Projects in production systems

Technology

Introduction The projects in production systems can be categorized as low-tech, medium-tech, high-tech and super high-tech. Low-tech and medium-tech

projects can be managed with a definite manner and with a low degree of flexibility.

High-tech and super high-tech projects require special attention still they have greater

risk and possibility of failure.

As per the categorization of the projects, the risk of errors and failures go on

increasing as we move from a low-tech to medium-tech, medium-tech to high-tech and

from high-tech to super high-tech. This means that management of super high-tech

projects is very much prone to errors and failures. This is mainly because of the new

technology involved in such projects

There are several mechanisms or tools for planning, organizing and

managing

different kinds of projects. The projects mainly differ on the technology front and the

varying requirements from the customer. The greater degree of innovation in a high

technology project increases the complexity..

The production processes in Complex Products & System (CoPS) require

innovations and advanced tools for project management. It is not possible to make perfect

innovations because the required parameters of the product go on changing. This kind of

situations lead to multiple modifications in the designs and production, creating

difficulties in project management. The unawareness about the new technology makes the

project management more complicated.

The low-tech project requires to manage a predefined set of specifications, known

outputs and existing technologies. In contrast to this the CoPS project has no standard

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The terms high-tech/Super high-tech and CoPS are used synonymously. specifications and outputs are varying due to uncertainty of technology. Decision making

and communication play a vital role in CoPS project management.

Managers working over the CoPS shall always keep in mind that the project is

going to move ahead only with errors and problems. They should be conversant of detecting

problems at various stages, make firm decisions and maintain continuous communication at

different levels for progressing the project. In totality the CoPS projects have two types of risks.

The one is to not to meet the planned objectives completely and the other

one is the unsuccessful

termination of the project.

Key Factors: Critical factors/dimensions are the one's which decide the level of

complexity of the product. The availability of alternative system configuration & quantity

involved creates difficulties in the management for the suppliers, integrators & users to come to a

common opinion and innovation. The design & development based feedback loops of later stages

to earlier stages of project reflect that a minor change in one stage may result into a larger change

in other stage. In CoPS, user changes the requirement as they go on learning more about the

product and systems, that's how user is directly associated in the management & initiates to

develop innovations. For large CopS the competency of project management

is out of the scope

of a single company. The degree of complexity in CoPS strongly advocates the coordination

among different companies involved in the project. The management in CoPS has to coordinate

the variations in objectives, management structures & cultures of the companies working over

the project. The project management shall identify the elements of project to be planned in such

a way that it can remain in a change responding stage & some elements can be rigid. Reduction

in hierarchy & bureaucracy can improve the project management of CoPS. Uncertainties can be

dealt properly & appropriate actions on feedback can certainly improve the project management