments result in organisational performance.

The study investigated how respondents perceived organisational success by matching IT and business strategies. It also investigated how respondents perceived the importance of alignment as well as their awareness of business and IT strategies in the organisation. The following factors were measured and assessed in terms of their influence on alignment:

- Business Planning – IT Planning integration
- IT managerial resources
- IT implementation
- Rational – Adaptation in strategic information systems planning(SISP)

Questionnaires and interviews were used to gather the relevant data. Correlation analysis on the questionnaire data was performed.

It was found that the four factors above are likely to influence alignment. The relative importance of each is dependent on the organisation, timing of the study and whose perception has been sought.

The study used qualitative data and therefore could not statistically prove the proposition. Though the study was limited to one organisation and subsequent findings not easily generalized, it has contributed significantly to the current study. The questionnaire design and some of the analysis methods will be adopted in this research.

### **Kearns & Lederer (2000)**

The main objective of the study was to provide a model based on the relationship of strategic alignment and the strategic use of IS based resources to achieve competitive advantage. The examination was on the impact of alignment on an organisation's competitive advantage. Two types of strategic alignment were investigated. These are the alignment of IT plan with the business plan (ISP-BP) and the alignment of the business plan with the IS plan (BP-ISP).

They argue that for a business unit to build and sustain competitive advantage, both the IS and business executives should take joint responsibility of ensuring that business derive value from IS investments. One of the evidences of such collaborative action is the way the IS plan is linked to the business plan and vice versa. They further argue that the IS plan should *directly* reference the business plan's mission, objectives and strategies. By the same token, the business plan should make direct reference to IS technologies and applications. Effective communication of the business plan to the IS management is a pre-requisite for this argument to hold.

They went further to operationalise the alignment of the IS plan with the business plan as follows:

- The IS plan reflects the business plan mission
- The IS plan reflects the business plan goals
- The IS plan supports business strategies
- The IS plan recognizes external business environment forces
- The IS plan reflects the business plan resource constraints

The current study uses this operationalisation to measure the levels of IT-business strategic alignment.

Alignment of the business plan to the IS plan endorses senior management's support of the IS function and the strategic importance of IS resources to the organisation. Such

alignment ensures that the organisation quickly identifies IS opportunities. The direct reference of the business plan to the IS plan was operationalised as follows:

- The business plan refers to the IS plan
- The business plan refers to specific IS applications
- The business plan refers to specific information technologies
- The business plan utilizes the strategic capability of IS
- The business plan contains reasonable expectations of IS

The authors measured the use of IS-based resources for achieving competitive advantage through the organisation's ability to do the following:

- Creation of switching costs
- Reduction in production costs
- Product differentiation
- Adoption of new business strategies
- Improvement of existing strategies.

They further argue that the use of IS-based resources for competitive advantage may be an indirect relationship. Management, however is able to correlate IS investments with outcomes that support business strategies and hence positively affecting organisational performance. Senior management demonstrate their support of the IS function and the realization that IS can indeed reshape their businesses by directly referencing IS technologies and applications.

In their study, the authors used Likert-type scale questions on senior IS and business executives in a random sample of 1200 companies in the United States. Their findings revealed that both IS and business executives associated alignment of the IS plan with the business strategy with the notion that IS-based resources can be used for competitive advantage. However, only IS executives associated the alignment of the BP-ISP with competitive advantage.

Their study is important in that it provides strong support for the strategic alignment of the IT strategy with business strategy for an organisation that aims to improve and sustain high levels of organisational performance. Henderson & Venkatraman (1999) identified senior executive support and IT/Business partnership as some of the most important enablers of IT strategy alignment. This study supports the view by highlighting the fact that IS and business executives should accept joint responsibility for IT investments and that partnering of the two sets of executives ensures that technology investments indeed lead to increased business performance. The current study aims to validate the construct that high levels of IT/business strategy alignment are associated with increased business performance and the current study adopts some of the questions used by Kearns & Lederer.

### **Reich & Benbasat (2000)**

The study was based on business units within three large Canadian based insurance companies. The study was aimed primarily at investigating the influence of a number of factors on the social dimension of alignment. The social dimension of alignment was referred as to 'the state in which business and IT executives understand and are committed to the business and IT mission, objectives and plans'. Research on the social dimension of alignment is differentiated from that based on intellectual dimension. Social dimension focuses on people involved in the creation of alignment while the latter concentrates on planning methodologies and the contents of the plans.

The authors' primary interest was to identify those factors that either create or inhibit alignment from the following dimensions:

- Communication between business and IT executives
- Connections between business and IT planning
- Shared domain knowledge between business and IT executives
- Implementation success

These factors were considered in the context of two aspects of social dimension of alignment i.e. short term and long term alignment. Short term alignment is referred to

here as the mutual understanding on the short term objectives where as long term alignment is a state in which IT and business 'share a common vision of the ways in which IT will contribute to the success of the organisation'.

Their findings revealed that business units with high alignment levels in the short term were associated with high communication (structured and unstructured) frequencies between IT and line executives. An interesting observation was that business executives created communication levels that were comfortable with them. In the short term, high levels of IT implementation success or shared domain knowledge results in high levels of communication which in turn lead to high alignment levels. Shared domain knowledge and implementation success builds confidence and trust and empowers line executives. Connections in planning were however found to moderately influence alignment in the short term.

Another interesting observation was that shared domain knowledge was the single factor that influenced alignment in the long term. Implementation success cannot be used to predict communication levels and connections in planning.

Although the study did not determine the weight of influence of each factor and interactions between the constructs, it was able to identify that high levels of communication between IT and business executives has a direct influence on alignment. It is also important that IT executives take initiatives such as physically moving into business areas to develop shared domain knowledge which is critical for long term strategic alignment. Line managers also need to gain a deeper knowledge of the core business and IT applications so as to be able to derive high value from IT innovations and technologies. A culture of implementation success builds confidence and trust amongst the business and IT people. Risk taking is easier when there are strong IT/business partnership relationships. Strategic alignment is a process which can easily be achieved with shared beliefs, vision and strategies.

The current study also measures the constructs of implementation success, business/IT partnership and senior executive support on their influence on strategic alignment. However, it is worthy noting that communication is a characteristic of culture and hence

its importance in strategic alignment may or may not be that important in other cultures. Business leaders must therefore be culturally intelligent as they seek competitive advantage in global markets.

**Kanungo, Sadavarti & Srinivas (2001)**

Their aim was to analyse the relationships between organisational culture and IT strategy. Culture here is defined as the organisation's shared norms and values. Organisational culture was generalized into three types i.e. bureaucratic, innovative and supportive cultures. On the other hand generic IT strategies were used. They covered centrally planned, leading edge, free market, monopoly, scarce resource and necessary evil strategies.

The quantitative study covered 72 public sector enterprises in India. A qualitative study involving a case study covered the State Bank of India, a very large institution. Observations for the case study were carried over a year.

The results showed that an innovative culture showed significant positive relationships with leading edge, monopoly and free market strategies. Organisations with an innovative culture are most likely to develop an identifiable IT strategy. A creative, challenging and driving culture is therefore required if IT is to be used to improve organisational efficiency. A free market strategy by definition is essentially driven by the users and it was observed that it correlated significantly with most aspects of the innovative culture whereas a bureaucratic culture was found to show a significant correlation with the scarce resource IT strategy thus implying that bureaucratic cultures have a tendency to discourage progressive IT strategies.

The study was able to demonstrate that organisational culture is indeed related to IT strategy. However, the study did not go further to demonstrate the relationship between organisational culture and IT effectiveness. In addition, one would argue that most organisations do not follow one distinct generic strategy. Rather the strategy is a mix of the different aspects drawn from the generic strategies. The study is however relevant to the current strategy because it demonstrates that there is a relationship between culture

and IT strategy. The culture might eventually affect IT effectiveness and organisational performance.

**Rai, Patnayakuni & Patnayakuni (1997)**

The study sought to examine the relationships between the different elements of IT investments and the measures of the organisation’s performance. The three measures of IT investment were aggregate IT budget, client/server systems and IT infrastructure whereas organisational performance was firm output (total sales and value added by the firm), business results (ROA and ROE) and intermediate performance (labour productivity and administrative activity). The IT budget was decomposed into hardware, software, telecommunications and IT staff expenditure.

A qualitative study was carried out using secondary data. The data was obtained from the InformationWeek magazine and Compustat (database for financial and market information on public companies). A sample of 497 firms was used. The association of IT inputs with business and intermediate results was estimated using hierarchical regression.

The survey results are summarised below:

Variables	Firm Output		Business Performance		Intermediate Performance	
	Value	Sales	ROA	ROE	Labour Productivity	Administrative Productivity
IT capital	+	+	+	+	+	
IT budget	+	+			+	
Client/Server Expenditure	+	+	+		+	
IT staff expenditure	+	+			+	-
Hardware Expenditure	+	+			+	-
Software Expenditure	+	+				-
Telecom Expenditure	+	+				-

IT investments were found to be positively associated with the firm's output. The relationship to business performance was however not clearly demonstrated. IT capital is positively related to ROA while neither IT capital nor IT budget shows significant association with ROA. No association was observed between IT infrastructure investments and business performance.

Overall, the results indicate that IT investments can make positive contribution to the organisation's output and labour productivity. Its effect on business performance and administration performance may depend on other factors which include but not limited to the management process and the IT strategy alignment.

This study contributes to the understanding of the relationship between IT investments and business performance. It should however be noted that organisations measure the value of IT investments to a very limited extent.

### **Bruce (1998)**

The author in this article attempts to look at issues surrounding IT alignment with business strategy. Alignment as a process is defined and the paper gives an insight into how to determine its existence in a particular organisation. The paper goes on to suggest how a demand-driven model for alignment works, ways of achieving alignment and corporate value propositions and the operationalisation of the alignment process.

There is pressure for organisations to reduce product lifecycles, increase operational efficiencies, quickly identify new business opportunities and increase efficiencies in value chain and distribution channels. Organisations are therefore increasingly dependent on leveraging technology to remain competitive and the alignment between IT and business strategies become mandatory. To achieve alignment there must be a process of coordinating strategic objectives with key elements such as management processes, resources and performance measures. It is suggested that one must look at the size of an organisation, the growth phase of the organisation and the industry in

which it operates in order to determine the measures of alignment as these are different across the mentioned dimensions.

A scorecard for evaluating alignment is proposed in this paper and it provides a means by which management may measure to what extent IT investment is contributing towards the key factors of business value. The factors suggested are channels, cost of operations, capturing of new customers, market share, price of products/transactions, new products and quality of service/products. For instance out of a scale of 5, one might score 4 for an investment that allows an organisation to become the first in offering a new product/service that adds convenience and extensive access to information.

It is noted that one particular IT strategy does not serve multiple business strategies at different stages of their lifecycle and operating in different markets. There must be a balance between short term tactical plans and the long-term strategic vision of the organisation. An organisation that fails to align its IT strategy to the business strategy will face the following challenges:

- Miss strategic opportunities to expand into markets and innovate new products
- Provides reactive rather than proactive services to its customers
- Failure to attract, retain and resource appropriate skills
- Inability to measure IT's contribution to the business.

The author further argues that IT departments must, just like the organisation itself, consider the 'Five Forces' of rivalry, barriers to entry, buyer power, supplier power and substitution threats as 'inputs to shape the focus and economics of its service offering'. The author makes some interesting observation on who should be responsible for the alignment process. Both IT and business managers must take joint responsibility for defining and collaborating alignment through the following:

- Strong partnerships
- Structures and reward systems that take into account joint accountability for results
- Prioritisation of projects and adherence to corporate governance practices
- Executive management support
- Proper resource allocation

The author recommends eight factors which organisations should pay attention to if they are to address issues of alignment (operationalisation of alignment) and these are:

- Culture (strong business/IT relationships formed through usage of one language)
- Decision making process (management of IT investment portfolios)
- Customer (high levels of customer involvement are key)
- Investments (outsourcing of commodity services and keeping in-house services that are part of the organisation's competitive advantage)
- Organisation (clearly defined roles, responsibilities and accountabilities as a way to foster successful collaboration between IT and business managers)
- Performance measures (align performance measures to corporate objectives)
- Strategy (executive management must clearly articulate business strategy, champion collaborative efforts, insist on IT and business managers taking joint accountability for delivering value from IT investments)
- Systems (can be used to quickly force integration and standardization of business processes across the organisation)

The key learnings from this article which are relevant to the current study are:

- Executive support is key to the alignment process
- IT management and business managers must take joint responsibility and accountability over the business value derived from IT investments
- Alignment is a process and the strategy is different for organisations with different sizes, stage of lifecycle and operating in different industries
- Failure to align means IT contribution to business performance is not measured.
- A scorecard must be developed for evaluating alignment.

### **Cramm (2005)**

The article suggests six concepts which CIOs must embrace and understand if they are to address the ever daunting task of strategic alignment.

Firstly, the author argues that in the real world, business strategy is usually informal and dynamic. As such CIOs should ensure that they participate fully in the dynamic process of deriving business strategy for IT to add value. Secondly, CIOs must make value realization practical by incorporating operational measures in projects. A third point is that CIOs must produce a 'slimmed-down' version of activity based budgeting to help them articulate IT investments to business.

A fourth point the author suggests to CIOs is that they must realize that infrastructure and architecture may hinder alignment efforts and hence IT must provide layered architectures that ensure that services and capacity is provided on demand. The next point is to ensure that IT is not a delivery bottleneck. Virtual capacity must be enabled through empowering business so that they are self sufficient and leverage on strategic outsourcing for non essential services. Lastly, leadership is the binding factor on strategy, technology and alignment. CIOs should therefore expand IT's leadership capabilities at all levels.

This paper highlights some very important points which are investigated in the current study. The business strategy is dynamic. IT should therefore ensure that they understand the business to ensure strategic alignment. Business leaders should also be empowered so that they appreciate how technology can shape their business. IT must demonstrate leadership to enable alignment.

### **Marchand, Kettinger & Rollins (2000)**

The authors argue that it is very difficult to find a direct link between IT practices and improved business performance albeit the fact that both CEOs and CIOs agree on the role that IT should play in the business. They present three different views of how IT may be linked to business performance based on their research into senior manager's perceptions of the role of IT and information. The research covered 100 companies.

The first view is that good IT practices will increase business performance. Senior managers subscribing to this view expect IT to improve business performance through the following:

- Improve the efficiency of business operations i.e. increase operational control, speed and flexibility
- Improve communications in support of business process such as collaborative software, EDI and extranets
- Facilitate decision making by providing appropriate information for forecasting, knowledge management and managing business risks
- Support innovation in new product and service development

The second view held by some senior managers is that good IT practices are necessary but what will increase business performance is better information practices. Therefore careful attention to ways in which information is sensed, collected, organized and processed is key to improving both IT and business performance. The company's information processes are important in turning data into information and knowledge to improve performance.

The third view suggests that better information behaviors and values will increase business performance. Senior managers believe that for IT to contribute meaningfully to business performance, the behaviour of employees and the organisation's cultural values are important. Employees should actively seek information to help customers and partners and they must be motivated, rewarded and encouraged to use information and knowledge in achieving business objectives. Senior managers should therefore focus on how the organisation uses new IT systems and tools.

The authors suggest that today's senior managers should have a new mindset to harness the power of IT and to reconcile the expectations of both CIOs and CEOs. Their research suggests that high performing companies are the ones that utilize the capabilities and behaviors of effective information use in what they term 'information orientation' of the organisation and its leaders. Information orientation covers IT practices, information practices and information behaviors and values.

What is very clear from the article is that senior managers should play an active role if IT investments are to lead to improved business performance. The role spans from

encouraging good IT practices to ensuring that the correct culture is built in the organisation for the effective use and application of information. One of the factors being investigated in the current study is the influence of senior management in strategic alignment.

**Henderson & Venkatraman (2000)**

Companies are faced with complexities of how to leverage IT resources. The authors argue that IT’s potential to create and unlock business value has now emerged as a senior leadership issue and more attention is being given to it even by board of directors. The article recommends five ‘principles’ for effectively harnessing the value of IT to business. The five principles are:

Principle	IT leverage
Business Impact	<ul style="list-style-type: none"> <li>• Enhances operational efficiency</li> <li>• Creates business differentiation</li> <li>• Enhances product/service features</li> <li>• Superior customer service</li> <li>• Greater supply-chain efficiency through better use of info</li> </ul>
Communities of practice	<ul style="list-style-type: none"> <li>• Organisational co-ordination (co-ordinate a community of professionals with complementary expertise)</li> <li>• Re-conceptualise roles and responsibilities of IT managers (IT professionals to work together and closely with business)</li> <li>• Shared goals, knowledge and incentives</li> </ul>
Selective Sourcing	<ul style="list-style-type: none"> <li>• Selective of IT through alliances and partnerships</li> <li>• Internalise expertise to IT capabilities that differentiates operations</li> </ul>
Knowledge Infrastructure	<ul style="list-style-type: none"> <li>• Ability to create, share and use knowledge and expertise</li> <li>• Design and deploy infrastructures that act as backbone of intellectual capital</li> <li>• Promote innovation through better knowledge sharing and team collaboration</li> </ul>
Strategic Alignment	<ul style="list-style-type: none"> <li>• Value creation through alignment of the above four principles</li> <li>• Value creation through senior managers continuously aligning business and IT operations (dynamic process)</li> <li>• Leadership - recognize new and powerful role of IT (value creation through new business designs)</li> <li>• Information and knowledge drivers of business value</li> </ul>

The key learnings from this article that are applicable to the current study are that strategic alignment leads to improved business performance, senior managers cannot divorce themselves from IT and that IT and business must form a strong partnership. In addition, effective use of information and knowledge drives business value.

**Table 3.1: Summary of Studies on Alignment**

Author(s)	Topic	Focus
Hussin, King & Cragg (2002)	Business and IT Strategy	Small manufacturing firms. Focused on the link between alignment and performance.
Sabherwal & Chan (2001)	Business and IS strategies	Link between alignment and performance based on three types of business strategies i.e. Prospectors, Analysers and Defenders
Luftman & Brier (1999)	Business-IT alignment	What are the factors that positively contribute to alignment (enablers) and those that negatively impact alignment (inhibitors) and how to leverage the factors
Henderson & Venkatraman (1999)	Strategic Alignment Model (business strategy, IT strategy, business infrastructure and IT Infrastructure	Identified priorities and activities of both business and IT strategies and business performance
Motjopolane & Brown (2004)	Alignment of IT and business strategies in a tertiary institution	Effect of alignment on business performance. Importance of alignment and level of awareness of existing IT and business strategies. Factors that influence alignment.
Garg, Joubert & Pellisier (2005)	Model of IS environmental alignment	IS support in bridging the gap between perceived environmental conditions and objective

		environmental conditions, and business performance.
Bergeron, Raymond & Rivards (2003)	Strategic alignment and business performance	Test theory of performance impacts of strategic alignment between IT and business empirically and operationalise fit systemically
Kearns & Lederer (2000)	Strategic alignment and use of IS-based resources for competitive advantage	Effect of both IT-Business alignment and business-IT alignment on the use of IS-based resources for competitive advantage. Focus on IT and business executives
Reich & Benbasat (2000)	Social dimension of alignment between business and technology objectives	How various factors affect the state in which business and IT executives understand and are committed to business and IT goals, strategies and objectives.
Kanungo, Sadavarti & Srinivas (2001)	IT strategy and organisational culture	Relationship of culture i.e. shared set of norms and values and IT implementation strategies
Rai, Patnayakuni & Patnayakuni (1997)	IT, Business Strategy and Competitive context	The relationships between measures of IT investment and corporate business performance
Marchand, Kettinger & Rollins (2000)	IT strategy alignment and business performance	How IT and information use may be linked to business performance.

## **Chapter 4: Research Methodology**

The research is a causal study i.e. it seeks to explain the relationship between strategic alignment and organisational performance. It is carried out only once and thus represents a snapshot at a particular point in time. Cooper & Schindler (2003) describe such as a study a cross-sectional one. Hypothesis testing is predominantly quantitative and generalizations about the findings are based on the representativeness of the sample. Sampling enabled the researcher to draw conclusions about the population. In addition, sampling in this study reduced research costs, increased the speed at which data was collected, increased availability of the population elements and enhanced the accuracy of the results (Cooper & Schindler, 2003). Care was taken to ensure that the sample represented the characteristics of the bank staff it purports to represent.

The study was based on a wholly owned Zimbabwean Group of companies. The group consists of four strategic subsidiaries which are all wholly owned by the holding company and are all in the financial services sector. The business lines include Leasing, Commercial banking, Asset Management and Stock broking. At the time of the study the staff complements were 6, 523, 13 and 13 respectively. The total number of senior executives for the group was 12 with the bank alone having 10. Though the divisions operate separately, the group has one centralised IT department. The Head Office operations of the group are mainly concentrated in the country's capital city. The commercial bank has 22 retail branches distributed across the country. The authority to carry out the study was granted by the CEO of ZABG (see appendix D).

In essence, a total of four 'companies' was thus investigated. The four divisions were treated as mutually exclusive subgroups or strata. The study was constrained to include elements from each of the divisions or population segments and adequate data was required for analyzing the various sub-populations. The research design was deliberately skewed towards disproportionate sampling i.e. a larger sample was drawn from the banking division than other divisions.

Potential survey respondents in Zimbabwe are generally ultra sensitive to issues of confidentiality partly in view of the prevailing political and economic conditions. The research made use of questionnaires and structured interview questions (see Appendices A and B for the specific questions) that did not compromise the identity of the respondent and the completion of survey questionnaires was completely voluntary. This was clearly explained in the introduction letter (Appendix c) attached to the questionnaire.

Data was primarily collected through simple self administered questionnaires with Likert scale type of questions. A Likert scale is a variation of the summated rating scale which consists of statements that express either a favourable or unfavourable attitude toward the object of interest (Cooper & Schindler, 2003). Respondents were asked to agree or disagree with each statement. Each response was given a numerical score to reflect its degree of favourableness (1 = Strongly Disagree, 2 = Disagree, 3 = Neither Agree nor Disagree, 4 = Agree, 5 = Strongly Agree). Likert scales helped the researcher to compare a respondent's score with a distribution of scores from the sample group.

Interviews were used as a secondary and qualitative tool to get more insight and meaning of the research problem. Ninety percent of the target population was within one building and most of the questionnaires were hand delivered and some were emailed. Questionnaires to respondents out of Harare branches were posted using the bank's overnight mail delivery services. Respondents were asked to fill the questionnaire and send it back within five days. One week later, a reminder was sent to all selected respondents. Two weeks after the initial posting, reminders were again sent to respondents who had not returned their questionnaires.

To help answer the research question, opinions of senior business executives, business managers, IT managers, and operational IT and business staff was sought. A total of 100 respondents representing an average of 25 respondents per each company was the target for the quantitative study. Non-probability sampling was used. Sample members were selected to conform to the following criteria: division, hierarchical position and department. The researcher used the group's mailing address which was conveniently

classified into the different departments/divisions and organisational levels such as all@itmanagers, all@exco, all@leasing to pick up the sample.

The questionnaires were distributed as follows:

<b>Dept./Division</b>	<b>Executive</b>	<b>Manager</b>	<b>Non Manager</b>	<b>Total</b>
IT	1		13	14
Leasing	1	2	2	5
Asset Management	1	3	5	9
Stock Broking	-	3	5	8
Commercial Bank	8	25	32	65
<b>Total</b>	<b>11</b>	<b>33</b>	<b>57</b>	<b>101</b>

The group IT department maintains mailing groups which assisted the researcher in identifying sample members with their departments/divisions and hierarchical positions. Within each sub-group i.e. division and hierarchical position, convenience samples were chosen. These were unrestricted non-probability samples. 'They are the least reliable design but normally the cheapest and easiest to conduct' (Cooper & Schindler, 2003). In addition, such samples may present overwhelming evidence to the extent that a sophisticated sampling procedure may be unnecessary.

Interviews were scheduled with three senior IT managers and five business executives over a one week period. Again the researcher used convenient samples.

A total of 47 questionnaires were received representing a return rate of 46.5%. Out of these, two were incomplete and were ignored leaving a total of 45 valid responses.

Only 5 out of the 8 scheduled interviews materialized. 2 senior business executives, one senior IT manager and 2 business managers were eventually interviewed. Structured interview questions were used although respondents were not entirely restricted to the interview questions. Open but limited discussions were encouraged.

## **Chapter 5: Analysis of Research Outcome**

The following main research variables were investigated:

- i. Strategic alignment
- ii. Stage of computerisation
- iii. IT Managerial Resources (factors that potentially have an effect on alignment)
- iv. IT Effectiveness
- v. Business Performance

The following steps were employed to record, edit and analyse the data to determine if the research question has been answered.

### **5.1 Initial Analysis**

The first step involved the researcher going through all the responses checking for validity. In 5 of the responses, the respondents put in actual percentages where they were supposed to tick the appropriate Likert value. The positioning of the percentages was interpreted as the correct Likert value. Two of the respondents did not complete all the questions and these were eliminated. In the initial design of the questionnaire, a question on the respondent's period of experience in the organisation had been included. All the respondents had more than 12 months experience in the organisation and subsequently this variable was excluded from any further analysis. It would not add any significant value to the findings as it was constant amongst all respondents. A summary of the frequency distribution is shown in Table 5.1 below.

The valid responses were captured into an Excel spreadsheet for consolidation and analysis. Each question was allocated a variable name starting with v1. For business and IT strategy, IT managerial resources, IT effectiveness and business performance, each respondent's ratings of the separate items that constituted each factor were averaged to obtain the respondent's score for that factor (Hussin *et al*, 2002). For

instance, business and IT strategy factor score was computed as  $(v1+v2+v3)/3$ . Appendix A shows the sub-variables used for the main research variables.

The questions that addressed the stage of computerization and business performance measure variables were treated differently. A simple frequency distribution was computed for the former to determine the stage of computerization. Respondents were asked to allocate 100% points to each of the business measure variables. Average points were then obtained for each variable indicating all the respondents' average allocation out of 100% for each performance measure. The Likert scale measure indicating the extent to which IT contributed to the performance measure was also averaged.

Table 5.1: Frequency Distribution

Variable	Level		
		Frequencies	Percent of count
Company	Leasing	2	4.4
	Commercial bank	23	51.1
	Asset Mgt	4	8.9
	Stock broking	2	4.4
	IT	14	31.1
	<b>Total</b>	<b>45</b>	<b>100%</b>
Job Level	Executive	5	11.1
	Manager	37	82.2
	Non Manager	3	6.7
	<b>Total</b>	<b>45</b>	<b>100%</b>

Respondents from the commercial bank at 51.1% represented the majority. This was followed by IT at 31.1%. Leasing and Stock broking each represented 4.4% of the total respondents. Asset Management division represented 8.9%.

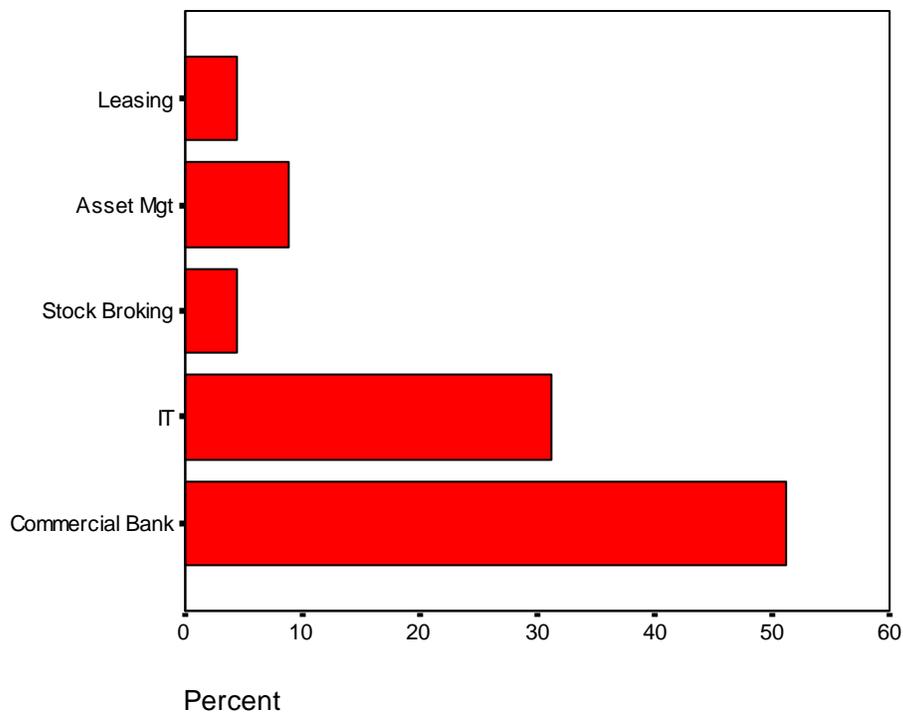
Five out of the eight targeted executives responded to the survey representing 11.1% of the respondents. The majority of the respondents under the organisational level category were managers (82.2%). The Human Resources Manager indicated that the majority of the employees had been placed in 'managerial' grades to manage a number

of political organisational issues which were not made privy to the researcher. However, non managerial respondents represented 6.7%.

## 5.2 Frequency Distribution by Department and Level

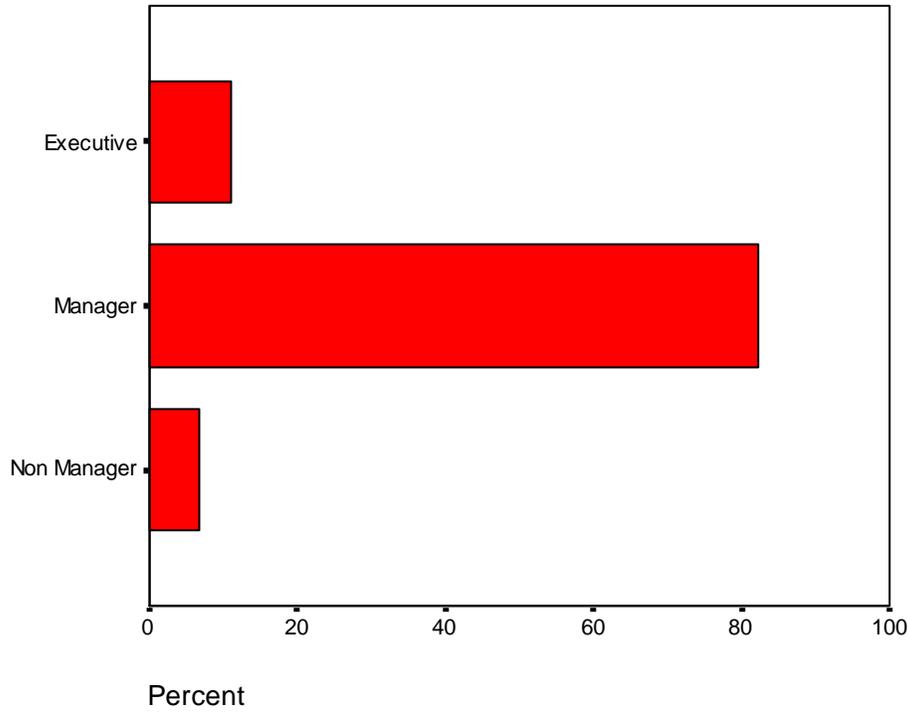
Figure 5.1 and Figure 5.2 summarises the frequency distribution by department and organisational level respectively.

Figure 5.1: Frequency Distribution by Department



The largest number of respondents came from the commercial banking division followed by IT whilst the lowest responses were received from the Leasing and Stock Broking divisions.

Figure 5.2: Frequency Distribution by Organisational Level



The majority of respondents by organisational level as depicted above came from managers whilst non managers represent the lowest number.

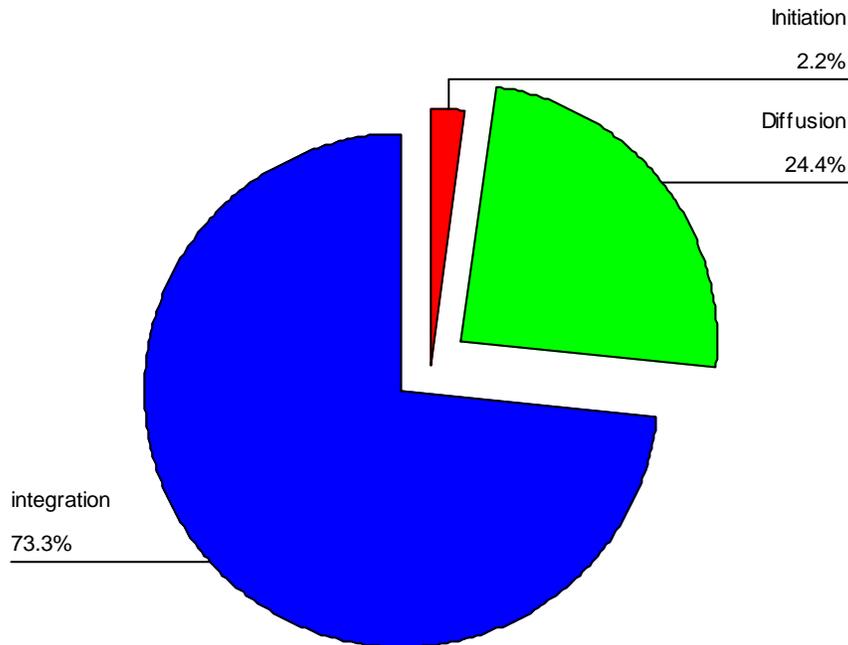
### 5.3 Stage of Computerisation

Question two asked the respondents to pick the statement that best described the state of their division/organisation's computerization stage. The stages are initiation, diffusion and integration. The results are summarised in table 5.2 and the pie chart in Figure 5.3

Table 5.2 Computerisation Stage

Stage	Frequency	Percentage
Initiation	1	2.2
Diffusion	11	24.4
Integration	33	73.3

Figure 5.3: Stage of Computerisation Pie Chart



The classification of initiation, diffusion and integration is adopted from Motjoloane & Brown (2004). 73.3% of the respondents indicated that their IT operations were more integrated, more control procedures were in place and planning of IT applications was better placed. 24.4% however, indicated that planning and control of systems was still being done informally and that there was rapid growth of expenditure on IT hardware, software and personnel (diffusion). One respondent (2.2%) felt that there was very little planning and control of existing systems and a small number of IT users thus indicating that computerization were still in its initial stages.

These results are significant in a two ways. Firstly, Hussin *et al* (2002) in their study of alignment in small firms were able to show a positive relationship between the level of alignment and IT maturity. IT maturity is synonymous with stage of computerization. Firms with a high level of IT maturity were associated with a high level of alignment. Likewise, one would expect that organisations that are at the integration stage of computerization would display a high level of alignment. Organisations in the early stages of computerization such as initiation and to some extent diffusion will still be

putting in place very basic IT infrastructures and therefore may not be perceived to be aligning their IT plans to the business plans.

Secondly, though the results show a high percentage (73.3%) of respondents perceiving the level of computerization as integrated, the difference is quite significant and may point to some hidden meaning. To explore this further, an analysis of the responses on this variable is shown in table 5.3 below:

Table 5.3: Stage of Computerisation by Organisational level

		Level			Total
		Executive	Manager	Non Manager	
Stage of Computerisation	Initiation		1		1
	Diffusion	1	10		11
	Integration	4	37	3	33
Total		5	37	3	45

It is interesting to note that one manager felt that there was very little planning in IT systems while one executive felt planning and control of IT systems was still done informally. All the non managers were of the opinion that the IT systems were integrated and planning of the systems was better placed. Table 5.4 show that the same group of non managers also perceived alignment to be contributing to business performance. Though these results may not be conclusive, they tend to render support to Hussin *et al* (2002) 's observations that the level of alignment is related to an organisation's IT maturity.

#### 5.4 Descriptive statistics for Research Variables

The table below (5.4) summarises the descriptive statistics (mean and standard deviation) for all divisions and organisational levels across the following dimensions: strategic alignment, IT Managerial Resources, IT Effectiveness and Business Performance.

Table 5.4: Summary of Descriptive Statistics

Variable	Level	Sample size	IT & Business Strategy		IT Managerial resources		IT Effectiveness		Business Performance	
			Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation
All Groups		45	3.9778	.6490	3.8778	.5701	3.6698	.5721	3.5111	.6024
Company	Leasing	2	4.0000	.4714	4.5000	.2357	3.9286	.3030	4.000	.2828
	Commercial bank	23	4.0870	.6294	3.8841	.5606	3.7702	.4830	3.5826	.5557
	Asset Mgt	4	4.0833	1.1345	3.9583	.7120	2.9643	1.0965	2.8500	.3000
	Stock broking	2	3.8333	1.1785	3.9167	1.0607	3.8571	.8081	3.100	.4243
	IT	14	3.7857	.5165	3.7500	.5301	3.6429	.4367	3.5714	.6742
Job Level	Executive	5	4.4000	.3651	4.1667	.6872	3.9143	.7396	3.9600	.6066
	Management	37	3.9550	.6581	3.8919	.5200	3.6448	.5549	3.4000	.5637
	Non Manager	3	3.5556	.6939	3.2222	.6939	3.5714	.6227	4.1333	.4619

### 5.4.1 IT and Business Strategy

The mean score for IT and business strategy is 3.9778 on a scale of 1 (strongly disagree to 5 (Strongly agree) showing that the respondents generally agree that IT and business strategy are aligned. The alignment measure here is the direct reference of the IS plan to the business plan’s mission, objectives and strategies. Qualitative analysis revealed that both the group’s mission and vision are articulated in such a way that they recognize the importance of IT as a source of competitive advantage. Alignment was rated highly by the executives while the managers also agreed that there was alignment. The non managers with a rating of 3.5 were somewhat indifferent to the level of

alignment. There were also perceptual differences as to the level of alignment amongst the different divisions. IT team scored least while the commercial banking and Asset Management divisions perceived the level of alignment to be high. Direct reference of the IS plan to the business plan shows a deliberate effort by the organisation to leverage technology as a competitive tool.

#### **5.4.2 IT Managerial Resources**

IT managerial resources are enablers of alignment required to successfully leverage value from IT in an organisation. This dimension sought to measure the existence of the following factors:

- Senior executives champion IT initiatives and implementation
- IT understands business
- Senior IT executives are involved
- IT projects are well prioritized
- There is close relationship between IT and business
- The Head of IT is adequately positioned in the organisation

With an overall mean score of 3.8778 on a scale of 1 to 5, IT managerial resources were rated highly on average across the different departments and organisational hierarchies with the exception of the Stock broking department which at a score of 3.2222 reflects an indifferent perception. All the interviewees corroborated these results by noting the position of the Head of IT as being appropriate. His reporting to the CEO and him being part of the Executive team was perceived as a positive contribution to the high rating.

#### **5.4.3 IT Effectiveness**

IT effectiveness measured the degree to which the current IT systems amongst others helped the organisation to reduce costs, provide quality customer service, improve efficiency of internal operations and help model possible future outcomes. The mean score for IT effectiveness is 3.6698 reflecting that generally the IT systems were perceived to contribute to effectiveness. The interviews revealed that two fundamental

aspects lacked though in the current systems i.e. the ability of the IT systems to help the business model possible future outcomes and forecast key indicators of business performance. One respondent annotated on the questionnaire 'we are not yet there' on these two aspects of IT effectiveness. The mean score for Asset Management lies below 3 suggesting a lack of IT effectiveness for the IT solution. It was noted during the structured interviews that the Asset Management system had not been properly implemented. Customization of the system which had been promised by the vendor was still outstanding six months after implementation. This may have contributed to the low rating.

#### **5.4.4 Business Performance**

The mean score for business performance lies between not sure and agree. Of note is the fact the mean IT effectiveness and business performance scores for Asset Management is below three. Stock broking is indifferent to the perception that their IT system contributes to business performance. During the interview, the General Manager of the Asset Management and Stock broking division mentioned that the IT systems for the division fall short of meeting their requirements and that given an opportunity they would endeavor to replace the systems. The Asset Management system implementation was described as a failure. This would appear to explain the low scores and to suggesting that implementation success of an IT system may be related to IT effectiveness and business performance. Implementation success is likely to influence confidence, trust and risk taking initiatives.

The mean scores for the Leasing division are generally high. The General Manager of the leasing division mentioned that 'ours was a smooth IT implementation and the system will address our requirements for the next 5 years' during the interview.

Executives scored higher in all the factors than any of the other groups. This group perceived that the IT and business strategy are aligned, there exist sufficient factors that contribute to strategy alignment and that the IT systems indeed contribute to both IT effectiveness and business performance. Contrary, the non managers group did not

agree that the IT and business strategy are aligned, IT managerial resources exist, IT is effective but however agree that IT contributes to business performance. One observation that was made during interviews was the fact that the IT strategy and business strategy were not well communicated to the lower levels of the organisation. This would seem to explain the difference in perception between non managers and the executives. One may also argue that executives by nature see the bigger picture while managers and non managers are more operational. This difference in perception is explored further in the next chapter.

## 5.5 Correlation Analysis

Table below shows the correlation between the four different factors i.e. strategic alignment, IT Managerial Resources, IT Effectiveness and Business Performance.

Table 5.5: Correlation Analysis

		IT & Bus Strategy	IT Managerial Resources	IT Effectiveness	Business Performance
IT & Bus Strategy	Pearson Correlation	1.000	.477**	.370*	.204
	Sig. (2-tailed)	.	.001	.012	.179
IT Managerial Resources	Pearson Correlation	.477**	1.000	.584**	.307*
	Sig. (2-tailed)	.001	.	.000	.040
IT Effectiveness	Pearson Correlation	.370*	.584**	1.000	.448**
	Sig. (2-tailed)	.012	.000	.	.002
Business Performance	Pearson Correlation	.204	.307*	.448**	1.000
	Sig. (2-tailed)	.179	.040	.002	.

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

The Pearson correlation is a measure of linear association between variables. The correlation coefficient varies over a range of +1 through 0 to -1. The coefficient reveals

the magnitude and direction of the relationship. The magnitude is the degree to which the variables move in unison or opposition while the coefficient's sign signifies the direction of the relationship (Cooper & Schindler, 2003). A correlation coefficient irregardless of its magnitude, direction and statistical significance does not imply causation. Statistical significance only reflects the likelihood of a linear relationship in the population.

Table 5.5 above shows a positive correlation between all the factors reflecting the likelihood of a linear relationship. The closer the correlation is to 1, the stronger the relationship. There is a strong positive correlation between IT managerial resources and IT effectiveness (.584) at the .01 significance level. It is likely that the presence of such resources would lead to a higher level of IT effectiveness. At the same significance level, IT and business strategy are moderately positively related. The same is for IT effectiveness and business performance. IT and business strategy and business performance however show a weak positive correlation. IT managerial resources and business performance also show a weak relationship at the 0.1 significance level. The relationship only becomes moderately strong at the 5% significance level. An interesting observation to note down is that all the four factors show a **positive** correlation.

## 5.6 Importance of Business Measures and Extent of IT Contribution

The question on business performance measures required respondents to allocate 100% points to the sub-variables according to their perceived importance and then rate the extent to which IT contributed to the corresponding sub-variable of business performance measure. The table below shows a summary of the results per division and per organisational level.

Table 5.6: Importance of Business Performance and extent of IT contribution

Variable	Level	Sample size	ROI		Income		Market Share		Efficiency		Customer Service	
			% Mean	Extent	% Mean	Extent	% Mean	Extent	% Mean	Extent	% Mean	Extent
All Groups		45	18.33	3.16	19.68	3.40	15.33	3.00	21.60	4.02	24.93	3.98
Company	Leasing	2	13.50	3.50	13.00	4.00	24.50	4.50	18.50	4.00	23.50	4.00
	Commercial bank	23	17.14	3.30	20.93	3.43	15.61	2.91	19.35	4.22	25.22	4.04
	IT	14	17.74	3.07	18.43	3.21	13.36	3.00	24.64	4.14	26.43	4.43
	Asset Mgt	4	16.25	2.75	25.00	3.50	18.75	3.00	16.25	2.50	23.75	2.50
	Stock broking	2	25.00	2.50	10.00	3.50	10.00	2.50	40.00	4.00	15.00	3.00
Job Level	Executive	5	15.40	3.80	23.20	4.00	14.80	3.60	17.40	4.20	26.40	4.20
	Manager	37	18.59	3.03	19.45	3.24	15.70	2.89	22.43	3.95	24.05	3.89
	Non Manager	3	20.00	3.67	16.67	4.33	11.67	3.33	18.33	4.67	33.33	4.67

The table shows that the overall ranking in terms of importance and extent respectively is as follows:

1. Customer Service (**24.93%, 3.98**)
2. Efficiency (**21.60%, 4.02**)
3. Income/Commission Sales (**19.68%, 3.40**)
4. ROI (**18.33%, 3.16**)
5. Market Share (**15.33%, 3.00**)

The mean score results of 3.98 and 4.02 for Customer service and efficiency respectively suggest that the respondents perceived the IT systems to be positively contributing to the two business measures. An interesting observation is the direct relationship between the mean scores and the ranking for customer service and efficiency. The two measures were ranked highly in terms of importance and also received the highest ranking in terms of IT contribution. However, the same cannot be said of ROI, market share and Income where the mean score results of 3.16, 3.00 and 3.40 respectively suggest a somewhat indifference perception.

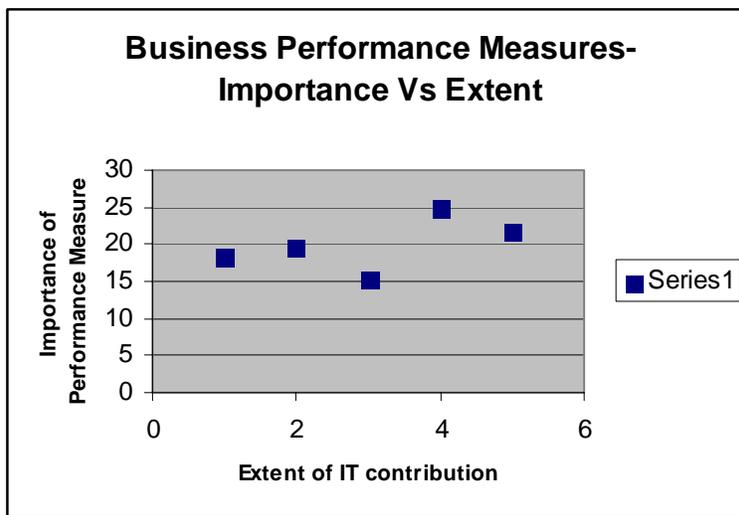
The results discussed above may not necessarily have reflected the desired level of perception. Firstly, one may argue that either the respondents did not have the latest and updated information on ROI, market share and income or may have not been aware of the information in the first instance and therefore could not accurately link this to IT contribution. Secondly, it is also possible that some of the respondents did not possess sufficient knowledge of the performance measures and how they are calculated or determined.

The leasing division perceived market share and customer service to be the two most important business performance measures while both the commercial banking and Asset management perceived income and customer service to be more important. IT viewed customer service and operational efficiency to be more important. However, Stock broking differed by perceiving ROI and operational efficiency to be more important. Customer service featured on all the divisions' top list except for Stock broking. All the divisions are in the services sector where customer service is generally viewed to be very important.

It was generally accepted amongst the executives and non managers that income and customer services are the two most important business performance measures while the managers perceive customer service and operational efficiency to be more important.

The graph below shows the relationship between importance of each business performance measure and the extent to which IT is perceived to be contributing to the measure.

Figure 5.4: Business importance measure against extent of Contribution



Customer services and operational efficiency were ranked as the two most important measures and at the same time there was general perception that the IT systems had significantly contributed to the attainment of the aforesaid measures.

## 5.8 Qualitative Analysis

Interviews were carried out with the following: General Manager – Leasing Division, General Manager – Asset Management & Stock broking, Senior Manager – IT, Senior Manager – Retail Banking and Manager – Retail Banking. Interviewees were conveniently sampled not to include those that had been asked to respond to the questionnaire. Interviews were used as a triangulation method to the quantitative

method. Secondly, the focus of the interviews was to determine the level of realised strategic alignment within the group and whether this had any perceived value on the business performance. Thirdly, the interviews sought to determine which factors the respondents would associate with the positive strategic alignment of IT and business strategies. The interviews were also designed to test the significance of the alignment phenomenon in the current period and medium to long term.

All the interviewees indicated that the matching of IT and business strategies was vital both currently and in the next five years. This result would seem to suggest that the group of companies was aware of the effect of alignment on the business success of the organisation. Hussin *et al* (2002) indicated that such awareness should positively assist in achieving alignment.

The interview responses showed that 4 out of the 5 interviewees strongly perceived the IT and business strategies to be aligned while one perceived the alignment to be moderate. All the respondents rated the availability, usage, appropriateness and effectiveness of IT very highly. The major areas of IT contribution were indicated as the ability to provide good customer services, building a competitive advantage, improving operational efficiencies and ROI. Implementation success of past IT projects (in the last 12 months) was also rated highly. Reich & Benbasat (2000) and Motjopolane & Brown (2004) found that past project success helps in increasing the level of alignment. The organisation develops a positive mindset about IT which ultimately enhances mutual understanding between the business team and IT, and increases the level of commitment. The interview results corroborate the results of the quantitative study which suggested a high perception of alignment.

The following factors listed in order of importance, were identified as necessary in achieving strategic alignment:

- 1) Well prioritized and business driven projects
- 2) IT and business working together
- 3) Championing of IT projects by the CEO and other senior executives
- 4) IT projects implementation success (IT must meet its commitments)
- 5) Understanding of business by IT

Although Hussin *et al* (2002) note that 'alignment is influenced by a broad range of factors' and researchers may not have reached consensus, Luftman & Brier (1999) identified almost all of the above factors as enablers of strategic alignment. The current study was done in a third world country but it is interesting to note that the factors that contribute positively to alignment for building a competitive edge are somewhat similar if not the same. This observation is important in highlighting the pervasiveness of strategic alignment across the globe. The results suggest that organisations that do not embrace technology and use it to build competitive edge do so at their own peril as the world has become just but one global village.

## **Chapter 6: Discussion, Limitations and Conclusions**

### **6.1 Discussion**

#### **6.1.1 Main Proposition**

It may be worthwhile to revisit the main proposition of the study at this stage. The proposition is that *the alignment between IT strategy and business strategy is positively associated with perceived business performance.*

In order to determine whether the proposition is supported, the study initially sought to establish whether there was any alignment of the IT strategy to the business plan. The degree of alignment was measured primarily in two ways. The first was to identify whether the IT strategy directly referenced the business strategy. The second involved assessing the presence of factors that provide an enabling environment for strategic alignment. These factors include but not limited to the involvement of senior executives in championing and prioritising IT projects, the existence of platforms that encourage IT and business working together and the positioning of the CIO in the organisational hierarchy. Structured interviews were also used to substantiate the existence of the factors and the perceived alignment.

The results of the interview showed that strategic alignment was viewed as a strategic 'weapon' currently and in the future. The point that senior executives must champion and prioritise IT projects was echoed throughout. Hussin *et al* (2002) found out that the CEO's software knowledge in small firms was associated with the ability to align IT and business strategy. This may not be necessary in medium to large organisations. However, an important discussion point to note in relation to their observation pertaining IT managerial resources is that the CEO or senior business executives need to be conscious of existing and new technologies.

The results of the study indicated that the perceived strategic alignment was generally high and some of the factors that are conducive to achieving high levels of alignment

were perceived to be by and large available. The foregoing discussion, points out to the underlying assumption that IT strategy can be used as the enabling force to derive value from the business strategy. Such awareness helps senior management to determine how emerging technologies and IT capabilities can be used to enhance an organisation's strategic orientation (Bergeron *et al*, 2003).

The model in Figure 2.1 presented earlier depicts an assumed linkage of alignment to IT effectiveness. The implication is that alignment enhances IT effectiveness. IT solutions are implemented to provide a service to the main operations of the business. Therefore for IT to justify its existence, IT applications and technologies should clearly exhibit certain desired characteristics. Business processes should benefit from improved operational efficiencies, delivery of superior customer services and production of improved products. With a mean score of 3.6698 for all groups, the results of the study indicate that there was a moderately high perception that the IT systems in place indeed positively contributed to IT effectiveness. A correlation coefficient of .370 between strategic alignment and IT effectiveness points out to the likelihood of a positive linear relationship between the two variables. Based on these results, we can conclude that strategic alignment leads to the effective use of IT resources.

As alluded to in the introduction to this paper, many organisations have often wondered why huge investments in IT have not yielded the desired business performance levels. The results above seem to suggest that substantive IT investments alone do not impact on business performance. Rather, it is the effective use of IT resources in supporting the needs of the organisation that leads to superior business performance. Instead of just setting up IT dashboards for related IT investments, more focus should be directed toward measuring IT effectiveness in helping business achieve its strategic objectives. One way of achieving this is by establishing Balanced Scorecards for IT. IT investments should be measured in terms of their contribution to the financial objectives of the organisation, the ability to create customer convenience and customer satisfaction, operational efficiencies through automation of value chain processes and contribution to learning and growth through knowledge management.

The main objective of any organisation is to maximise shareholder value. Any investment in effort should be directed toward this goal. IT, just like any other business unit must be seen to be contributing positively to the achievement of the foresaid objective. IT effectiveness should translate into real value for organisations. One way of measuring the contribution made by IT is to evaluate the extent to which its alignment to business strategy affects business performance measures such as market share, ROI, operational efficiency, customer service and sales. The final part of the model sought to unlock this puzzle and ascertain any linkages if any.

With a mean score of 3.5111 on a rating scale of 1 (strongly disagree) to 5 (strongly agree), the respondents somewhat agreed that the current systems contributed to business performance. Figure 5.4 which shows the relationship between contribution of the business measures and the extent to which IT contributes to the measure reveals some interesting information about the study. The factors which were rated as very important (customer service and operational efficiency) also received the highest scores. The study was carried out on a financial services sector and naturally being a service industry, the number priority is customer service so as to create competitive advantage through service differentiation. If one was to consider these measures in isolation, the mean score will be higher than 4 indicating that a high perception among the respondents. The IT systems are enabling business to offer acceptable levels of customer service most probably through improved internal operation processes.

The next step in this discussion is to analyse the assumed relationship between alignment, IT effectiveness and business performance. The correlation matrix reveals that IT and business strategy alignment is significantly positively related to the IT managerial resources. This would seem to suggest that where a number of enablers to alignment are perceived to be present, the level of alignment would also be high. This finding suggest that senior executives must work towards identifying these factors within their organisations and nurture them to effectively align IT and business strategies.

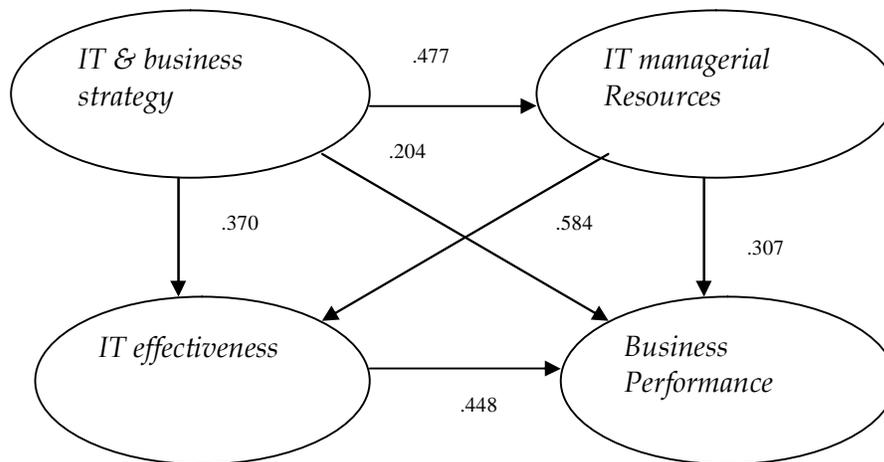
With a correlation coefficient of .370, the IT and business alignment factor is also positively and significantly correlated to IT effectiveness suggesting that strategic alignment is positively associated with IT effectiveness. The generalisation that can be

made from this observation is that strategic alignment enhances the chances of an organisation to effectively utilise its IT for competitive advantage. This finding supports the work by Kearns & Lederer (2000) who found out that alignment of the IS plan with the business plan was associated with the use of IS for competitive advantage. In their study, IS based resources for competitive advantage was used as a proxy for organisational performance.

There is also a significant correlation (.448) between IT effectiveness and business performance leading us to conclude that business performance is associated with IT effectiveness.

Figure 6.1 below shows a summarised view of the correlations for the different factors.

Figure 6.1: Research factors and correlation



The study has therefore been able to validate statistically the proposition that alignment between IT strategy and business strategy is associated with IT effectiveness and perceived business performance. The degree of alignment and the significance of the contribution may depend to some extent on the organisational context which includes the stage of computerization of the organisation, industry type and whose perceptions are sought.

The results of the study support earlier findings by Kearns & Lederer (2000) which indicated that alignment was associated with the use of IT for competitive advantage. Sabherwal & Chan (2001) also found that for most business strategies, alignment between IS and business strategies improves business performance. Rai et al (1997), demonstrated that IT investments can make positive contributions to the organisation's output and labour activity.

The findings of the current study on alignment are quite significant to research particularly so that the study was carried out in a developing economy. Most if not all prior research took place in advanced economies. The results point out to the fact that companies in Zimbabwe just like any other companies in the world and more importantly financial institutions are faced with substantive competitive pressures. The investment outlay of IT infrastructure and applications has become prohibitive due to the hyper-inflationary environment and trickle feed foreign currency inflows. There is a lot of pressure on CIOs and other senior business executives to justify the net worthy of IT investments.

This research offers considerable value to those organisations facing such a dilemma. These organisations must realise that it is not just enough to monitor the levels of IT investments within their organisations but it is necessary to monitor the level and nature of those investments in terms of their contribution to the business objectives. It is only those organisations that realise the importance of strategic alignment and the need to leverage IT investments for improving business performance that will live to see the next business and competitive day.

### **6.1.2 Secondary Propositions**

Having discussed the main proposition of the study, we now examine the secondary propositions. The first one was that business executives perceive their IT and business strategies to be improperly aligned. The results of both the quantitative and qualitative study indicate the contrary. Senior managers perceived the strategies to be aligned and

also perceived the alignment to be contributing to business performance. Both business and IT managers had the same perception about the strategic benefits of aligning IT strategy to business strategy thus disapproving the second secondary proposition. This finding supports findings by Kearns & Lederer (2000) who found out that both IS and other business executives associated the alignment of the IS plan and business plan with the use of IS for competitive advantage.

An interesting observation was made on the third and final secondary proposition. The results of the study demonstrate that operational staff and senior management perceive strategic alignment of IT and business strategies differently. Motjoloane & Brown (2004) conceive that alignment is meaningless if it is seen as successful by top management with operational staff not sharing the same perception. We may argue that senior managers by nature see the big picture where as operational staff by nature concentrate on operational activities. Operational staff may not even be fully acquainted with both the IT and business strategies.

However, the desired environment is where strategic alignment is pervasive at all levels of the organisational hierarchy. Whilst senior managers craft business strategies, it is the operational staff that eventually implements the strategy. How then can this perceptual gap be narrowed? A climate and culture of communication becomes absolutely necessary. Bruce (1998) emphasizes communication that uses the same language for both IT and business and at all levels. Senior managers must build effective relationships with both line managers and operational staff. Reich & Benbasat (2000) contend that line managers and operational staff who possess a deeper understanding of the core business and IT applications are catalysts for IT driven innovation.

## **6.2 Limitations and Future Research**

The research has primarily focused on a holding company with several subsidiaries, thus the findings may be limited in terms of generalisations. The study though points out the importance of alignment in an organisational context. Future research may involve a mix of several organisations within the same industry or across industries for comparative analysis to be carried out.

The current study did not explore the *process* of aligning IT strategy with business strategy, neither did it strongly emphasize the causes of alignment, research opportunities that may be explored in the future within the context of a developing world. Another limitation of the current study is on questionnaire design. The part of the questionnaire that deals with the allocation of 100 points amongst the business performance measures may be improved to a simple ranking scale. Many respondents had difficulties answering this part of the questionnaire. The Likert scale can also be changed from a scale of 1-5 to that of 1-6 to reduce the incidences of central tendency amongst the respondents.

Another notable limitation is centred on the areas of business performance. The study's measure of business performance was a perceptual one and not objective financial measures. Alignment and perceived organisational performance were invariably measured at the same point in time. Although, all the respondents had been in their respective organisations for more than 12 months, information systems in the different divisions had not been put in at the same time. The results of the study may therefore not necessarily imply a similar positive effect of alignment on measures of business performance and IT effectiveness.

However, there is still huge value in the perceptions of the alignment being there. Firstly the results were averaged meaning that any bias was removed from the sample. Secondly, the timing of putting the systems in place may not really be an issue for as long as the respondents perceived alignment at the time of implementation. One may

argue that the fact that the systems have recently been put in place helped the respondents to answer the questionnaire with a fresh mind. So even though there may have been a limitation there is huge value derived from the observations.

In Zimbabwe, just like many other developing countries, the informal sector plays a significant role in the overall economy. Most such small companies in the informal sector do not usually have fully fledged IT departments and heavily depend on consultants and other outsourcing activities for their IT services. It may be interesting to explore the perceived alignment of IT strategies and business strategies in the informal sector for a developing economy.

### **6.3 Conclusion and Recommendations**

Alignment is a process which impacts on all levels and members of an organisation. Just like a company's vision, the realised level of alignment must be shared by all the team members in an organisation. Alignment may lose value or meaning if top management and operational staff do not share the same perception.

The study revealed that there was a difference in perceived alignment levels between the executives and operational staff. Alignment must therefore be simplified for the lower levels of the organisation so that they can derive and add value to the alignment process and subsequently share the same perception with senior management. One way of involving lower levels of the organisation is to ensure their participation and buy-in in the IT project implementation process from requirements definition right through to project closure of that implementation. A culture of communication in the same language must be encouraged and adopted. Senior managers must also ensure that they build effective relationships with the operational staff through line managers.

The research has also demonstrated that alignment of IT strategy and business strategy indeed has influence on IT effectiveness and business performance. The stage of computerisation, organisational hierarchy and industry type appear to affect the relative importance and level of alignment, and the relevance of certain business performance measures. This implies that management must be wary of those factors that positively contribute to alignment within their industries and at all the relevant stages of computerisation or IT maturity and ensure that these are shared and implemented at all levels of the organisational hierarchy.

Alignment of IT and business strategies was observed to be enhanced by increasing the levels of IT managerial resources and ensuring that IT systems are successfully implemented. The qualitative study also revealed that the two most important factors were prioritisation of projects, and IT and business working together. Senior management must therefore develop a consistent and a standardized criterion for

prioritising IT projects. They may prioritise IT projects according to their strategic importance or ROI or any other method relevant. It is recommended that those projects that add the most value to business must be selected first.

The second placed factor suggests that business and IT work as partners to ensure the successful implementation of IT solutions. IT involves automating business processes which as a pre-requisite must clearly be articulated and understood by both partners. To ensure that IT and business work together, the CEO may hold both business and IT executives jointly accountable for prioritising and delivery on all major IT investments. Both executives must be actively involved in the formulation and implementation of corporate strategies. The CIO must also take the initiative to meet regularly with business unit executives to improve/increase his understanding of the business.

On an operational level, both business and IT staff must be part of core project teams to encourage proliferation and sharing of ideas and thus inculcate a sense of mutual understanding. IT people may be attached to business units for extended periods of time and the reverse should also be encouraged. This will also ensure that IT understands the business language and processes, one of the factors identified during the qualitative study. A common understanding also enhances the partnership relationship.

Two other critical factors identified were championing of IT projects by the CEO and other senior executives and IT project implementation success. From an operational point of view, IT steering committees may be setup to monitor the business value derived from IT investments. It is also recommended that business unit executives act as project sponsors for major IT projects. The project sponsor is then responsible for representing the project from a business perspective to top management. This way senior management make their support for IT projects visible throughout the organisation. IT project implementation success must be celebrated and project team members should be sufficiently rewarded and motivated to encourage repeat performance. Any incentive system must be consistent across all departments.

Alignment is a process which implies that it is not a one time activity. Both business and IT executives must be mindful of the need to align IT strategy to business strategy both

in the short and long term. Since Customer preferences and tastes are dynamic, organisations must be able to leverage technology to achieve differentiation and therefore build competitive advantage. Inherently, strategy is also dynamic hence senior management must continuously review both their IT and business strategies regularly. This may come as a voluntary exercise or forced activity due to the realization of a strategic dissonance. Either way, organisations must ensure that their strategies are continuously and properly aligned as this has been observed to positively influence business performance.

It is also recommended that for any progressive organisation, the process of IT strategic alignment must always be on the radar screen. Senior management must continue to champion and publicly support IT initiatives, and put in mechanisms such as Balanced Scorecards to ensure that IT and business understand their respective partnerships roles and work continuously together as one team. To enhance mutual understanding between IT and business, it is suggested that organisations whose business processes are unclear, carry out a business process re-engineering (BPR) and business process mapping (BPM) exercises. Business designs the processes, while the technology team provides the appropriate tools to deploy the processes and derive optimum value. IT effectiveness and business performance will significantly be enhanced.

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## Appendices

### Appendix A: Questionnaire Items

The following items represent items which were part of the questionnaire. The questions were not split as shown here. Rather they were combined. The researcher knew the grouping before hand. The grouping is what is described here.

Please circle the response indicating the extent to which you *agree* or *disagree* with each statement (**SD** – strongly disagree, **D** – disagree, **N** – neutral, **A** – Agree, **SA** – strongly agree)

Variable		<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
		1	2	3	4	5
V1	The IT strategy reflects the organisation’s mission					
V2	The IT plan reflects the business goals					
V3	The IT plan supports the business strategies					

(Adopted from Kearns & Lederer,2000)

### IT and Business alignment was measured by variables v1 to v5.

Please indicate the extent to which you agree with each of the statements as it relates to your organisation.

Variable		<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
		1	2	3	4	5
V4	Senior business executives champion IT initiatives and implementation					
V5	IT is knowledgeable of business and is able to identify and plan for future challenges					
V6	Senior IT executive(s) are involved in business strategy development					
V7	IT projects are well prioritized					
V8	There is a close relationship between IT and business					
V9	The Head of IT is adequately positioned in the organisation					
V10	In this organisation, IT & business strategies are properly aligned					

(Adopted from Motjilopane & Brown,2004)

### IT Managerial Resources were measured by variables v4 to v10

#### Stage of computerization (v11)

(Adopted from Motjilopane & Brown,2004)

Which among the following statements best describes the present state of the organisation’s computerisation? Please type (X) against the appropriate statement.

a) **Initiation**

(A small number of IT users, much autonomy is given to users, very little planning and control of existing systems)

b) **Diffusion**

(Adoption of IT by a large number of users; rapid growth of expenditure on IT hardware, software and personnel, planning and control of systems is still done informally)

c) **Integration**

(IT operations are more integrated; more control procedures are introduced and planning of applications is better established)

The following statements help us understand the strategic value of your current IT systems. Please indicate by ticking the appropriate box, the extent to which you agree with each statement.

Variable	SD	D	N	A	SA
	1	2	3	4	5
V12					
V13					
V14					
V15					
V16					
V17					
V18					

(Adopted from M King *et al*, 2002)

Variables v12 to v18 measured **IT effectiveness**.

Please allocate 100 points among the following performance measures based on their importance to your organisation. Then indicate the extent IT has contributed to each of the measures.

Variable	Point	Performance Measure	IT Contribution					
			No Extent Extent		Great			
			1	2	3	4	5	
V19	-----	Return on Investment						V24
V20	-----	Commission Income/Sales						V25
V21	-----	Revenue						V26
V22	-----	Market share						V27
V23	-----	Operational Efficiency						V28
	-----	Customer Service/Satisfaction						
		Total (100%)						

(Adopted from the unpublished Doctoral Thesis of Johnson AM, 2001)

**1. Demographic Details** – Please provide some background information

**Department (v29):**

Leasing      Asset Mgt      Stock broking      IT      Commercial Bank

**Level (v30):**

Executive  
 Manager  
 Non-Manager

**Length of Service(v31):**

0-6 months  
 7 – 12 months  
 12 months +

**Appendix B: Structured Interview Questions**

1. Do you think that matching of IT and business strategies is vital for this organisation
  - Currently
  - In the next five years
  
2. In your opinion what do you think are the five critical factors that would positively help to achieve strategic alignment
  
3. In your own words how would you rate the success in strategic alignment as it relates to this organisation
  
4. On a scale of 1 (Very good) to 5 (very poor) how would you rate the availability, usage, appropriateness and implementation success of IT services in your organisation
  
5. Do you think IT has contributed to this organisation's performance? If yes, in what way.

**Appendix C: Questionnaire Cover Note**

The CEO of ZABG has given authority for this study. Your participation however is entirely voluntary. All responses will be strictly confidential and you will not be identified in any way.

Your responses will be combined with others for statistical analysis only. Your participation is extremely important to me and I would like to thank you in advance for your assistance.

Kindly complete the attached questionnaire and email it back in the next two days.

Yours Sincerely,

Patrick Musuka

**Appendix D: Permission Letter**

4 Beatrix Court  
10 Oxford Road, Avondale  
Harare

The Chief Executive Officer  
Zimbabwe Allied Banking Group (ZABG)  
13<sup>th</sup> Floor, Social Security Centre  
Harare

23 June 2006

Dear Sir,

**Re: Request for Permission to carry out study**

I am doing a Masters Degree in Business Leadership (MBL) with the University of South Africa Graduate School of Business Leadership and I am now in my final year. I am required to present a research report in partial fulfillment of the requirements for the degree.

My research objective is to determine the relationship between the alignment of Information Technology (IT) strategy with business strategy on perceived business performance. My research topic is styled '**Alignment of IT strategy with Business Strategy: Impact on IT Effectiveness and Business Performance**'.

I am kindly requesting for your permission to carry out the study on ZABG. The results of the study will be used purely for academic purposes. This is not a detailed case study and I am only interested in getting statistical data to test my hypothesis. I undertake not to divulge any confidential information that I might come across during my study. I am also happy to share with you my research findings and my final research report.

Attached is a sample of the questionnaire design and interview questions I intend using in the data gathering stage.

I am looking forward to receiving a favourable response from you.

Yours Sincerely,

Patrick Musuka