
TECHNICAL ANALYSIS ON INFORMATION IN R&D BUSINESS VENTURES

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Abstract

By researching the knowledge body of project management and examining the characteristics of R&D project management, the gaps between R&D project management and current project management in management content, processes and methods are discussed, the view that R&D project management process consists of knowledge creation and knowledge management is emphatic and the view that the creation of structured processes and technical documentation models, the establishment of a knowledge management information system and the development of a culture of knowledge sharing are successful ways of solving knowledge management is put forward. Furthermore, the belief that knowledge management-based project management framework is an efficient solution is verified in accordance with R&D enterprise information system experience. R & D enterprise has a traditional project based business organization model, product R & D cycle is a method in which intellectual workers make use of explicit knowledge that business have already gained and implied to carry out research activities.

Keywords: *project management, knowledge management, technology innovation, knowledge integration framework, KM System.*

I. INTRODUCTION

Knowledge is a very important resource in the aviation, telecommunications, equipment and software sectors, and other project-based enterprises. If the organization is able to manage and use information efficiently, it will improve the quality of project management, reduce the running time of the project and increase customer satisfaction. Especially in today's social environment, where people move constantly and information creation is fluid and evolving how to manage project related implicit and explicit knowledge is a necessary prerequisite for project success, but managing such intellectual assets is a new and challenging project management process [1].

R&D company has a conventional project-based business organization model, product R&D cycle is a technique in which intellectual employees use explicit knowledge (different business practices and historical details and others recorded information) that companies have already acquired and implied expertise (skills experience, insight and intuition) to conduct research activities [2]. Therefore, also an important issue is how to handle information in the R&D Enterprise project management process. Based on the characteristics of the close relationship between innovation and knowledge management of R&D enterprise organizations, this paper focuses on and discusses methods of implementation and means of information management in project management of R&D enterprises [3].

II. THE CHARACTERISTICS OF PROJECT MANAGEMENT BODY OF KNOWLEDGE AND R&D ENTERPRISE PROJECT MANAGEMENT

A. Project management body of knowledge:

Project management professional organizations have established their respective Project Management Knowledge Body (PMBOK) as a new discipline to guide and promote the implementation and advancement of project management. A PMBOK Guide provided by the American Project Management Institute (PMI) and the International Project Management Institute (IPMA)-International Project Management Professional Qualification Criteria (IPMA) requirements is now the most common PMBOK [4]. The establishment and issuance of such authoritative bodies will play an active role in fostering professional development in project management and improving the quality of workers in project management. However, in general, the project management information body includes only general project management experience and does not provide project-related skills in particular fields. It is not difficult to identify some differences between the knowledge used by PMI and IPMI project management bodies on the basis of our analysis of the features of R&D project management and management components.

B. The characteristics of R&D project management:

Indeed, aerospace, shipping, telecommunications, equipment institutes and research centers in large organizations all belong to the R&D project management model. The operating outcome of the R&D enterprise project management model not only offers high intellectual product prices, but also produces research products and generates data [5]. The activities of the R&D Enterprise Project are typically high-intelligence and high-capital multi-variety low-volume, single-piece small-piece or custom-order discrete goods, as research products cover a wide range of fields. [6]. A high degree of information pooling, strong product creativity, complex technologies and processes, high cost, presentation ,proposal ,growth ,design and engineering stereotypes, delivery and maintenance guarantee and other traditional product life cycle management stages are therefore usually handled in accordance with the organizational pattern.

(1) The building project management system focuses on the use of network planning methods and other framework development theories to efficiency coordinates and control project time, cost and scope in order to achieve shorter duration, minimize cost and improve the consistency of project management and a achievement levels, resulting in a deliverable design or engineering, while at the same time endeavoring at R&D.

(2) Construction project management is subject to time; it is possible to measure and analyse scope and cost constraints, such as bridge construction, power plant construction, etc., time, scope, and each resource and instrument. In the R&D project management, the project resources are essentially human beings-the main bodies in the development of intellectual property, these resources are not as obvious as the traditional resource, and cannot be accurately evaluated and calculated.

(3) The results of each project can be calculated in traditional engineering construction projects, the efforts can be checked during the construction of each project, the results appear to be skilled or unqualified, the progress and the technological risk can be managed relatively easily, while the new product development process is the creative process of using scientific knowledge to create new knowledge [7].

(4) The organizational structure of the R&D enterprise is also a conventional cross-functional and cross-organizational model of project management in which functions are combined with the project, the project process, compared to the construction industry adopting a vertical project-based management model to enhance the domain expertise and skills of different functional organizations.

III. KNOWLEDGE MANAGEMENT IN PROJECT MANAGEMENT

A. The basic elements of knowledge management:

Awareness is an understanding in human minds of the cumulative tools of knowledge in the form of words or language and experience [8]. Awareness has implicit knowledge and explicit knowledge; explicit knowledge can be conveyed via the information system; it can be encoded; it can be categorized, processed and secured as well; implicit knowledge exists in people's minds; it is difficult to pass implicit knowledge; the majority of knowledge assets (their abilities, experience, wisdom, intuition and a range of relationships both within and among others).

Information management is designed to effectively identify, collect, generate, decompose store and move information in order to enhance and develop the level of innovation, responsiveness, efficiency and expertise of staff, departments and organizations. The importance of knowledge management has two faces: first, increasing job productivity through information-sharing; second, generating new value through the development of knowledge. The method of knowledge

management is split into the knowledge transformation process and the knowledge cycle process. The process of knowledge transformation is to determine the connection between implicit knowledge and explicit knowledge; the process of knowledge cycle is to establish two processes of information creation and sharing [9][7].

B. Knowledge management in project management:

Information management is included in the process of the project life cycle, information which needs to be used and handled is also full of features, and knowledge management stage of the project can be divided into (1) project design formation (2) project climate analysis (3) purpose and scope determination (4) comprehensive project preparation (5) resource allocation (6) project alignment from a cross-functional and cross-organizational project management viewpoint, knowledge management in project management can be interpreted as information integration management, which requires the quality of development, scope and knowledge versatility. Management of information integration is basically a method of maximizing the value of the project and maintaining social relations through the management of the project team [10]

IV. CONCLUSION

Knowledge is the essential resource of the organization, knowledge can be effectively controlled, and knowledge can be gained and used in different ways, it can also be stored and registered, while knowledge can be managed. It addresses, from the point of view of execution, how knowledge in the R&D enterprise project management process can be effectively handled. In project management, information can be transmitted and transferred through the growth, improvement, and standardization of various models. The project management and product data management information system are implemented, while at the same time it is suggested that enterprise knowledge management functions be deployed, that enterprise knowledge management and business process management be organically integrated to achieve knowledge sharing and knowledge exchange, create a good atmosphere of knowledge sharing and excellence. These are useful solutions to help boost the core profitability of the management of business knowledge. More research and development organizations will incorporate digital management with the advent of the knowledge economy and the acceleration of enterprise information speed.

V. REFERENCES

- [1] E. L. Scott, P. Shu, and R. Lubynsky, "Are 'Better' Ideas More Likely to Succeed? An Empirical Analysis of Startup Evaluation," SSRN Electron. J., 2015.
- [2] M. Rivera-santos, F. Perrot, and M. Murphy, "A new perspective on learning and innovation in CSC," Adm. Sci. Q., 2012.
- [3] A. Barajas, E. Huergo, and L. Moreno, "Measuring the economic impact of research joint

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- ventures supported by the EU Framework Programme,” J. Technol. Transf., 2012.
- [4] D. Lüttgens, P. Pollok, D. Antons, and F. Piller, “Wisdom of the crowd and capabilities of a few: internal success factors of crowdsourcing for innovation,” J. Bus. Econ., 2014.
- [5] Object Management Group (OMG), “Business Process Model and Notation (BPMN) Version 2.0,” Business, 2011.
- [6] G. Koman and J. Kundrikova, “Application of Big Data Technology in Knowledge Transfer Process between Business and Academia,” Procedia Econ. Financ., 2016.
- [7] E. Whelan and R. Teigland, “Transactive memory systems as a collective filter for mitigating information overload in digitally enabled organizational groups,” Inf. Organ., 2013.
- [8] M. Information, “And Management Review : Knowledge Systems : Management Knowledge And Foundations Conceptual,” Manag. Inf. Syst., 2011.
- [9] J. Guan and K. Chen, “Modeling macro-R&D production frontier performance: An application to Chinese province-level R&D,” Scientometrics, 2010.
- [10] S. Scherer and M. A. Wimmer, “E-participation and enterprise architecture frameworks: An analysis,” Inf. Polity, 2012.