

RELATIONSHIP BETWEEN BUILDING HUMAN RESOURCES AND BUSINESS VALUE PLANNING

Dr.Lakshmi Vishnu Murthy Tunuguntla*

Abstract

The purpose of this research is to understand and quantify the relationship of building human resources on business value planning and strength of interaction among them. A theoretical framework is proposed regarding the constructs of, building human resources (BHR) and Business-Value planning (BVP) and the construct validity was established. The sample data from 65 firms were obtained through structured questionnaires. Structural equation modeling (SEM) was used to perform confirmatory factor analysis. Regression model was used to model the relationships between the constructs. The results showed that relationship between business value planning on building human resources is strong.

Key words: Business value planning, build human resources, human resource competencies.

* Associate Professor, Goa Institute of Management, Sanquelim Campus, Poriem, Sattari, Goa – 403505, India

1. INTRODUCTION

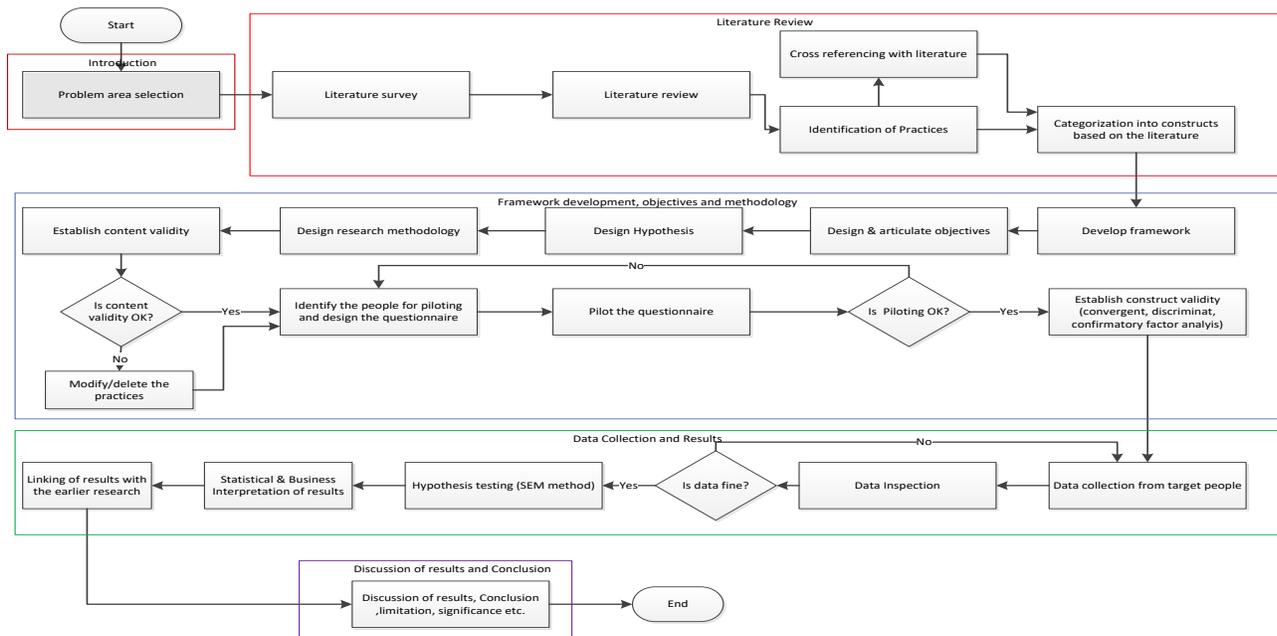
Business value planning: This is to ensure that the critical business processes are identified in accordance with business strategy, creation of value indicators and SLAs while identifying the needed roles and accountabilities.

Build Human resources: This is to ensure that the right set of skills/competencies to aid the business-IT alignment are built

(Kaur & Sengupta, 2011) conducted a research to understand the reasons for the failure of software. Their findings indicate that majority of the projects fail to meet their objectives due to poorly defined applications, miscommunication between business and IT, lack of appropriate skills, poor requirements gathering, analysis, lack of relationship between business and IT, and management costing U.S. businesses about \$30 billion every year.

2. METHOD

The following picture describes the method followed to achieve the purpose of this research paper.



3. LITERATURE REVIEW

(Feeny & Wilcocks, 1998) suggested framework for planning in-house IT function to keep pace with changing needs of technology based on their research. The framework has nine core capabilities and how the core capabilities can be used to handle the challenges in IT exploitation in addressing Business & IT Vision, Design of IT Architecture and Delivery of IT Services. Some of the core capabilities like Business Systems Thinking (equivalent to Business Value Planning in the current research), Relationship Building, is involved in integrating the IS/IT effort with business purpose and activity. Business Systems Thinking addresses envisioning the business process that technology makes possible. Relationship building is concerned with getting the business constructively involved in IS/IT issues.

(Segars & Grover, 1998) conducted an empirical research to understand the impact of Strategic Information System Planning (SISP) on SISP success. The construct “Planning Capabilities” explains the need to understand business strategy and its information needs and ability to gain cooperation among user groups for IS plan.

Weil and Ross (2004) state that governance is about specifying the decision rights and accountability framework to encourage desirable behavior in the use of IT.

Vision for IT: This represents the defining of vision for IT by involving appropriate stakeholders in the organization, communicating the vision for IT to the entire organization and ensuring the uniform understanding of vision across organization.

Business Value Planning: This is to ensure that the critical business processes are identified in accordance with business strategy, creation of value indicators and SLAs while identifying the needed roles and accountabilities.

Design and Develop Suitable Architecture: An integrated set of technical choices to guide the organization in satisfying business needs and the technical architecture represents the intent of the business process architecture.

Business-IT alignment

The degree to which the information technology mission, objectives and plans support and are supported by the business mission, objectives and plans.

Design and implement Portfolio Management

IT Portfolio Management is the combination of tools and methods used to measure, control, and increase the return on both individual IT investments and on an aggregate enterprise level in a desirable manner that meets the organization's business objectives without exceeding available resources or violating other constraints.

Investment (Project) Management

To manage the project like an investment thus generating the ROI for the stakeholders and the organization through collection of metrics that are linked to business benefits.

Build Human Resources

This is to ensure that the right set of skills to aid the business-IT alignment are built

Build communication strategy

To ensure that right communication exists between the business and IT and ensure corporate communication is effective.

Build Human resources

(Weill & Aral, 2006) Conducted their research and discussion with CIOs and IT managers at 147 U.S. companies in large U.S & European and Asian organizations to understand the IT savvy. They found that many companies are still not able to utilize the total potential of their IT investments, although they implement IT portfolio management as a best practice, The studies show that a measurable premium benefit can be gained by implementing a set of interlocking business practices and processes, known as IT savvy. There are three practices related to IT use and two competencies needed for establishing IT savvy. The three practices for IT are internal & external communication, Internet use, Digital transactions and the competencies needed are companywide IT skills & management involvement. These practices and competencies would facilitate the company to achieve business – IT alignment.

(Heather, et al., 2007) conducted research to understand the issue of how to develop an effective strategy using focus group methodology. The research identified the critical success factors for creating the business value through building the IT strategy and challenges involved. The critical success factors included revisiting the business model on a periodic basis, developing strategic themes to develop business capabilities and building partnerships with business. The major challenges are lack of supportive governance structure, lack of enterprise-wide funding models, lack of appropriate traditional planning and budgetary practices, lack of

better skills of business and IT leaders for strategizing and finally inability of IT strategy to create balance among conflicting strategic imperatives.

(Smith & Mckeen, 2010) describe the issues with respect to the communication between the business and IT. One of the most important skills all IT staff need to develop today is how to communicate effectively with business. Over and over, research has shown that if IT and business cannot speak the same language, focus on the same issues and communicate constructively, they cannot build a trusting relationship. And business is consistently more negative about IT's ability to communicate effectively than IT is. In fact, even while IT collaboration is improving, business's assessment of IT's communication skills is declining. While much attention has been paid to organizational alignment between IT and business (e.g., governance, structure) very little has been paid to the nature and impact of the social dimension of alignment, a big element of which involves communication. To explore the business and interpersonal competencies that IT staff will need in order to do their jobs effectively over the next five–seven years and what companies should be doing to help develop them, the authors convened a focus group of senior IT managers from a variety of different organizations.

(Tunuguntla et al,2013), conducted research to understand and quantify the direct and indirect effects of Business Value Planning and Human Resources on Business-IT Alignment. A theoretical framework is proposed regarding the constructs of Business Value Planning (BVP), Human Resources (BHR) and Business-IT Alignment (BIA) and the construct validity was established. The sample data from 65 firms were obtained through structured questionnaires. Structural equation modeling (SEM) was used to understand and quantify the relationships. Business Value Planning had a significant Direct effect on the Business-IT Alignment and Human Resources has a significant Direct and Indirect effect on Business-IT alignment. The tested framework suggests that Human Resources is essential and plays a key role during the Business Value Planning contributing to the linkage of Business Value Planning and Business-IT alignment.

(Tunuguntla et al,2013) conducted a study in the context of Indian IT industry to understand and quantify the direct and indirect effects of partnership and building human resources on business-IT alignment. The research identified about seven to eight empirical studies that described the interaction between the factors considered in this study and business-IT alignment. A theoretical framework was proposed regarding the constructs of partnership, human

resources and business-IT alignment (BIA). The sample data from sixty-five firms were obtained through structured questionnaires. Structural equation modeling (SEM) was used to understand the strength of relationships among the three constructs and estimate the probability associated with the indirect effects using bootstrap technique. The results showed that building human resources and developing partnership between business and IT groups have a significant direct and indirect effect on business-IT alignment. The results suggest that building human resources and partnership is essential and play a key role to establish business-IT alignment contributing to business strategy.

(Roses, L.K et al, ,2015) proposed a model of conversational competences for Business and IT managers aiming at the strategic alignment between their areas. The theory of this alignment highlights the importance of communication between Business and IT areas, which is explored in the social dimension of their managers' relationship through conversational competences. A survey research was performed with Business and IT managers from public and private organizations in Brazil, whose data were analyzed through multivariate statistical techniques - exploratory and confirmatory factor analysis - and thematic content analysis. The results confirmed the constructs and most of the hypotheses of the proposed research model, which was expanded with new constructs and hypotheses

Mapping of Practices with Literature

The research described above indicates the impact of BP on Business-IT alignment individually. So the literature has been surveyed to get the support from the literature for BP construct and the same is provided in the form of tables below.

Table 3-1 Mapping between BVP Practices and Literature

Practice no	Business Value Planning	Cross references
1	Understanding Business Strategy of my customer organization and formulate its Strategy	Bartholet, Budd and Turisco (2009),Nielsen (2007),Segars and Grover (1998)
2	Understanding of Business Processes that support the Business Strategy	Peak, Guynes,Prybutok and Hu (2011),Nielsen (2007),Segars and Grover (1998)

Practice no	Business Value Planning	Cross references
1	Understanding Business Strategy of my customer organization and formulate its Strategy	Bartholet, Budd and Turisco (2009),Nielsen (2007),Segars and Grover (1998)
3	Understanding the critical business processes(including the parameters that are needed for the success of these processes) of my customer organization	Peak, Guynes,Prybutok and Hu (2011), Buckow and Rey (2010), Ross(2003),Nielsen (2007) ,Ross (2004),Segars and Grover (1998)
4	Establishing mechanisms or formal organizational roles to perform the above activities (For eg. IT strategic committee at the board level to assist the board and CIOs involvement in Business Strategy Development)	Luftman&Brier(1999), Weil &Ross(2004); De Haes&VanGrembergen(2006), Nolan &McFarlan(2005), Bartholet, Budd and Turisco (2009) ,Ross (2004) ,Rui, Zmud and Leon (2010)
5	Understanding business expectations of the software products/ Applications to be delivered to the customer from by preparing a Business case or going through an existing business case by involving relevant people	Luftman and Brier (1999),Weil and Ross (2004), Peak, Guynes,Prybutok and Hu (2011), Buckow and Rey (2004), Budd and Turisco (2009),Segars and Grover (1998) , et al.(2003)
6	Creating Service Level agreements (SLAs)	Farell(2003),Weill&Ross(2004); Van Grembergen et al.(2003); De Haes&VanGrembergen(2006)
7	Assigning accountability to roles to ensure the success of the IT Applications/Software Product Initiatives	Bartholet, Budd and Turisco (2009),Weill and Broadbent (1993),Luftman& Brier(1999)
9	Making the people accountable for the success/failure of IT applications/software products	Bartholet, Budd and Turisco (2009),Weill and Broadbent (1993),Luftman& Brier (1999)

Table 3-2 Mapping between BHR Practices and Literature

Practice number	Build Human Resources(BHR)	Cross referencing
10	Availability of people who are working in the IT are Business Savvy	(Weill & Aral, 2006) ; (Luftman & Brier, 1999), (Feeny & Willcocks, 1998), (Baets, 1996); (Hatfield, et al., 2008)
11	Availability of people who are on the business side are who are familiar with the aspects of	(Luftman & Brier, 1999), (Feeny & Willcocks, 1998), (Hatfield, et

	IT	al., 2008)
12	Availability of people working in both IT and business side who have strong communication skills	(Luftman & Brier, 1999) (Hatfield, et al., 2008)
13	Availability of people who are good at working at local and virtual teams	(Luftman & Brier, 1999), (Hatfield, et al., 2008)
14	Availability of people who have the adaptability to move between Business and Application/Product development requirements effectively	(Khani, et al., 2011), (Hatfield, et al., 2008)

4. FRAMEWORK DEVELOPMENT, OBJECTIVES AND METHODOLOGY

4.1 RATIONALE FOR DEVELOPING THE RESEARCH FRAME WORK

The rationale for the framework is developed by identifying how BHR impacts Business value planning and then the framework is designed.

Table 4-1 Rationale for Research Model Design

Paths in Research Design		Evidence from Literature survey	
BVP	<---	BHR	(Feeny & Willcocks, 1998)

4.2 RESEARCH FRAMEWORK

Based on the above rationale, the research framework is developed and Regression analysis is used to model this in quantitative terms.



Figure 4-1 Research Model

4.3 OBJECTIVE OF THE STUDY

- To understand the impact of building human resources on Business value planning in the context of Indian IT Industry

4.4 HYPOTHESIS DESIGN

Hypothesis (H1) : Building human resources does not affect Business value planning

RESEARCH DESIGN

The basic research design selected for this initiative is cross sectional survey conducted in the IT cover IT Industry in Chennai, Hyderabad, Pune and Noida who are in System Integration, through stratified random sampling from Middle and Senior Management executives with 5 plus years of experience. The questionnaire has been derived with factors of Portfolio Management and Business-value planning using a 5 point scale (1 – Strongly disagree, 2 – Disagree, 3 – Neutral, 4 – Agree, 5 – Strongly agree). The tools used for Construct Validity are Content Validity, Reliability, Discriminant Validity and Confirmatory Factor Analysis. Correlation and Regression have been used to acquire appropriate inferences and testing of hypothesis.

Control variable

Control variable here is "type of organization". The examples for types of organizations could be that it is a System integration business or product development business or Captive IT. In this research, the target population is only System integration business and it is constant throughout the research.

4.5 CONTENT VALIDITY

A widely used method to measure content validity was developed by (Lawshe, 1975). It is a method for gauging the agreement among the experts regarding the essentiality of a particular item.

It is computed that Mean Content Validity Ratio (CVR) = 0.79 as compared to the target value of 0.50. For each practice the Content Validity ratio has exceeded the expected target value (which is based on the 15 subject matter experts) as per the above table. Since the Mean Content validity and the Content validity for each of the practice have exceeded their expected target values, we can conclude that the practices are in line with the expectations of the Subject Matter Experts and having high relevance in the Indian context to assess the relationship between DPM and Business-value planning.

4.6 PILOTING & CONSTRUCT VALIDITY

4.6.1 Reliability

The pilot survey was conducted with 49 respondents and checked for its reliability (for all the three factors together) with Cronbach alpha test (Cronbach & Meehl, 1955) and found to be 0.81. Since the pilot survey has shown a significant reliability value, the survey was continued to

collect the data. Cronbach reliabilities for the pilot study also had been done for both the factors (BHR and BVP) separately and the outcomes are in the range of 0.75 to 0.85.

4.6.2 Convergent Validity

(Bagozzi and Phillips 1982) conducted research on convergent validity to understand “if measures of constructs that theoretically *should* be related to each other are, in fact, observed to be related to each other”. Convergent validity is “the degree to which two or more attempts to measure the same concept...are in agreement”.

Item convergence was assessed through the calculation of the average variance-extracted scores. Commonly, scores greater than 0.50 support a case for convergent validity (Fornell & Larcker, 1981).

According to results obtained, all of the “Average Variances Extracted” for constructs was greater than 0.50. Thus, convergent validity is evident.

According to all the average variances extracted estimates were close to or greater than 0.50. Thus, convergent validity is evident.

4.6.3 Discriminant Validity

Discriminant validity is “the degree to which measures of distinct concepts differs” (Bagozzi & Phillips, 1982). Measures of different constructs should share little variance. Discriminant validity is important to the discussion of model fit because it establishes that two or more constructs are separate and distinct from one another. If constructs are separate and distinct from one another, then it can be established whether or not a predictive or causal relationship exists between them.

The results support the existence of Discriminant Validity, as the Average Variance Extracted (AVE) for each of the Constructs was greater than the shared variance between the constructs.

4.6.4 Confirmatory Factor Analysis

Upon satisfactory results, Confirmatory Factor Analysis (CFA) was performed to confirm the findings using SPSS Amos 20.0. The model values found satisfy the literature expectations.

Table 4-4 Summary of SEM model Values for constructs

Name of the construct	CMIN/DF	P	RMR	GFI	RFI	CFI	NFI	RMSEA
BHR	1.16	0.32	0.008	0.993	0.984	0.999	0.99	0.025
Business value planning	1.55	0.06	0.016	0.97	0.96	0.99	0.97	0.045

Interpretation of CFA

The structural equation modeling approach using Confirmatory Factor Analysis (CFA) compliments traditional methods of evaluating reliability (like Chronbach alpha) and validity. The measurement model examines the relationship of observed indicators to their underlying constructs (latent variables), and provides a confirmatory assessment of convergent validity by evaluating the significance of the estimated indicators coefficients. The loading obtained are strong.

The measures were validated through CFA using single factor model (Albright & Park, 2009). Here maximum likelihood method is used in AMOS 20.0 version.

5. DATA COLLECTION AND RESULTS

Questionnaires and interviews are a commonly used method of gathering data for research purposes. The major inputs considered for designing the questionnaire are the research objectives, hypothesis and the research framework and target population of research. The questionnaire is divided in to 2 sections with a totalof 14 questions.269 valid filled questionnaires have been received.

5.1 RESULTS

5.1.1 Hypothesis Testing

Regression model was used to model the framework and test the hypothesis. In this case the regression coefficient and statistical significance are computed. The results are shown in the following diagram and table.

Model diagram:**6. DISCUSSION AND CONCLUSION****6.1 EFFECT OF BUSINESS VALUE PLANNING(BVP) ON PORTFOLIO MANAGEMENT(DPM)**

It is observed that Build human resources (BHR) affects Business value planning(BVP). The effect of BHR on BVP is 0.83 and is statistically significant at 1% level. The regression coefficient 0.83 means that when BHR goes up by 1 standard deviation, “BVP” goes up by 0.83 standard deviations. So the effect of BHR on BVP is strong and significant statistically. *So the null hypothesis (H1) is rejected and alternate hypothesis is accepted.*

6.2 CONCLUSION

The effect of Build human resources (BHR) on business value planning(BVP) that the Build human resources is critical during the business value planning.

6.3 RESEARCH IMPLICATIONS**6.3.1 Implications for Theory base**

The implications of this research towards the theory are to build a structure for the business value planning (BVP) and Build human resources. The construct structures are designed using the literature survey and tested through confirmatory factor analysis - single factor model using Maximum Likelihood method (ML) through Structured Equation Modeling (SEM). The confirmatory factor analysis showed very good relationships between the constructs and the items under each of the constructs. The model fit values match or exceed the expectations from the literature. The framework developed would add value to the theory base as it describes interaction between the business value planning (BVP) and BHR.

6.3.2 Implications for IT organizations

The study describes a very good correlation between Build human resources (BHR) and Business value planning. The portfolio management (BHR) is critical to conduct the business value planning and this would support the business strategy and useful to business-IT alignment.

6.3 LIMITATION

- The size of the organization could play a role and thus focusing on Small/Medium/Large organizations may result in a different model/Interrelationships.
- In the current study, the maturity of the organization is not considered in the scope and the maturity of the organization could alter the findings.

REFERENCES

REFERENCES

- Albright, J. J., & Park, M. (2009). *Confirmatory Factor Analysis Using Amos, LISREL, Mplus, and SAS/STAT CALIS*. Retrieved 12 15, 2011, from The University Information Technology Services (UIT) Center for Statistical and Mathematical Computing, Indiana University: <http://www.indiana.edu/~statmath/stat/all/cfa/index.html>
- Baets, W. (1996). Some Empirical Evidence on IS Strategy. Alignment in banking. *Information & Management*, 30(4), 155-177.
- Bagozzi, R. P. & Philips, L. W., 1982. Representing and testing organizational theories: A Holistic Construal. *Administrative Science Quarterly*, 27(3), pp. 459-489.
- Bartholet, E., Budd, M. & Turisco, F., n.d. *Getting Value from IT begins with Agile, Results oriented IT Governance*. [Online]
Available at: assets1.csc.com/
[Accessed 27 DEc 2012].
- Buckhow, H., & Rey, S. (2010). Why business needs should shape architecture. *Mckinsey on Business Technology*, 19(5).
- De Haes, S., & Van Grembergen, W. (2006). IT Governance best practices in Belgian Organisations. *Hawaii International Conference on System Sciences*, (pp. 4-7). Hawaii.
- Farrell, I. J., 2003. *Aligning IT to Corporate Objectives: Organisational Factors in Use*. Sydney: s.n
- Feeny, D., & Wilcocks, L. (1998). Core IS capabilities for exploiting information technology. *MIT Sloan Management Review*, 39(3).

- Studies. *40th Hawaii International Conference on System Sciences*. Hawaii.
- Heather, A. S., James, D. M., & Satyendra, S. (2007). Developing Information Technology Strategy for Business value. *Journal of Information Technology Management*, 18(1).
- Kauri., & Sengupta. (2011). Software process models and analysis on failure of software development projects. *International Journal of Scientific & Engineering Research*, 2(2), 2-3.
- Luftman, J., & Brier, T. (1999). Achieving and sustaining business-IT alignment. *California Management Review*, 42(1), 109-122.
- McKeen, J. D., & Smith, H. (2003). *Making IT Happen: Critical issues in IT management*. NJ: Wiley.
- Nielsen, E., 2007. *The road to IT Governance Excellence*. [Online] Available at: Serena.com [Accessed 15 October 2012].
- Ross, J. (2003). Creating a Strategic IT Architecture Competency: Learning in stages. *MIT Sloan Management Review*, 19(CISR WP No.335).
- Segars, A., & Grover, V. (1998). Strategic information systems planning success: An investigation of the construct and its measurement. *MIS Quarterly*, 22(1), 155.
- Van Grembergen, W., De Haes, S., & Guldentops, E. (2003). *Structures, Processes and Relational Mechanisms for IT Governance*. In Van Grembergen (ed), *Strategies for Information Technology Governance*. Hershey, PA: Idea Group Publishing.
- Weill, P., & Ross, J. (2004). *IT Governance: How Top Performers Manage IT Decision Rights for Superior Results*. Boston: Harvard Business School Press.

About the author(s)

Dr.Lakshmi Vishnu Murthy Tunuguntla is a Senior Professional currently working for Goa Institute of Management, Goa as Associate Professor and Area Chair Person in the Dept of Operations and IT. He has an overall exp of 28 in various areas like Teaching, IT, Marketing, R & D and Production with rich International consulting & training experience in MNCs in USA, Japan, Brazil, Gulf.