# Engineering information & knowledge sharing in compartmentalized projects organization : a case study / Josef Winterman

## Abstract

Knowledge is the awareness of the individual to his knowledge ability as a result of studies, conclusions drawing, previous experience or association, or through many other ways of learning. Knowledge is the familiarity or understanding science, art or methods.

Knowledge is carried around and changing forms by relations in the course of time. The social meaning of knowledge means that it is always changing and constantly flowing and always modifies.

Many organizations learned that proper management and use of existing knowledge resources means effective organizations, but as it comes to compartmentalized project organizations, their character and the way they operate places a contradiction between the desire for a free knowledge flow with no limitations and the professional need for compartmentalization and keeping knowledge in such a manner that will eliminate access from unauthorized elements. In fact, desire to balance between free knowledge flow and severs compartmentalized procedures places a serious challenge (in many cases), that features what's being made in a closed knowledge environment organizations, such as governmental organizations or companies engaging compartmentalized projects.

Because of the secretive nature needed from those organizations, little, if any, was investigated in such, regarding knowledge managing processes, but one can reach the conclusion (in a reasonable probability) that the knowledge recourses  life cycle in such an organization it independent for any project and all of the organizations projects are managed as an unattached profit center. Those unattached profit center do not contribute, to say the least, to the whole organization knowledge recourses life cycle.

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In the light of relative little research at the aforementioned subject, the goal was set to the currant research as the present situation examination and barrier to engineering knowledge sharing processes analysis in order to map such an organization procedures and to check the implication between them and some relevant factures:

- Information and knowledge resources – what are the information and knowledge resources available to workers in compartmentalized Projects Organization.

- Information and knowledge sharing aspects – how Compartmentalized procedures in engineering projects implement them.

- Organizational structure – does an organization structure can offer an answer to challenges emerging due to compartmentalized Projects.

The current research is a case study with all the relevant data gathers through semi-structures interviews. A content analysis procedure was held to analyze the received data (as in qualitative study), in order to focus and understand the nature of procedures taking place in the organization and the employees experience in it.

In the light of that introduction the study contribution can be found in two aspects: the theoretical aspects, due to the lack of research literature in that subject and the desire to add to the existing knowledge, and in the practical field in order to implement lessons learned and conclusion to the organizations day to day activity.

The findings show that regarding the information and knowledge resources, the tool being used by the workers are the organizational information managing system, while the projects documents index system was found suited only for the organization information managers and not for the average organization worker.

The organizational information managing system were found as the most accessible tool for retrieving documents, technical standards and organizational library items. Human information and knowledge was found most accessible for receiving access or data direction and with the best ability for questions asking. The workers see themselves as knowing the human information and knowledge sources in the organization and prefer informal communication ways with them.

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The study shows that the works does not know who works in a compartmentalized project and think that the compartmentalization is sometimes exaggerated and that the organizational information managing system commemorates it and do not contribute to information and knowledge sharing in the organization. Due to the compartmentalization the workers prefer to ask questions only if they are sure in the chance of getting answers, and the compartmentalization was found to cause information and knowledge blocks and rework due to information and knowledge loss.

The matrix organizational structure was found to encourage the information and knowledge percolation in the organization, therefore information and knowledge sharing. The use of, or the presence of, matrix structure leads to unveiling information and knowledge  that can be unveiled and help in some measure to overcome some built characters of the compartmentalization process.

The above relevant factures were discussed broadly within the study and thought about continuation research were presented and some future organizational implementation. Some implementations discuss the organizational information managing system in order to suggest the right operation way that will contribute the workers and will shed light on the systems in order to enhance the way they can contribute to the work procedures. Recommendation were also given regarding compartmentalization technical procedures in order to improve correct filing methods and retrieving processes.

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