© INTERNATIONAL JOURNAL FOR RESEARCH PUBLICATION & SEMINAR
ISSN: 2278-6848 | Volume: 11 Issue: 04 | October - December 2020
Paper is available at http://www.jrps.in | Email : info@jrps.in

To Determine the Factors Affecting On Supplier Selection for Material Supply in Construction Company, A Review Work

Himanshu Sharma [1], Prof. U R Saharkar [2],

[1]PG Scholar , D Y Patil Institute of Engineering & Technology, Ambi, Maharashtra, India

[2]Assistant Professor, D Y Patil Institute of Engineering & Technology, Ambi, Maharashtra, India

Abstract

Construction industry is one of the big employment providers after agriculture. Despite it importantly, the construction industry has not made the necessary management progress In the formation of supply chain to increase productivity and responsiveness Industry. As we have a tendency to all understand that Construction sector is associate degree unorganized sector wherever numerous individual parties in Construction offer Chain close to finish one project. Generally several offer Chain players within the construction industry return together for under one project and on completion of the project they are going their separate ways. In this industry all the supplier to safe guard their own profits and need their desires to be attended initial. With such divided interests and lack of coordination between the participating members it's troublesome to finish the project with minimum time and cost variance. This paper contains a review on previous research paper to find our various methods and factors affected on for supplier selection by other industries includes construction industry so here we prepare a questioner to find out most important criteria for supplier selection

Key Words- Construction Industry, Supply Chain, Research Papers, Factors affecting, Questioner.

1. INTRODUCTION

As we have a tendency to all understand that Construction sector is associate degree unorganized sector wherever numerous individual parties in Construction offer Chain close to finish one project. Generally several offer Chain players within the construction industry return together for less than one project and on completion of the project they are going their separate ways. In this industry all the supplier to safe guard their own profits and need their desires to be attended initial. The Supplier selection study in Construction supply chain management is comparatively unexplored in Indian context. Much enlighten business had started with this idea with the assistance of experts and consulting firms. However, expectedly Indian enterprises had not taken this approach so far. A summary of the method of supplier selection are often helpful for companies to possess a transparent understanding of the concept so as to enhance their success and competitiveness. The results show that the appliance of a structured decision-making technique is significant, especially under the complex conditions that include both qualitative and quantitative criteria. This study would be a big approach towards integrating vendors within the Construction supply chain management and improves its deliverables.

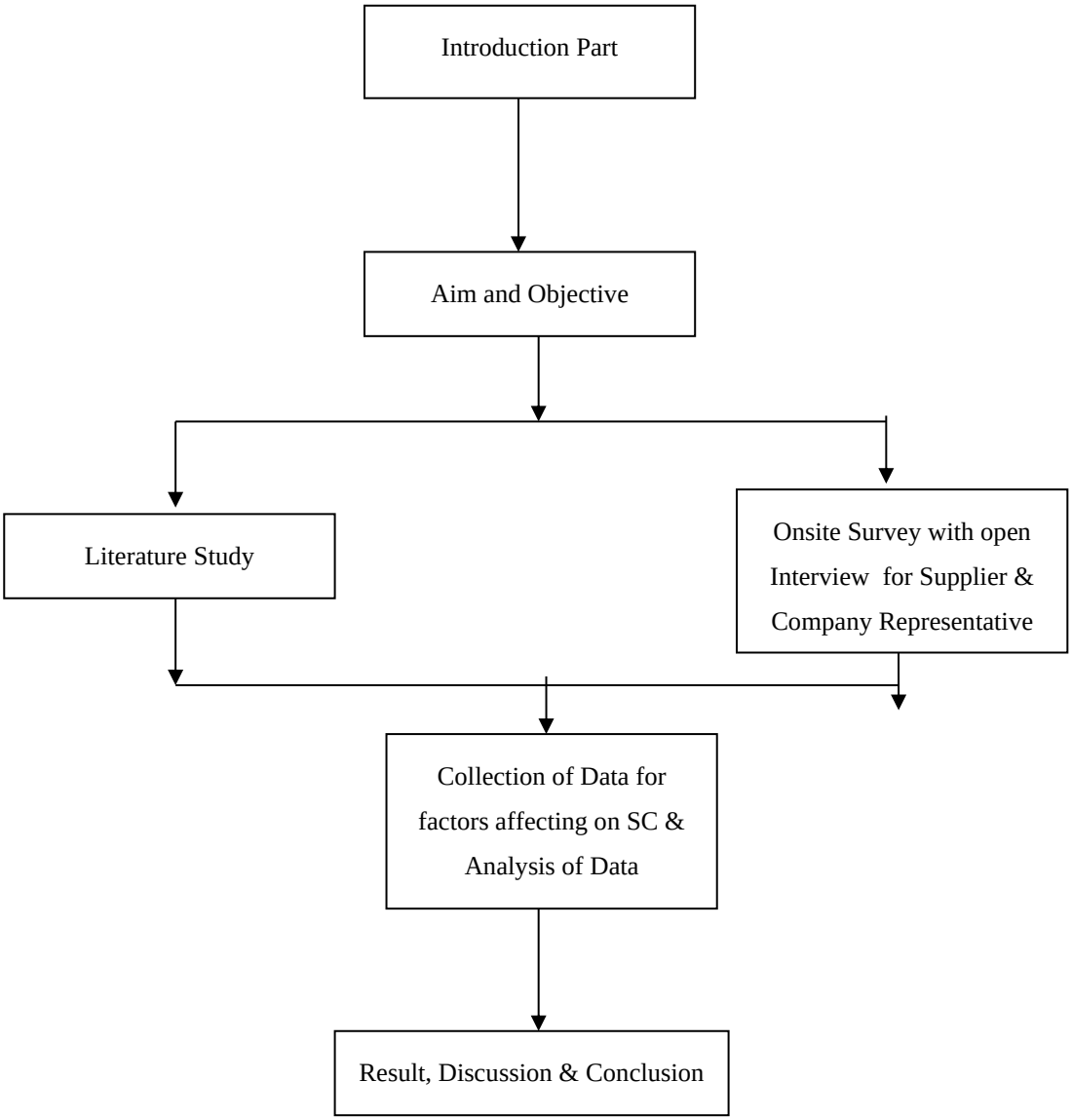
2. AIM & OBJECTIVE OF PAPER

To determine the factors affecting supplier selection in construction sectors. Following are the objectives of this project,

[1] To identify the various factors affecting supplier selection in construction sectors through literature review by using journals, papers, books, etc**..**

[2] To design the methodology and questioner for collection of data from various sites.

3. METHODOLOGY



Flowchart No. 01 Flowchart of Project Work

4. LITERATURE REVIEW

As per Hamed Taherdoost and Aurelie Brard, In supplier selection company perform firm identification, evaluation and contract with supplier for material delivery. In this paper the author focus on overall supply chain management, supplier selection criteria and supplier selection evaluation methods (multi-criteria decision making). A summary of the method of supplier selection are often helpful for companies to possess a transparent understanding of the concept so as to enhance their success and competitiveness. The results show that the appliance of a structured decision-making technique is significant, especially under the complex conditions that include both qualitative and

quantitative criteria. This provide overall review on SCM, Supplier selection criteria etc…As per author the process of supplier selection will be helpful for companies to understand the concept of supplier selection. Supplier selection criteria are dividing into quantitative and qualitative attributes and on the purchasing situation of materials this selection criteria may change.

As per Juthathip Suraraksa and Kwang Sup Shin, the present integrate supplier selection and monitoring phases, which are not independent of each other for systematic supplier management framework . In this paper the author explores the difference in the set of criteria for supplier selection and supplier monitoring. This paper focus on automotive industry in Thailand. This paper shows three-step framework of the present study, Step-I Identifying criteria Step-II analytic hierarchy process[AHP] & Step-III comparative Analysis. The main dimensions were Cost, Quality, Capacity, Service, Finance, Information and Communications Technology (ICT),and Sustainability of this study. The full set of criteria was divided into two sets First, the set of criteria for selecting the supplier consisted of seven main dimensions (level 1) and 33 criteria (level 2).

The author **Ruth Mwikali and Stanley Kavale**,focus on identify the factors affecting supplier selection; the supplier selection process. The author state that cost criterion is a key factor affecting supplier selection for it dictates among many elements, the profit margins. Technical capability, quality of materials and the profile of the supplier are also closely considered. To Analysis Factors Affecting Optimal Supplier Selection the authors focus on Cost Criteria, Price, Technical Capability, Quality Assessment, Organizational Profile, Service Levels, Delivery, Lead Time for delivery of materials, Ease of Communication, Response of Customers, Performance History, Geographical Location etc.. As per author Supplier selection should be an open and transparent process, thorough and detailed to identify the salient and most important aspects of suppliers.

The author **Don Amila Sajeevan Samarasinghe, John E Tookey at.el**, study on building materials purchasing comes with supplier selection, and depend on careful examination of supplier economics among other criteria. Supplier selection is the purchasing function that forms the foundation for the success or failure of projects. Supplier selection is a multi-criteria decision making problem which includes both qualitative and quantitative considerations. This study focus on small to medium construction company to secure 'best prices' for their key material inputs. As per author past literature focused on the manufacturing industries and therefore a room exists for development of pertinent supplier selection models in the construction industry as it a unique sector by itself since all decision methods used by manufacturing industry might not be relevant to the construction sector. This paper found that the criteria's like quality, delivery dependability, price, etc play more crucial role for supplier selection.

The author **Georgios N. Aretoulis, Glykeria P. Kalfakakou at.el**.., focus on providing a standardized approach in selecting the best supplier through the formation and use of an appropriate mathematical equation based on multiple criteria. Questionnaire survey is used to find out the function of prototype. The participants were presented with a predefined set of criteria and were asked to rank them according to their significance. This paper provides a simple, practical and straightforward methodology, to help managers evaluate potential suppliers. The best supplier is considered the one who acquires the highest score according to the proposed model. The author finalize some of the criteria for suppler selection like, Special charges, shipping cost, total evaluated cost to destination, Expiration date of bidder's quotation, discount percentage, terms of payment, escalation, material dimensions, Total cost acceptance of project terms and conditions, guarantee for delivery date, technically acceptable material etc.. The author suggested two different models, Proposed model and Enterprise model. In enterprise models the point consider by author are, Quality of products/services, Delivery time, Technical support, Communication–collaboration, Financial data, etc..

The author **Pallav Kaneriya, Ankit Patel**, focus on factor affecting suppler selection criteria . The author's investigation is based on a questionnaires survey conducted in some part like Cost, Quality, supplier Sustainability, etc. Arithmetic mean method using for selecting factor which are highly affecting for supplier selection. The questionnaire is made by seeing the relative literatures in the area of Factor affecting of supplier selection in Construction industry. The questionnaire was validated with experts for clearness, comfort of use, and value of the data that could be collected. In this paper the questioner divided into 7 different parameter which was found through literature reviews. Then each group divided into sub question. After survey the author rank the criteria and sub question rank wise.

5. RESEARCH GAP

After studying various literatures, we found that there is no combine interest shows through company quality standard issue as well as Suppliers Profile point of views. Some of the researcher generates a big questioner which is quite difficult to fill by company due to company's policy. So here we are preparing the questioner to try to fulfill this gap.

© INTERNATIONAL JOURNAL FOR RESEARCH PUBLICATION & SEMINAR
ISSN: 2278-6848 | Volume: 11 Issue: 04 | October - December 2020
Paper is available at http://www.jrps.in | Email : info@jrps.in

6. QUESTIONER DESIGN

By using the various literatures we prepare a questioner for Determine the Factors Affecting on Supplier Selection for Material Supply in Construction Companies. For creating of this questioner we mainly focus on company quality standard issue as well as Suppliers Profile point of views with sub questioning. Here we are use the rating scale of Strongly Agree (5), Agree (4), Neutral (3), Disagree (2) and Strongly Disagree (1).

1] Name and Designation of Participant- _____

2] Qualification of Participant- _____

3] Name of Company/Supplier _____

4] Name & Address of Company/Supplier _____

5] Contact No. & e-Mail - _____

A] General Information-

Qn. No.	Questions To Be Ask				Remark if any
1	Selection procedure for vendors	Direct quotation	Direct selection	Tendering	

B] Questions Based on Actual Field Reality Related

Category 1: Company Point of View

No	Questions	1	2	3	4	5	Remark if any
1	How much you think Quality of the material to be kept up to as per standards.						
2	High level should be achieve on the delivery aspect of the Product or material						
3	How much is the production capacity of supplier, does it able to achieve the target set?						
4	What you think about Delivery time will considerable for construction Material?						
5	Up to what status is your communication between Company & Supplier consider for material supply.						
6	Is the Terms of payment matters for consideration of supplier selection						
7	How much the geographic location of supplier matters for material delivery?						
8	How much you think about the discount percentage matters the supplier selection Process.						
9	Is Materials dimension consider for supplier selection for materials supply.						
10	At what level you think the Acceptance of project terms and conditions is to be consider for material supplier selection						
11	Up to what status Technical support may matters the supplier selection process.						
12	Is the term market reputation affect the supplier selection for delivery of construction materials,						
13	Technical expertise of supplier has helped us immensely to finish the project as per given schedule and budget						
14	Testing capability of supplier ensured execution of work according to QA and QC.						

15	Poor testing capability of supplier has delayed the work						
16	Provides incentives for waste elimination is to be consider						
17	Up to what status During emergency provide credit consider for supplier selection.						
No	**Questions**	**1**	**2**	**3**	**4**	**5**	**Remark if any**
18	Suppliers are not primarily open in negotiating financial matters are to be considering for selection criteria.						
19	Suppliers are not at all transparent and open in all matters are to be consider for supplier selection.						
20	Is the term Certification of supplier is important for supplier selection.						

Category 2: Suppliers Profile

No	**Questions**	**1**	**2**	**3**	**4**	**5**	**Remark if any**
1	How much you think the mutual trust between supplier and customer						
2	How much the supplier profiles matter while finalizing quotation						
3	How much the Suppliers Attitude towards Customer matters in considering for supplier for a longer time						
4	Up to what level u agree with the affect risk factor to be considered while finalizing a consignment.						
5	How much the reliability should be of the customer on the supplier about the product deliver on time						
6	Does the awareness of the supplier to towards environmental sensitivity should be considered						
7	How much should be the professionalism with the suppliers angel and customer as well						
8	How which the legal past legal issue should matter finalizing a product delivery.						

Before giving the questionnaire to the respondent person, following information was described.

- The person just has to give rating by making tick into the box & answer the question by tick only.
- Each question carries only one answer
- Use five point scales etc...

7. DISCUSSION & CONCLUSION

From the literature reviews it's clear that the there is no combine interest shows through company quality standard issue as well as Suppliers Profile point of views. Some of the researcher generates a big questioner which is quite difficult to fill by company due to company's policy. This questioner survey helps us to find out the factors to be consider for material supplier in construction company.. as well as its also helpful to findout supplier profile also regarding selection.

8. FURURE SCOPE

Next time we collect the data from various construction companies and suppliers also for their views regarding factors which we found for supplier selection process to supply construction materials through questioner survey. We use RII method to find out the factors & try to suggest some recommendation for constriction companies.

9. REFERENCES

[1] Hamed Taherdoost, Aurélie Brard, "Analyzing the Process of Supplier Selection Criteria and Methods", The 12th International Conference Interdisciplinary in Engineering, Science Direct Procedia Manufacturing 32 (2019) , p.p.1024–1034.

[2] Juthathip Suraraksa and Kwang Sup Shin, "Comparative Analysis of Factors for Supplier Selection and Monitoring: The Case of the Automotive Industry in Thailand", Sustainability 2019, 11, 981; doi:10.3390/su11040981.
[3] Ruth Mwikali and Stanley Kavale, "Factors Affecting the Selection of Optimal Suppliers in Procurement Management", International Journal of Humanities and Social Science Vol. 2 No. 14 [Special Issue - July 2012], p.p.189-193.
[4] Don Amila Sajeevan Samarasinghe, John E Tookey at.el, "Supplier Selection in the Construction Material Purchasing Function", World Business Institute (WBI)2013, AUT Scholarly Commons, oai:aut.researchgateway.ac.nz:10292/5807, p.p,1-15.
[5] Georgios N. Aretoulis, Glykeria P. Kalfakakou at.el, "Construction material supplier selection under multiple criteria", Springer-Verlag 2009, DOI 10.1007/s12351-009-0065-3, Oper Res Int J (2010) 10:209–230.
[6] Pallav Kaneriya, Ankit Patel, "Factor Affecting Of Supplier Selection In Construction Industry", International Research Journal of Engineering and Technology (IRJET), Volume: 07 Issue: 06 | June 2020, p.p.2653-2658
[7] Barker R., Hong-Minh S. and Naim M.M., [2000]. The terrain scanning methodology.Acessing and improving construction supply chain. "European Journal of Purchasing and Supply Management", 2, p.p 179-193
[8] Hong-Minh S.M.' Barker R. , Naim M.M.., [2001]. Identifying supply chain solutions in the UK house building sector, "European Journal of Purchasing and Supply Management", 7, p.p 49-59
[9] Palaneeswaran Ekambaram, Kumarswamy Mohan M. and Xue Qing Zhang., [2001]. Reforging construction supply chains: A source selection perspective, "European Journal of Purchasing and Supply Management", 7, p.p 165-178
[10] Xiaolong Xue ,Yaowu Wang, Qiping Shen, Xiaoguo Yu[2007]. "Coordination mechanisms for construction supply chain management in the Internet environment", "European Journal of Purchasing and Supply Management",25, p.p150-157.
[11] B.Vijay Antony Raj,P.S. Kothai "Improving the Labour Productivity through Other Resources in Construction Field" (2014)International Journal of Engineering Research and General Science Volume 2, Issue 2, Feb-Mar 2014ISSN 2091-2730.
[12] S. Thiruchelvam, J.E. Tookey, Evolving Trends of Supplier Selection Criteria and Methods. International Journal of Automotive and Mechanical Engineering (IJAME), 2011. 4: p. 437-454.
[13] O Pal, AK Gupta, RK Garg, Supplier Selection Criteria and Methods in Supply Chains: A Review. International Journal of Economics and Management Engineering, 2013. 7.
[14] F. Tahriri, A review of Supplier Selection Methods in Manufacturing Industries. Journal of Science and Technology, 2008. 15(3): p. 201- 208.
[15] S H Ha, R Krishnan, A hybrid approach to supplier selection for the maintenance of a competitive supply chain Expert Systems with Applications, 2008. 34(2): p. 1303-1311.