

IS/IT Strategic Management and IS/IT Projects Context

1. Problem Statement

- organizations must have an IS / IT planning and strategies to facilitate appropriate management and control of resources and investment
- these organizations need to invest in IS / IT projects that can demonstrate clear links between the overall organizational strategy
- systems planning, especially strategic systems planning, is becoming more difficult and more important at the same time
- Because technology is changing so fast that it seems futile to plan for it, yet the dependence on this technology makes planning, its effective use a matter of organizational life and death
- organizational leaders need guidance on how to manage IT-related investments and get the benefits of them

2. Questions

- why have an strategy, specifically IS/IT strategy?
- what constitutes the IS/IT strategy and strategic planning and how it relates to the organization's strategy?
- what takes place in the implementation of IS/IT strategy?
- where are IS/IT projects located in organization?
- what are criteria to assess IS/IT projects success?

3. Consequences of not having an IS/IT strategy

- Systems investments are made that do not support business objectives.
- Loss of control of IS/IT, leading to individuals often striving to achieve incompatible objectives through IS/IT.
- Systems are not integrated. This can also lead to duplication of effort and data leading to inaccuracy and no coherent information resource.
- No means of setting priorities for IS projects/resources and constantly changing plans leading to lower productivity, etc.
- No mechanisms for deciding optimum resource levels or the best means of supplying systems.
- Poor management information; it is either not available, inconsistent, inaccurate or too slow.
- Systems, on average, have a shorter than expected business life and require, overall, considerably greater IS/IT spending to redevelop more frequently than should be necessary

4. Strategic Management

Establishment of strategy consists of three interrelated processes:

- **Strategic thinking** – creative, entrepreneurial insight into ways the enterprise could develop;

- **Strategic planning** – systematic, comprehensive analysis to develop a plan of action
- **Opportunistic decision making** – effective reaction to unexpected threats and opportunities;

To achieve any or all of these, a thorough understanding of the business environment, pressure groups, stakeholders and the enterprise's capability is required.

Strategic management is about taking "strategic decisions" answering questions

A thorough strategic management process has three main components or subprocesses :

- **strategic analysis** - this is all about the analysing the strength of businesses' position and understanding the important external factors that may influence that position.
- **strategic choice** - involves understanding the nature of stakeholder expectations, identifying strategic options, and then evaluating and selecting strategic options
- **strategy implementation** - translating it into organizational action.

Implementation consists also of strategic planning, in other words, preparing organizational action plan or plans

5. Strategic Decisions

Here are questions to answer for making strategic decisions:

- where is the business trying to get to in the long-term (**direction**)
- which markets should a business compete in and what kind of activities are involved in such markets? (**markets; scope**)
- how can the business perform better than the competition in those markets? (**advantage**)?
- what resources (skills, assets, finance, relationships, technical competence, facilities) are required in order to be able to compete? (**resources**)?
- what external, environmental factors affect the businesses' ability to compete? (**environment**)?
- what are the values and expectations of those who have power in and around the business? (**stakeholders**)

In other words, for strategy we must define direction, markets, scope, advantage, resources, environment and stakeholders

6. Strategy Definitions

We can define strategy differently and here are some definitions of it:

- the **direction** and **scope** of an organization over the **long-term**: which achieves **advantage** for the organization through its configuration of **resources** within a

challenging **environment**, to meet the needs of **markets** and to fulfil **stakeholder** expectations".

- derived approach to achieving its mission, goals and objectives - It supports the organizational vision, takes into account organizational enablers and barriers
- an integrated set of actions aimed at increasing the long-term well-being and strength of the enterprise relative to competitors

Strategy is always concerned with change – without need to change it is not necessary to have a strategy and change contains process improvement or different products, services

7. Strategic Management Terms

On the next figure is presented one model to describe concepts concerning strategy and the relationships among them [4]:

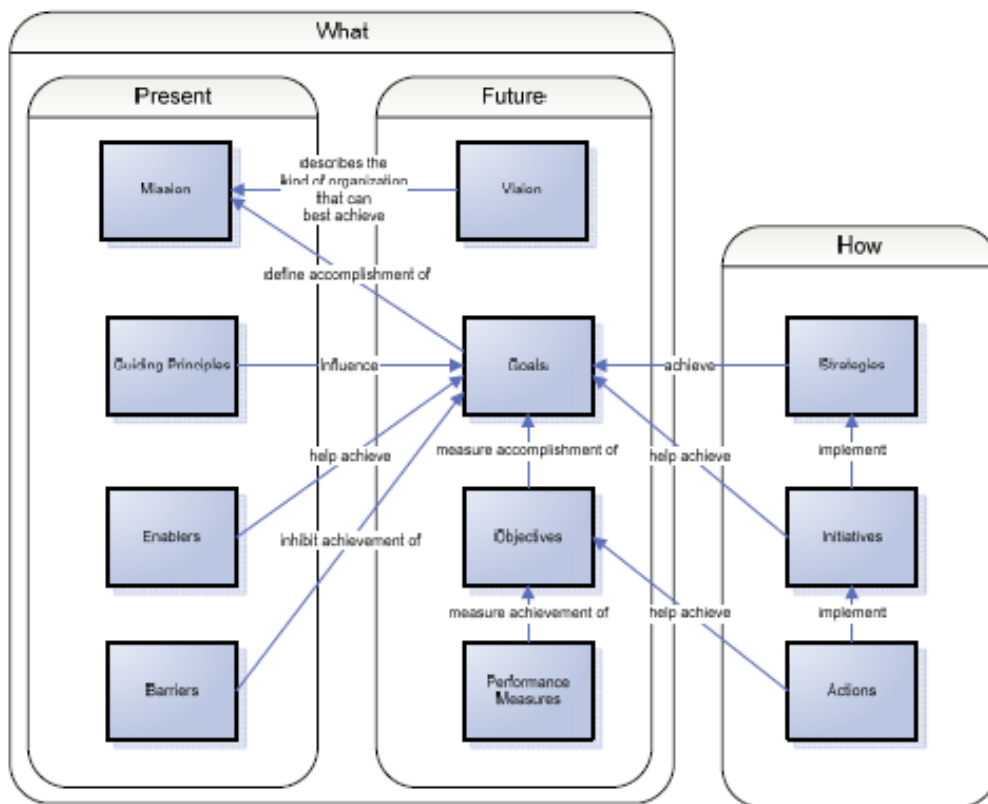


Figure 1. Strategic Management Elements

Next is a table where these elements are defined [4]:

Table 1. Strategic Management Elements Definitions

Term	Definition
Mission	An organization’s mission is its primary business or purpose; it describes what an organization does, for whom, and its benefit. The mission of an organization is not a time-bound objective.
Vision	A vision is an ideal that an organization intends to pursue.

	It links the organization to the future by articulating instantiations of successful execution of the mission. An organization's vision is a source of inspiration and can be broader than the organization's capabilities. It might, in fact, describe what can be achieved in a broader environment if the organization and others are successful in achieving their individual missions.
Goals	Goals are broad, measurable, aims that support the accomplishment of a mission
Objectives	Objectives are specific, quantifiable, lower-level targets that indicate an accomplishment of a goal.
Guiding Principles	Guiding principles are directive statements that articulate the constraints an organization chooses to place upon the way it achieves its goals. Guiding principles embrace core values and are used to shape an organization's strategy. Guiding principles reflect long-term intentions, but are not necessarily permanent. A guiding principle may seem similar in content to a goal but it lacks measurable aims. A guiding principle can generate a goal when an organization chooses to commit resources to achieving a measurable result regarding its content
Enablers	Enablers are external conditions or organizational strengths that facilitate an organization's ability to accomplish its goals or objectives.
Barriers	Barriers are external conditions or organizational (internal) weaknesses that hinder an organization's ability to accomplish a goal or objective.
Strategy	A strategy is a derived approach to achieving the mission, goals, and objectives of an organization. It supports the organizational vision, takes into account organizational enablers and barriers, and upholds its guiding principles.
Strategic Plan	A strategic plan is a document that results from a strategic planning activity. It elaborates the organizational strategy and documents the elements that influence it.
Initiative	An initiative is a specific set of actions that implement a strategy
Actions	Actions are specific steps to achieve a goal or objective. Actions typically have assigned staff and schedule constraints.
Performance Measures	Performance measures describe performance targets relevant to each objective.

8. IS/IT Strategic Management

On the next figure from [1] are combined to components: IS/IT Management consisting of 2 processes and corresponding inputs and outputs or outcomes are as follows. These outputs: “Business IS strategies”, “IS/IT management strategy” and “IT strategy” are defined on following notes. Here is shown that through strategy implementation future portfolio becomes current portfolio and is input situation to the next strategic management circle or loop.

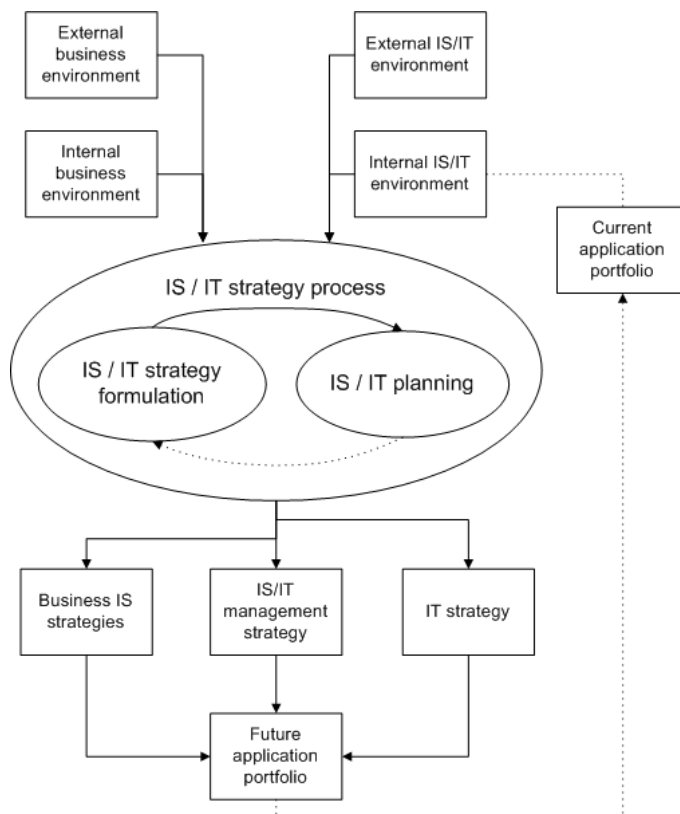


Figure 2. Strategic Management Processes with their Inputs and Outputs

9. Information Systems (IS) Strategy

Defines the organization's need or "demand" for information and information technology systems to support organizational long-term goals

It defines the benefits that are available from the IS changes and changes that are necessary to obtain these benefits taking into account restrictions bound with available resources and IT

It is a plan for the development of IT systems towards some future vision of the role of IS in the organization

We can define IS strategy also as the process of identifying a portfolio of computer-based applications to be implemented, which is both highly aligned with corporate strategy and has the ability to create an advantage over competitors

Examples of Strategic Role of IS:

- sharing information via technology-based systems with customers/consumers and/or suppliers and change the nature of the relationship
- producing more effective integration of the use of information in the organization's value-adding processes
- enabling the organization to develop, produce, market and deliver new or enhanced products or services based on information
- those that provide executive management with information to support the development and implementation of strategy (in particular, where relevant external and internal information are integrated in analysis)

That kind of information systems are called also strategic information systems

10. IS/IT Management Strategy

Covers common elements of the strategy that apply throughout the organization, ensuring consistent policies where needed

- vision of the corporate IS/IT environment and its expected impact on the business community
- organization, resourcing and the allocation of responsibility and authority for IS/IT decisions
- investment and prioritization policies
- vendor policies
- human impact policies, including education
- IS accounting policies

11. IT Strategy

A long-term plan for an organization's IT sector in which IT will be utilized to support the accomplishment of the organization's goals and mission objectives – "IT supply"
Its prime purpose is to define how resources and technologies will be acquired, managed and developed to satisfy business IS strategies within the management strategy framework

It should reflect current trends and developments in IT that could cause future opportunities or constraints

It will normally address the following supply factors:

- application portfolio management
- organization of IS/IT, the management of its resources and administrative matters
- managing the information resources and provision of information services
- managing application development
- managing technology

Strategic Roles of IT fall into one of 3 categories:

- "working inward" (improving a firm's internal processes and structure)
- "working outward" (improving the firm's products and relationships with customers) and

- “working across” (improving its processes and relationships with its business partners)
12. The Relationship between Business, IS and IT strategies
Is covered on the next figure [1]:

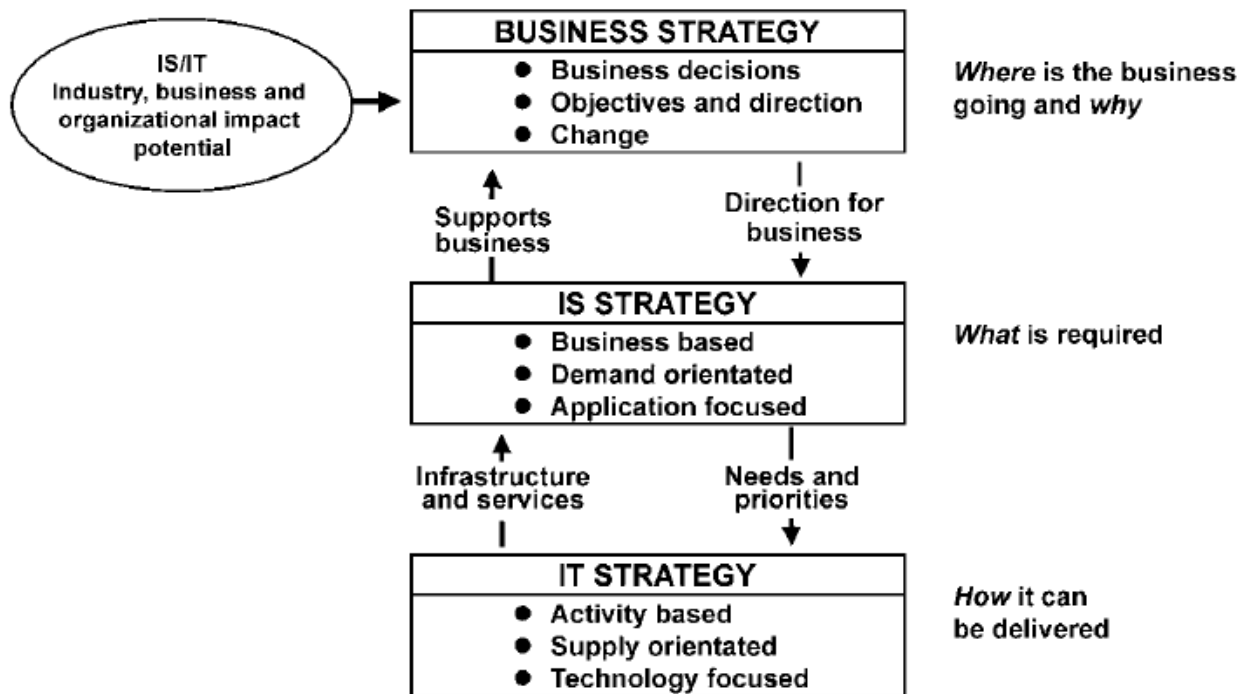


Figure 3 The Relationship between Business, IS and IT strategy

13. IS/IT Strategic Planning

Strategic planning is the process of defining an organization's plans for achieving its mission. The product of strategic planning effort is typically a document (a strategic plan) that elaborates a high-level strategy and articulates the elements that influence it – it is a full description of the organizational environment and intentions. On the point of view of IS/IT development, strategic planning is creation of conception for IS development - charter for regulated development

- Background - description of systems current situation, need for change and capability to deliver it to organization
- System scope under development - models describing IS under development covering whole organization (all clients, products, services, processes or some part of them)
- Main goals for development related to organizational strategic goals - what benefits brings application of IT or changes in it
- Specific objectives for development - describe objectives, needs and requirements in concepts of IS and IT
- Development target groups - main user groups who are influenced by changes

- Development tactics (management of projects) - in 1 or many projects performing in parallel or sequentially
- Development estimates - costs for techniques, licences, development tools, workers, education and project management
- Development risks - events having probability to influence negatively or positively development

14. IS/IT Strategy Implementation

Through IT specific changes undertakings and corresponding investment management – usage of project method

IS development projects are initiated when in organization are acknowledged needs for change

Projects are accepted as results of many strategic considerations

- Market demand
- Organizational need
- Client request or opportunity
- Technological expansion
- Legitimate requirement

Projects begin their life according formality established in organization – through applying portfolio and/or project management methodology

15. Relationship between Strategy, Architecture and Project Management

Is illustrated on the next figure [5]:

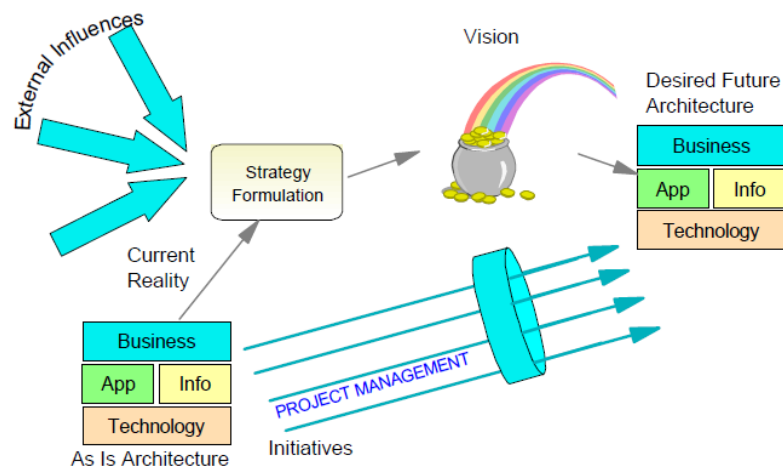


Figure 4. Relationship between Strategy, Architecture and Project Management

16. IT Project Differentiation

Project differ in the technology used, the size, complexity, risk and other characteristics. In particular the distinction is made between technological uncertainty and complexity of projects. The complexity of the project management is proportionate to the complexity of technology. To different types of projects are essential different success categories. These categories have different importance degree to different project stakeholders

17. Project Types

- Low-tech (Established Technology) - rely on existing and well-established base technologies to which all industry players have equal access
- Medium-tech (Mostly Established Technology) - these are similar to Low-tech, but involve some new technology or feature - new feature provides market advantage but also a higher degree of uncertainty
- High-tech (Advanced Technology) - projects which contain technologies that have been developed prior to project initiation, but which are used together for the first time
- Super high-tech (Highly Advanced Technology) - technologies which are not entirely existing, are emerging or even require unknown solutions at the time of project initiation

18. Measurement of Project Success

Project success is seen as a strategic management concept where project efforts must be aligned with the strategic long-term goals of the organization

The intent is to establish appropriate expectations of both top management and the project team prior to project initiation

These expectations then provide a baseline for both the decision to launch project execution and the inevitable trade-off decisions that will be required of the project's management during this period

There are primary success categories and measurable success criteria (Key Success Indicators). Success Categories differ in terms of gaining project outcome "fruits" and project objectives filling time - immediately or after some time in near or distant future

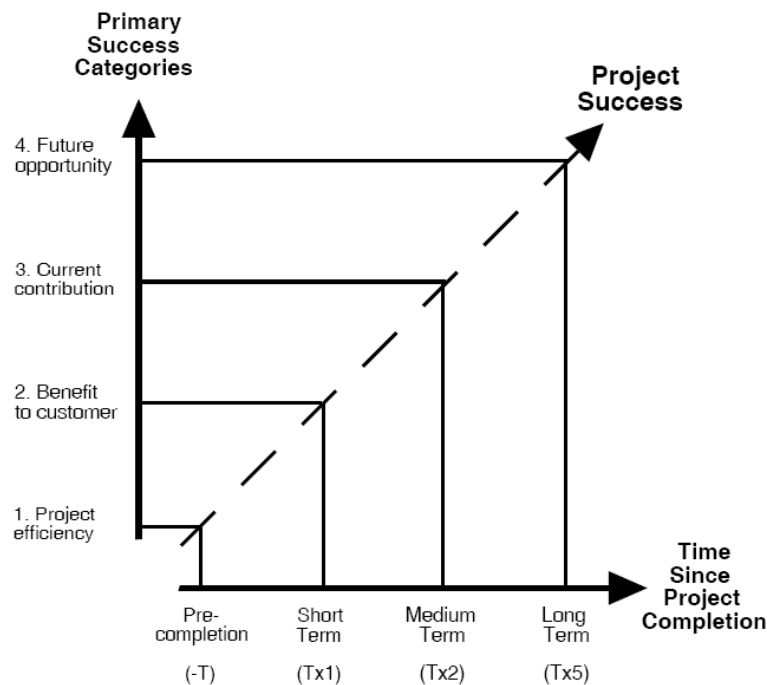
19. Primary Success Categories and Measureable Success Indicators

Illustrated in the next table [11]:

Table 2 Primary Success Categories and Measureable Success

Primary Success Category	Measurable Key Success Indicators (KSIs)
Internal Project Efficiency (Pre-completion)	<ul style="list-style-type: none"> - Meeting schedule - Completing within budget - Other resource constraints met
Impact of the Customer (Short term)	<ul style="list-style-type: none"> - Meeting functional performance - Meeting technical specifications & standards - Favorable impact on customer, customer's gain - Fulfilling customer's needs - Solving customer's problem - Customer is using product - Customer expresses satisfaction
Business and Direct Success (Medium term)	<ul style="list-style-type: none"> - Immediate business/commercial recognition - Immediate revenue & profits enhanced - Larger market share generated
Preparing for the Future (Long term)	<ul style="list-style-type: none"> - Will create new opportunities for the future - Will position customer competitively - Will create new market - Will assist in developing new technology - Will add/has added capabilities & competencies

20. Project Success Categories vary with Time
Illustrated on the next figure [11]:



Note: Time 'T' is a suggested yardstick based on the time taken in the execution phases of the project. Actual intervals would depend on the industry involved.

Figure 5 Project Success Categories vary with Time

21. Success Categories and Characteristics of Various Project Types

Illustrated in the next table [11]:

Project Type \ Success Category	A Low-tech (Established Technology)	B Medium-Tech (Mostly Established)	C High-tech (Advanced)	D Super Hi-Tech (Highly Advanced or Exploratory)
Project Efficiency (Pre-completion)	Critical	Important	Overruns acceptable	Overruns most likely
Impact on Customer (Short term)	Standard product	Functional product with added value	Significantly improved capabilities	Quantum leap in effectiveness
Direct Contribution (Medium term)	Reasonable profit	Profit. Return on investment	High profits. Market share	High, but may come much later. Market leader
Future Opportunity (Long term)	Almost none	Gain additional capabilities	New product line. New markets	Leadership in core and future technologies

Table 2: Success Categories and Characteristics of Various Project Types

22. Relationship between Project Management Complexity and Project Type

Illustrated on the next figure [11]:

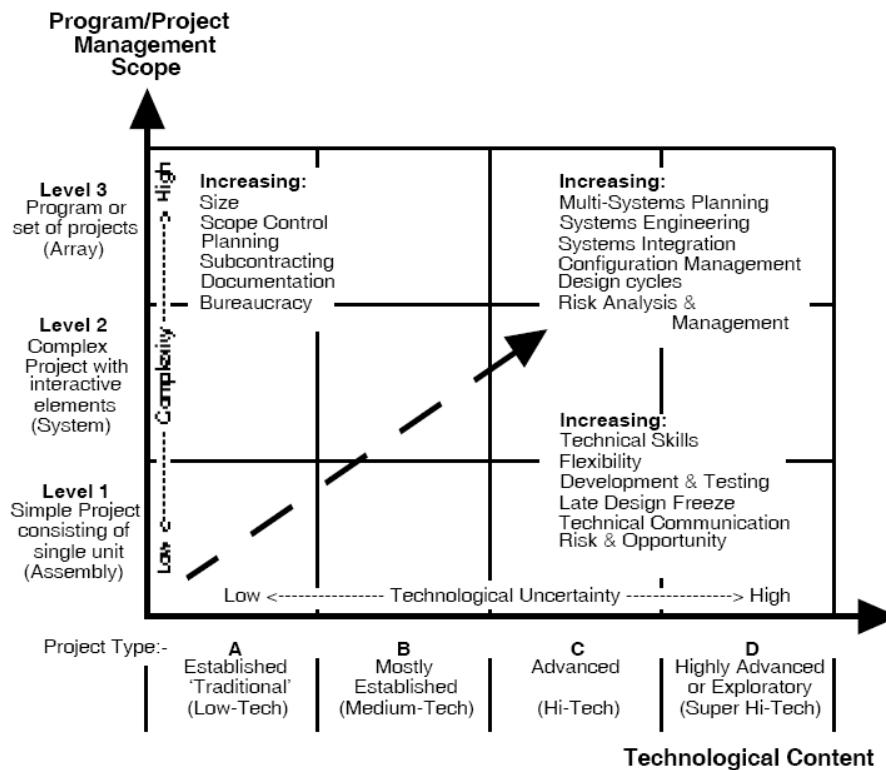


Figure 6 Relationship between Project Management Complexity and Project Type

23. Summary

IS/IT strategic management through recurrent strategic analysis of IS and its outcomes implementation. Strategic analysis outcomes are: IS architecture models and IS architecture implementation plan. IS architecture implementation through projects – programme and portfolio management methodology

24. Used Literature

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