

AN EMPIRICAL INVESTIGATION INTO DETERMINANTS OF SUCCESS OF FOREIGN FINANCED DEVELOPMENT PROJECTS IN SRI LANKA

Ubayachandra, E.G.¹ and De Silva, S.K.D.U.²

¹Department of Marketing Management, Faculty of Commerce & Management Studies
University of Kelaniya
eubayachandra@gmail.com

²Department of Marketing Management, Faculty of Commerce & Management Studies
University of Kelaniya
udeshi.desilva.skd@gmail.com

Abstract

By this empirical study it was aimed to investigate into the factors that affect the success or performance of foreign financed community based development projects in Sri Lanka. Out of the 548 existing project implementing organizations (Action Plan 2006) for the convenience of the analysis 64 organizations covering 15 districts were taken into consideration. The selected organizations are mixed with UN organizations, government and semi-government ventures, international NGOs, local and national NGOs. For collecting data 250 questionnaires which were received back without rejection were administered among the selected organizations. The key purpose of the study was to evaluate the influence made by identified couple of factors on success of considering projects. Specific objectives were to examine the interrelationship between main two factors and to identify the influence made by infrastructure facilities on success of these projects. For this purpose three research questions were addressed. They are; what is the degree of influence made by two factors on success? What is interrelationship between two factors? What is the influence made by infrastructure facilities on success? Success of the projects was estimated in terms of allocation of resources, goal attainment and other impacts associated with productivity and quality improvement. Univariate analysis and bivariate analysis were employed in analyzing the data. Furthermore, "t" test and "F" test were applied for testing respective two hypotheses. In computing P value it was considered that for high significant level it should be equal to 0.05 and for it significant level should be equal to 0.10. For more clarification SPSS computing software version was associated. As indicated by the results of discussion it was noted that though both endogenous factors and exogenous factors make influence on success of projects, a dominant and vital role is played by endogenous factors in determining the performance of community based development projects in Sri Lanka. Thus a great attention should be paid on endogenous factors in strategically planning and implementing these projects.

Keywords: Endogenous Factors, Exogenous Factors, Determinants, Reliability, Validity, Performance, Projects, Leadership

1. INTRODUCTION

A project may be defined as a series of related jobs usually directed towards some major output and requiring a significant period of time to perform. (Chase, Jacobs and Aquilano

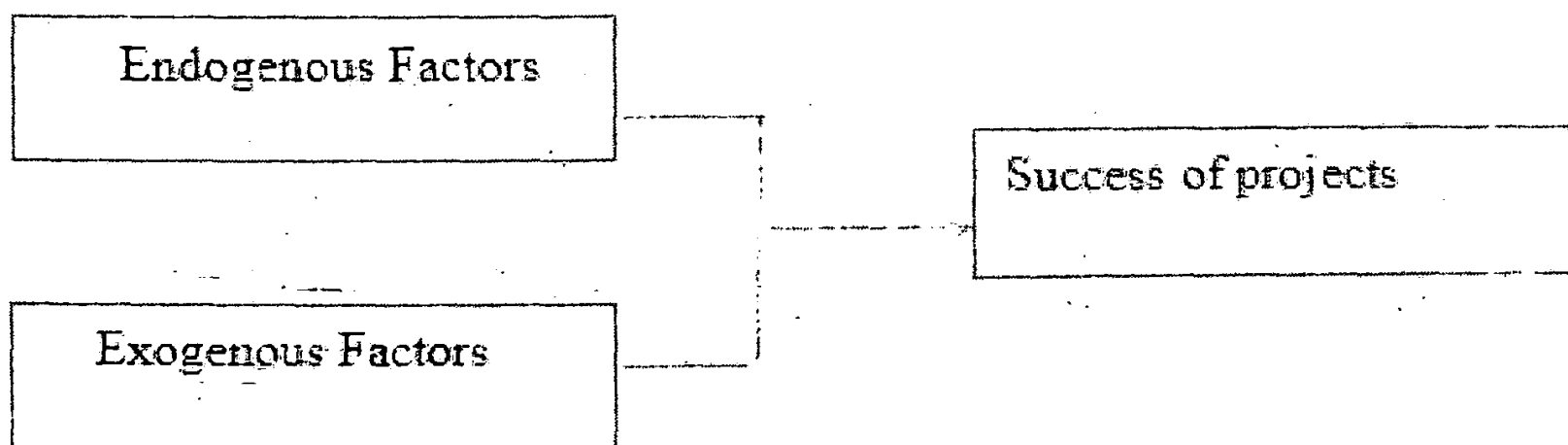
2006). Project Management: can be defined as planning, directing and controlling resources (people, equipment and material) to meet the technical cost and time constraints of the project. In this case, leadership plays a key role. In particular, leadership styles of managers are vital in managing a project to achieve higher performance. Leadership is generally defined as influence, the act or process of influencing people so that they will strive willingly towards the achievement of group goals. (Koontz and O'Donnell, 1996, P.587). Leadership style is the term used to refer to the typical or consistent behaviour that a leader tends to use while interacting with subordinates. (Hitt et.al, 1979, p.270). Professional project managers are individuals skilled at not only the technical aspects of calculating such things as early start and early finish time but, just as important, the people skills related to motivation. (William, P.B, 1996). In addition, the ability to resolve conflicts as key decision points occur in the project is a critical successful project is the best way to prove the promotability to the people (Gray, C.F, 2002). Virtually, all project work is team work and leading a project involves leading a team. (Devaux, S.A. 1999) Success at leading a project will spread quickly through the individuals in the team. (Lewis, James. P, 1999). As organizations flatten (through reengineering, downsizing, and outsourcing), more will depend on projects and project leaders to get work done, work that previously was handled within departments. (Smith Daniels, D.E. and N.J. Aquilano. 1984). Thus project leaders should enhance the skills needed to manage people, time and results of the projects. (William, P.B. 1996.) In particular, a better scheduling policy should be formulated. Scheduling with material ordering is essential for achieving success. (Smith-Daniels, E.E. and V. Smith Daniels, 1987).

In this context, system approach to planning, scheduling and controlling the projects is highly required. (Kerzner, 2002) Accordingly, the central problem addressed in this paper is related to how well foreign financed development projects function in Sri Lanka.

2. RESEARCH FRAMEWORK

In constructing the conceptual framework, major two independent variables namely endogenous and exogenous factors extracted from the respective literature review were based. Here endogenous factors represent managerial components while exogenous factors are related to external -linking components. And also, success of projects was considered as the dependent variable. The following schematic diagram shows the conceptual framework administered throughout this study.

Figure 01: Conceptual Framework



Based on the above conceptual framework following two hypotheses were also formulated.

H₁: Endogenous factors directly affect success of projects.

H₂: Exogenous factors and success of projects are positively related.

3. MEASURES

Here, mean values and standard deviation computed with the aid of five point scale in respect of endogenous and exogenous factors were applied to present the respective data. The continuum was designed by including the range running from strongly agree to strongly disagree. Weightages or values of 5,4,3,2, and 1 were allocated to the responses taking the direction of the questions into consideration. With regard to 15 questions on operationalizing the extent of influence, the following score values are presented.

15 x 5 = 75 satisfactory responses

15 x 4 = 60

15 x 3 = 45 neutral responses

15 x 2 = 30

15 x 1 = 15 unsatisfactory responses

Unsatisfactory response lies between 15 and 35. any score between 35 and 55 refers to a mediocre responses. Also, scores between 55 and 75 would mean a satisfactory responses. Having worked out the categorization, for presenting and analyzing the data. ANOVA technique, Pearson's coefficient of correlation analysis and multiple regression analysis were employed.

Reliability and Validity

The reliability of a measure indicates the extent to which it is without bias (error free) and hence ensures consistent measurement across time and across the various items in the instrument (Uma sekaran, 2006). In other words, the reliability of a measure is an indication of the stability and consistency with which the instrument measures the concept and helps to assess the "goodness" of a measure.

Under the validity the authenticity of the cause-effect relationships (internal validity) and their generalizability to the external environment (external validity) are concerned (Uma sekaran, 2006). Validity refers to the extent to which an instrument measures what it is supposed to measure. (Kothari, 1995). The most popular test of interitem consistency reliability is the Cronbach's coefficient alpha. (Cronbach's alpha; Cronbach, 1946) which is used for multi-point-scaled items, and the Kuder-Richardson formula (Kuder and Richardson, 1937) was used for dichotomous items. The higher the coefficients, the better the measuring instrument would be reliable when it gives consistent results. (Tuckman, 1972, Kothari, 1995.).

The reliability of the scores obtained at the two different times from one and the same set of respondents were tested with test-retest-method. The test-retest coefficients were 0.91 and 0.93 for success of projects and other two factors respectively. A very good interitem reliability was noted as the Cronbach's alpha was 0.8410 respectively.

4. RESULTS OF THE DISCUSSION

The following table shows the mean values and values of standard deviation computed for success of projects and respective scores relevant to independent variables that make influences on success of projects.

Variables	Mean	Standard Deviation
Success of Projects	66	3.5
Endogenous Factors	3.5	0.2
Exogenous Factors	3.0	0.4

The table indicates that on an average, success of projects is at satisfactory level as its mean value becomes 66. If any factor possesses more than three score value that factor is considered as high influential variable relating to success of projects. Accordingly, it is understood that endogenous factors strongly affect success of considering projects. Compared to endogenous variables it seems that no considerable influence is made by exogenous factors on success of projects. In considering the values of standard deviation, it is notable that low values of it lead to get mean values to closer point. Thus, finding is that in achieving optimistic results from considering projects endogenous factors should be highly focused. Here, correlation analysis was also made to examine the level of linear correlation that lies between couple of independent variables under this, if "r" value is closed to one, the relationship becomes too strong and if it is closed to zero linear correlation becomes almost nil. According to the calculations made following correlation values were obtained.

	Success Index	End. F.	Exo. F.
Endogenous Factors	0.97	1	
Exogenous /factors	0.98	0.46	1

At 0.01 level, correlation coefficient of couple of factors is significant. Here correlation between couple of factors is not dominant but it becomes significant. So, the finding is that if these factors are managed well, success of projects can be improved.

Endogenous factors were reviewed with success of planning process, group performance, contribution of superior staff in projects, leadership, allocation of resources and controlling process. To the results of correlation analysis made in respect of these components, it was found that correlation coefficients of planning, group performance, and performance of superior staff and success of leadership were statistically significant at 61% confidential level. Moreover, it was found that correlation between allocation of resources and leadership was 0.88. This implies that respective correlation is statistically significant. Also, it was noted that there is a pessimistic relationship between planning process and controlling process because of respective correlation coefficient is -0.73. Anyway, the notable matter is that all these components strongly affect the improvement of success of these projects.

Exogenous factors were also analyzed under the components of security of sites, price changes, possible displacement in zones, possible disasters, availability of raw materials and land mines. Accordingly, it was found that gradient value of those components is 0.12. It implies that increase occurring in those components by one unit leads to increase success of

projects by 0.12. P-value is 0.01 and it indicates that at 90% level of probability, coefficient is not statistically significant. Gradient values of these components are statistically significant at 98% level of probability. The respective value of R2 is 0.8 and "F" value is statistically significant at 98% level of probability. They indicate these components strongly affect success of considering projects.

Analysis of variances (ANOVA) was also made in order to examine the relevance of applying regression technique. Results of this analysis are given below. (Significance level is 0.01 of probability)

	Total value of Squares	Df.	Mean Square of squares	F	Significance
Regression	9.51	3	3.2	3306	0.004
Residual	0.32	2.86	0.0012		
Total	9.81	2.88			

As "F" value is 3306 it can be concluded that applying regression technique is highly significant. Results of multiple regression analysis made for aggregate projects are revealed by the following table.

	t.stat.	P. Value	Coefficients
Endogenous Factors	10.32	0.05	0.12
Exogenous Factors	22.12	0.07	0.04
Intercept	1.55	0.13	0.02

These figures indicate that there is a direct relationship between couple of independent factors and success of projects. As implied by the R2 it is understood that 88% of variation of success of projects is shown by independent variables.

In considering the gradient value of 0.12, it seems that increase in endogenous factors by one unit leads to increase score value relevant to success of projects by 0.12. P-value implies that statistical significance occurs at 95% level of probability.

In case of exogenous factors it is appeared that increase in those factors causes to make an increase in score value pertaining to success of projects by 0.04. P-value shows the statistical significance takes place at 90% level of probability.

Here, gradient values of respective independent variables and intercept values are statistically significant at 10% level of probability. And also the relevant R2 is 0.88, when "F" value is statistically significant at 98% level of probability. Thus, the finding is that there is a considerable relationship between couple of independent variables and success of considering projects.

Testing Hypotheses

H1— Endogenous factors directly affect success of projects. In this regard, P-value of the coefficient of endogenous factors (0.05) should be taken into account. R² is 88%. And also: correlation coefficient between endogenous factors and success of projects is 0.98 and is statistically significant at 95% confidence level. Thus, respective hypothesis can be accepted. H2 - Exogenous factors and success of projects are positively related.

Respective P-value of coefficient of exogenous factors is mostly significant (0.07) and R² is 0.88. And also; correlation coefficient between exogenous factors and success of projects is 0.98 and is statistically significant at 90% confidence level. Thus, respective hypothesis can be accepted.

5. CONCLUSION

This is an empirical investigation into determinants of success of Foreign Financed Development Projects in Sri Lanka. Nonetheless, the preliminary results are interesting and potentially informative. It was empirically found, consistent with the analytical framework, that the success of these projects is important for understanding degree of influence made by respective determinants. A great influence is made by endogenous factors such as managerial functions of these projects and cohesiveness of the personnel working there. An intriguing aspect of this result is that malpractice of management would cause a poor achievement of goals in these projects.

Another finding was that exogenous factors also make influence on success of these projects but compared to influence made by endogenous factors it is somewhat not high. And also, the success of these projects is highly responsive to leadership and infrastructure facilities. This trend suggests that these projects will continuously be forced to adapt to a more stringent internal and external environment, even as the government should pay much more attention on new ways to develop this particular type of projects in Sri Lanka.

REFERENCES

- Bernadin, H.J and Russell, J.E.A.. (1993). *Human Resource Management: An Experimental Approach*, McGraw-Hill, Inc, New York.
- DeMeyer, A.C.H.Loch, et al.(2002), *Managing Project Uncertainty: From variation to chaos: MIT Sloan Management Review*.
- Defillippi, R.J and Arthur, M.B, (1998), *Paradox in Project-Based Enterprise: The case of Film Making*. *California Management Review* 40(2): pp. 129-139.
- Devaux, S.A, (1999), *Total Project Control; A Manager's Guide to intergrated Projects Planning, Measuring and Tracking*, New York; Wiley.
- Frese an Santer, (2003), *Project Failures and Lessons Learned*. Pp 45-78.
- Galbraith, J.R,(1971), *Matrix Organization Designs: How to combine Functional and Project Forms*. *Business Horizons*. 14(1): pp. 29-40

- Gahn, D.M and Salter, A.J. (2000). Innovation in Project-Based, Service-Enhanced Firms: The Construction of complex products and systems. *Research Policy* 29: pp. 955-972.
- GOSL, 2006. Budget Speech. Financial Review, 2006.
- Gray, C.F. and Larson, E.W. (2002), *Project Management: The Managerial Process*. New York. Irwin/McGraw-Hill. 10. Hitt, M.A, Middlemist R.D and Mathis R.L 1979. *Effective Management*, west publishing co., New York.
- Hobday, M.. (2000), *The Project-Based Organization: An Ideal Form for Managing Complex products and Systems*. *Research Policy* 29: pp 871-893
- Keegan, A. and Turner, J.R.(2002). *The Management of Innovation in Project-Based Firms*. *Long Range Planning* 35: pp.367-388
- Kerzner, H. (2002) *Project Management. A System Approach to Planning, Scheduling and Controlling*. 8th ed. New York. Wiley. .
- Klastorin, T. (2004). *Project Management: Tools and Trade-offs*. John wiley. Knight wndling consulting, 2000. *Bedrijfstaktoets 2000*. Ministerie van economische.
- Koontz, H. and o' Donnell C (1976), *Management* 6th ed., McGraw-Hill Ltd. New York.
- Lewis, James, P. (1999) *The Project Manager's Desk Reference*, New York. McGraw-Hill Professional Planning. 17. Lindkvist, L.2004, *Governing Project-Based Firms: Promoting Market - Like Processes within hierarchies*. *Journal of Management and Governance* 8: pp. 3-25
- Lindkvist, L., sodrlud, J., et al. (1998). *Managing Product Development Projects: On the significance of Fountains and Deadlines*. *Organization Studies*.19(6): pp. 931-951.
- Maister, D.H. (1982), *Balancing the Professional Service Firm*. *Sloan Management Review* 24(1): pp. 15-29.
- Maister, D.H, (1985). *The One-Firm Firm: What Makes It Successful?* *Sloan Management Review*. 27(1): pp. 3-14. 21; Maister, D.H, 1996 *It's About Time*. *Legal Business* 9(2): pp.62-66.
- Maister, D.H.. (2001). *what Drives Profits in Consulting Firms?* Consulting to Ayas, K. 1997, *Design for Learning for Innovation; Project Management for New Product Development*. Rotterdam, Erasmus University: 242
- Panne, G.Vande (2003). *Success and Failure of Innovation: A Literature Review*. *International Journal of Innovation Management*. 7(3): pp. 309-338.
- Pinto, (1999). *Project Management*. pp. 23-78.
- Prencipe, A. and Tell, F. (2001), *Inter-Project Learning: Processes and Outcomes of Knowledge Co difi cation in Proj ect-IBas ed Finns*. *Research Policy* 3 0: p 13 73 .

- Sekararri. U.. (2006). *Research Methods For Business A Skill Building Approach*. 4th ed. Wiley India(p) Ltd. New Delhi.
- Smith-Daniels. D.E. and Aquilano. N. (1984) Constrained Resource Project Scheduling. *Journal of Operations Management*. no .4 pp. 3 69-387
- Smith-Daniels. D.E. and Smith-Daniels, V. (1987). Optimal Project Scheduling with Materials Ordering. *IIE Transactions* 19 no .2 pp. 122-129.
- UNDP. (2005). *Review of Millennium Development Goals*. Pp. 34-98.
- UNDP. (2006). *United Nations Development Programme- Common Country Assessment (CCA)*. Sri Lanka. Pp. 5-34, 45-51.
- William. P.B. (1996). *Getting a Project Done on Time: Managing People, Time and Results*. New York, The American Management Association.
- World Bank, (2005), *World Wide Development and Poverty Alleviation*.
- World Bank, (2006). *International Development and Funds Commitments*. Pp. 57-89.