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An Exploratory Study into the Relationship Variables of Business Strategy and IT Strategy

Ilmudeen Aboobucker[1*] Irshard MBM[2]

1. Department of Management and Information Technology, Faculty of Management and Commerce, South Eastern University of Sri Lanka, Oluvil, Sri Lanka.
2. Department of Management and Information Technology, Faculty of Management and Commerce, South Eastern University of Sri Lanka, Oluvil, Sri Lanka.

Abstract

This study examines the relationship variables of business strategy and Information Technology (IT) strategy from range of existing literature support. To widen and assist further research in contextually and empirically, systematic literature search with mind-map was used to illustrate how these relationship variables are linked with IT strategy and business strategy. IT can support and shape business strategy and the way of deploying IT can become strategic when used in innovative manner. This study shows several associated variable/s which were strongly proved by exiting literature evidence with business strategy and IT strategy. This study found the business IT strategic alignment is the key moderating variable for business strategy and IT strategy. Researchers and practitioners will benefit from this study's mind map in many ways. It facilitate them to formulate the hypothesis, conceptual model and structured equation model for their future researches.

Keywords: Business Strategy, IT Strategy, Relationship Variables, Mind-Map

1. Introduction

Both business strategy and IT strategy have been widely researched over recent years. Though, there has been no well-confirmed exploratory research to show the relationship variable of them. IT strategy must line up with business strategy that will facilitate the business to reduce costs, regulate processes, increase efficiency, advance workflow and interactions, improve risk control methods, execute new business strategies and achieve competitive advantage. IT strategy plays an ever more pro-active function in developing long-term business strategy. So it needs to be make sure that the IT strategy and business strategy functions are totally harmonized towards general business-oriented goals.

Today's turbulent business environment, strategic planning of IT goals to business goals is a vital part in business/ IT alignment. The business/ IT alignment is recognized as the top priority on the agenda of many executive management. Many academics and practitioners' research revealed that misalignment or lack of alignment between IT and business strategy was one of the key basis why enterprises not succeed to enjoy the full potential of their IT

investments. It is obvious that each enterprise start with a clear view of its mission thorough its supportive strategy and business goals. These should be translated into goals for the IT department, then which are the root for the IT strategy. Finally it should cautiously planned to convert the IT strategy into action. Generally, every organization has its own unique sets of business and IT strategy. Preference among these sets will vary depending on a mixture of internal and external factors. For instance market position, company size, level of IT dependency, industry and geography. Further IT strategy is known as vital to the entire business action of contemporary enterprises in the formation of customer value.

IT Governance Institute(2008)conducted a reach among group of experts in various sectors to validate, prioritize and link a set of business goals and IT goals. Altogether, 158 business and IT professionals, either managers or auditors involved from enterprises. The below table 01 shows the most important top 10 business and IT goals. The lists of business and IT goals have been prioritized over five different sectors. This proves that there is a very high degree of consent that these business and IT goals are the most important ones.

The primary rule of all the critical success factors of IT strategy is consequently IT and business performing as one. This refers the IT strategy, organization, infrastructure, processes, applications, projects, budget and metrics should all confirm their association to the business goals, objectives, and strategies. Cuenca, L., et al (2010) stated in their research that IS/IT strategies typically depend on a business strategy and the alignment between both strategies advances strategic plans. Further business and IS/IT alignment is the extent to which the strategy of IS / IT supports and is supported by the business strategy. Moreover, Egen, M. (2011) argued that the development of an IT strategy is the most useful way of communicating with your business partners on how you intend to support their business strategies.

Table 01: Prioritized Lists of Top 10 Business and IT Goals.

Top 10 Business Goals	Top 10 IT Goals
1. Improve customer orientation and service.	1. Align the IT strategy to the business strategy.
2. Ensure compliance with external laws and regulations.	2. Maintain the security (confidentiality, integrity and availability) of information and processing infrastructure.
3. Establish service continuity and availability.	3. Make sure that IT services are reliable and secure.
4. Manage (IT-related) business risks.	4. Provide service offerings and service levels in line with business requirements.
5. Offer competitive products and services.	5. Ensure IT compliance with laws and regulations.
6. Improve and maintain business process functionality.	6. Translate business functional and control requirements into effective and efficient automated solutions.
7. Provide a good return on (IT-enabled) business investments.	7. Deliver projects on time and on budget, meeting quality standards.
8. Acquire, develop and maintain skilled and motivated people.	8. Drive commitment and support of executive management.
9. Create agility in responding to changing business requirements.	9. Improve IT's cost-efficiency.
10. Obtain reliable and useful information for strategic decision making.	10. Account for and protect all IT assets.

Adopted From : IT Governance Institute (2008)

Literature Review

Business strategy can be defined as a long term plan document that clearly articulates the direction a business will follow and the steps it will undertake to reach its goals. Business strategy and IT strategy cannot function alone to achieve organizational goals and objectives. Even though business strategy and IT strategy formed by different organizational division, they must align together in achieving organizational goals. There is a confusion whether business strategy drive the IT strategy or IT strategy drive the business strategy. It is obvious that there is a possibility to drive these in vice versa and most of the times business strategy drive the IT strategy. Previous literature evidences prove, for instance Gartlan, J., & Shanks, G. (2007) found in their research that IT strategy tend to be driven by business strategy in

Australian organisations. Smith, H. A., et al (2007)mentioned that developing IT strategy helps and supported by business strategy and it is critical for creating business value in today's organizations. Moreover Walker, S. (2012) found that the strong link between the business strategy and IT strategy with IT in some cases driving the business strategy. In addition, Bharadwaj, A., et al (2013) found that the existing view of IT strategy has been that it is a functional-level strategy that must be aligned with the firm's selected business strategy and in this supposed alignment view, business strategy directed by IT strategy.

Most of the researchers conducted their research in business - IT alignment and they emphasized business - IT alignment is high in their findings. There are several literature evidences which draw attention to the alignment and importance of business - IT strategy. For instance Symons, C. (2005) mentioned that aligning IT and business strategy remains the No. 1 or No. 2 business IT issue year after year. Simply alignment refers both how IT is in synchronized with the business, and how the business should be in synchronized with IT. Kohli, R., & Devaraj, S. (2004) stated that aligning business and IT strategies is the first step in the alignment phase. Symons, C. (2005) found that aligning IT and business strategy remains one of the top issue that business executives and CIOs struggle with. Almajali, D. A., & Dahalin, Z. Md., (2011) found in their research the leadership, values and belief, IT managerial resources, service quality, and IT implementation successes significantly impact on IT-business strategic alignment. On the other hand, there is no strategic alignment relationship between structure and process. Generally alignment advances into a association in which the role of IT and other business functions settle in their strategies mutually. Weiss, J. W., & Anderson, D. (2004) found that alignment of IT with business strategy at business unit and enterprise levels, on the other hand higher alignment arises most frequently across organization's functional and project team levels. Arafat, M. (2007) found that there are factors which have direct impact on the strategic alignment between IT and business strategy such as adopted strategy, level of communication, trust and understanding, participation and involvement, shared domain knowledge and the level of industrial IT dependency.

Most business executives see IT as a cost of doing business, but IT can be a vital enabler to succeed in the business. Weiss, J. W., & Anderson, D. (2004) stated that knowledge management capabilities were the least used integrating enablers in IT business strategic alignment. Alternatively project management skills were identified as the most frequently used alignment resources, followed by change management, negotiation, political, innovation, and entrepreneurial capabilities. Shamekh, F. R. (2008) mentioned that reducing the alignment gap between business strategy and IT strategy will assist organizations to get and maintain strategic alignment. Further Alyahya, M., & Suhaimi, M. A. (2013)found in their research that

in order to fully materialize the potential benefits of Small Medium Enterprises (SME), they have to utilize IT strategically. It means, the IT strategy has to be aligned with the business strategy of the Saudi SMEs. Amarilli, F.(2014) stated that, company's business IT alignment is the result of a process of harmonization of several domains such as corporate strategy, IT strategy, processes, and organizational infrastructure. Hajikhani, A., & Azadi, A. (2013) conducted a research on strategic alignment analysis between IT- business strategies. They concluded that there is a positive correlation between IT strategic alignment and IT governance structures. Further they found that increased business-IT alignment is related to increased effectiveness and efficiency. Finally they recommend from their study that organizations develop procedures and processes that integrate business and IT leadership in all strategic planning. Cataldo, A., et al (2012) found in their research that strategic alignment could impact the association between process-level alignment and IT success. Faryabi, M., et al (2013) found that strategic alignment of IT and business strategy has a positive and significant effect on business performance and it is stronger than the effect of both business and IS strategic orientation. Further Drnevich, P. L., & Croson, D. C. (2013) highlighted that IT shapes industry structure and the set of business-level strategic alternatives and value-generation opportunities that a firm may practice.

Objective of the Research

The key objective of the research is to identify the relationship of other related variables with business strategy and IT strategy. Subsequently the researcher try to find related variable's impact / relationship (significant / moderate / factor just included in the study) in business strategy and IT strategy domain.

Research Question

Most of the researchers and academic practitioner's conducted number of research in business - IT alignment and they highlighted business - IT alignment is high in their findings. The backbone for this business-IT alignment is the business strategy and IT strategy. The research question arises as What are the associated relationship variables / interconnected variables in the business strategy and IT strategy domain?.

Methodology

The researcher used a systematic literature search to find the relationship variables between business strategy and IT strategy. This systematic literature search consist many phases. In the first phase, the researcher defined the research question as *What are the associated relationship variables / interconnected variables in the business strategy and IT strategy domain.?*. In the second phase, established the criteria for the selection of proper databases to select the relationship variables using appropriate keywords. In the third phase,

the following keywords were used to search the relationship variables thus; IT strategy, business strategy, business IT Strategic Alignment, IT strategy and business strategy, IT strategy vs business strategy, aligning business with IT, aligning IT with business, business strategy variables and IT strategy variables. In the fourth phase, the freely available journal articles, whitepapers, master and Phd thesis, conference proceedings and book chapters were researched to find the relationship variables. For this purpose the following bibliographic databases and online journals were used in the search process for 03 months. Those are ACM, Emerald, IEEE, Science Direct, Journal of Information Technology Management, Australasian Journal of Information Systems, MIS Quarterly, Journal of Indian Business Research, World Academy of Science, Engineering and Technology, Research Journal of Business Management and Accounting, Journal of Practical Consulting, International Journal of Business, Journal of Research and Practice in Information Technology, Journal of Developmental Entrepreneurship and Interdisciplinary Journal of Contemporary Research in Business. To find the relationship variable, at first instance selected paper's abstract and conclusion were reviewed by the author. In the second instance the in-depth analysis was carried out in the selected paper's research model, conceptual model, results and discussion.

This research is a qualitative in nature. The extensive literature review was conducted in these primary variables thus business strategy and IT strategy to find the supportive variables. The mind-map clearly shows the notation based on its impact with other related variable. The reason for selecting the mind-map is, it shows the graphical view of association for each interrelated variable more accurately. In the mind-map the arrow mark shows the direction of relationship between the primary and other linked variable/s. Inside the circle the number, which refers the reference number of the article in which the variable/factor is mentioned. The sign (+ or -) indicate that the type of relationship between or among these variables. The + sign indicate the variable has positive relationship and the - sign indicate that the variable has negative relationship with other variable. The circle with only the number indicate that in the particular article this factor was just mentioned. Inside the circle the "m" refers that the variable has moderate level relationship. Further the "T" refers that the variable transform the relationship. The below table 03 shows the primary variables of this research thus business strategy and IT strategy, how other associated variables mentioned and their level of association indicated in the prior studies. The researcher found the theoretical background linkage and associated variable for the primary variables as follows.

Business Strategy Variables

Creating a business strategy is a core management function and it can be simply defined as it is a long term plan of action intended to achieve a individual or a set of goals. Raodeo, V. (2012) mentioned that good IT governance make sure that IT investments are optimized,

aligned with business strategy, and deliver value within acceptable risk boundaries. Bharadwaj, A., et al (2013) mentioned that the digital technologies referred as combinations of information, computing, communication, and connectivity technologies are primarily transforming business strategies, business processes, firm capabilities, products and services, and key inter firm relationships in extensive business networks. Acquaah, M. (2011) indicated in his research that the creation of the business strategies such as cost leadership and differentiation generate competitive advantage for family businesses. Further he pointed out that the benefit of business strategy to family businesses is moderated positively by networking with community leaders on the other hand negatively by networking with political leaders. Gupta, S. (2012) found in his research that the six dimensions of business strategy thus customer orientation, unique company capabilities, internal marketing, barriers to imitation, employee empowerment, and visionary leadership were interrelated with the experience marketing.

Thackrah, J. (2010)concluded in his master research that business and IT strategies have alignment in the following order of importance such as improved relationship between business and IT decision makers, improved communications between business and IT decision makers, improved utilization of IT resources and it would automatically follow if the previously mentioned relationship and communication between IT and business works. Further it will allows the business to see the value that IT can add rather than what IT costs the organisation; improved use of IT within organisations, improved perception of the IT function within the organisation, better IT returns on investment, reduction in overall costs, better overall returns on investment, increased competitive advantage in the market place, perceived better use of IT innovation by the market place, positive effect on organizational brand, reduction in IT costs, and improved revenue. Moreover Upadhyay, S. (2007) found that the multinational corporations target a broader market instead of a fortunate few. In which they set up significant distribution channels with a highly developed distribution strategy where they targeted for brand building, establishing their reputation, and creating an image that finely blended their global strategy with local consumers. Gaedicke, J. C. (2012) mentioned in his master degree research that that business strategy and business model can be related to one another and even be seen as matching. Oltra, M. J., & Flor, M. L. (2010) found on their research that there is a moderating effect of business strategy on the association between operations strategy and firms' results.

IT Strategy Variables

IT strategy can be defined as how IT will assist the enterprise to win, thus IT directing the business strategy, and IT delivering on the business strategy. Smith, H. A., et al (2007) suggested that there are five critical success factors that the organization essentially consider when they develop effective IT strategy. They are revisit your business model, adopt strategic

themes, get the right people involved, work in partnership with the business, balancing IT investment opportunities. Gartlan, J., & Shanks, G. (2007)found in Australian organizations, CIOs want to be more involved in business strategy formation. However CEOs do not always, CIOs would also like to see more CEO involvement in IT strategy formation but the CEO group believes that may not be necessary. Furthermore, the study found that business decision makers may not always be happy being involved in a strategy formation process outside of their own area. Baina, S., et al (2008) mentioned that to stay competitive, IT strategy and IT investment should be consistent with global enterprise strategies. Further they mentioned that the continuous process of safeguarding consistency between business/IT strategies are widely known as strategic business/IT alignment. Further Alignment between business and IT strategy allows organizations to exploit IT functionality to achieve business goals. Inability to achieve these goals is partly due to a lack of alignment.

Cegielski, C. G., et al (2005) concluded that IT executives can work toward the creation of a more timely IT strategy by speedily assessing the potential fit of emerging information technologies within a firm specific context. Further they mentioned that the technical performance aspects of emerging IT, current/future uses of technology and technical compatibility of emerging IT with existing IS also impact on the suitability of IT strategy. Savin, J. M. (2004) stated that IT strategic plan consist at least six components thus application systems component, application development component, infrastructure component, maintenance component, operations component and security component. Hussin, H. (1998) found that the degree of alignment between business strategy and IT strategy is associated to the level of IT sophistication and the level of CEO's commitment to IT. Gottschalk, P. (1999) found on his research that description of responsibility for the implementation and description of user involvement during the implementation are the content characteristics of formal IT strategy of significance as implementation predictors. Further Egen, M. (2011) stated that the IT strategy should be considered a component of an effective business strategy. F. bergeron, et al., : Ideal patterns of strategic alignment and business performance (as cited in Huang, H.L., et al (2011)) claimed that the IT strategies can be classified into two general categories thus IT environment scanning; and strategic use of IT.

In below figure 01 the numbers and signs in a circle indicate respective references as indicated below.

SN	Reference
1	Acquaah, M. (2011)
2	Almajali, D. A., & Dahalin, Z. Md., (2011)
3	Alyahya, M., & Suhaimi, M. A. (2013)
4	Amarilli, F.(2014)
5	Arafat, M. (2007)
6	Baina, S., et al (2008)
7	Bharadwaj, A., et al (2013)
8	Cataldo, A., et al (2012)
9	Cegielski, C. G., et al (2005)
10	Cuenca, L., et al (2010)
11	Drnevich, P. L., & Croson, D. C. (2013)
12	Egen, M. (2011)
13	Faryabi, M., et al (2013)
14	Gupta, S. (2012)
15	Gottschalk, P (1999)
16	Gartlan, J., & Shanks, G. (2007)
17	Gaedicke, J. C. (2012)
18	Hajikhani, A., & Azadi, A. (2013)
19	Huang, H.L., et al (2011)
20	Hussin, H. (1998)
21	IT Governance Institute. (2008)
22	Kohli, R., & Devaraj, S. (2004)
23	Oltra, M. J., & Flor, M. L. (2010)
24	Raodeo, V. (2012)
25	Savin, J. M. (2004)
26	Shamekh, F. R. (2008)
27	Smith, H. A., et al (2007)
28	Symons, C. (2005)
29	Thackrah, J. (2010)
30	Upadhyay, S. (2007)
31	Walker, S. (2012)
32	Weiss, J. W., & Anderson, D. (2004)

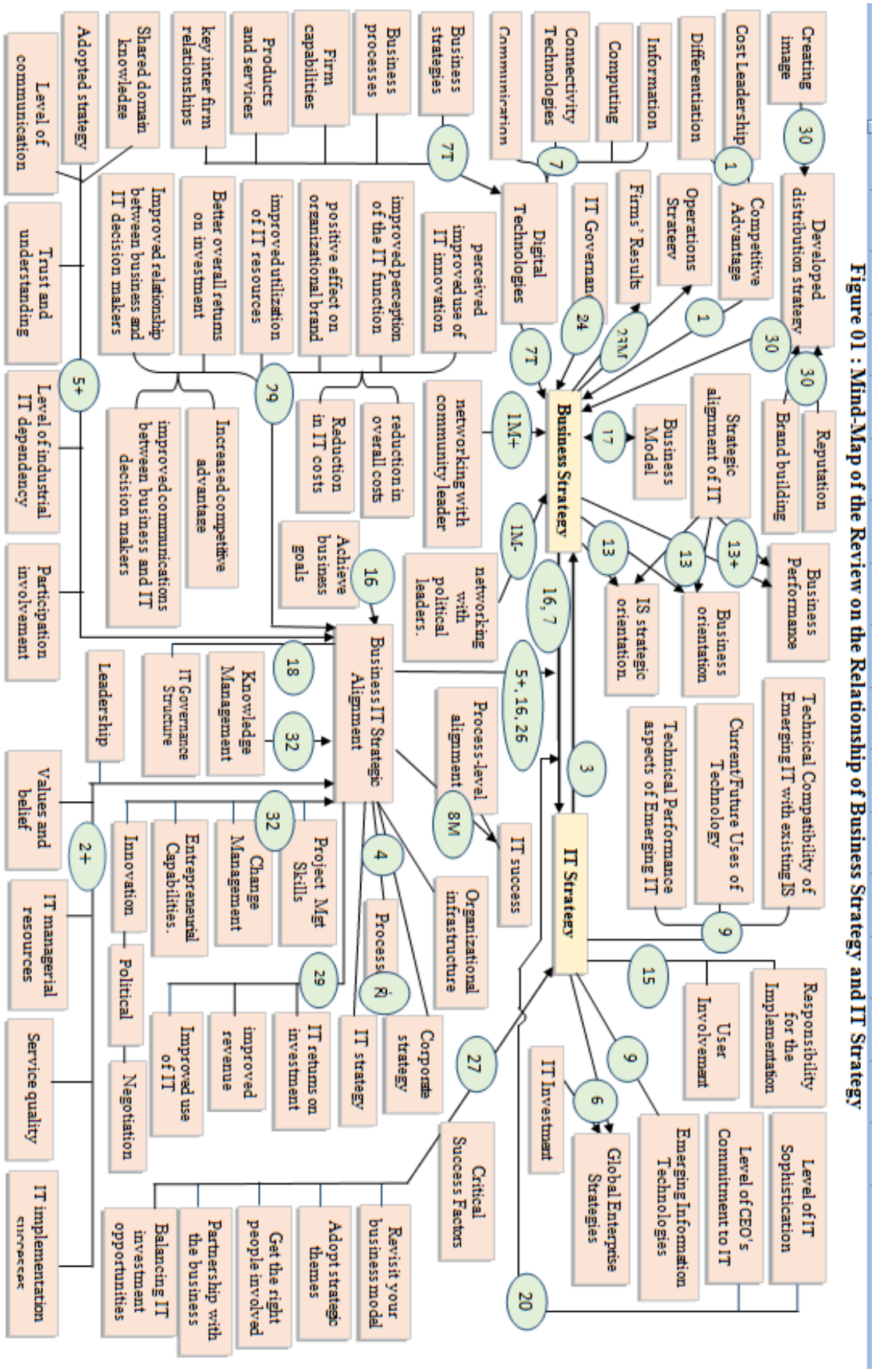

Figure 01 : Mind-Map of the Review on the Relationship of Business Strategy and IT Strategy

Table 02 : Key Variables Mentioned in Prior Studies

Prior Studies		Key Variables / Factors Associated with Business Strategy							
Year	**Author(s)**	**Digital Technologies**	**Business Model**	**Business Performance**	**Competitive Advantage**	**IT Governance**	**networking with community leader**	**networking with political leader**	**Developed distribution strategy**
(2013)	Bharadwaj, A., et al [7]	**X, T**							
(2012)	Gaedicke, J. C. [17]		**X**						
(2013)	Faryabi, M., et al [13]			**X. S**					
(2011)	Acquaah, M. [1]				**X**				
(2012)	Raodeo, V. [24]					**X**			
(2011)	Acquaah, M. [1]						**X, M**		
(2011)	Acquaah, M. [1]							**X, M-**	
(2007)	Upadhyay, S. [30]								**X**
Year	**Author(s)**	**Key Variables / Factors Associated with IT Strategy**							
		Critical Success Factors	**Emerging IT**	**Global Enterprise Strategies**	**Level of IT Sophisticatio n**	**Level of CEO's Commitmen t to IT**	**Current/Fut ure Uses of Technology**	**Technical Performance aspects of Emerging IT**	**User Involvement**
(2007)	Smith, H. A., et al [27]	**X**							
(2005)	Cegielski, C. G., et al [9]		**X**						
(2008)	Baina, S., et al [6]			**X**					
(1998)	Hussin, H. [20]				**X**				
(1998)	Hussin, H. [20]					**X**			

(2005)	Cegielski, C. G., et al [9]						X		
(2005)	Cegielski, C. G., et al [9]							X	
(1999)	Gottschalk, P [15]								X
Year	**Author(s)**	**Key Variables / Factors Associated with Business IT Strategic Alignment**							
		IT Governance Structure	**Knowledge Management**	**Achieve business goals**	**Corporate strategy**	**IT returns on investment**	**Innovation**	**IT success**	**IT implementation successes**
(2013)	Hajikhani, A., & Azadi, A. [18]	X							
(2004)	Weiss, J. W., & Anderson, D. 32]		X						
(2007)	Gartlan, J., & Shanks, G. [16]			X					
(2014)	Amarilli, F. [4]				X				
(2010)	Thackrah, J. [29]					X			
(2004)	Weiss, J. W., & Anderson, D. 32]						X		
(2012)	Cataldo, A., et al [8]							X, M	
(2011)	Almajali, D. A., et al [2]								X, S

X : Factor included in study/s. **S**: Factor found to be significant in the study. **M** : Factor found to be moderate level relationship in the studies , **T**: Transform

Discussion and Concluding Remarks

The key relationship variable of business strategy with other related variable/s with their respective reference can be summarized as follows. Digital technologies, combination of information, computing, communication, and connectivity technologies (eg. Bharadwaj, A.,

et al 2013), cost leadership and differentiation generate competitive advantage, further the business strategy is moderated positively by networking with community leaders and on the other hand negatively by networking with political leaders (eg. Acquaah, M. 2011), the six dimensions of business strategy thus customer orientation, unique company capabilities, internal marketing, barriers to imitation, employee empowerment, and visionary leadership were interrelated with the experience marketing (eg. Gupta, S. 2012), distribution channels with a highly developed distribution strategy in which brand building, establishing their reputation, and creating an image (eg. Upadhyay, S. 2007), business strategy and business model related to one another (eg. Gaedicke, J. C. 2012), moderating effect of business strategy between operations strategy and firms' results (eg. Oltra, M. J., & Flor, M. L. 2010)

The key relationship variable of Business IT Strategic Alignment with other related variable/s with their respective reference can be summarized as follows. Leadership, values and belief, IT managerial resources, service quality, and IT implementation successes have significant impact in contrast structure and process has no relationship (eg. Almajali, D. A., & Dahalin, Z. Md., 2011), improved relationship between business and IT decision makers, improved communications between business and IT decision makers, improved utilization of IT resources and communication between IT and business works (eg. Thackrah, J. 2010), further improved use of IT within organisations, improved perception of the IT function within the organisation, better IT returns on investment, reduction in overall costs, better overall returns on investment, increased competitive advantage in the market place, perceived better use of IT innovation by the market place, positive effect on organizational brand, reduction in IT costs, and improved revenue (eg. Thackrah, J. 2010), business performance is stronger than the effect of both business and IS strategic orientation (eg. Faryabi, M., et al 2013), factors which have direct impact such as adopted strategy, level of communication, trust and understanding, participation and involvement, shared domain knowledge and the level of industrial IT dependency (eg. Arafat, M. 2007), achieve business goals (eg. Gartlan, J., & Shanks, G. 2007), IT governance structures. (eg. Hajikhani, A., & Azadi, A. 2013), process-level alignment and IT success (eg. Cataldo, A., et al 2012), IT sophistication and the level of CEO's commitment to IT (eg. Hussin, H. 1998).

The key relationship variable of IT Strategy with other related variable/s with their respective reference can be summarized as follows. The five critical success factors like revisit your business model, adopt strategic themes, get the right people involved, work in partnership with the business and balancing IT investment opportunities (eg. Smith, H. A., et al 2007), IT investment steady with global enterprise strategies (eg. Baina, S., et al 2008), emerging information technologies and the technical performance aspects of emerging IT, current/future

uses of technology and technical compatibility of emerging IT with existing IS (eg. Cegielski, C. G., et al 2005), IT strategic plan six components such as application systems component, application development component, infrastructure component, maintenance component, operations component and security component (eg. Savin, J. M. (2004), description of responsibility for the implementation and description of user involvement during the implementation (eg. Gottschalk, P. 1999), IT strategy is considered a key component of an effective business strategy (eg. Egen, M. (2011).

This research study explore the linked variable of the primary variables of this research thus business strategy and IT strategy. This study reviews the exiting literature in a thorough manner to a novel evidence for the business strategy and IT strategy. This review research consist several constructs and associations which are powerfully supported by literature evidences. On the other hand some of which has not investigated previously. To broaden and facilitate further research with the literature support, a mind-map (see. Figure 01) shows these relationship variables to business strategy and IT strategy. Researchers and practitioners will highly benefit from this research mind-map, because it enables them to better formulate and develop hypothesis, construct conceptual model and form structured equation models.

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