



A Review of Information Technology Governance, Business Strategy and Information Technology Strategy

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Abstract: *This review examines Information Technology (IT) governance, business strategy and IT strategy from the existing literature. The systematic review of literature used mind map as a method to show how variables are interconnected with each other. This study revealed that the business strategy and IT strategy drive each other. Whereas, business-IT strategic alignment interconnected and mediated with IT governance, business strategy and IT strategy. For IT governance many variables have significant relationship such as strategic alignment, reduce IT control weaknesses, business-IT alignment, delivering business value, regulatory compliance and project success. Hence IT investment and IT leadership have moderate level relationship. Researchers and practitioners will benefit from this study's mind-map in many ways. This study facilitate them to formulate the hypothesis, conceptual model and structured equation models for their future research avenue.*

Keywords: *Information Technology Governance, Business Strategy, IT Strategy, Relationship, Mind-Map*

I. INTRODUCTION

In today's turbulent business environment IT governance, business strategy and IT strategy are high on the agenda of Executives. IT governance is one of the emerging field which plays a vital role in this IT era. Information Systems Audit and Control Association (ISACA) define IT governance as "The responsibility of executives and the board of directors; consists of the leadership, organizational structures and processes that ensure that the enterprise's IT sustains and extends the enterprise's strategies and objectives". IT Governance Institute (ITGI) define as "IT governance is the board's ability to direct and control the enterprise's use of IT resources in line with strategic goals, leadership, organizational structure and processes are used to leverage IT resources and drive alignment, the delivery of value, management of risk, optimization of resources and performance measurement". Both business strategy and IT strategy have been widely researched over recent years. Though, there has been less well-confirmed systematic review research to show the insight 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. Strategic planning of IT goals to business goals is a vital part for business-IT alignment in unstable business setting. The business-IT alignment is a key concern of many executive managers. Many academics and practitioners' research revealed that misalignment or lack of alignment between business and IT strategy was one of the key basis why enterprises not succeed to enjoy the full potential from 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 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 also recognized as vital to the entire business operation. 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. Mind map is used as a method to show the inter-connected variable/s for this research purpose. Mind map is a graphical way to represent ideas and concepts as a result visualizing, structuring information and help to better analyze, comprehend, synthesize, recall and generate new ideas. It is used as a method/technique in various studies for instance Peneder, M. (2008) used to describe how policy can answer the finance-related causes of under-investment in innovation in technology and corporate finance. D'Antoni, A. V., et al (2010) used

to investigate how mind map learning strategy facilitate information retrieval , critical thinking and whether a relationship exist between mind mapping and recall of domain based information among medical students. Michelini, C. A. (2000) used mind map as a method to quickly organize patient and staff education while evaluating the learner's comprehension of critical information.

II. LITERATURE REVIEW

IT governance is the accountability of the board of directors and executive management, thus it is the role, authority and accountability regarding various decisions related to IT adoption, deployment and usage. IT Governance as the process by which decisions are made around IT investments, how decisions are made, who makes the decisions, who is held accountable, and how the results of decisions are measured and monitored are all parts of IT governance. There are four objectives that drive IT governance such as IT value and alignment, accountability, performance measurement, and risk management. Each of these objectives must be addressed as part of the IT governance process. On the other hand 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 apparent that there is a possibility to drive these two in vice versa and most of the times business strategy drive IT strategy. For instance, Gartlan, J., & Shanks, G. (2007) found in their research that IT strategy tend to be driven by business strategy in Australian organizations. On the other hand Bharadwaj, A., et al (2013) stated that 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 finding. 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 are the first step in the alignment phase. Symons, C. (2005) found aligning IT and business strategy remains one of the top issue that business executives and CIOs struggle with. 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 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 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. Shamekh, F. R. (2008) mentioned 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 Arabian Small Medium Enterprises. 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.

III. OBJECTIVE OF THE RESEARCH

The primary objective of the research is to identify the associated variable/s in IT governance, business strategy and IT strategy. Consequently the researcher's intention is to find related variable's impact / relationship (significant / moderate / factor included in the study) in this IT governance, business strategy and IT strategy domain.

IV. 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. Moreover, IT governance practices are highly emphasized in this business-IT alignment domain. The backbone for this business-IT alignment is the business strategy and IT strategy. The research question arises as *what are the interconnected variables in IT governance, business strategy and IT strategy domain?*

V. METHODOLOGY

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

relationship variables thus; IT governance, IT governance and IT strategy, IT governance and business strategy, 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, IT strategy variable, business strategy variable and IT strategy variable. In the fourth step, the freely available journal articles, whitepapers, master, PhD thesis and conference proceedings 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 such as 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, International Journal of Accounting Information Systems, Information Systems Management, American Journal of Industrial and Business Management, Journal of Technology in Society, Journal of Global Strategic Management, 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 qualitative in nature. The extensive literature review was conducted in these primary variables thus IT governance, business strategy and IT strategy to find interconnected variables. The mind-map illustrate the notation based on its impact with other connected variable/s. The reason for selecting the mind-map is, it shows the graphical view of association for each interconnected variable more accurately. In the mind-map the arrow mark shows the direction of the relationship between the primary and other interconnected 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 document this factor is 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 1 shows the primary variables thus IT governance, business strategy and IT strategy, how the interconnected variable/s mentioned and their level of association indicated in the prior studies. The researcher found the associated variable/s among IT governance, business strategy and IT strategy as follows.

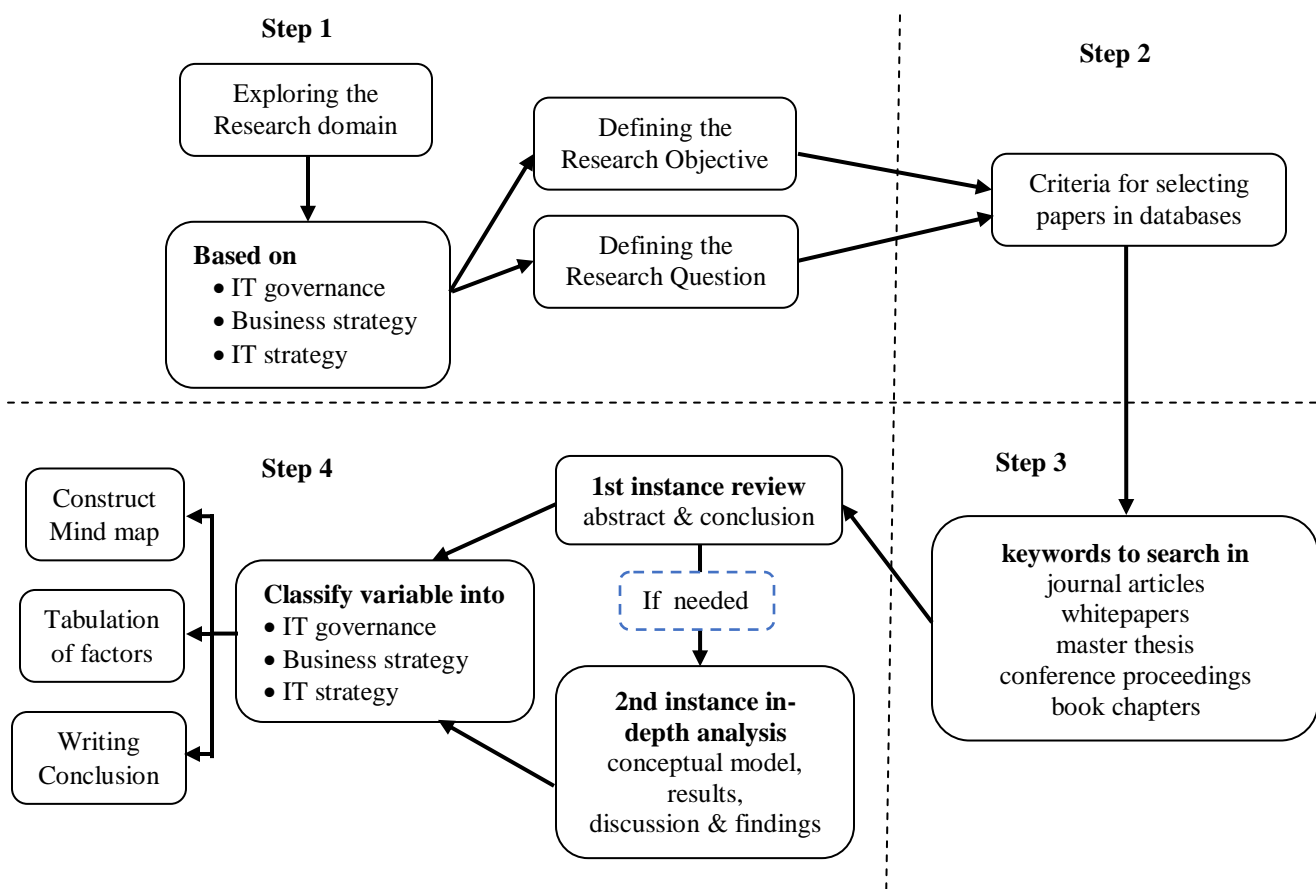


Figure 01: Research Process

Variables associated with IT Governance

Good IT governance enable enterprises to make and implement better IT decisions faster in organization. It ensures that the board know what is going on with IT, how risks are managed and whether IT is being put to best use for the organization. Bowen, P. L., et al (2007) indicated that more effective IT governance performance outcomes are

associated with a shared understanding of business and IT objectives, active involvement of IT steering committees, a balance of business and IT representatives in IT decisions, comprehensive and well-communicated IT strategies and policies. Further they indicated that IT governance plays a major role in encouraging project success and delivering business value and effective IT governance generates real business benefits such as enhanced reputation, trust, product leadership, and reduced costs. Gu, B., Xue, L., & Ray, G. (2008) stated that the firm with high IT governance misalignment receive no benefits from their IT investments whereas firm with low IT governance misalignment obtain two to three times the value from their IT investments compared to firm with average IT governance misalignment. They highlighted that when IT investment is small, IT governance will have little impact on firm performance. Thus IT governance moderates the relationship between IT investment and firm performance. Moreover they mentioned that the influence of IT governance rises with the scale of a firm's IT investment.

Liang, T. P., et al (2011) emphasized the maturity, decision level and IT professionalism in IT governance enable strategic alignment which in turn yields better organizational performance. Further they found that strategic alignment plays a major role in mediating the impact of IT governance structure on organizational performance and IT leadership plays a major role of IT governance practices, which can create positive impact on strategic alignment and firm performance. Huang, R., et al (2009) mentioned that senior management should be jointly (both formally and informally) involved with IT decision-making processes and IT governance policies, guidelines and practices should be communicated to organizational members via more accessible communication channels. Pritz, R. J. (2013) found the relationship such as business process improvement confirm the relationship with IT governance capabilities and firm performance. Further the IT Infrastructure capability (data integration, IT facilities and management, and training) confirm the relationship with IT governance capabilities and firm performance. Boritz, J. E., & Lim, J. H. (2008) concluded that IT governance effectiveness is significantly associated with reduce IT control weaknesses and by reducing it and their associated costs, IT governance contributes to improve financial performance and which further improve the firm performance.

De Haes, S., & Van Grembergen, W. (2009) discovered a clear relationship between the use of IT governance practices and business-IT alignment and found that business-IT alignment maturity is higher when organizations are applying a mix of mature IT governance practices. Further they highlight that it is easier to implement IT governance structures compared to IT governance processes and relational mechanisms. De Haes, S., & Van Grembergen, W. (2005) mentioned that an organisation can implement IT governance using a mixture of processes, structures and relational mechanisms. Their aim of this research was to measure the association between the established IT governance framework and the degree of achieved strategic alignment. Prasad, A., et al (2012) conducted that there is a favorable association between organizations IT governance efforts and their ability to leverage their IT resources. These IT resource capabilities also relate to measure business value at the process and firm level. This research assume that collaborative organizations' IT governance efforts contribute to business value. Van Grembergen, W., et al (2004) highlighted the key elements in IT governance are business-IT alignment and the achievement of business value through IT. IT governance can be achieved by acknowledging IT governance framework and its corresponding best practices. Such a framework and practices should be composed of a variety of structures, processes and relational mechanisms. Prasad, A., et al (2009) suggested that firms' effectiveness of IT steering committee-driven IT governance initiatives are positively related to the level of their IT-related capabilities. They found positive relationships between IT-related capabilities and internal process-level performance and improvement in internal process-level performance will be positively connected to development in customer service and firm-level performance.

Variables Associated with Business Strategy

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. Acquaaah, 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 degree 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 organizations, 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 niche. 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 delicately 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 that there is a moderating effect of business strategy on the association between operations strategy and firms' results.

Variables Associated with IT Strategy

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 goal is partly due to a lack of alignment.

To achieve the competitive advantages businesses need alignment between business strategy and IT strategy. 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.

In below figure 02 the numbers and signs in the circle indicate the references as follows

SN	Reference	SN	Reference
1	Acquaah, M. (2011)	25	Huang, H.L., et al (2011)
2	Almajali, D. A., & Dahalin, Z.Md., (2011)	26	Huang, R., et al (2009)
3	Alyahya, M., & Suhaimi, M. A. (2013)	27	Hussin, H. (1998)
4	Amarilli, F.(2014)	28	IT Governance Institute. (2008)
5	Arafat, M. (2007)	29	Kim, J. I. (2004)
6	Baina, S., et al (2008)	30	Kohli, R., & Devaraj, S. (2004)
7	Bharadwaj, A., et al (2013)	31	Liang, T. P., et al (2011)
8	Boritz, J. E., & Lim, J. H. (2008)	32	Lin, B. W. (2007)
9	Bowen, P. L., et al (2007)	33	Oltra, M. J., & Flor, M. L. (2010)
10	Cataldo, A., et al (2012)	34	Pang, M. S. (2014).
11	Cegielski, C. G., et al (2005)	35	Prasad, A., et al (2012)
12	Cuenca, L., et al (2010)	36	Prasad, A., et al (2009)
13	De Haes, S., & Van Grembergen, W. (2009)	37	Pritz, R. J. (2013)
14	De Haes, S., & Van Grembergen, W. (2005)	38	Raodeo, V. (2012)
15	Drnevich, P. L., & Croson, D. C. (2013)	39	Savin, J. M. (2004)
16	Egen, M. (2011)	40	Shamekh, F. R. (2008)
17	Faryabi, M., et al (2013)	41	Smith, H. A., et al (2007)
18	Gaedicke, J. C. (2012)	42	Symons, C. (2005)
19	Gartlan, J., & Shanks, G. (2007)	43	Thackrah, J. (2010)
20	Gu, B., Xue, L., & Ray, G. (2008)	44	Upadhyay, S. (2007)
21	Gupta, S. (2012)	45	Van Grembergen, W., et al (2004)
22	Gottschalk, P (1999)	46	Walker, S. (2012)
23	Hafeez, M. H., et al (2012)	47	Weiss, J. W., & Anderson, D. (2004)
24	Hajikhani, A., & Azadi, A. (2013)	48	Zehir, C., et al (2010)

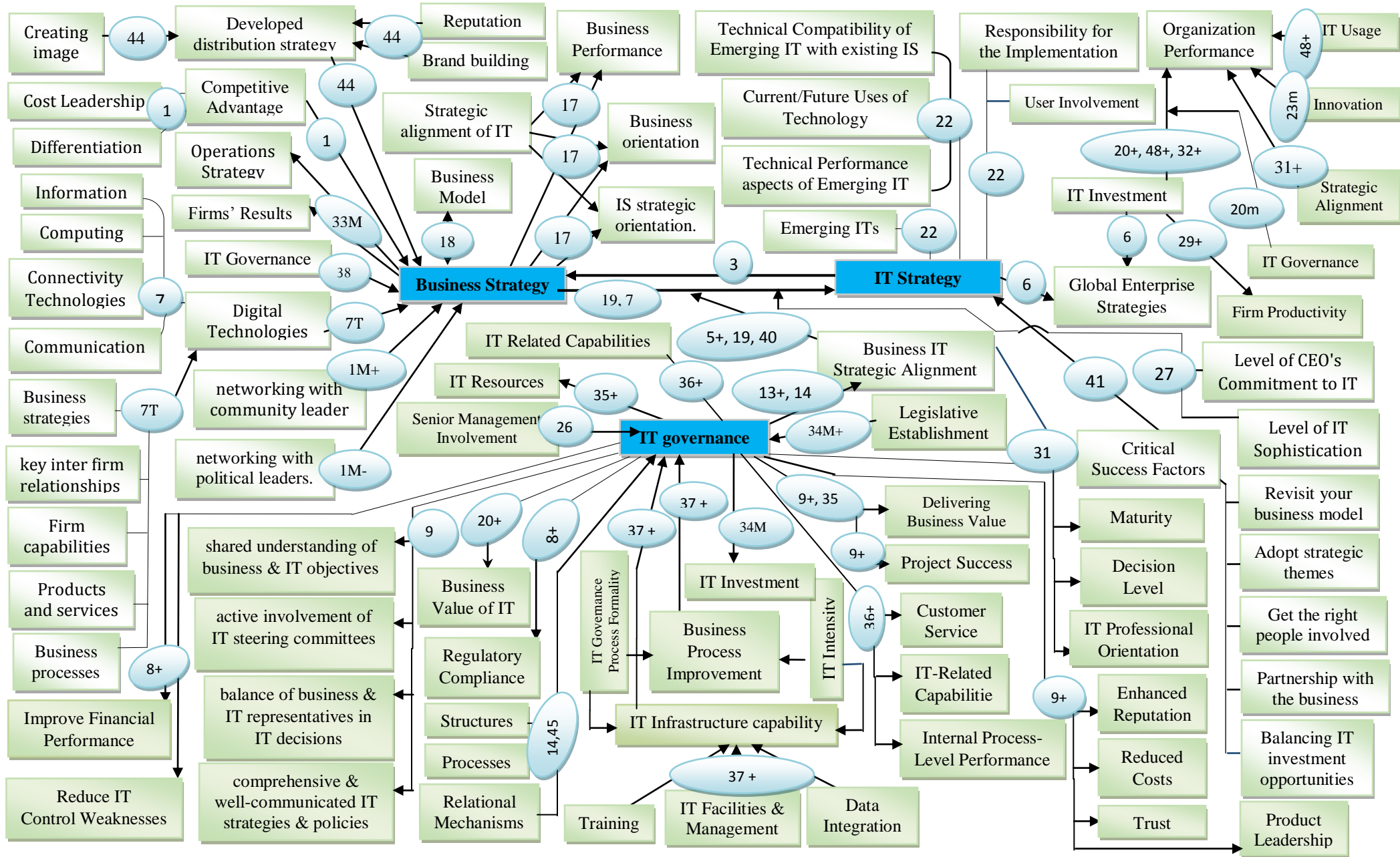


Figure 02: Interconnected variable's Mind-Map of IT Governance, Business Strategy and IT Strategy

Table 01: Key Variables / Factors Mentioned in Prior Studies

Prior Studies		Key Variables / Factors Associated with Business Strategy								
Year	Author(s)	Digital Technologies	Operations Strategy	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								
2010	Oltra, M. J., & Flor, M. L. [33]		M							
2012	Gaedicke, J. C. [18]			X						
2013	Faryabi, M., et al [17]				X, S					
2011	Acquaah, M. [1]					X				
2012	Raodeo, V. [37]						X			
2011	Acquaah, M. [1]							X, M		
2011	Acquaah, M. [1]								X, M-	
2007	Upadhyay, S. [43]									X
		Key Variables / Factors Associated with IT Strategy								
Year	Author(s)	Critical Success Factors	Business Strategy	Emerging IT	Global Enterprise Strategies	Level of IT Sophistication	Level of CEO's Commitment to IT	Current/Future Uses of Technology	Technical Performance aspects of Emerging IT	User Involvement
2007	Smith, H. A., et al 40]	X								
2007/13	Gartlan, J., & Shanks, G. & [19] Bharadwaj, A., et al [7]		X							
2005	Cegielski, C. G., et al [11]			X						
2008	Baina, S., et al [6]				X					
1998	Hussin, H. [27]					X				
1998	Hussin, H. [27]						X			
2005	Cegielski, C. G., et al [11]							X		
2005	Cegielski, C. G., et al [11]								X	
1999	Gottschalk, P [22]									X
		Key Variables / Factors Associated with IT Governance								
Year	Author(s)	IT Investment	IT Resources	Strategic Alignment	IT Leadership	Reduce IT Control Weakness	Business-IT Alignment	Delivering Business Value	Regulatory Compliance	Project Success
2007	Bowen, P. L., et al [9]							X, S		X, S
2012	Prasad, A., et al [35]		X							
2007/14	Lin, B. W. [32] & Pang, [34]	X, M								
2008	Gu, B., Xue, L., & Ray, G. [20]	X, M						X, S		
2008	Boritz, J. E., & Lim, J. H. [8]					X, S			X, S	
2005/04	De Haes, S., et al & Van Grembergen, W., et al [14] , [44]						X, S			
2010	Zehir, C., et al [47].	X								
2011	Liang, T. P., et al [31]			X, S	X, M					
2012	Prasad, A., et al [34]							X		

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

VI. DISCUSSION OF FINDINGS

The review of IT governance interconnected variable/s with their respective reference can be summarized as follows. From the literature research the shared understanding of business and IT objectives, active involvement of IT steering committees, a balance of business and IT representatives in IT decisions, and comprehensive and well-communicated IT strategies and policies (eg. bowen, P. L., et al 2007), project success and delivering business value and generates real business benefits such as enhanced reputation, trust, product leadership, and reduced costs (eg. P. L., et al 2007), maturity, decision level and IT professionalism enables strategic alignment (eg. Liang, T. P., et al 2011), business process improvement and the IT infrastructure capability such as data integration, IT facilities management, and training (eg. Pritz, R. J. 2013), reduce IT control weaknesses, associated costs, improve financial performance (eg. Boritz, J. E., & Lim, J. H. 2008), business-IT alignment (eg. De Haes, S., & Van Grembergen, W. 2009), mixture of processes, structures and relational mechanisms (eg. De Haes, S., & Van Grembergen, W. 2005), leverage IT resources (eg. Prasad, A., et al 2012), business-IT alignment and business value (eg. Van Grembergen, W., et al 2004), IT-related capabilities, internal process-level performance, development in customer service and firm-level performance (eg. Prasad, A., et al 2009).

The review of business strategy interconnected 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. Acquah, 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 review of IT strategy interconnected 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).

VII. CONCLUSION

This systematic research study shows the interconnected variable/s of the primary variables of this research domain thus IT governance, business strategy and IT strategy. It allows for summarizing the results of previous researches in a field to provide new insights in terms of the phenomenon observed or the variable linked. This study reviews the exiting literature in a thorough manner to a novel evidence for these IT governance, business strategy and IT strategy. This primary variable shows the interconnected variables in a pictorial overview thus in a mind-map. This review research consist several constructs and associations which are powerfully supported by literature evidences. On the other hand, some of which have not investigated or a little uncovered previously. To broaden and facilitate further research with the literature support, a mind-map (Figure 02) shows these relationship variables very visibly. 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.

To make it more visual the interconnected variable's summary information with their respective references tabulated and shown in the mind-map. This review revealed that there are several literature evidences which proves business strategy and IT strategy drive each other. On the other hand, business-IT strategic alignment interconnected and mediated with IT governance, business strategy and IT strategy. This systematic review revealed that the business-IT strategic alignment, delivering business value, IT investment and organization performance were associated and mentioned in many prior studies. The variable business performance has significant relationship with business strategy. The variable digital technologies transform the business strategy. In the IT strategy category none of the variable has significant relationship. Whereas IT governance and innovation moderate the relationship of organization performance. In the IT governance category many variables have significant level of relationship namely strategic alignment, reduce IT control weaknesses, business-IT alignment, delivering business value, regulatory compliance and project success. Hence IT investment and IT leadership have moderate level relationship.

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