

The Feasibility of Change on Organization Structure of Infrastructure Project (A Review)

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Abstract – It is found that project face many issues like improper communication and coordination, non-alignment of the goal, uncertainty in authority, unclear roles and responsibility, low project spirit, distrust, dispute, dominant behavior. All these problems can be categorized mainly in two aspects, one is structural and another is functional. That's why modifications are suggested as structural improvement and functional improvement. Responsibility authority balance, documentation of problem-solving approach, new reward system these modifications are proposed under functional improvement and under structural improvement, this research tries to integrate staff function of line and staff organisation in the matrix organisation structure with one change and that is to assign this post to actual execution level instead of higher management level. According to expert opinion, parameters like communication and coordination, team motivation and spirit, accountability and roles and responsibility can be improved in proposed structure if implanted. This will help to reduce the limitations and problems and make the structure more suitable. This proposed modification and existing structure is evaluated for its efficiency by analytical tool like paired t test and scoring model analyse. Scoring model analysis is done by help of questionnaires. And hypothesis is tested by Paired t test.

Keyword – Metro, Matrix, Organisational Behavior.

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INTRODUCTION

The systematic arrangement or division of work, activities or tasks between individuals and groups with the necessary allocation of duties and responsibilities among them to achieve common objectives called Managerial structure. organizations have specific objectives, a formal structure of authority with some persons in leadership roles and others in subordinate roles, having a set of formal procedures or system. The skill of bringing individuals together to work toward a shared aim of the company is known as organisational management. Planning and monitoring at work are key components of effective organisational management, which allows for the most efficient use of available resources. Employees are given a feeling of direction by management. The individuals are well aware of their roles and responsibilities and know what they are supposed to do in the organization

PAST RESEARCH AND DIFFERENT MODELS:

J.R. San Cristóbal, V. (2018), Area: Project Organization Functional -There is no need to negotiate and compete with other areas for resources. Team members are familiar with each other since they work in the same area. Program

areas may not have all of the specialists needed to work on the project. Team members may have other responsibilities in the program unit since they may not be full-time on the project. Matrix- this is most suited organization structure for project. Advantages of this system are efficient allocations of specialists. Employees don't have to make a permanent adjustment when they move from one unit to another. Streamlined communication, better project management, and more control. There are a few drawbacks to this structure, including high administrative expenses, shared power between line managers and project managers, which can lead to conflict, and complicated reporting relationships.

Niyazuden Kamaruden,2018, Area: Service Operation of Metro: paper suggest that each project face number of challenges which need to address properly. Some of the challenges are listed below A large number of stakeholders are involved in the metro project which results difficulties in communication. Change in the plan and requirement which leads to delay. Delay in decision making Some of the clause of contract are impractical and ambiguous which results difficulty in administration Limited passage is available for construction due to heavy traffic and crowd.

S. Rupa, M.S. Rani, 2017 Area: Questionnaire designing for survey. Questionnaire survey is the

easiest and fast method of data collection. There are five steps that can be followed to design questionnaire form: 1) Initial consideration, 2) Question response format, 3) Questions layout, 4) Pilot survey, 5) Final questionnaire. Questionnaire can be open-ended or closed-ended. In an open-ended questionnaire, the respondent can answer by their own words, and in a closed-ended questionnaire, the respondent needs to select the option already provided to them. A pilot test is conducted to test the effectiveness of the questionnaire. Pilot surveys check the validity, reliability, and applicability. Face-to-face interviews, telephonic interviews, mail questionnaires, and internet questionnaires are the modes of reaching target respondents to get responses.

Lin He1 Qiangsheng Liang Siyuan Fang 2016
Area: Innovative Solutions in Urban Rail

Old management systems could not satisfy increased network-level operations. The old management mechanism has shown strain in addressing large-scale rail transit operations and management. The second factor is the ineffectiveness of precise job specialisation on large-scale activities that demand rapid reactions. In order to operate at the network level, it is necessary for different departments to work together more closely, for reaction times to be faster, and for the management area to be larger.

Stephanie Grubenmann, 2016, Area : Matrix organization, Matrix organisation is the best suited origination structure available, it is effective integration of the functional and managerial aspect. There are three types of the matrix structure, project matrix, functional matrix and balanced matrix. Functional matrix- functional manager has more authority in this type while project manager has limited authority, employees remain under functional manager. Project matrix- Project manager has more authority in this type while functional manager has limited authority, employees remain under project manager. Functional manager offers technical expertise. Balanced matrix. - Project and functional manager both have equal authority and responsibility. Project manager oversees the project and functional manager provides technical expertise. Functional manager and project manager jointly take the decision.

Tae Kyun Kim 2015 Area: mathematical formulation "T test as a parametric statistic"

This paper gives mathematical formulation like standard deviation, or t. formulae are listed below

$$t = (D - 0) / (\sigma / \sqrt{n}) \text{ where}$$

σ is the standard deviation

$$\sigma^2 = \frac{\sum(D_i^2) - (D^2) \times n}{(n-1)}$$

D_i = Difference in weighted average parameter of existing and

proposed structure $D = \sum D_i / \text{Number of questionnaire respondent.}$

Ehab elkassas, 2013 Area: Optimum Organizational Structure for Construction Projects

Before beginning any project, it is critical to pick the right sort of organisation. Organizational relations must be re-aligned throughout the building phase in order to ensure a seamless operation. The best is to choose the suitable planner, then the suitable manager, then the suitable organization type and lastly the project team. Steps of selection of organisation are Type, requirement of specialty - define structure - selection of assistance - assign objective - team formation - authority, role and responsibility distribution - improve structure.

Lokesh Kumar Meena, 2013 Area: line and staff organisation in organization behavior

Line and staff organization is the combination of the line structure and staff function. Advantage of line command is unity in the direction. Line organization is applicable for small organization. Line organization is evolved for the organization which is bigger and demands unity in direction. Function of the staff is to assist the higher authority. Generally, staff has no authority and works as a supportive function. Sometimes organization is divided into different functional departments and staff is assigned to each department. Line and staff organization overcome some of the limitations of the line organization. But still, it has some demerits which makes this organization ineffective for large construction projects like metro projects.

Niraj Sharma, 2013, Area: Critical Issues Related to Metro Project in India.

Metro project is a complex project which faces many critical issues. Many risks are associated with such projects. This risk management is very important in metro projects. We can't avoid the risk but we can minimize the occurrence and effect of the risk. But still, many accidents are reported in Mumbai, Pune, Delhi. 109 construction workers have died in Delhi metro construction. That's why safety norms should be strictly followed on the site. Labor and employees also need to be encouraged for the importance of their safety. Proper care should be taken by oneself or other coworkers will reduce the chances of accidents. This culture should be implemented in metro project work, optimum use of resources, enhanced functional and managerial capability.

Miryam Barad & Tzvi Raz, 2000 Area Contribution of quality management tools & practices

This paper suggests that improvement the quality of training will improve overall outcome of the metro project but less expenditure is allotted for training purpose. Process control and proses control analysis will hamper each activities performance and activity can be improved. Human resource should be developed to quality-oriented operation result. Benchmarking should be done to measure the performance and quality. The bar of quality and performance of suppliers should be improved through continues analyses. Employee should be empowering and should be involved in decision making.

CONCLUDING REMARK

From the literature survey carried out it is concluded that, there are few disadvantages or limitation in existing managerial structure in metro projects which can be reduce by effective management structure and its evaluation can be done by using scoring model analysis and paired test.

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