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STRATEGIC MANAGEMENT OF IT

MBA 4TH SEM.(18MBA401E)

UNIT-1

SYSTEMS APPROACH TO STRATEGIC MANAGEMENT

Strategic management involves decision-making about an organization's objectives together with the formulation and implementation of plans,regarding the allocation of resources to support their achievement.

Strategic management is a dynamic and complex process involving consideration of internal and external factors and short term and long term.

The effectiveness of an organization's strategic management can critically impact upon its and there are many reasons why the strategic managenet process may fail. Such reasons include failure to:

1.think creatively about the likely affects of plans

2.obtain external/internal participation and commitment

3.co-ordinate and control resources.

Introduction

Strategic management involves decision-making about an organization's objectives together with the formulation and implementation of plans, particularly regarding the allocation of resources, to support their achievement. As such, strategic management is a dynamic and complex process involving consideration of internal and external factors, and the short and long term. The effectiveness of an organization's strategic management can critically impact upon its viability and there are many reasons why the stategic management process may fail. In this paper it is argued that many of the reasons for failure may be attributed to the successive dominance of different reductionist approaches to strategic management. From a systems perspective it may be argued that such approaches represent partial approaches to strategic management that neglect the complex, embedded and dynamic nature of modern organizations.

APPROACHES TO STRATEGIC MANAGEMENT

1. The Design School.

This school sees strategy formation as a process of conception. Clear and unique strategies are formulated in a deliberate process. In this process, the internal situation of the organization is matched to the external situation of the environment.

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2.The planning school

This school sees strategy formation as a formal process. A rigorous set of steps are followed, from the analysis of the situation to the execution of the strategy.

3. The Positioning School.

This school sees strategy formation as an analytical process. It places the organization within its context, and looks at how the organization can improve its strategic positioning within that context.

4**. The Entrepreneurial School.**

This school sees strategy formation as a visionary process that takes place within the mind of the charismatic founder or leader of an organization. The school stresses the most innate of mental states and processes – intuition, judgment, wisdom, experience, and insight.

5. The Cognitive School.

This school sees strategy formation as a mental process. It analyzes how people perceive patterns and process information. It concentrates on what is happening in the mind of the strategist, and how it processes the information.

6. The Learning School.

This school sees strategy formation as an emergent process. Managers pay close attention over time to what works and what doesn't. They incorporate these 'lessons learned' into their overall plan of action. The world is too complex to allow strategies to be developed all at once hence strategies must emerge in small steps, as an organization adapts, or 'learns'.

7. The Power School.

This school sees strategy formation as a process of negotiation between power holders within the organization, and/or between the organization and its external stakeholders.

8. The Cultural School.

This school sees strategy formation as a collective process. Tries to involve the various groups and departments within the organization with strategy formation being seen as a fundamentally collective and cooperative process.

9. The Environmental School.

This school sees strategy formation as a reactive process in response to challenges imposed by the external environment. Where other schools see the environment as a factor, the environmental school sees it as an actor.

10. The Configuration School.

This school sees strategy formation as a process of transforming the organization from one type of decision-making structure into another.

Information technology as a key to strategic

Introduction

There are a number of arguments concerning the role of information technology in the strategic management process for business organization. In this part emphasis is given for the benefits of information technology for strategy management process.

Here in after, the term Information Technology is used to describe the usage of a wide variety of items and abilities used in the creation, storage and dispersal of information. Information technology focuses on processing of information which is the basic part of strategic management process, called Strategic analysis.

The word Information System in this context describes a usage of a computer system to process data and produce business information. For processing of data Hardware, software, peoples, procedures are considered.i.e.they constitute information system.Here, Hardware is referred as part of a computer system that can be touched and seen by our sense organs. Keyboard, Mouse, Monitor, printer etc are grouped under Hardware. However, Software is part of a computer system that cannot be touched with our necked eyes. This include operating system software, and the applications software, hence, computer becomes nothing by itself without software.

Using information systems import a number of impacts on an organization success. These impacts can benefit the organization, users of the information system, and any individual or group who will interact with the information system.

Some of the specific benefits are ,adding value to products (goods and services),better safety ,better service ,competitive advantage ,fewer errors ,greater accuracy ,higher quality products ,improve communications ,increase efficiency ,increase productivity ,more efficient administration ,more opportunities ,reduce labor required ,reduce costs ,helps in decision making ,superior control over operations etc.

All the above benefits come from the capability of the computer system in relation to speed, consistency, precision and reliability. Here after, some of the benefits are illustrated.

In relation to time related benefits, classical idiom appears to be relevant, “time is money”. This is to mean that every minute of second has value for a person who utilizes the time effectively.

Accordingly, business organization has to treat their customers by providing appropriate services accurately and timely. However, Most of the time, we could not achieve or delay in delivering information, service, and products on time due to limited usage of information technology. But, with

the help of information technology more work can be done timely by individuals, businesses, services and government organizations with high speed and accuracy. Hence, computer systems can process and helps to convert a bulk of data to meaningful information within a fraction of seconds; faster than people. These results in minimization of information gap among organizational units and enhance business efficiency.

The other use of Information technology is consistency. It is one of the qualities of computer system to retrieve repeated actions every time precisely.

Information Technology and Strategy

Some managers did not give more attention about the benefits of information systems on the business strategy process. Such luck of attention is related to a number of factors. First, there appears to be some gaps as how information technology could be used in their Strategic management process.

Second, there was a great misunderstanding on the usefulness of the information technology on business strategy. But nowadays, most of the business entities understood the benefits of the information technology systems as an enabler of their strategic management system process.

Besides, there is more awareness where and when to implement it and use information technology in the process of crafting different strategies that lead them to the road of stakeholders satisfaction.

Some of the application areas like transaction processing systems and decision support systems (DSS) have been used as the main information system so as to enhance business performances.

In addition to the above advantages large computer network that shares different information with reliable and easy internet systems has been used by the organization for the purpose of communication, distribution of information, to offer goods and services online to customer, to interact with other business organization either for business transaction or information exchanges etc.

Such internet usage leads to live in a global village in which computers and peoples are linked within companies, countries, and continents resulting easy communications in reducing the time and geographical barriers.

The main points on the above statement intended to address the capability of information technology to transform corporate data into meaningful and actionable information that helps the strategic management process of a business.

Consistent with the above justification, in the developed country, almost all transaction has been undergoing electronically through internet infrastructure called electronic commerce (e-commerce). Such transaction decreases the intermediaries between the business and the end users. It reduces costs like labor, document preparation, telephoning, and mail preparation etc. and IT become part of the daily life activity.

Strategy Formulation

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Strategy Formulation is an **analytical process of selection of the best suitable course of action to meet the organizational objectives and vision**. It is one of the steps of the strategic management process. The strategic plan allows an organization to examine its resources, provides a financial plan and establishes the most appropriate action plan for increasing profits.

It is examined through **SWOT** analysis. SWOT is an acronym for strength, weakness, opportunity and threat. The strategic plan should be informed to all the employees so that they know the company's objectives, mission and vision. It provides direction and focus to the employees.

Steps of Strategy Formulation

The steps of strategy formulation include the following:

1. **Establishing Organizational Objectives**: This involves establishing long-term goals of an organization. Strategic decisions can be taken once the organizational objectives are determined.
2. **Analysis of Organizational Environment**: This involves SWOT analysis, meaning identifying the company's strengths and weaknesses and keeping vigilance over competitors' actions to understand opportunities and threats.

   Strengths and weaknesses are internal factors which the company has control over. Opportunities and threats, on the other hand, are external factors over which the company has no control. A successful organization builds on its strengths, overcomes its weakness, identifies new opportunities and protects against external threats.

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3. **Forming quantitative goals**: Defining targets so as to meet the company's short-term and long-term objectives. Example, 30% increase in revenue this year of a company.
4. **Objectives in context with divisional plans**: This involves setting up targets for every department so that they work in coherence with the organization as a whole.
5. **Performance Analysis**: This is done to estimate the degree of variation between the actual and the standard performance of an organization.
6. **Selection of Strategy**: This is the final step of strategy formulation. It involves evaluation of the alternatives and selection of the best strategy amongst them to be the strategy of the organization.

Strategy formulation process is an integral part of strategic management, as it helps in framing effective strategies for the organization, to survive and grow in the dynamic business environment.

Levels of strategy formulation

There are three levels of strategy formulation used in an organization:

- **Corporate level strategy**: This level outlines what you want to achieve: growth, stability, acquisition or retrenchment. It focuses on what business you are going to enter the market.
- **Business level strategy**: This level answers the question of how you are going to compete. It plays a role in those organization which have smaller units of business and each is considered as the strategic business unit (SBU).
- **Functional level strategy**: This level concentrates on how an organization is going to grow. It defines daily actions including allocation of resources to deliver corporate and business level strategies.

Hence, all organisations have competitors, and it is the strategy that enables one business to become more successful and established than the other.

On the other hand, in developing country there are some gaps in using Information technology in their business strategy as well as day to day activity as compared to the developed country. Therefore more efforts are expected in the future to get competitive advantages from application of information technology.

Steps in Strategy Formulation Process

Strategy formulation refers to the process of choosing the most appropriate course of action for the realization of organizational goals and objectives and thereby achieving the organizational vision.

The process of strategy formulation basically involves six main steps. Though these steps do not follow a rigid chronological order, however they are very rational and can be easily followed in this order.

1) **Setting Organizations' objectives -** The key component of any strategy statement is to set the long-term objectives of the organization. It is known that strategy is generally a medium for realization of organizational objectives. Objectives stress the state of being there whereas Strategy stresses upon the process of reaching there. Strategy includes both the fixation of objectives as well the medium to be used to realize those objectives. Thus, strategy is a wider term which believes in the manner of deployment of resources so as to achieve the objectives.
2) **Evaluating the Organizational Environment -** The next step is to evaluate the general economic and industrial environment in which the organization operates. This includes a review of the organizations competitive position. It is essential to conduct a qualitative and quantitative review of an organizations existing product line. The purpose of such a review is to make sure that the factors important for competitive success in the market can be discovered so that the management can identify their own strengths and weaknesses as well as their competitors' strengths and weaknesses.
3) **Setting Quantitative Targets -** In this step, an organization must practically fix the quantitative target values for some of the organizational objectives. The idea behind this is to compare with long term customers, so as to evaluate the contribution that might be made by various product zones or operating departments.
4) **Aiming in context with the divisional plans -** In this step, the contributions made by each department or division or product category within the organization is identified and accordingly strategic planning is done for each sub-unit. This requires a careful analysis of macroeconomic trends.
5) **Performance Analysis -** Performance analysis includes discovering and analyzing the gap between the planned or desired performance. A critical evaluation of the organizations past performance, present condition and the desired future conditions must be done by the organization. This critical evaluation identifies the degree of gap that persists between the actual reality and the long-term aspirations of the organization. An attempt is made by the organization to estimate its probable future condition if the current trends persist.
6) **Choice of Strategy -** This is the ultimate step in Strategy Formulation. The best course of action is actually chosen after considering organizational goals, organizational strengths, potential and limitations as well as the external opportunities.

Top 4 Approaches to Strategic Planning | Management

Fundamentally, there are four different approaches to do formal strategic planning. The approaches are:-

1. Top-Down Approach

2. Bottom-Up Approach

3. Mixture of the Top-Down and Bottom-Up Approaches

4. Team Approach.

1. Top-Down Approach:

In a centralised company, such planning is done at the top of the corporation and the departments and outlying activities are advised straightway what to do.

In a decentralised company, the CEO or the President may give the divisions guidelines and ask for plans. The plans after review at the head office are sent back to the divisions for modifications or with a note of acceptance.

2. Bottom-Up Approach:

The top management gives the divisions no guidelines but asks them to submit plans.

Such plans may contain information on:

(i) Major opportunities and threats;

(ii) Major objectives;

(iii) Strategies to achieve the objectives;

(iv) Specific data on sales/profits/market share sought;

(v) Capital requirements, etc.

These plans are then reviewed at top management levels and the same process, as in the top-down approach, is then followed.

3. Mixture of the Top-Down and Bottom-Up Approaches:

This is practised in most large decentralised companies. In this approach, the guidelines given by the top management to the divisions are broad enough to permit the divisions a good amount of flexibility in developing their own plans. Sometimes, the top management may decide basic objectives by dialogue with divisional managers in respect of sales and return on investments especially when divisional performance is measured upon those criteria.

4. Team Approach:

The chief executive, in a small centralised company, often use his line managers to develop formal plans. The same approach is used even by the president of a large company. In many other

companies, the president meets and interacts with his group of executives on a regular basis to deal with all the problems facing the company so that the group can develop written strategic plans.

Within each of these approaches, there are many alternatives as follows:

(i) Complete SWOT analysis or not:

In some companies, the divisions supply the top management with perceived opportunities and threats and with the strategies to exploit opportunities and avoid threats.

(ii) Depth of analysis:

Some companies, at the initial stage, do not make in-depth analysis of all aspects of planning. They increase the intensity of analytical exercise gradually as experience is gained.

(iii) Degree of formality:

Divergent practices are in vogue as regards formality. For some large companies having centralised organisation structures, and comparatively stable environment and homogeneous product lines, planning is less formal than large diversified companies with decentralised and semi-autonomous product division structures.

High technology companies usually have more formal systems; yet, they recognise informality in decision making and managerial activities associated with planning.

(iv) Reliance on staff:

It is up-to the managers to decide the extent of delegation.

(v) Corporate planner or not:

Large corporations employ corporate planners to help in the planning process. Smaller companies cannot afford to this luxury.

(vi) Linkage with plans.

Plans are linkage with the managers .

(vii) Getting the process started:

Strategic planning may begin with an effort to solve a particular problem. It may begin with a SWOT analysis or simply with a review of current strategy.

(viii) Degree of documentation:

A balance has to be struck between too little and too much paper work.

(ix) Role of CEO:

The chief executive officer's role is critical depending on the degree of complexity of organisations.

IT Strategy & Applications

Everyone is talking about digitisation - trends such as agilisation, data analytics, AI, customer experience and increased security requirements - to name but a few - have a massive impact on the alignment of IT organisations. Nevertheless, the challenges are not the same for everyone in the company: CEO, CIO, CDO or CFO have different perspectives and demands on an IT strategy.

The CIO is required to generate business value as an integral component of new digital business models as an orchestrator of highly innovative, networked services.

- Agilization of the IT organization as a basis for agile application development and operation (DevOps, Scrum)
- Establishment of flexible application ecosystems (microservices, API layer)
- Targeted application of big data and data analytics methods and technologies
- Creating customer value through the use of customer-centered technologies / applications

- to optimize, standardize, further consolidate
- ERP systems (e.g. S4HANA Cloud) as the company's backbone
- IT Security Management / Cyber Security

Value chain analysis (VCA)

It is a process where a firm identifies its primary and support activities that add value to its final product and then analyze these activities to reduce costs or increase differentiation.

Value chain

represents the internal activities a firm engages in when transforming inputs into outputs.

Understanding the tool

Value chain analysis is a strategy tool used to analyze internal firm activities. Its goal is to recognize, which activities are the most valuable (i.e. are the source of cost or differentiation advantage) to the firm and which ones could be improved to provide competitive advantage. In other words, by looking into internal activities, the analysis reveals where a firm's competitive advantages or disadvantages are. The firm that competes through differentiation advantage will try to perform its activities better than competitors would do. If it competes through cost advantage, it will try to perform internal activities at lower costs than competitors would do. When a company is capable of producing goods at lower costs than the market price or to provide superior products, it earns profits.

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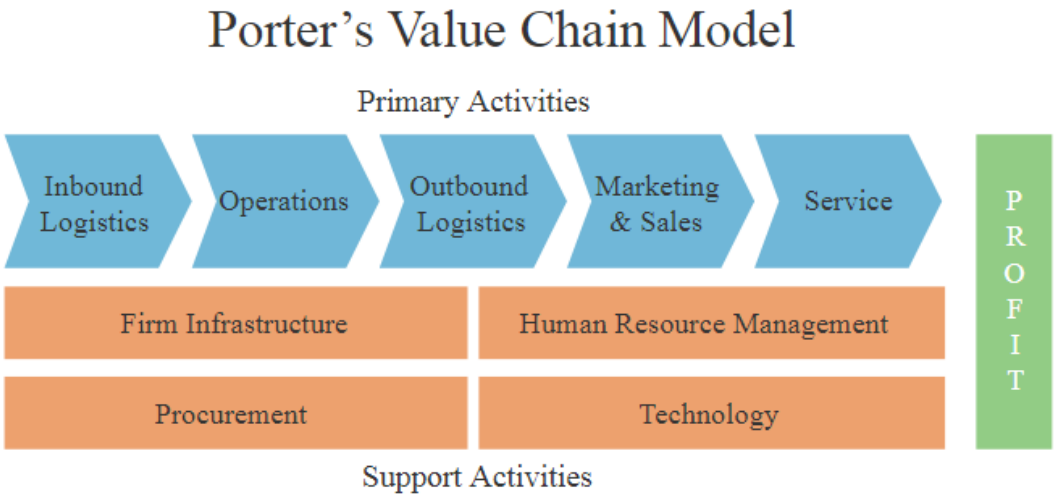
M. Porter introduced the generic value chain model in 1985. Value chain represents all the internal activities a firm engages in to produce goods and services. VC is formed of primary activities that add value to the final product directly and support activities that add value indirectly.



Although, primary activities add value directly to the production process, they are not necessarily more important than support activities. Nowadays, competitive advantage mainly derives from technological improvements or innovations in business models or processes. Therefore, such support activities as 'information systems', 'R&D' or 'general management' are usually the most important source of differentiation advantage. On the other hand, primary activities are usually the source of cost advantage, where costs can be easily identified for each activity and properly managed.

Firm's VC is a part of a larger industry's VC. The more activities a company undertakes compared to industry's VC, the more vertically integrated it is. Below you can find an industry's value chain and its relation to a firm level VC.

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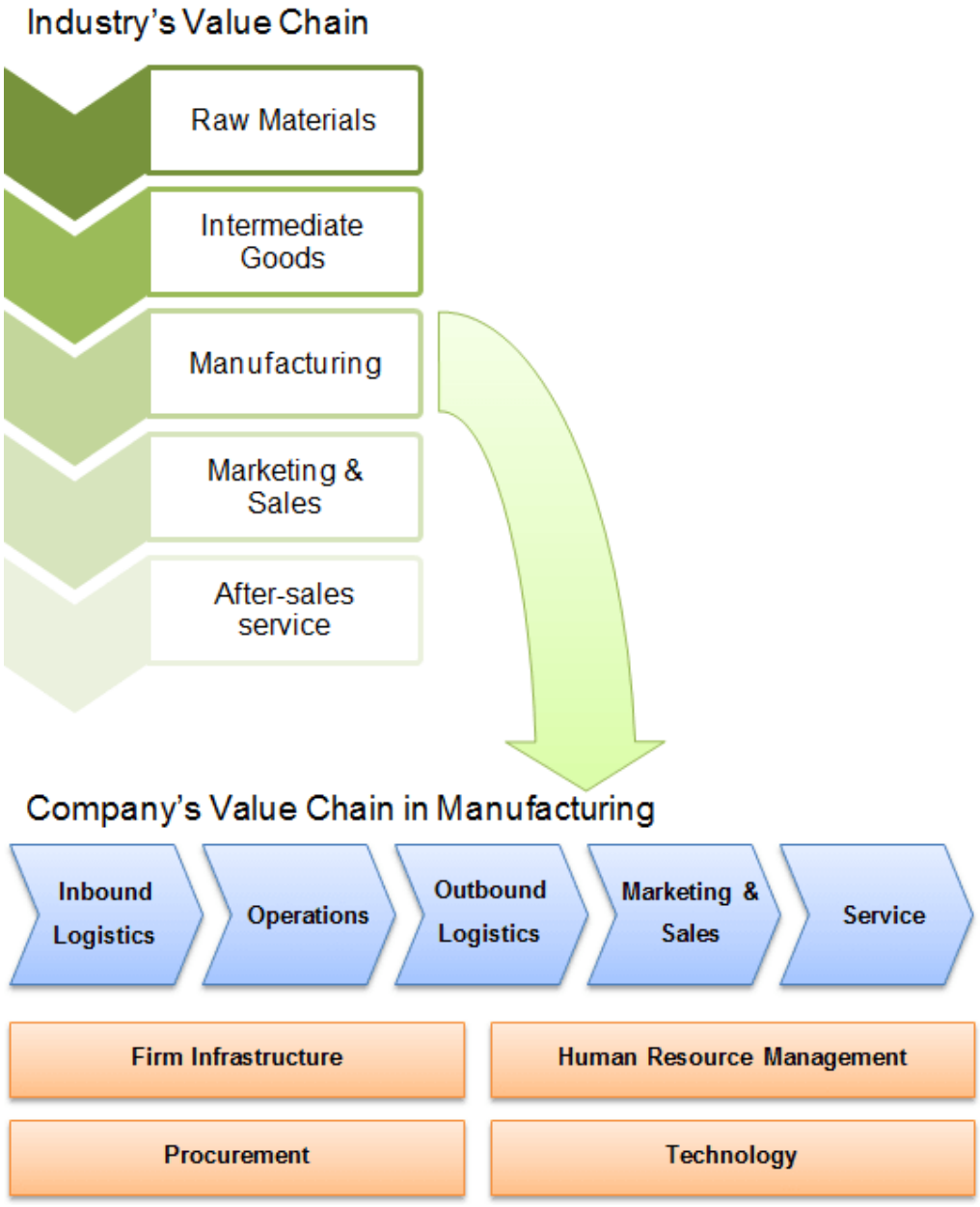

Using the tool

There are two different approaches on how to perform the analysis, which depend on what type of competitive advantage a company wants to create (cost or differentiation advantage). The table below lists all the steps needed to achieve cost or differentiation advantage using VCA.

Competitive advantage types	
Cost advantage	Differentiation advantage
This approach is used when organizations try to compete on costs and want to understand the sources of their cost advantage or disadvantage and what factors drive those costs.(good examples: Amazon.com, Wal-Mart, McDonald's, Ford, Toyota)	The firms that strive to create superior products or services use differentiation advantage approach. (good examples: Apple, Google, Samsung Electronics, Starbucks)
Step 1. Identify the firm's primary and support activities. Step 2. Establish the relative importance of each activity in the total cost of the product. Step 3. Identify cost drivers for each activity. Step 4. Identify links between activities. Step 5. Identify opportunities for reducing costs.	Step 1. Identify the customers' value-creating activities. Step 2. Evaluate the differentiation strategies for improving customer value. Step 3. Identify the best sustainable differentiation.

Cost advantage

To gain cost advantage a firm has to go through 5 analysis steps:

Step 1. Identify the firm's primary and support activities. All the activities (from receiving and storing materials to marketing, selling and after sales support) that are undertaken to produce goods or services have to be clearly identified and separated from each other. This requires an adequate knowledge of company's operations because value chain activities are not organized in the same way as the company itself. The managers who identify value chain activities have to look into how work is done to deliver customer value.

Step 2. Establish the relative importance of each activity in the total cost of the product. The total costs of producing a product or service must be broken down and assigned to each activity. Activity based costing is used to calculate costs for each process. Activities that are the major sources of cost or done inefficiently (when benchmarked against competitors) must be addressed first.

Step 3. Identify cost drivers for each activity. Only by understanding what factors drive the costs, managers can focus on improving them. Costs for labor-intensive activities will be driven by work hours, work speed, wage rate, etc. Different activities will have different cost drivers.

Step 4. Identify links between activities. Reduction of costs in one activity may lead to further cost reductions in subsequent activities. For example, fewer components in the product design may lead to less faulty parts and lower service costs. Therefore identifying the links between activities will lead to better understanding how cost improvements would affect he whole value chain. Sometimes, cost reductions in one activity lead to higher costs for other activities.

Step 5. Identify opportunities for reducing costs. When the company knows its inefficient activities and cost drivers, it can plan on how to improve them. Too high wage rates can be dealt with by increasing production speed, outsourcing jobs to low wage countries or installing more automated processes.

Differentiation advantage

VCA is done differently when a firm competes on differentiation rather than costs. This is because the source of differentiation advantage comes from creating superior products, adding more features and satisfying varying customer needs, which results in higher cost structure.

Step 1. Identify the customers' value-creating activities. After identifying all value chain activities, managers have to focus on those activities that contribute the most to creating customer value. For example, Apple products' success mainly comes not from great product features (other companies have high-quality offerings too) but from successful marketing activities.

Step 2. Evaluate the differentiation strategies for improving customer value. Managers can use the following strategies to increase product differentiation and customer value:

- Add more product features;
- Focus on customer service and responsiveness;
- Increase customization;
- Offer complementary products.

Step 3. Identify the best sustainable differentiation. Usually, superior differentiation and customer value will be the result of many interrelated activities and strategies used. The best combination of them should be used to pursue sustainable differentiation advantage.

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value chain analysis for service industry

A value chain is a set of activities that an organization carries out to create value for its customers. The traditional VC suits more to manufacturing or products (tangible) then to services – an argument to which I wouldn't disagree as well. Though not all but a few parts of the value chain could still be applicable in conceptual sense. In this article, I attempt to analyze one service sector and then superimpose the Porter's value chain over the same.

Services differ from products in many ways – inseparability (simultaneous delivery and consumption), intangibility (can only be experienced), perishability (can't be stored) and heterogeneity (variability in performance of the same service). The details of each of these basics can be a topic of marketing but the essence is that due to the same reasons, same service would or could differ in performance and thus price. Such aspects not only increase the complexity with regards to delivery but also maintaining performance levels, and most importantly marketing. Since service can't be stored, marketing the same becomes an effort in itself. Before we move to the value chain, we must recognize a very vital feature of service – value addition happens at each and every stage. For instance, when you book a hotel room online or over phone, although the real need is to occupy the room for one night (imagine as a virtual product), each stage from booking to commute to hotel, contact with staff and actual experience at the hotel form part of the service (and thus value). In sum, customer value is added at each stage of the value chain and not at the very ends (product and service of Porter's VC).

Now that we've a basic understanding of how services are different from products, let's look at the example of an airline to draw the value chain for services industry. In this case, let's break the value

to the customer into two parts – primary and secondary. The primary value (or need) is to book a ticket from A to B, and secondary value comes from aspects such as searching the flight tickets, booking channel – phone, internet, mobile, checking in assistance, on time performance, courtesy of flight staff, in flight experience and baggage handling. As you may observe, unlike for products whose consumption and performance (see Diagram 1 – example of auto industry) of the final products (tangible such as sports equipment) bring the value to the customer, for services each stage is extremely essential to fulfill (supplement) the primary (core) need of the customer. Moreover, service at each stage (primary or secondary) would vary in performance each time it is performed.

Diagram 1 - Traditional Value Chain (Auto sector)

Diagram 1 - The above traditional value chain highlights that though all the parts of the value chain are instrumental, it is essentially the tail end – sales & service – that delivers value to the customer.

Diagram 2 - Service Industry Value Chain

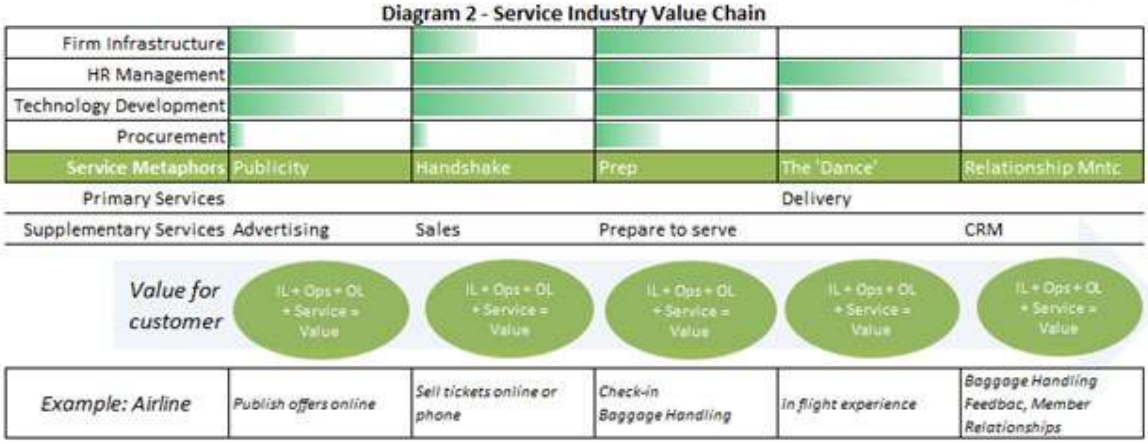

Diagram 2 provides a flavor of how the Porter's VC wouldn't perfectly fit for the service industry for the very properties and factors described above. A few observations and takeaways are worth mentioning.

1. Each stage is essentially a value chain in itself delivering value (though supplementary) to the customer. Consequently, inbound logistics, operations, outbound logistics and service form a product in themselves.
2. Advertising (prospecting) and sales become as most important as service. The intangibles of a service need continuous push and publicity.

3. CRM holds the key to retain customers and feedback becomes a necessary evil.
4. In all, each stage should work coherently and speak one language (fulfill one mission) to influence customer preference. Incoherence of any one stage from other could impact the 'Dance' (service metaphor invented in this article) i.e. its not just the delivery of primary service but also of supplementary services that become part of the full service (or single product).
5. Most importantly, HR management plays a vital role in each stage.

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STRATEGIC MANAGEMENT OF IT

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UNIT-2

Introduction: What is IT Strategy and Why it is Important

An IT strategy has been defined as the actualization of the plans, which consist of tactics, principles, and objectives concerning the use of IT within organizations. If we break down the elements of an IT strategy, the why, how, what, when, where aspects are the important components of an IT strategy. First, the organization needs to identify why it needs to use IT and then formalize a nuts and bolts plan on how it need to leverage IT. For instance, most business processes can be automated and those that cannot or need not be automated along with the practical implementation of the automation forms the what of the IT strategy. Next, the organization has to decide where it needs to deploy IT along with when the automation and the use of IT have to be rolled out.

After these elements are identified and codified in a written document that describes the operational details of an organizations IT strategy, care must be taken to ensure that this IT strategy is consonant with the overall objectives as well as based on scientific principles of technology. These objectives are related to what the organization wants from its IT strategy and dependent on the application of sound technology practices. Moreover, the organizations' IT strategy must complement and supplement its corporate and business strategies and these cannot exist in isolation but instead must work in tandem.

To take some examples, if a bank wants to actualize an IT strategy, it must first define the objectives behind such a strategy. This can take the form of automation of 1000 branches in a year, the rollout of a core banking solution, which would be the foundation for the integration of the corporate, retail, and investment banking functions and their automaton, and then must identify the returns that it expects from such an IT strategy. The ROI or the Return on Investment of an IT strategy is very important, as the bank needs to have a clear plan, articulate, and justify the spending on IT, which would generate a return on its investment. In this case, the ROI can be expected to be a 10% rise in customer accounts, 20% rise in revenues because of handling higher volumes and processing more transactions, and a 15% cost savings because of lesser human effort as well as more rationalization of operations. All these figures should then translate into the percentage increase in profit that the bank expects from its IT strategy. Finally, it is also common for organizations to calculate ROI based on each dollar spent on IT and this can be the case with the example here of the bank which can actually note down all these figures and come up with a comprehensive IT strategy.

Typical Structure of IT Strategy

A typical IT strategy just like a corporate strategy must first perform an internal and external analysis, which would provide it with a guideline on the alignment between its strengths and opportunities and weaknesses and threats. Taking the example of the bank, it must identify the processes that can be automated and ensure that its strengths in the form of whether the bank derives its profits from retail, corporate, or investment banking arms justify the IT spend. This means that if it has say $10 Million to invest in automation, it must allocate this budget wisely so that it generates the needed return. Next, it must also introspect and find out whether automation and rolling out of IT systems would be consistent with its capability and capacity to raise the needed

resources. The bank in this case cannot simply go in for an IT strategy if it is unable to come up with the desired amount for such an exercise.

Having said that, it must be noted that the primary reason why organizations go in for an IT strategy is to reduce the operational bottlenecks, actualize economies of scale, and derive value from technology. The bank should note these business drivers and rigorously apply them to the areas where IT can significantly add value. For instance, if the bank wants to expand its operations in Tier II and Tier III cities and towns and wants to automate its operations to enable real time systems that would benefit its customers, a good IT strategy can ensure the successful outcome for all these objectives. Thus, it would be able to meet the external challenges such as increased competition in these markets successfully.

Alignment of IT Strategy to Corporate and Business Strategies

It is often the case that organizations embark on an IT strategy without defining the benefits, the ROI, and without being clear of which business and which corporate function has to be automated. In other words, many organizations roll out an IT strategy without it being consonant with the overall business objectives. This results in a situation where the organizations' IT strategy is clueless and directionless as an absence of an alignment with the corporate goals and objectives and a disconnect between business drivers and the IT strategy can lead the organization nowhere.

For instance, turning to the example of the bank, if it decides to extend its ATM network and expand it into all areas where it operates, the bank first needs to identify whether the business objective is clear and whether its corporate strategy of raking in more profits is in alignment with the IT strategy. In other words, just because the CEO or the Chairperson of the bank wants to be seen inaugurating ATMs and Bank Branches without a thought as to whether these would be profitable spells disaster.

Though you might think that this does not happen in practice, there are many instances where the CEO(Chief Executive Officer) wants one thing, the CIO(**Chief information officer)** wants another thing, and the CFO(**Chief Financial Officer)** wants something totally different. The point here is that just like the organization prepares a financial and operational budget that is aligned with its capabilities and capacities and is forward looking as well, the IT strategy must not be pursued in isolation but must be in tune with the business and corporate strategies. This is the reason why the IT strategy in most organizations has become part of the corporate planning department so that all the three strategies complement and supplement each other.

special consideration for information strategies(Globalisation, cybersecurity and strategy)

Globalisation can be taken into consideration as a supra-individual force in which connections and impact expand without direction or concrete meaning and is representative of the mixture of a rapid **change** and a transformational paralysis.

After the events of 1989-1991, everything that happened anywhere is global everywhere in the hands of the new electronic means of communication that allowed **connecting** the planet at great speed.

Globalisation has been guided by two main currents, one constituted by the enormous development of communication capability and the revolution that this has led to, and the other, the financial one.

In the political sphere, the result is the critical point of equilibrium between this **supra-national** globalizing tendency and the reduction of the scope for the exercise of democratic political action which, to this day, is still resides in **nation-states**.

Starting from the development and use of communications, cyberspace has emerged, a complex reality, with multiple dimensions, that requires a deep reflection and could be defined as a set of **electronic** interconnections arranged in networks, which constitutes a relationship space comprising components of a material nature of technological base, of a non-material nature sustained on information and **knowledge**, through the language, of an anthropological nature based on the sociability of human beings, that has become in its means and procedures to provide services and has generated a new cultural space with economic, political, legal, social, and security effects; which has restrictions as regards security, development and respect for human rights and needs to establish an international strategy for its management.

Following the criterion of the Joint **Cyber Defence** Command, the set of activities carried out through these technological infrastructures, the services they provide and the information they manage, aimed at protecting cyberspace against its illegal use, guaranteeing **freedom**, rights and the well-being of the general public, their defence, the principles and values of their coexistence, as well as their contribution to international security, is what we know as cybersecurity.

As a lesson learned from recent cyber incidents, real and effective **cybersecurity** may require not only attention to each and every one of its classic phases (prevention, detection, reaction, analysis, recovery, response, research and coordination), but that needs to influence its own essential components of an organizational, training and professional nature, as well as particularly, in cyber-counter-espionage and **cryptology**.

A basic metric of cybersecurity could come hand-in-hand with simplified risk analysis, using the classical variables of impact and probability. In this way, the degree of risk would be expressed by an index, which will be the final result of the analysis in terms of the possibility of an event caused by a cybernetic threat or danger and of the consequences of a cybernetic incident on the normal functioning of the scope to which it refers.

CYBER RISK = CYBERPROBABILITY x CYBERIMPACT

Managers of destinations in countries and organisations have always needed to immerse themselves and interact in their national and international realities and create a point of view regarding the future, and this should not be any less regarding cybersecurity.

The concept of security far exceeds its **military** component to be the result of a combination of political, economic, technological, social or cultural factors. In the international global game, each **nation** pursues the consolidation of its security as a priority within the traditional metric of its foreign policy.

Currently, the security of each country and world peace are threatened by economic, ecological, technological, social or institutional **dangers** similar to military dangers. Among the technological hazards are the risks and threats in cyberspace, a field of cyber security that requires its own strategy.

Among other things, the importance of the strategy lies in the selection of the political and military effort in a scenario, so as to achieve a synthesis that allows solving the present issues, with a clear vision of the future scenarios resulting from them.

The **strategy** could be taken into consideration as the adaptation of resources, means and capacities of the nation to the changing environment in which it operates, with a direct impact on the use of opportunities and **risk** assessment, according to the objectives set by the Government.

This concept would correspond to the General Strategy of the Nations, or Great Strategy, which few nations have and, from a country perspective, would be what is known as a first level strategy. It will be grown in strategies corresponding to sectorial areas among which would be cyber security.

The **hierarchy** of strategies in an indicated area entails the necessary subordination of the strategies to the previous ordinals which means that they has to be configured in coherence with them. In systemic terms, this supposes that they have to act in the direction of marked action from the higher level entity.

TO ADVANCE, WE HAVE TO BE CLEAR THAT IT IS ABOUT THE INFORMATION

An approach to an information strategy requires prior identification of the basic functions to be carried out on them and their relationships with others, establishing a strategic positioning, stimulating everything derived or related to them.

The process will be enriched by adding the components of each to a solid strategic body, refined and accepted by all.

To move forward, we need to have a clear and shared concept of what is "information", what is "strategy" and the principles that an "**information policy**" are to inspire.

Considering that everything related to information is impregnated with politics, before tackling an information strategy, we need to determine the principles that are an information policy are to inspire in a modern democratic society.

Accordingly, six basic functions of regular information can be identified: acquire, **process**, classify, protect, store and distribute.

The acquisition of information can be carried out through the most diverse procedures that go from its own production to its acquisition through purchase, through communication means, through the **diplomatic** channels, of the information and intelligence services, the one coming from research and science, culture in general or other sources.

A systematic acquisition strategy would be one that relates all these sources and determines which are available or not, which are the preferred, or which require an implementation, enhancement or refinement.

Among the procedures for acquiring information, the importance of the activities of **intelligence** and intelligence services and the positive or negative brain drain, in a strategic and organized way, are highly significant in that they stem from the power of the most capable scientists and brains.

The perception of the importance of the acquisition of information as a **knowledge** base, allows us to propose that in the future, it will given similar importance and value as physical acquisitions. When that moment occurs, it will be when the knowledge society will really have arrived, with all that will be involved in economically and legally, rather than merely politically, their true asset value.

Information is of diverse nature and origin

Information processing consists of acquiring it, processing it and acting in accordance with it. At present, ICTs (Information and communications technology)play an significant role in these aspects. Information is of a quite different nature and importance and any strategy requires a clear distinction through its proper classification of the essential blocks, from which different treatments are derived, among which public and private information stand out. Within them, to designate different subgroups by virtue of its specific nature, and allocate levels according to the **transparency**, protection or secrecy they require.

As regards classification, we need to adhere to the essential elements of an information policy, to take as a reference the derivatives of the **international** treaties on human rights and the constitutional texts of all the countries of the globe, at least in essence, in one way or another, the principles and exceptions summarized below and which, in the Spain's case are enshrined in Articles 18.3 and 20 of the Constitution.

Every information strategy requires inexorably to include its own **protection**, to which end "information security" has been developed that also covers the technology that makes its treatment and communication possible, stimulating a deep and constant research and development of products, systems and cryptographic applications that allow for effective integrity, accessibility, authentication and **confidentiality** of protected information. All this is leading to an approach to making encryption universal, which all that this implies for transparency, which in itself requires a discerning regulation impregnated with a high level of political sensitivity to solve the collisions that occur between different rights in **conflict**, and achieve a response to the question: what is the necessary security to ensure the freedom possible in the digital world?

A particular technology can be good or bad at protecting information or processing it, storing it, communicating it, and so on. In the end, it can be seen that all this set of aims and objectives are different aspects related to an element of autonomous entity regarding what they act on: information.

Information storage is key

Within the protection of information, there are two dilemmas of high political, legal and operational significance, based on the relationship between security and **freedom**, which requires an individualized treatment: the **cyberdilemma** derived from opposing interests and rights, and crypto conflict, derived from the use of cryptology for the protection of information.

The accumulation of information for later use constitutes what is known as storage, and implies the conservation with the possibility of **recovery**, which also requires order, easy access and the guarantee of lasting in time, without loss of the different elements that it comprises.

The information storage function has always been conceptually and factually essential, but it has become increasingly important due to the information explosion that occurred with the arrival of **ICTs** and the voracious consumption it triggered.

Although information has been acquired, processed, classified, and even protected, it is of little use if it is not available to the recipient in a timely manner. Hence the need to approach **distribution** as a strategic factor, which increases its complexity when it comes to devising international approaches and, more so, if it has a global character.

A distribution policy implies the indication of who has access to what type of information, as well as the means of **access**, which is closely related to classification, protection and storage factors.

From a systemic perspective that would include both the international level represented by the United Nations, which would mark the general direction, as well as regional and state governments and, even, within these, public administrations and private business or professional entities.

IT future scenarios

Four scenarios

The first, called the Big Tech Economy, describes a world where technologies develop rapidly, creating a new machine age that delivers high-quality products and services at very low prices. The downside would be raising unemployment and job insecurity, with power in the hands of a few global corporations.

In the Precision Economy, surveillance in the workplace leads to an instant rating of performance. Gig platforms manage staff and competition replaces co-operation. The RSA report says this is widely held to lead to a more meritocratic society, where effort is rewarded and resources are better used and waste eliminated.

The Exodus Economy, meanwhile, envisages an economic crash that cuts off funding for innovation and keeps the UK “trapped in a low-skilled, low-productivity and low-pay paradigm”. Capitalism is replaced by alternative economic models: co-operatives and mutual’s emerge in food, energy and banking. Low wages drive many into self-sufficient living outside the cities.

The Empathy Economy forces a future of responsible stewardship. Technology advances are matched by growing public awareness of its dangers. Tech companies self-regulate and work with external stakeholders. Automation is managed jointly with workers and trade unions. But the RSA

warns: “This trend brings with it a new challenge of emotional labour, defined as managing one’s emotions, even suppressing them, to meet the needs of others.”

Warning that none of the scenarios offers a solution to every problem, the report adds: “Although Empathy Economy may appear the most desirable scenario, scratch the surface and one can see its dangers, including the growth of emotionally exhausting work.”

Strategic Information System, Importance, Use & Types

Understanding Strategic Information System

A strategic information system is mainly developed to respond to the corporate world and many business initiatives. They are used for giving the higher advantage of competition to the organization. It may deliver a service or product that is at a lower price, differentiated and mainly concentrates on a demanding market section, or which is innovative.

Information system strategy is an essential feature in corporate and information technology (IT) world. In a nutshell, it helps firms and companies to allocate, store, process data and move the data and information they develop and receive. It also enables and provides various tools and services for aiding the firms to apply metrics and analytical tools in their information repositories function and allowing them to recognize the resourceful opportunities for expansion and simple ways enhance operations and supply efficiency. Thus a better data management along with more effective data presentation and analysis.

Importance of Strategic information system

Strategic information system provides a connection between demands of organization and latest information technology. This tactic helps an organization to get hold of the market by utilizing Information tech to meet its challenging requirements to the continuous variation in the corporate environment.

Information system strategy in a critical aspect of an organization for its growth and expansion. Within it, the integration of the data system and its function within the organization can be handled easily. Besides that, it also enables the classification of different opportunities for the use of information systems for different strategies. It gives the surety that only useful resources or the use of resources which are less are allocated to the applications and the use of scarce resources in a sustainable way. With the system information strategy, it ensures that the Information system functions accordingly and supports the business goals and objectives of the organization at the different levels.

There are several instances of strategically information systems which have helped the organizations to help create and sustain the resources in this competitive market over the past years and has allocated several effective benefits and simply continued to provide survival of the organizations

which have used these systems. These systems are often termed as 'strategic concepts of the organization.' To give the maximum performance of the firms financially in a fluctuating market, the correlation between strategic management and information system is significant fundamentally.

Types of Information System strategies

1. Operations support system: In a firm, data execution is performed by the user end, which is later processed to generate useful data products and services like reports, which are utilized by different users. Such a strategy is called operation support. The primary purpose of this system is to keep a check on transactions, operations, control, chain supply, and management. It also helps to facilitate internal and external talks, and it updates the central main database of the organization. The operation support system is further divided into three systems which are-

1. Transaction Processing System (TPS)
2. Process Control System
3. Enterprise Collaboration System

2.ManagementSupportSystem
Firms require accurate data in a specific format to understand the decisions of the organizations. Management support system strategy enables the effective decision and task operation process more manageable for the managers. They are essentially divided into a different strategy like management, decision, accounting and expert information system. These systems facilitate and provide precise information and data to the manager for easy routines, decision-making processes. Decision support system which helps to solve particular issues related problems.

Uses of Strategic information system

- **Creating hurdles for the entry of a competitor:** In this, a firm uses information systems to supply products and services that are hard to duplicate or that are used primarily to aid highly specialized networks of business. This strategy stops the entry of competitors in the market as they find the cost of giving such services at a very high price.
- **Improving marketing by generating database:** Information system also gives the firms and organization an edge over their competition by generating stronger databases to enhance their sales and marketing tactics. It treats existing information as a useful resource. For instance, a business firm may use its updated databases to monitor the purchase of the customers and to locate many segments of the market.
- **Locking customers and suppliers.:** It is an essential way of getting the advantage of competition by making the customers and suppliers permanent. In this information systems strategy are implemented to provide benefits to the customer and the suppliers so that it may change their mind and it becomes hard for them to switch over to the other competitor so that they continue to provide the services.

  Lowering the costs of the products: It may help the firms lower their costs and allowing them to give products and services at a much smaller cost than their competitors. Thus such a strategy can provide the expansion and growth of the firm.

- **Leveraging technology in the value chain:** In this way, the organizations pinpoint the particular activities in the business, where competitive market strategies can be applied and where the strategically information systems can be more effective.

Corporate Culture and the Strategic Grid: Preparing for the Implementation of a Strategic Plan

1. INTRODUCTION

Strategic plan implementation is a critical process facing senior management now and into the foreseeable future. While literature abounds on how to go about strategic planning, there is comparatively little written about how to implement a strategic plan once it is developed. One explanation for this phenomenon is that successful implementation is inextricably linked to the culture of the organisation. Corporate culture can be hard to define, measure, or manage. As a result both researchers and practitioners have tended to shy away from placing emphasis on culture considerations when implementing a strategic plan. This paper, however, develops a practical framework for managers to use when preparing for a strategic plan implementation. The domain described here is information systems, but the framework has implications for all types of implementations.

2. STRATEGIC PLANNING FOR INFORMATION SYSTEMS Strategic planning for information systems (IS) is receiving considerable emphasis in many organisations. In addition, IS is increasingly perceived as having the capability to change or alter core organisational directions, to reorient corporate strategy, and to even redefine industry structure.

3. CORPORATE CULTURE Over the last fifteen years corporate culture has been increasingly analysed in terms of its influence in organisations. The study of culture is becoming more and more prevalent as management seeks to find better ways to handle the need for increased adaptability in their organisations as brought on by the proliferation of information systems technologies.

Corporate Culture Defined

In order to measure corporate culture, however, we must first define it. As one studies culture it becomes clear that arriving at a common definition is not an easy task. Several definitions of culture have been offered; some of the most prominent include:

Culture is the shared philosophies, ideologies, values, assumptions, beliefs, expectations, attitudes, and norms that knit a community together. All of these interrelated psychological qualities reveal a group's agreement, implicit or explicit, on how to approach decisions and problems

Culture involves how and why organisations create myths and legends, engage in rites and rituals, and are governed through shared symbols and customs

Every organisation is a unique culture. It has its own special history of how the organisation has been managed, its own set ways of approaching problems and conducting activities, its own mix of 5 managerial personalities and styles, its own established patterns of "how we do things

around here ", its own legendary set of war stories and heroes, its own experiences of how changes have been instituted- -in other words, its own climate, folklore, and organisation personality.

4. THE STRATEGIC GRID As previously stated, the importance of the strategic planning of information systems within a firm varies depending on how critical its information technologies (applications) are in achieving its overall strategic goals. When assessing the criticality of IS applications to a particular firm, however, a complication arises because of the changing nature of the competitive environment and IS technology. Firms that today do not have strategically critical IS applications may, because of the thrust of its applications portfolio, have strategic applications in the future. Thus strategic planning is very important. The opposite could also be true. In firms where IS applications play a strategic operational role today, future applications may not be expected to offer the same benefits or payoff. In this case, a less intensive approach to IS strategic planning is appropriate.

Inter organizational system(IOS)

In these decades, most of the businesses rely on Information systems in each & every aspect. As a result of globalization not only all the countries but also the companies in the world try to adjust with new technology as well as with the electronic systems such as information system. Nowadays businesses like to outsource their company activities rather than bind with same industries. But there is an out sourcing cost which has to be born when the tasks of the company are outsourced. There are so many advantages as well as so many disadvantages can be seen like secret information can be spread all over the industry by outsourcing of such systems such as salary systems, financial systems, HR systems, manufacturing systems in an organization.

There are so many information systems are found in companies as payroll systems, accounting systems like A/C packages, Accounting spread sheets, Oracle, SAGE and so on. They are providing a value added advantage to the business by minimizing manual errors, frauds etc. But in outsourcing of manufacturing functions of an organization; core-competencies, improving in production as well as the quality must be considered before outsourcing.

Inter organizational information system is an important tool to carry-out organizational activities more than above mentioned information systems. These kinds of systems are supporting to enhance telecommunication technology among the business units. It is a good sign for future markets. The inter-organizational systems are also built as result of e-business as well as globalization.

Importance of the Study

This kinds of system are very important in so many hands like, can share information as well as decision from top to bottom by using information systems. With the help of such systems organizations can address each and every kind of people not only the managerial people but also in normal employees such as clerks, peons and so-on.

Information system actually plays a wide role in business world not only by providing information to the organization body but also by gathering facts, data, information from out -side which are useful to the company. Exchanging & sharing ideas among the business units is very helpful to survive in the business world, hence inter-organizational business acts major role to fulfil such circumstances.

As an example, if in such company divided in to business units as manufacturing unit, human resource unit, finance unit and so-on, this inter organizational information system is very much essential to make co-ordination among these units and achieve specific goals within a minimum time period. In present we can see so many accounting information packages as mentioned earlier to build inter-organization relationship between accounting divisions of same organization. Most recently, businesses like to out-source their functions with out-side companies who provide out-sourcing facilities; in such situations inter-organizational information system act as a connector of the main business as well as the out-sourcing units. This also can be used to get the competitive advantages by understanding the threats and opportunities.

Inter – organization information system is one of the system tools which helps to make efficient in business in modern world since most of the companies addicted to practice such systems more than earlier decades as a result of new technology.

IOS dependencies and its significance

Today's world is well known for the technical computer oriented world. Renewed organizations totally depend on the E-business (Electronic Business). E-Business proves a very good source for the advertising of product. E-Business is very good example of inventions and innovations as well as improved skills of technology of a company. So there can be seen a strong relationship between IT and Inter-organization system. An industry has many branches like firms but each industry has its own IT (Information Technology). Each company has a desire to spread its business in worldwide area such as multinational company. So there can be seen a desire to make profit, attract consumers, offer facilities to its own clients. There is a trend of international trade as well as strong relationship between an industry and outside partners. When a company's will is on global, then there will be major point of outsourcing. For the uprising of the industry and the whole firms of an industry tries to offer a high quality production to its customers, IT proves a major aspect for the advancement of the organization.

When a company make a product then it has to spend a large time to see gain profit, improve quality, consumers, competitors, price, substitutes, demand, supply chain, stock, as well as internal and external suppliers. For example when an organization produces a product the major points will be demand for the product, price of the product and status of competitors among the industry, when demand increases for a product then automatically output and input of the product increases according to supply and price. Substitutes are also involving for the production of the product. Demand is flexible, so production is also flexible. A product is always built to order (BTO). It requires order, demand, outsource, employed etc. There can be seen long term demand as well as short term demand such as the demand for warm clothes increases in winter not in summers but on the other hand patrol is all ways needed. When the price of the product will decrease then demand will be increased. The effective policies permitted by law prove beneficial for the further development of the organization. Each organization concentrates on social, economic condition as well as cultural, policies, suppliers and buyers teach it how to manage in society. Inter-organization system is related with suppliers and buyers performance.

Planning and decision making process is also related to supply chain management. Inter-organization is also related to market such as shareholders, stock, demand factor. To improve supply chain

management there is a system of Quick Response System (QRS) in this way an organization can improve its relationship with suppliers/buyers and between two parties. Supply chain management can improves itself by offer a high quality of product as well as good quality of raw material. A high quality of the product will have ability to provide satisfaction of its customer. The three well known level of communication is micro, meso and macro. Micro related to individually, Meso related to group and Macro related to broader aspect communication. Senior management makes decisions for organization to make product, to gain profit as well as investment.

INTER-ORGANISATIONAL INFORMATION SYSTEMS PROCESS INTERGRATION AND FUNCTIONS

Direction of inter – organizational information systems in the role of system to human and system to system in the process of effective system function for the various process carried on by the instructions from the computer to computer and then to the process of the human understanding interface. This can be understood by the following –

Mainly there are 2 most important parts in an inter – organizational information systems that determines the correct and effective functioning of the programmed automated information dispensation in field of system integrations are broadly classified into 2 parts they are system to system and system to human incorporation.

The system to system incorporation mainly causes the transformation of data between the inside of the information systems of the executing data for an organization is fully automatically done, there is no need for the human mind to be applied or not needed to input computerized functions to processes the information systems. It is designed to make the process outcome automatically with accurate results with – in a less period of time. For example as the electronic data interchange carries out the main classical automated data to compile and execute the data for the user for the directed desired outcome of result by the various amounts of transactions done and carried out by the implementation of EDI.

Inter Organizational Information System contribute a lot towards their businesses and other organizations. Information used in organizations is for various functions like planning, controlling decision- making and organizing. The planning of information systems is done to support the activities of organizations information needs by recognizing the apt portfolio of applications that are computer based. Due to recent changes in the external business environment, Inter-organizations relationships have become an important part, which makes a need for organizations to interact, share information and technology, and even cooperate in a healthier way with each other. If there's a balanced approach between Business and IT, it is expected that business opportunities and advanced IT technologies are able to innovative essential plans. It can help the organizations to achieve their business goals.

An organization needs to select a planning approach based on the management culture and business environment of the other organization. It's not an easy task to plan this system because of the stakeholders' involvement, which means that organizations should be very careful in planning. There is also a possibility of using other organizations strategy, which is a negative impact. Success in the planning of Inter Organizations Information System has become difficult and a bit critical. It is been studied that a planning based on evolution and learning is more relevant and successful, builds a level of being adaptive and flexible in the process of coordinating and control activities. People in organization may differ in levels of IT skills and knowledge, it helps them to learn to understand and

implement the challenges and benefits of the cooperating through an Information System. It is much difficult for an organization to cooperate in Inter-Organizational Information System if the Intra-Organizational infrastructure is still not maintained. The knowledge gained through this relates to building of Inter-organizational information system and issues like effects in the technologies.

Information Systems vs Information Technology

Introduction

It is often observed that term information system and information technology are used interchangeably. In a literal sense, information technology is a subset of information systems. Information systems consist of people, processes, machines and information technology. The great advancement in information systems is due to development in information technology and introduction of computers.

Information System

An information system can be defined as set of coordinated network of components, which act together towards producing, distributing and or processing information. An important characteristic of computer-based information systems information is precision, which may not apply to other types.

In any given organization information system can be classified based on the usage of the information. Therefore, information systems in business can be divided into operations support system and management support system.

Information Technology

Everyday knowingly or unknowingly, everyone is utilizing information technology. It has grown rapidly and covers many areas of our day to day life like movies, mobile phones, the internet, etc.

Information technology can be broadly defined as integration of computer with telecommunication equipment for storing, retrieving, manipulating and storage of data. According to Information Technology Association of America, information technology is defined as “the study, design, development, application, implementation, support or management of computer-based information systems.”

Information technology greatly enhances the performance of economy; it provides edge in solving social issues as well as making information system affordable and user friendly.

Information technology has brought big change in our daily life be it education, life at home, work place, communication and even in function of government.

Comparison of Information System and Information Technology

Information system and information technology are similar in many ways but at the same time they are different. Following are some aspects about information system as well as information technology.

- **Origin:** Information systems have been in existence since pre-mechanical era in form of books, drawings, etc. However, the origin of information technology is mostly associated with invention of computers.
- **Development:** Information systems have undergone great deal of evolution, i.e. from manual record keeping to the current cloud storage system. Similarly, information technology is seeing constant changes with evermore faster processor and constantly shrinking size of storage devices.
- **Business Application:** Businesses have been using information systems for example in form of manual books of accounts to modern TALLY. The mode of communication has also gone under big change, for example, from a letter to email. Information technology has helped drive efficiency across organization with improved productivity and precision manufacturing.

Future of Information System and Information Technology

Information technology has shown exponential growth in the last decade, leading to more sophisticated information systems. Today's information technology has tremendously improved quality of life. Modern medicine has benefited the most with better information system using the latest information technology.

Information systems have been known to mankind in one form or the other as a resource for decision making. However, with the advent of information technology information systems have become sophisticated, and their usage proliferated across all walks of life. Information technology has helped managed large amount of data into useful and valuable information.

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STRATEGIC MANAGEMENT OF IT

MBA 4TH SEM.(18MBA401E)

UNIT-3

Transformation drivers

Today's enterprises are targeting digital transformation to remain competitive, viable, and successful in an increasingly digitalised marketplace.

While digitalisation is generally associated with technology, that is, in truth, only one of the levers that drive the enterprise forward. Successful transformation is still based on the holy trinity of people, process, and technology – but today these competencies are redefined for the digital ecosystem: "People" translates to a hybrid workforce in which value-adding human work is done alongside digital work (aka automation software or "the digital workforce"); "process" is managed end-to-end, starting beyond the walls of the enterprise; and "technology" translates to software that is automated, intelligent and able to react like a human (including machine learning and cognitive processing as well as the as-of-yet-little-understood-but-fast-approaching reality of artificial intelligence).

TRANSFORMATION: WHAT DOES IT MEAN?

Transformation is inevitable and necessary, but each enterprise is impacted differently. The digital product, the writer **Giacomo** explains, is today defined primarily through data-driven insights that can be monetised. It's whatever has value for customers or the ecosystem.

For example: "We have data scientists today figuring out wastewater solutions through technology, instead of traditional approaches focused primarily on lab work. And our solutions are increasingly delivered via applications that support the process via a user experience that reflects the one we are used in to in our private lives."

Whatever the pressure to transform, pull or push, success will depend on getting people, process, technology and data right. These four factors enable transformation, but can also disrupt it. Here is how to make digital transformation work.

HOW TO DRIVE SUCCESSFUL DIGITAL TRANSFORMATION

1. People & culture: Developing the future-fit workforce

The future workforce will be digitally aligned to the enterprise reality as well as external ecosystem to take advantage of all opportunities. Integration, cross-pollination, innovative thinking … these are all facets that make up the human workforce of tomorrow, as automation takes over the mundane and transactional work.

Skill sets are shifting to automation and analytics, whereby the focus will be less on siloed expertise than on broadly integrated capabilities. The modern-day worker, in other words, needs to be well-

versed in automation and analytics and thus able to identify opportunities across his or her own workspace. Automation will become everyone's responsibility.

The 'Kaizen" philosophy of the past is effectively being reapplied in an automated, data-driven environment, empowering employees to take ownership of new tools at their disposal, and using digital workers to support humans in delivering more value-add. SSON's 2019 survey* highlights future success as being dependent on the ability of employees to understand the true nature of the work being done in order to come up with "innovative solutions and insights." "Innovative thinking," in fact, emerged as the biggest skills deficit today.

The challenge, therefore, is to cultivate the 'right' mindset and skillset that supports digital transformation. This means defining, implementing and leveraging a culture in which automation, analytics and seamless collaboration all go hand in hand.

The driving force for cultural change is found more easily in recruiting new talent than it is by retraining existing talent. That, at least, is the experience of Giacomo Parato in leading the digital reinvention of his business. A digital culture is down to people, he says, so you need to encourage a workforce that is comfortable with disruption.

Many large organisations tend to have a mental block around this, says Giacomo, and find it difficult to transition from traditional business models based on face-to-face meetings and lots of human interactions, to a new way. "But that traditional approach misses a lot of insights that can be gained through social media and the Internet of Things," he warns. "Customers want a different experience, but companies are struggling to deliver it. So that's what we need to focus on: Embracing digital change."

While training and communication have a role, the make or break of digital culture is down to hiring employees with different backgrounds, says Giacomo. "We're not focussed on recruiting biotech experts as much as we are on recruiting people who have experience of start-ups or who have already gone through digital transformations. They bring diversity and boldness into our culture and are far more open to disruption."

Effectively: the 'hipsters' of the modern corporate world.

Particularly valuable are product managers with a start-up background, he says. They don't see transformation projects as IT implementations. Instead, they view them as business-enabling disrupters. "And that is how we should view this opportunity: As a start-up digital business." While resistance is inevitable, the best way to overcome it is by proving the business value of adding a digital layer to existing products, believes Giacomo.

"You have to talk to the businesses in the language it understands, and that is revenue. So, wherever we can present data or results that prove the business value of digitalisation, we gain support," he explains. "The short term may be painful and early transformation attempts might not succeed, but in the long term they will because we are all becoming digital natives."

2, Re-evaluating "process" for the digital business

Agility and transparency are the name of the game in digital operations. What this means: Instead of addressing and optimizing separate parts of a process, the objective is to drive a seamless and integrated workflow end-to-end, whereas 'integration' delivers a lot of value.
To do so will require reviewing the process as is, to ensure it makes sense; then applying Process Discovery and Process Mining solutions to identify bottlenecks through visual heatmaps; and finally, automating what can be automated.

However, the key metric is not just the efficiency of the process but the overall integration of data, process and decision-making. This translates to empowered employees, truthful data, and reliable interactions.

Modern-day process management, therefore, needs to be redefined. Traditionally, it was guided by Lean thinking and FTE reductions but the digital interpretation is slightly counterintuitive, explains Giacomo.

"Digital is really about the operation of current processes, not targeting an 'optimised' version. The danger is that in focusing purely on end-to-end process excellence the approach becomes too rigid. If we accept that a disruptive approach is the right one, we also need to rethink our focus on end-to-end optimisation."

Giacomo sees more potential in achieving digital transformation by disrupting processes as they are, rather than optimising them. "We need to achieve the right balance by considering the needs of the business," he says.

3. Digital technology: the ultimate enabler

While process facilitates digital transformation, culture drives it, and people make it happen – technology is the critical enabler. In future, optimised human resources and smarter processes will combine with increasingly intelligent and competent technology to create a powerful force for change.

The digitally transformed enterprise will make use of tools far beyond the realm of RPA. The future will be defined by machines (aka software) that can make the right decisions: Cognitive technology simulating human decision-making though programmed solutions, and Machine Learning (systems that learn) marking a step beyond cognitive, based on algorithms that are capable of self-learning. As a result, solutions will constantly improve themselves based on the data they are fed.

Giacomo sees enormous potential in leveraging the Internet of Things and sensor technology. "Our priority right now is on heavy data crunching, with data acquired through the IoT and sensors and by leveraging Deep Learning capabilities. This will deliver exponentially more value than traditional process excellence or optimisation initiatives could ever deliver."

So much technology today is offered through Cloud and integrated with learning solutions. The magic sauce is data that delivers truly valuable business insights, which in turn empower agents on the frontline to reduce churn and improve sales.

“Today’s successes are not just measured by pricing but by how we do business,” explains Giacomo. “We are already feeling the results of this through the data insights we can offer the business, and that are redefining our products for the digitalised economy.”

The ground-breaking opportunity these technologies present are in decentralising knowledge and thinking about the workforce in an entirely different way.

4. Data: That which makes it all come together

When we consider digitalisation moving from the front- or customer-facing into the middle- or back-office, the big opportunity is in managing the digital ‘supply chain.’ And this translates primarily into an opportunity around ‘data.’

While in the past the front- or customer-facing end was primarily responsible for customer experience, and also for collecting customer data, this doesn't work in a digitalised enterprise that is pushing up the value chain. For straight through automation to work, all relevant information (i.e. data) needs to be harvested by all stakeholders in the process.

Patrik Rising is a transformation expert whose particular passion is data. He was previously at Nordea, where he ran the Strategic Data Initiative and the Groupwide Data Transformation Program related to it. Currently, he advises companies on data digitalisation and transformation in the digital space.

Data is critical in automated, digital environments, Patrik says, because machines are still fairly rigid, unlike people who can interpret a given data point based on their needs. With the current focus on Big Data involving Machine Learning and Advanced Analytics, data is under the spotlight as never before. The question is, how to tackle it?

"Many enterprises are moving from a people-driven to a data-driven strategy," explains Patrik. What this means, however, is that your data must be good enough to drive decisions without further human input required. The challenge is particularly felt itself when regulations dictate a qualified opportunity. A data-driven company needs sufficient information about its customers to know whether a new product or service is right for them, in accordance with regulations.

Although data drives these opportunities, it can also present a problem if it's trying to be all things to all people.

"The key lesson is to take your primary capability, the one that you really need to improve on, and focus on the data required to serve it," explains Patrik. "Once that's in order, people set the policy and machines can do the rest."

He warns about overselling data, however. “The cost of using a particular data set for multiple different purposes can quickly escalate as the data requires fine tuning,” he explains. “The more dimensions you are trying to meet or serve from the start, the more complex it becomes."

How important is leadership and culture when it comes to successful digital transformation?

It's crucial that the platform for change and rationale for change is clear, communicated and cascaded across the organisation or your chances of successful transformation could well end up with a false start, confusion, frustration or a slow pace of change.

Having the right skills in place, an incentive to change, adequate resources and a solid action plan can all help to maximise your chances of success. If you don't get this thought through properly in advance then you risk it being seen as “another initiative from top management” to be paid lip service.

Why is it important to bring together digital leaders from across different sectors around the theme of digital transformation?

Learning from outside your sector is something that is a discipline all businesses should consider important as part of their long-term thinking. Some sectors are more advanced than others on elements of digital transformation and may well have already learnt the hard lessons to share with others and the benefits.

There may also be digital best practice that could be dropped straight into your sector from another, giving you some competitive advantage. If you only look “in sector” it's easy to be become blinkered.

How important is effective digital strategy to an organisation’s productivity?

Digital can really contribute to business productivity and if all businesses were to expedite their initiatives it could increase competitiveness, lower costs, release human resources for higher-value projects and start visibly flowing through to your top or bottom line.

The trick is to ensure that you identify the key digital initiatives that will contribute to that and collaborate with the people who understand how the work works to get to the outcome.

UK plc needs to be more productive. That’s evident when comparing productivity numbers to other countries. It all starts with the decisions we all take as businesses and where you are at in your business maturity.

Start-ups tend to be really productive utilising latest applications, mobile working and collaboration tools, more established businesses tend to be more structured and with more at risk when considering change which can make change cycles slower or appetite lower. Change really needs to be constant on the agenda.

Who tends to drive transformation education within businesses, and who should it really be?

Often such initiatives can start in IT or straight out of the MD’s office, top down if you like. In an ideal world you want everyone in the business to be thinking about how to improve the business processes, customer journey or user experience.

Digital isn't just about websites, it's about how you use applications across the entire business to get things done efficiently (bottom up). Expectations from customers continue to change with pace and it's vital that business keep up with those to stay relevant.

What is the Purpose of an IT Vision?

To understand the value of managing to a vision, you must first understand the nature of the IT function within business. IT management responsibilities are typically carried out by internal IT organizations (departments). These organizations serve a dual function. On one hand, IT departments operate to serve business interests (maximizing technology investments to fulfill business goals and objectives). On the other hand, they also fill the day-to-day "usage" needs of the end-users (employees of the business) as they perform assigned tasks and fill assigned responsibilities. This makes the end-users the front line "consumers" of internal IT services. One would assume that business and end-user interests are really one and the same – but they're not.

In reality, business interests and end-user demands often conflict. Business interests exist at a high level, reflected in standards and policies, and end-user demands are day to day, boots on the ground, centering on the need to get work done. Sometimes one gets in the way of the other, creating a perception that IT is a roadblock rather than a partner. Having a strategic vision is one of the most valuable and effective ways to deal with this conflict, serving to ensure that business interests and front-line service needs are properly aligned to the fullest extent possible. How does it work? A good vision is all encompassing, covering every key IT service element, including how IT is organized, the specific services provided, expected service levels, and the way IT interacts with the end-user community.

Vision Goals and Objectives

The ultimate goal of a strategic vision is to optimize IT functions and maximize related benefits in four (4) key respects:

PRODUCTIVITY. To make sure that IT fills its mission in the most productive manner possible, considering the services provided, funding available, organizational capabilities and established priorities. *Why is productivity important? Productivity improves the chances for positive IT ROI and consistent service quality.*

RELEVANCE. To make sure that IT services and organizational mission are consistently relevant to technology usage, organizational objectives and operational needs. *Why is relevance important? Relevance leads to improved and continued IT/business alignment.*

RESPONSIVENESS. To make sure that the IT organization is fully and consistently responsive to (i.e. aware, communicative and able to act) existing needs and keeps up with changing needs and circumstances. *Why is responsiveness important? Responsive IT is better able to fill business and technology needs, and seek continuous improvement.*

ACCEPTANCE. To make sure that IT services, policies and procedures are fully communicated and consistently enforced in order to realize maximum acceptance from the end-user community. *Why is acceptance important? Acceptance equals end-user engagement, input and maximum service utilization.*

Successful IT visions fill each role by sticking to four (4) key principles:

- **Alignment**: To ensure that the IT organizational model, and all related operational services and duties are properly aligned with all underlying business goals and objectives. Alignment reflects an IT operation "that makes sense" considering the business served, its interests and operational imperatives.
- **Engagement**: To ensure that all IT "vision" stakeholders are fully engaged in technology related planning and the operational parameters of the IT service portfolio. IT stakeholders include the IT performing organization (IT Department), company executives and the end-users.
- **Best Practices**: To ensure that IT operates in a standardized fashion, relying on practical management standards and strategies properly sized to technology needs and organizational capabilities.
- **Committment to Customer Service**: To ensure that IT services are provided in a timely, high quality manner, designed to fill the operational needs of the front-line end-users, working within the boundaries established by business interests and technology best practices.

What does it take to get a vision developed? Just three (3) keys....

#1 Will, Intent and Commitment. You need the will, intent and commitment to manage IT according to a strategic vision. This means you must secure the buy-in of all interested and invested stakeholders as they will all play a critical role in vision development and acceptance. You must be able to communicate the intended purpose of the vision, the expected development effort, and how, once developed, the approved vision will be utilized to realize all intended benefits.

#2 Information and Input. You will need ready access to accurate information and stakeholder input to determine the organizational and operational strategies that will form your vision. To provide intended benefits, a working IT vision must be based on accurate facts and relevant information concerning technology in use, operational requirements, end-user priorities, internal capabilities (staff, funding), business objectives and overall technology mission.

#3 Process and Resources. You will need an executable process for vision development, approval, and implementation, along with all the necessary resources needed to get the job done. One key resource related "tactic" is to form a "**Vision Committee**", dedicated to vision development and empowered to make planning decisions needed to see the vision through all of the planning, approval and implementation phases.

THE IT SERVICE STRATEGY TOOLKIT

If you're looking for a fast, easy way to achieve IT service success, you'll find it inside the **IT Service Strategy Toolkit**. This unique, informative online course gives you everything you need to become an IT management leader and service planning expert. Here's what you'll learn:

- The I.T. Service Strategy Toolkit is an easy, engaging online course, containing over 50+ education components, teaching you how to use the multi-stage 'Service Strategy Process' to organize the I.T. service function and deliver value-added I.T. services.
- Topics covered include developing the IT mission, organizing the IT service department, planning IT management policies, managing the IT/end-user service relationship, performing the IT service review, and more.
- Techniques covered include 'Define, Align and Approve', the 'Manage by Process Framework', the IT/End User Partnership, Proactive Problem Management and more.
- Download the tools and templates to produce the I.T. Vision Statement and multiple Service Review deliverables.
- Build and improve strategic planning skills, as you learn time-saving techniques to become a more productive IT manager or service professional.
- Course enrolment provides lifetime access to all components, with all future updates and additions included.