



Topic 1 Strategic Management Process



The essence of strategy (M. Porter)

- The essence of strategy is choosing a unique and valuable position in the market rooted in systems of activities that are much more difficult to match;
- The essence of strategy is choosing to perform activities differently than competitors;
- How we are going to unique? How we are going to create advantage?
- Strategy is merely a matter of creating a unique position relative in the market to deliver higher ROA than competitors in the same industry ;

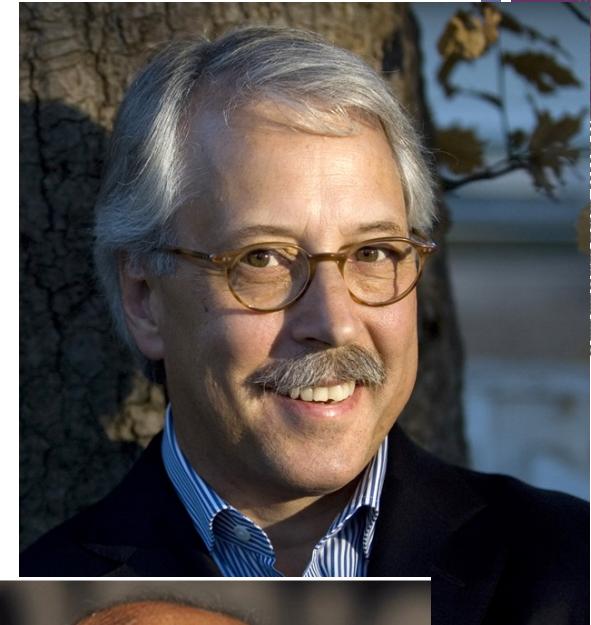




Business development as competition advantage

“Position needs to be supplemented:

- 1. with other views of competitive advantage and forms of competition,*
- 2. with different time-horizons and characteristics in order to cope with hypercompetitive dynamics of the new competitive landscape” (Hamel and Prahalad (1994)*





The competitiveness have to be seen on different levels



Creating new industries



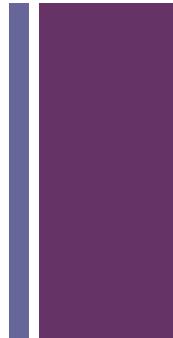
Entering into new industries



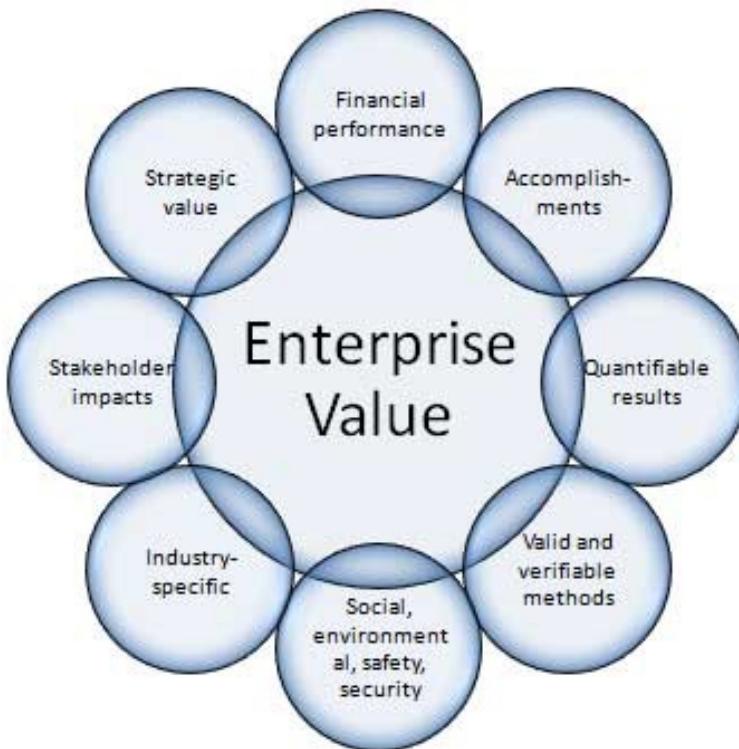
Delivering new meaning to industry



Product-market side



+ The purpose and essence of strategic management



- To increase a value of company and to ensure its competitiveness
- It is an ongoing process
- It has to involve all staff, but the ultimate responsibility goes to the top management and BoD;



Discussion

- What is a value of company?
- How we could identify it?





Strategic management porcess



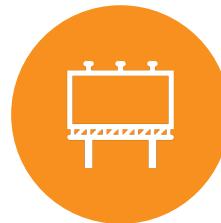
1. Setting strategic directions of development



2. Conducting environment analysis



3. Selecting strategies



4. Implementing strategies (Designing/reinventing business models)



5. Delivering control and feedback



1. Setting strategic directions



Vision



Mission



Values



Strategic goals



Creating a vision

- “**A clear vision of where you want to go and how you are going to get there** can be defined when you are ready to make some changes and when you understand that there are things that need to be change to improve effectiveness. Vision goes together with the Change Agenda and can be used to improve common understanding, communication and collaboration in my case between departments and higher headquarter” (Z.Lavrinovica).



Mission elements

Value proposition

Geographical location

Who are our customers

Values

Distinctive competencies

Financial stability

Social responsibility

Staff as valuable resource

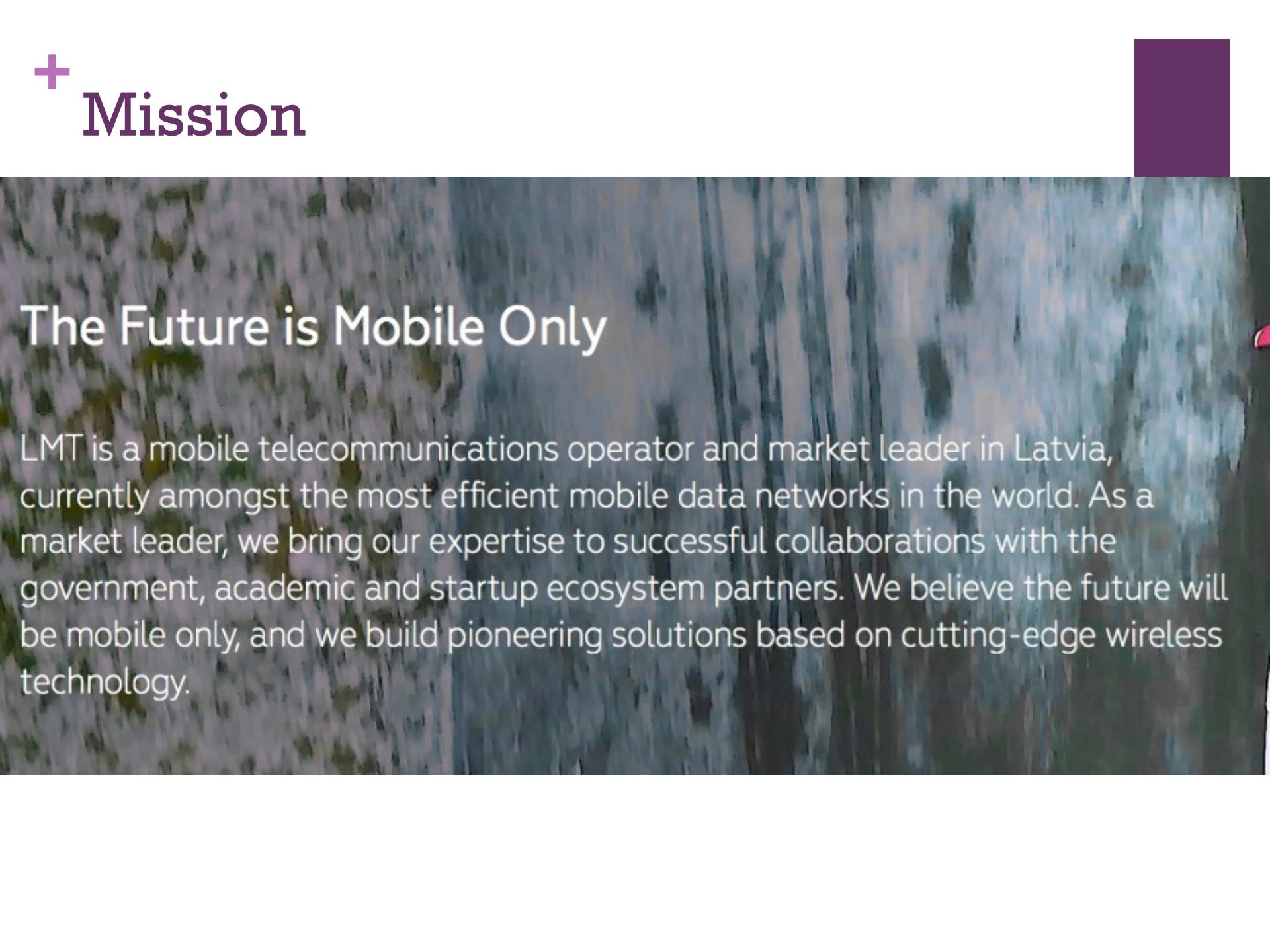
Financial stability

Modern technologies applied



Mission

The Future is Mobile Only



LMT is a mobile telecommunications operator and market leader in Latvia, currently amongst the most efficient mobile data networks in the world. As a market leader, we bring our expertise to successful collaborations with the government, academic and startup ecosystem partners. We believe the future will be mobile only, and we build pioneering solutions based on cutting-edge wireless technology.



Our main asset is our **People** - they are what distinguish us from others. They are dedicated to providing top quality products and world class service and are passionate about understanding the business of our customers and partners.

In the **VALMIERA GLASS GROUP** our people are committed to our values of **Quality, Stability and Innovation**. We take full **responsibility** for product conformity, industry standards and for top class working and environmental standards. We take pride in research and development and the introduction of new technology.

Our workforce of over 1000 employees is dedicated to the production and development of glass fibre and its products for a variety of industrial markets including composites, thermal and technical insulation and building materials.

In order for the **VALMIERA GLASS GROUP** to successfully achieve its goals, a personnel policy is carried out and its main criteria are job stability, innovation in product development and a professional approach to quality. For 80 years employees have proven their competency, using knowledge and skills in the development of the GROUP companies, thereby carrying out goals of the GROUP and their personal development.

The **VALMIERA GLASS GROUP** has implemented a personnel development programme, which includes each individual employee's qualification assessment and professional development planning. Its goal is: the right people with the right skills in the right places and at the right time.



Values

We have chosen three values to guide our behaviour and decision-making:

Brave

■ We challenge ourselves to be brave – to think more innovatively, to act more boldly, to be world-class. It is the value that is most essential for driving us forward and compelling us to take necessary risks. Brave people aim high and love to win. They speak up if something is wrong. They take on demanding discussions and make tough decisions.

■ Trustworthy

■ Trustworthy people are professional, skilful and reliable. People can trust us. We keep our promises. We take on our responsibilities towards consumers, customers, owners and society. We deliver. We are in it for the long haul, and tackle obstacles as they arise. We think and work long term, combining endurance and energy.

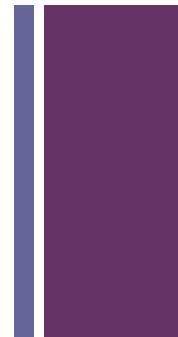
■ Inspired

■ Inspired people are passionate and burn with a desire to succeed. They innovate continuously. We inspire consumers, customers, partners and each other.



Group discussion: what is the difference?

- Aims
- Goals
- Targets
- Objectives
- Intention
- Purpose



Aims and tasks:

Product development

- ▶ To optimise the product portfolio and supplement it with new finished dosage forms, taking into account market dynamics, specific features, and demands;
- ▶ To develop a chemical product direction and create new innovative products and technologies, by specifically promoting co-operation with Latvian scientific institutions;
- ▶ To register finished dosage forms manufactured at the company and to supply them to various markets of the world;
- ▶ To manufacture finished dosage forms and chemical products for partners;
- ▶ To supplement and maintain the intellectual property portfolio of the company.

Marketing

- ▶ To develop and implement a promotional strategy of the company and partners' product;
- ▶ To plan, develop and implement marketing activities in accordance with the company's mission, aims, and strategy;
- ▶ To handle marketing activities and trading on regional markets;
- ▶ To carry out marketing studies, process and analyse information to determine the current market demands;
- ▶ To determine market potential in regional markets for further business development;
- ▶ To launch new product development and introduction in line with the identified market demands.

Manufacturing and product quality

- ▶ To enhance client loyalty by making quality products and providing complete information about them;
- ▶ To modernise production plants and processes in line with the Good Manufacturing Practice;
- ▶ To automate technological processes to increase production efficiency and labour safety;
- ▶ To establish new production plants on the basis of existing plants and to create new jobs;

Social policy



Strategic goals setting

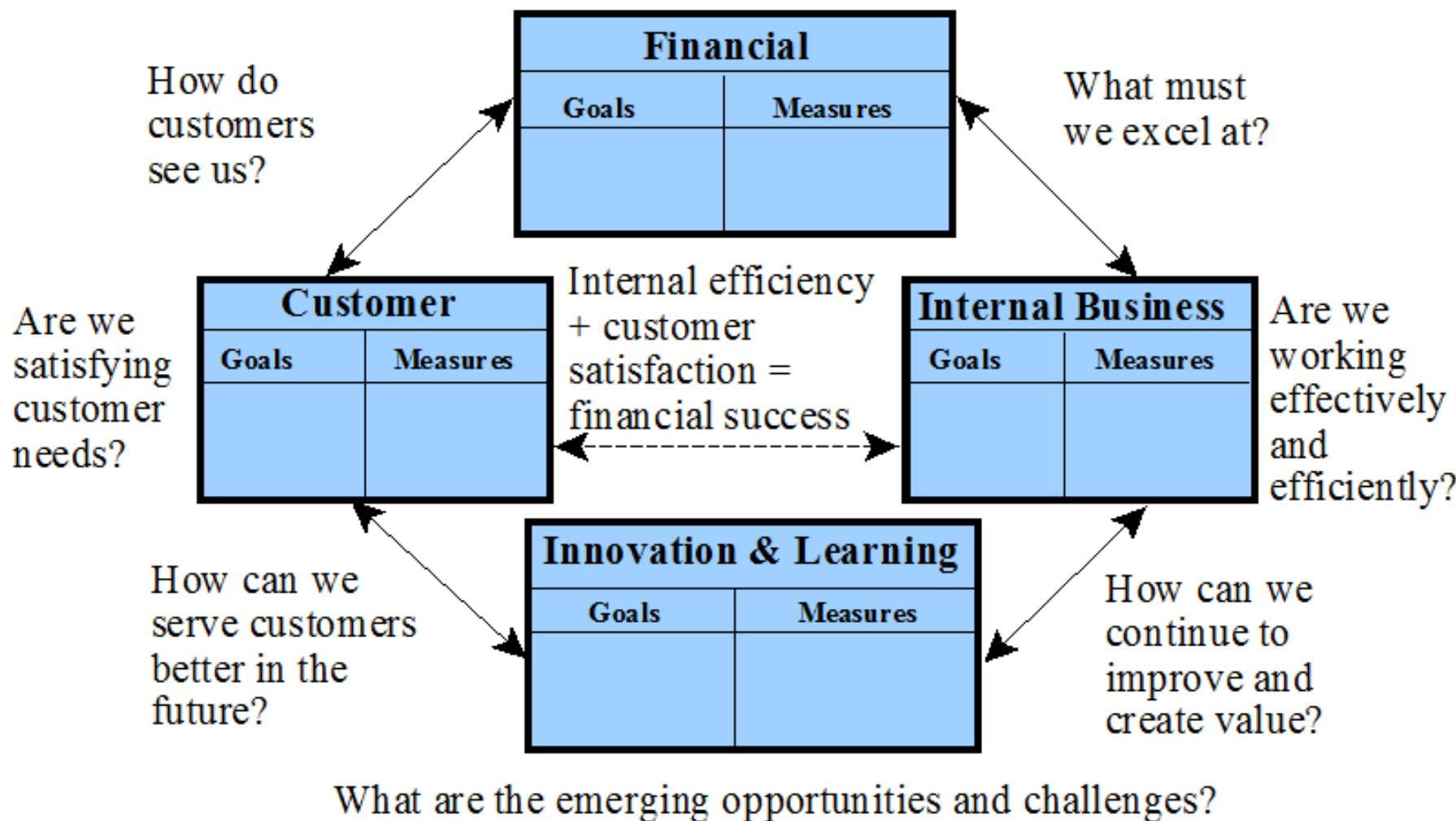
- Balanced scorecard method

See video: <https://www.youtube.com/watch?v=AdXt8BfiGJg>

The image shows a video player interface. At the top left, the text "BALANCED SCORECARD (4:20)" is displayed. On the right side of the video frame, a woman with long brown hair, wearing a white striped blouse, is speaking. Below her name, "ERICA OLSEN" is written in red. A small "EGICH" logo is visible on her blouse. At the bottom of the video frame, the text "More resources available at www.OnStrategyHQ.com" is displayed. The video player has a progress bar at the bottom left showing "0:06 / 4:38". On the bottom right, there are standard video control icons.

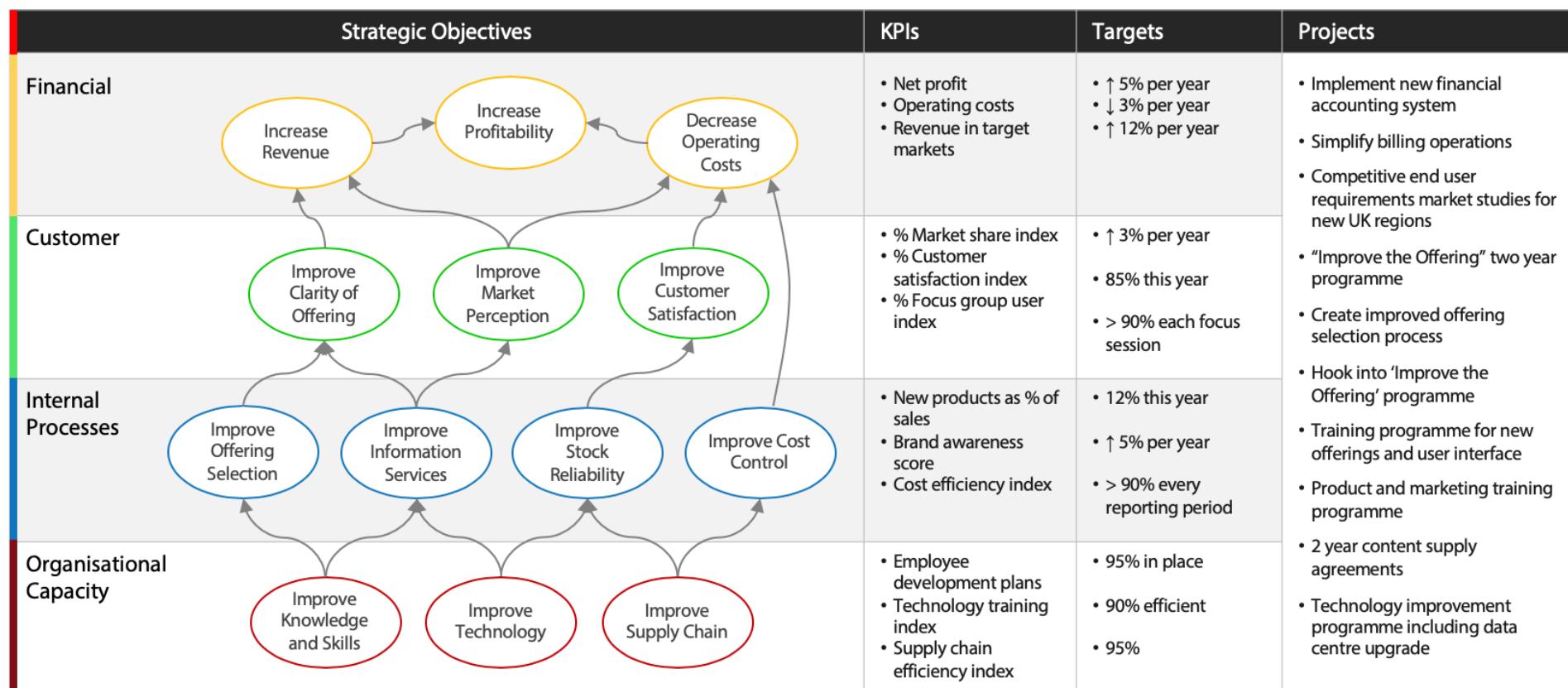
Relationships in the Balanced Scorecard*

How do we look to shareholders?



* Adapted from Martinsons, Davison & Tse, Fig 1 p. 74. Original source Kaplan & Norton.
<https://maaw.info/ArticleSummaries/ArtSumMartinsonsDavisonTse99.htm>

Vision	Transforming society through ease of access to ultra-high-speed information services		
Purpose	Delivering mobile services that contribute to society while acting lawfully, ethically and with integrity wherever we operate		
Strategic Priorities	Content Partnerships	Customer Service	Brand Awareness
Strategic Results	Strong supply chain for content and information services, exclusive agreements	Clarity in offering that surpasses anything in the market today, best user interface	Reinvigorated brand based on successes, attract a wider and younger audience



Customer Focus - Integrity - Quality - Helpfulness - Community - Efficiency

<https://www.intrafocus.com/balanced-scorecard/>

Vision: Transforming society through the provision of ultra-high speed mobile information services

Mission: The number one provider of ultra-high speed mobile networks and content to the United Kingdom

Financial



Customer

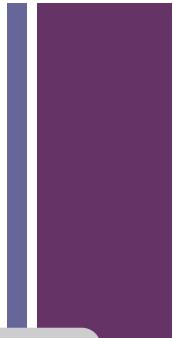
Internal
Processes

Organisational
Capacity



SMART goals

- **Specific, Measurable, Attainable, Relevant, Time-bound:**
- Is your objective **Specific**?
- Can you **Measure** progress towards that goal?
- Is the goal realistically **Attainable**?
- How **Relevant** is the goal to your organization?
- What is the **Time-frame** for achieving this goal?



SMARTER goals



The SMART criteria can also be expanded to be SMARTER with the addition of **evaluate** and **re-evaluate**.



These two steps are extremely important, as they ensure you continually assess your KPIs and their relevance to your business.



For example, if you've exceeded your target for the current year, you should determine if that's because you set your goal too low or if that's attributable to some other factor.



Source: <https://www.klipfolio.com/resources/articles/what-is-a-key-performance-indicator>

Measure 1: Security Budget (program-level)

Organizational

Field	Data
Measure ID	Security Budget Measure 1
Goal	<ul style="list-style-type: none"> • <i>Strategic Goal:</i> Ensure an environment of comprehensive security and accountability for personnel, facilities, and products. • <i>Information Security Goal:</i> Provide resources necessary to properly secure agency information and information systems.
Measure	<p>Percentage (%) of the agency's information system budget devoted to information security</p> <p>NIST SP 800-53 Controls – SA-2; Allocation of Resources</p>
Measure Type	Impact
Formula	(Information security budget/total agency information technology budget) *100
Target	This should be an organizationally defined percentage.
Implementation Evidence	<p>1. What is the total information security budget across all agency systems (SA-2)? _____</p> <p>2. What is the total information technology budget across all agency systems (SA-2)? _____</p>
Frequency	<p>Collection Frequency: Organization-defined (example: annually)</p> <p>Reporting Frequency: Organization-defined (example: annually)</p>
Responsible Parties	<ul style="list-style-type: none"> • Information Owner: Chief Information Officer (CIO), Chief Financial Officer (CFO), Senior Agency Information Security Officer (SAISO) (e.g., Chief Information Security Officer [CISO]) • Information Collector: System Administrator or Information System Security Officer (ISSO), budget personnel • Information Customer: Chief Information Officer (CIO), Senior Agency Information Security Officer (SAISO) (e.g., Chief Information Security Officer [CISO]), external audiences (e.g., Office of Management and Budget)
Data Source	Exhibit 300s, Exhibit 53s, agency budget documentation
Reporting Format	Pie chart illustrating the total agency information technology budget and the portion of that budget devoted to information security

Measure 2: Vulnerability Management (program-level)

Field	Data
Measure ID	Vulnerability Measure 1
Goal	<ul style="list-style-type: none"> • <i>Strategic Goal:</i> Ensure an environment of comprehensive security and accountability for personnel, facilities, and products. • <i>Information Security Goal:</i> Ensure all vulnerabilities are identified and mitigated.
Measure	<p>Percentage (%) of high¹³ vulnerabilities mitigated within organizationally defined time periods after discovery</p> <p>NIST SP 800-53 Controls: RA-5; Vulnerability Scanning</p>
Measure Type	Effectiveness/ Efficiency
Formula	(Number of high vulnerabilities identified and mitigated within targeted time frame during the time period /number of high vulnerabilities identified within the time period) *100
Target	This should be a high percentage defined by the organization.
Implementation Evidence	<p>1. Number of high vulnerabilities identified across the enterprise during the time period (RA-5)? _____</p> <p>2. Number of high vulnerabilities mitigated across the enterprise during the time period (RA-5)? _____</p>
Frequency	<p>Collection Frequency: Organization-defined (example: quarterly)</p> <p>Reporting Frequency: Organization-defined (example: quarterly)</p>
Responsible Parties	<ul style="list-style-type: none"> • Information Owner: Chief Information Officer (CIO), Senior Agency Information Security Officer (SAISO) (e.g., Chief Information Security Officer [CISO]), System Owner • Information Collector: System Administrator or Information System Security Officer (ISSO) • Information Customer: Chief Information Officer (CIO), Senior Agency Information Security Officer (SAISO) (e.g., Chief Information Security Officer [CISO])
Data Source	Vulnerability scanning software, audit logs, vulnerability management systems, patch management systems, change management records
Reporting Format	Stacked bar chart illustrating the percentage of high vulnerabilities closed within targeted time frames after discovery over several reporting periods

Measure 3: Access Control (AC) (system-level)

Field	Data
Measure ID	Remote Access Control Measure 1 (or a unique identifier to be filled out by the organization)
Goal	<ul style="list-style-type: none"> • <i>Strategic Goal:</i> Ensure an environment of comprehensive security and accountability for personnel, facilities, and products. • <i>Information Security Goal:</i> Restrict information, system, and component access to individuals or machines that are identifiable, known, credible, and authorized.
Measure	Percentage (%) of remote access points used to gain unauthorized access NIST SP 800-53 Controls: AC-17; Remote Access
Measure Type	Effectiveness/Efficiency
Formula	(Number of remote access points used to gain unauthorized access/total number of remote access points) *100
Target	This should be a low percentage defined by the organization.
Implementation Evidence	<p>1. Does the organization use automated tools to maintain an up-to-date network diagram that identifies all remote access points (CM-2)?</p> <p style="text-align: center;"><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>2. How many remote access points exist in the organization's network? _____</p> <p>3. Does the organization employ Intrusion Detection Systems (IDS) to monitor traffic traversing remote access points (SI-4)?</p> <p style="text-align: center;"><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>4. Does the organization collect and review audit logs associated with all remote access points (AU-6)?</p> <p style="text-align: center;"><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>5. Does the organization maintain a security incident database that identifies standardized incident categories for each incident (IR-5)?</p> <p style="text-align: center;"><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>6. Based on reviews of the incident database, IDS logs and alerts, and/or appropriate remote access point log files, how many access points have been used to gain unauthorized access within the reporting period? _____</p>
Frequency	Collection Frequency: Organization-defined (example: monthly) Reporting Frequency: Organization-defined (example: quarterly)
Responsible Parties	<ul style="list-style-type: none"> • Information Owner: Computer Security Incident Response Team (CSIRT) • Information Collector: System Administrator or Information System Security Officer (ISSO) • Information Customer: Chief Information Officer (CIO), Senior Agency Information Security Officer (SAISO) (e.g., Chief Information Security Officer [CISO])
Data Source	Incident database, audit logs, network diagrams, IDS logs and alerts
Reporting Format	Stacked bar chart, by month, which illustrates the percentage of remote access points used for unauthorized access versus the total number of remote access points

Steps in goals setting



Review the organization's **mission** or purpose.



Evaluate available resources



Determine the goals individually or with input from others



Write down the goals and communicate them to all who need to know



Review results and whether goals are being met.



What are well-written Goals

- Written in terms of outcomes rather than actions
- Measurable and quantifiable
- Clear as to a time frame
- Challenging yet attainable
- Written down
- Communicated to all necessary organizational members



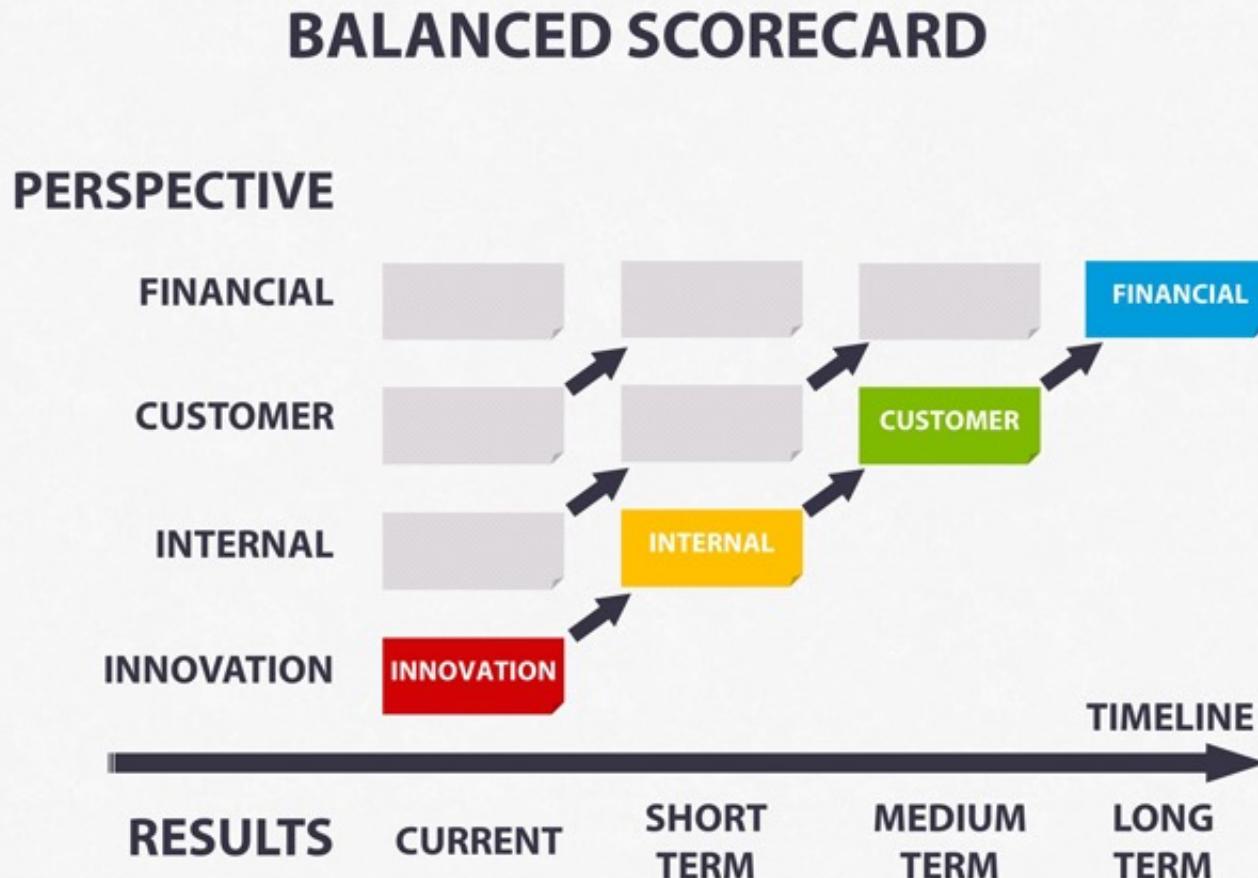
Group task: What to measure?

- Please identify goals of your company related to information security!
- Which goals are in common?
- Please analyze them based on SMART characteristics and deliver your feedback to the rest of the group!

Additional questions:

- What would be a measure for measuring an effectiveness of the existing password policy implementation?
- What wold be a measure for measuring a specific password configuration defined by information security policy

Setting goals: balanced scorecard approach





Key performance indicators



A quantifiable measure used to evaluate the success of an organization, employee, etc. in meeting objectives for performance.



They are a form of communication



KPIs need to be defined according to critical or core business objectives.



Follow these steps when defining a KPI:



What is your
desired outcome?



Why does this
outcome matter?



How are you going
to measure
progress?



How can you
influence the
outcome?



Who is responsible
for the business
outcome?



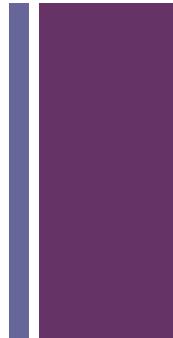
How will you know
you've achieved
your outcome?



How often will you
review progress
towards the
outcome?



Objective is to increase sales revenue this year. You're going to call this your Sales Growth KPI.



- To increase sales revenue by 20% this year
- Achieving this target will allow the business to become profitable
- Progress will be measured as an increase in revenue measured in dollars spent
- By hiring additional sales staff, by promoting existing customers to buy more product
- The Chief Sales Officer is responsible for this metric
- Revenue will have increased by 20% this year
- Will be reviewed on a monthly basis

Home task:

Individual tasks: KEY PERFORMANCE INDICATOR (KPI) PLANNER

Please based on questions describe your answers!

Responsibility in the organization:

- 1) What is the main purpose of your specific job? Explain how it aligns with your company mission.
- 2) What are the 3 most important quantifiable things you should keep track of in your day-to-day work? For each of these provide a quantifiable goal within a specified timeframe.

Car dashboards display your most essential gauges when driving. Think of your car dashboard like your Key Performance Indicators (KPIs).

1.

2.

3.

- 3) How are your KPIs aligned with your goals? Describe how your KPIs are actionable and attainable.

- 4) Where does the data to track your KPIs come from?

For example: Google Analytics, Excel spreadsheet, Salesforce, etc.

- 5) From the data sources listed above, can you think of any other relevant KPIs you can track? List them and provide a quantifiable goal for each.

- 6) Now that you have defined your KPIs, what would be the best way to share them with the people who care about your team's performance? List each person that cares and the best way to present your KPIs to them. For example: TV screen, spreadsheet, email report, log-in to a website, verbally in a meeting, mobile device, social media, etc.

- 7) If you could define and share your KPIs with the people who care right now, describe how this would change your relationship with them and your day-to-day work ethic.



Cybersecurity is Everyone's Job

A Publication of the
National Initiative for Cybersecurity Education Working Group
Subgroup on Workforce Management at the
National Institute of Standards and Technology

2. Methodology of environment analysis

The analysis conducted towards goals set

There are internal and external analysis

The key impact factors are analyzed

The environment analysis is industry specific

Industries have lifecycles and factors changing over industry lifecycle

Analysis of current environment and future trends

Could be used for making decisions for establishing goals of development/closure of a company/spinoff new enterprises/divestments, etc.

Environment analysis has to be performed regularly

Defining an Industry

- Industry
 - A group of companies offering products (goods or services) that are close substitutes for each other and satisfying the same needs of clients;

- Competitors
 - Companies that serve the same basic customer needs

- Sector
 - A group of closely related *industries*

- Market segments
 - Distinct groups of customers within a market that can be differentiated from each other based on their distinct attributes and demands

- Changing industry boundaries

You are here: [Census.gov](#) > [Business & Industry](#) > NAICS

North American Industry Classification System

Main

History

Development
Partners

Federal
Register Notices

NAPCS

FAQs

NAICS Search:

Enter keyword or 2-6 digit code

[2012 NAICS Search](#)

Enter keyword or 2-6 digit code

[2007 NAICS Search](#)

Enter keyword or 2-6 digit code

[2002 NAICS Search](#)

Downloads/Reference Files/Tools

- [2012 NAICS](#)

Introduction to NAICS

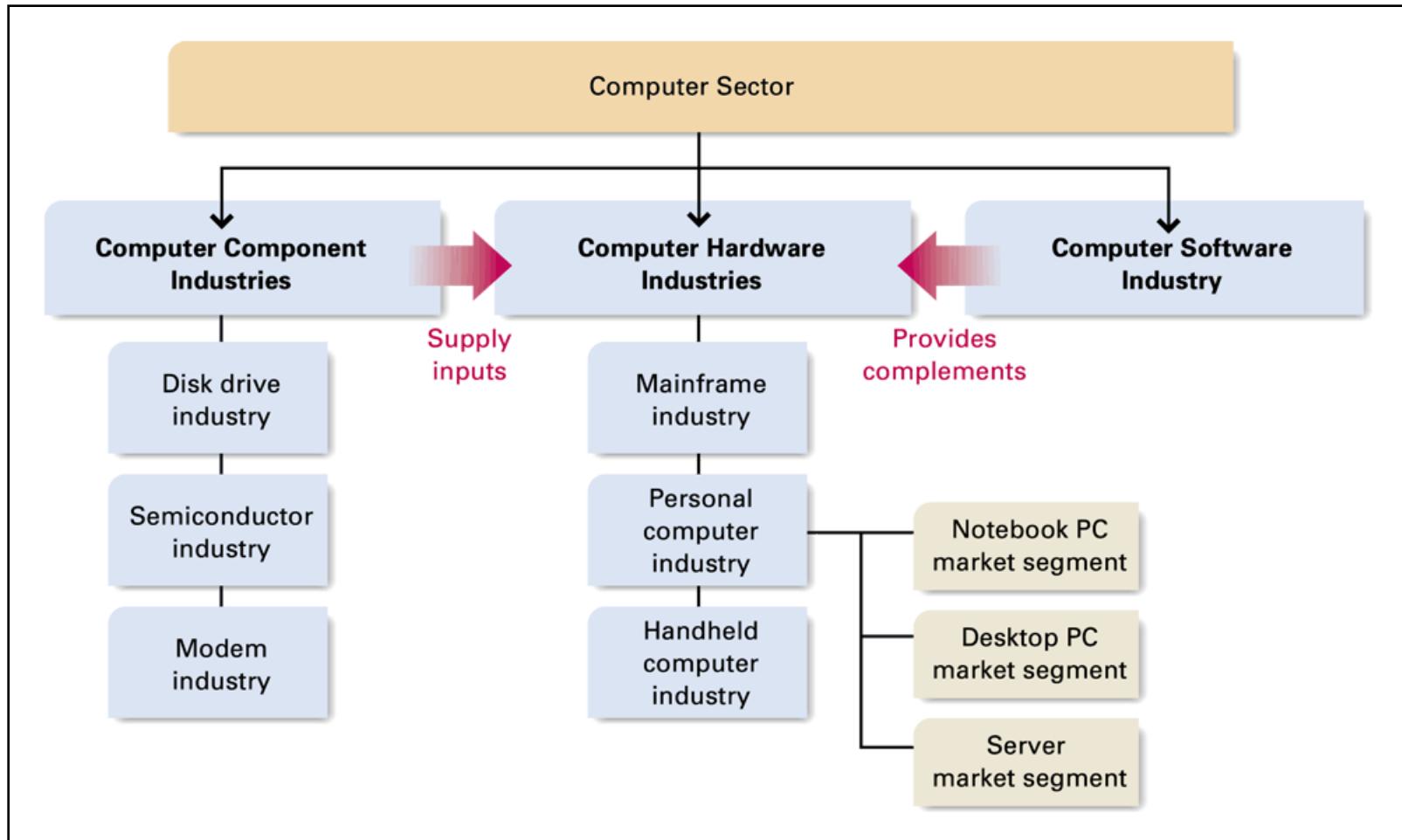
The North American Industry Classification System (NAICS) is the standard used by Federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy.

NAICS was developed under the auspices of the Office of Management and Budget (OMB), and adopted in 1997 to replace the [Standard Industrial Classification \(SIC\) system](#). It was developed jointly by the [U.S. Economic Classification Policy Committee \(ECPC\)](#), [Statistics Canada](#) , and Mexico's [Instituto Nacional de Estadística y Geografía](#) , to allow for a high level of comparability in business statistics among the North American countries.

This official U.S. Government Web site provides the latest information on plans for NAICS revisions, as well as access to various NAICS reference files and tools.

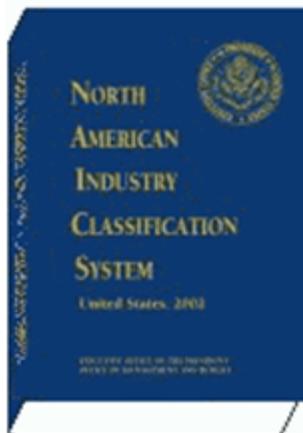
The official 2012 U.S. NAICS Manual includes definitions for each industry, background information, tables showing changes between 2007 and 2012, and a comprehensive index. The official 2012 U.S. NAICS Manual is available in print and on CD-ROM from the National Technical Information Service (NTIS) at (800) 553-6847 or (703) 605-6000, or through the [NTIS](#) Web site. Previous versions of the NAICS Manual are available.

The Computer Sector: Industries and Segments



North American Industry Classification System (NAICS)

This is the official U.S. Government site to order either the printed or CD-ROM version of the NAICS Manual



Technical Report

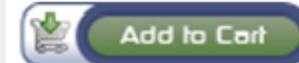
- \$62.00-2012 Edition (Hardback)

Order No. **PB2012100001** (Price outside the U.S., Canada and Mexico \$124)

- \$79.00-2012 CD-ROM with search and retrieval software

(Price outside the U.S., Canada and Mexico \$159)

Order No. **PB2012-500003**



Add to Cart

The CD-ROM requires Adobe Acrobat Reader.



To Order:

- Call NTIS a **1-800-553-6847** or **(703) 605-6000**
- Most major credit cards accepted.
- Fax your [order form](#) to **(703) 605-6900**.

A product of Office of Management and Budget's Economic Classification Policy Committee

NAICS will reshape the way we view our changing economy

Department of Commerce, Bureau of Census

The *North American Industry Classification System (NAICS)* has officially replaced the U.S. Standard Industrial Classification (SIC) system. The NAICS provides a consistent system for economic analysis across the three North American Free Trade Agreement partners Canada, Mexico and the United States.

[Subjects](#)[Data](#)[Analysis](#)[Reference](#)[Geography](#)[Census](#)[Surveys and statistical
programs](#) ▾[About
StatCan](#)[Canada.ca](#)

[Home](#) → [Definitions, data sources and methods](#) → [Industry classifications](#)

→ North American Industry Classification System (NAICS) Canada 2017 Version 3.0

North American Industry Classification System (NAICS) Canada 2017 Version 3.0

[Participate in the revision of the North American Industry Classification System \(NAICS\) Canada](#)

Updated on: December 20, 2019

Status

This standard was approved as a [departmental standard](#) on October 16, 2017.

NAICS 2017 version 3.0

The North American Industry Classification System (NAICS) has been developed by the statistical agencies of Canada, Mexico and the United States. However, Statistics Canada has created 5 cannabis industries that are unique to NAICS Canada 2017 Version 3.0.

There are different tools to be used for the environment analysis:

SWOT (on organizational level, but could be used also for different other purposes, e.g. for identifying critical areas)

Industry 5 forces (on industry level)

Industry life cycle analysis (embrionic, growth, maturity, decline)

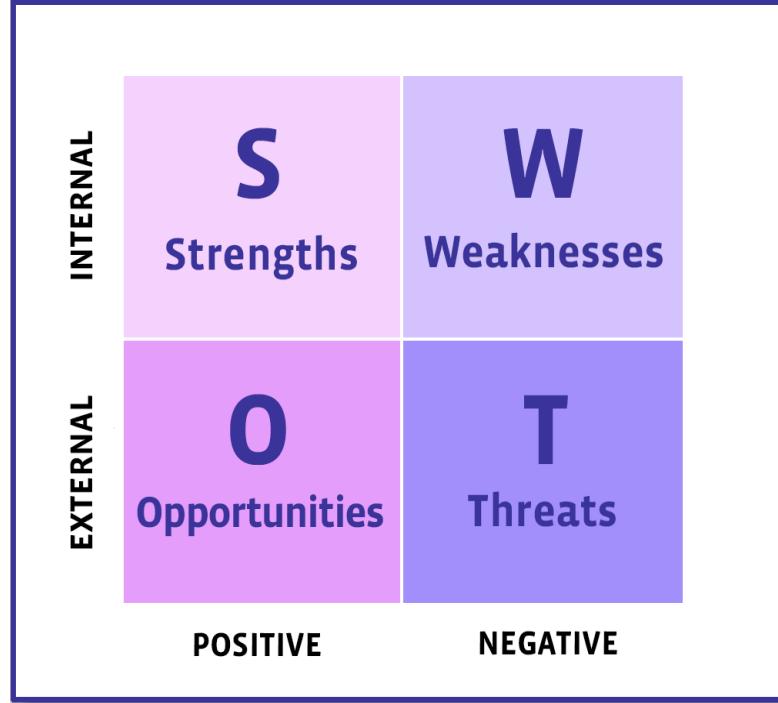
PESTEL (on macro level)

Strategic Foresight (technology foresight, customers foresight, industry foresight, competition foresight)



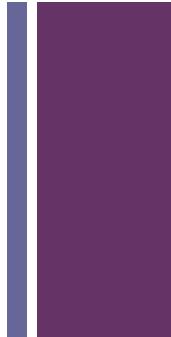
SWOT

The SWOT Analysis Tool



- Acronym for the internal strengths and weaknesses of organization and
- Opportunities and threats identified in the external environment of organization

+ SWOT advantages and disadvantages



■ Advantages:

- ✓ is a good starting point for evaluation and understanding strengths and weaknesses related to the strategic goals set;
- ✓ it helps you understand where you currently stand, and how you can begin to move your business forward.

□ Disadvantage: doesn't produce actionable outcomes;



Making use of SWOT analysis

- Many organizations carry out SWOT analysis just to claim it has been completed during the preparation of the information systems security crisis plan, for example.
- However, the fact that the plan does not reflect the outcomes of analysis and is not considered.
- When implementing SWOT analysis it is necessary to consider the purpose of it and the further use of outcomes.

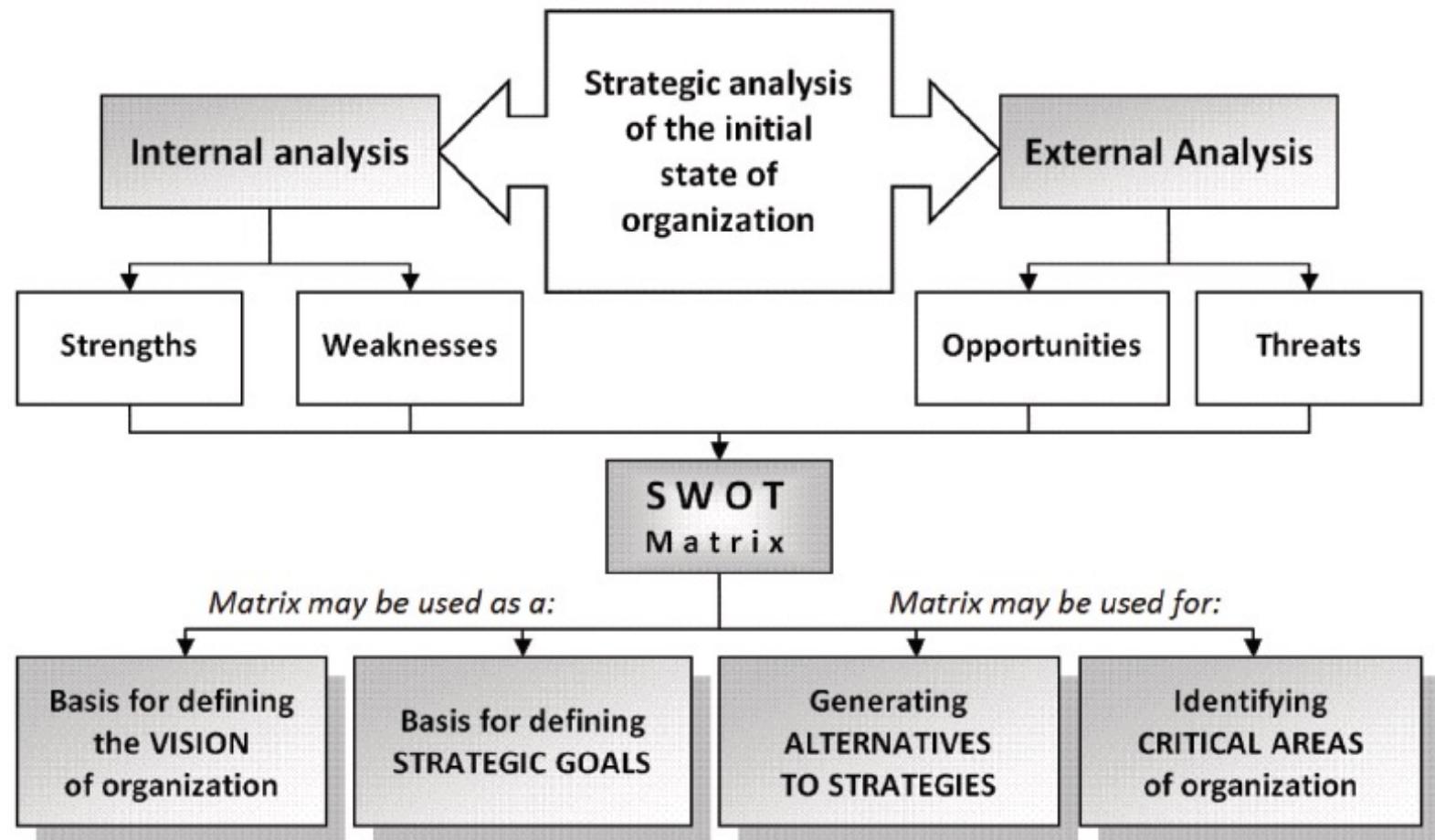


The following principles are to be followed during SWOT analysis:

- Purpose has to be considered all the time during the analysis
- Procedures and outcomes cannot be mechanically applied to a different problem
- Focus on substantial facts
- Should identify only “strategic” facts, i.e. long-term phenomena
- Analysis has to be objective - it can be achieved with more people participating in its development
- It is appropriate to use the system of assessing the power of factors, e.g. by using point scales.



Figure 1. The basic framework of SWOT analysis





Internal environment analysis

- There are 5 factors usually analysed from Strengths and Weaknesses point of view:

1. Strategic directions of development (vision, mission, goals)
2. Organizational Culture
3. Organizational structure
4. Resources available
5. Technology applied (Processes management, incl. CS governance)



Organizational culture layers



What We See

Behaviors, systems,
processes, policies



Ideals, goals, values,
aspirations



Underlying
assumptions



Cybersecurity culture of organizations

- refers to the knowledge, beliefs, perceptions, attitudes, assumptions, norms and values of people regarding cybersecurity and how they manifest in people's behaviour with information technologies



Cyber Security Culture in
organisations

NOVEMBER 2017



Cybersecurity culture of organizations

- To assist in promoting both the understanding and uptake of CSC programmes within organisations
- Culture extends beyond awareness to include the shaping of beliefs, norms, values
- It requires a mutual understanding between senior management, CS implementers and employees on what their roles, responsibilities and practices entail with regard to defending against cyber-crime.

Relationships between organizational culture and CSC

- Culture is also unique to each organisation, and to create a robust and sustainable CSC requires an in-depth knowledge of the organisation, its overall culture, strategies, policies, employee practices and processes.
- To be successful, a CSC needs to be embedded in the organisational culture and it should take into account employee needs and practices.
- Organisational culture is a complex system of shared beliefs and values among employees, which guides their behaviour, or to put simply, it is the way things are done.

Recommended reading:
available at Research gate



Chapter 7

The Ways of Assessing the Security of Organization Information Systems through SWOT Analysis

David Rehak

VSB – Technical University of Ostrava, Czech Republic

Monika Grasseova

University of Defence, Czech Republic



The Ways of Assessing the Security of Organization Information Systems

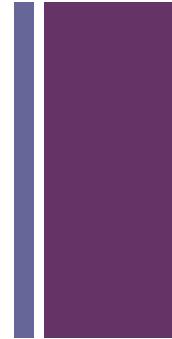
Table 1. Sample form for the identification of weaknesses

The analyzed area of organization: e.g. <i>Security of Organization Information System</i>	
WEAKNESSES	WHY? (justification - why we consider a particular factor to be a weakness)
A. Imperfect updating of information system	<i>Security gaps occur due to imperfect updating of information system. Malware may then infiltrate such information system.</i>
B. Infiltration of personnel	<i>It is unlikely that the company management detects personnel infiltrating the organization information system. Therefore the unauthorized use of data in the information system is quite extensive.</i>
C. Weak information infrastructure	<i>The data flows are programmed incorrectly in the information system. It can cause unintended and serious data leakage.</i>
D. Weak communication infrastructure	<i>The late updating of hardware may result in possible security errors, which enable malware to infiltrate the information system through unprotected ports.</i>

Table 3. The sample threat identification form

The analyzed area of organization: e.g. Security of Organization Information System	
THREATS	WHY? (justification - why we consider a particular factor to be a threat)
A. Monitoring of network	<i>Weaknesses are detected and data acquired from the information system in order to prepare future attack or compromise the users of information system</i>
B. Alteration of sent data	<i>Data are falsified with the aim to introduce disinformation into the information system.</i>
C. Insertion of disinformation into the information system	<i>Direct insertion of disinformation (redundant information) into the information system in order to compromise the users of the system.</i>
D. Overloading of information system	<i>Make the information system inaccessible by disconnecting it from the communication infrastructure and high-capacity computer networks with the aim to withhold service.</i>

+ To make it as an effective tool you have to understand the sources of competitive advantage and your generic business model



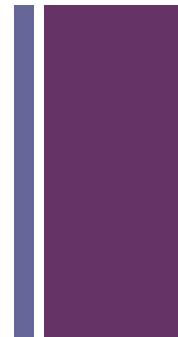
The competitive advantage (CA)

Ability to deliver higher return on assets or invested capital in the given industry;

Sustained competitive advantage: ability to sustain it for number of years;



To make it as an effective tool you have to understand the sources of competitive advantage



$$\text{ROA} = \frac{\text{Net Income}}{\text{Total Assets}_{\text{average}}}$$

Net Income	/	Total Assets	=	ROA
100	/	2,000	=	5.0%

Net Income	/	Total Assets	=	ROA
100	/	2,800	=	3.6%

1. $P_x > P_{\text{av.ind.}}$

$C_x < C_{\text{av.ind.}}$

2. $P_x = P_{\text{av.ind.}}$

$C_x < C_{\text{av.ind.}}$

3. $P_x > P_{\text{av.ind.}}$

$C_x = C_{\text{av.ind.}}$



How to ensure CA?

Discussion:

1. For what customers are ready to pay higher price?
2. What companies are doing to reduce costs?



Distinctive competencies as a source of CA

some characteristics of a business that it does better than its competitors

because the business is able to do something better than other businesses, that business has a competitive advantage over other businesses



The sources of distinctive competences: Resources

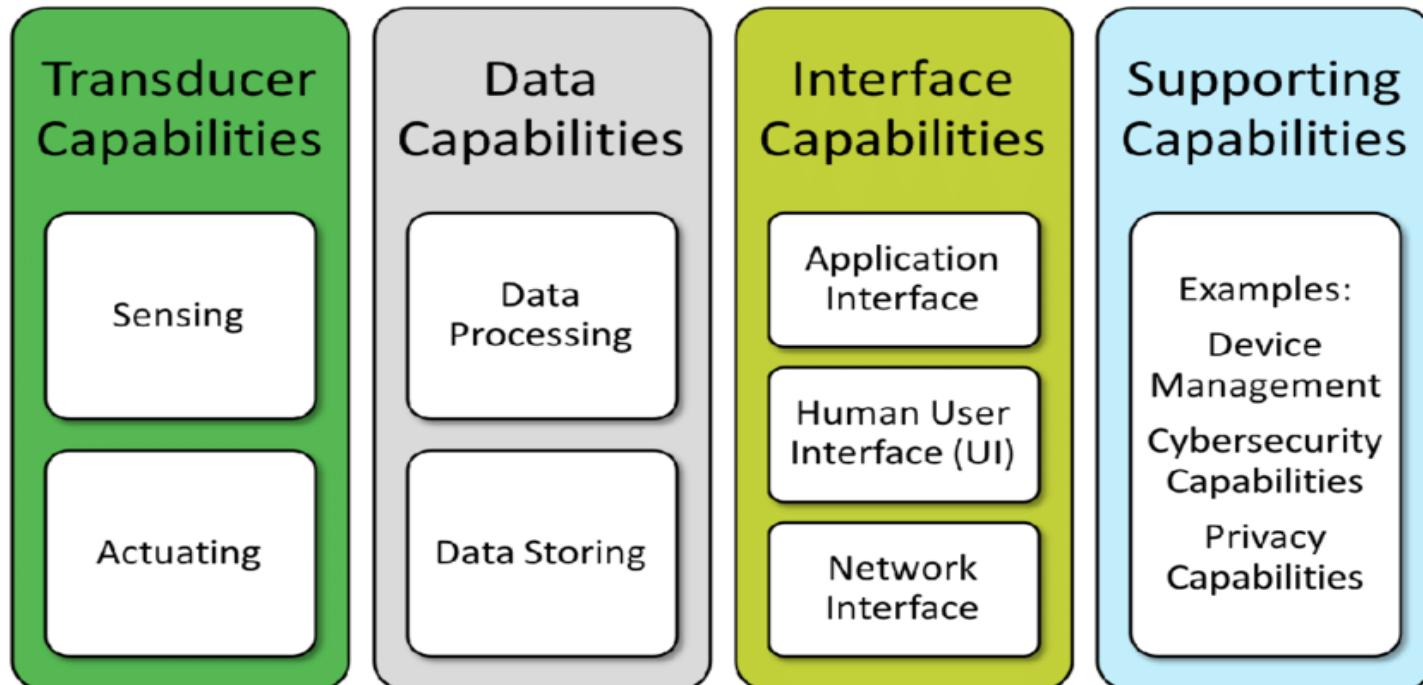
D

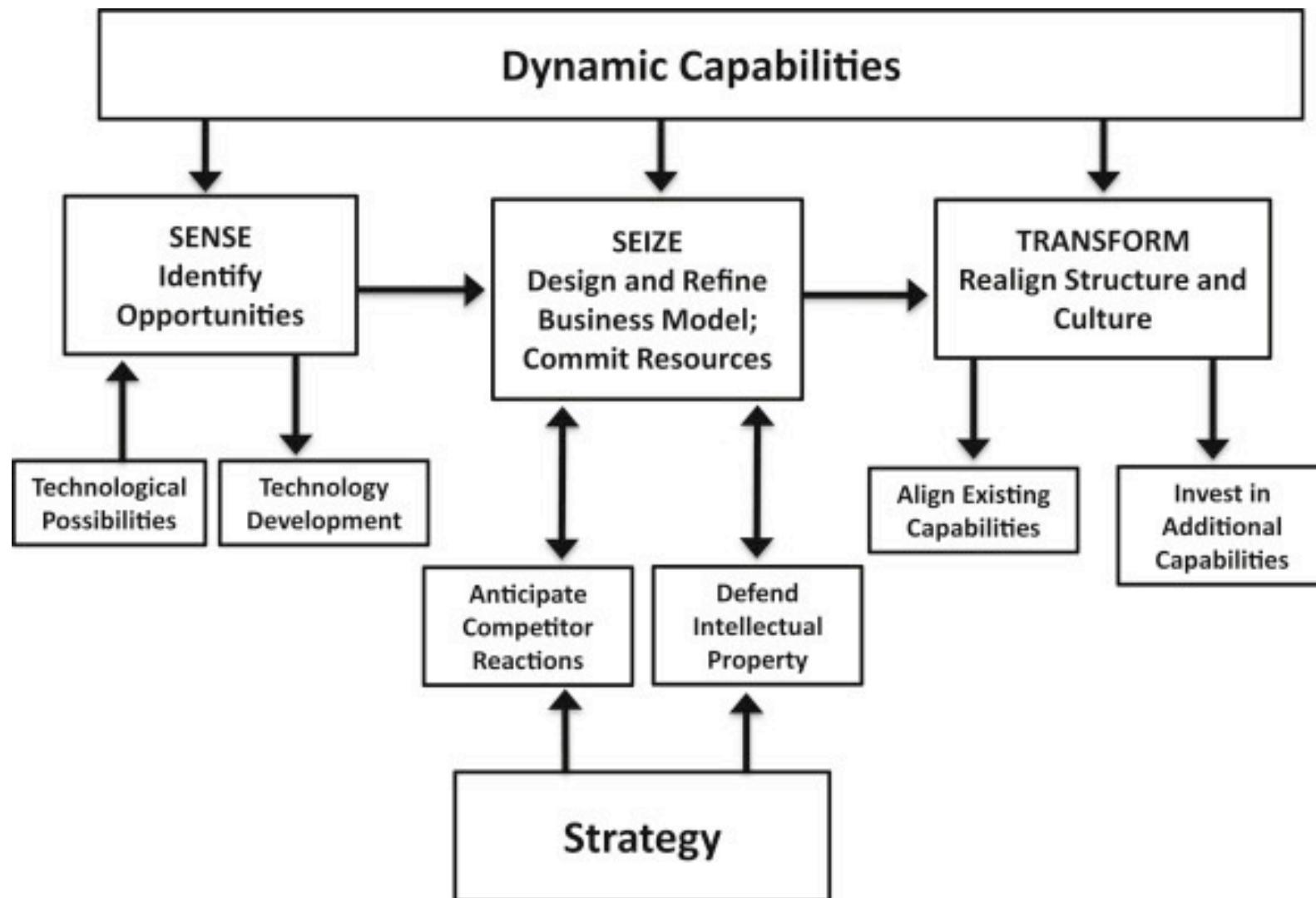
Material: buildings, furniture, computers, etc.

Nonmaterial, e.g. capabilities, brand, reputation, know how, rankings, etc.

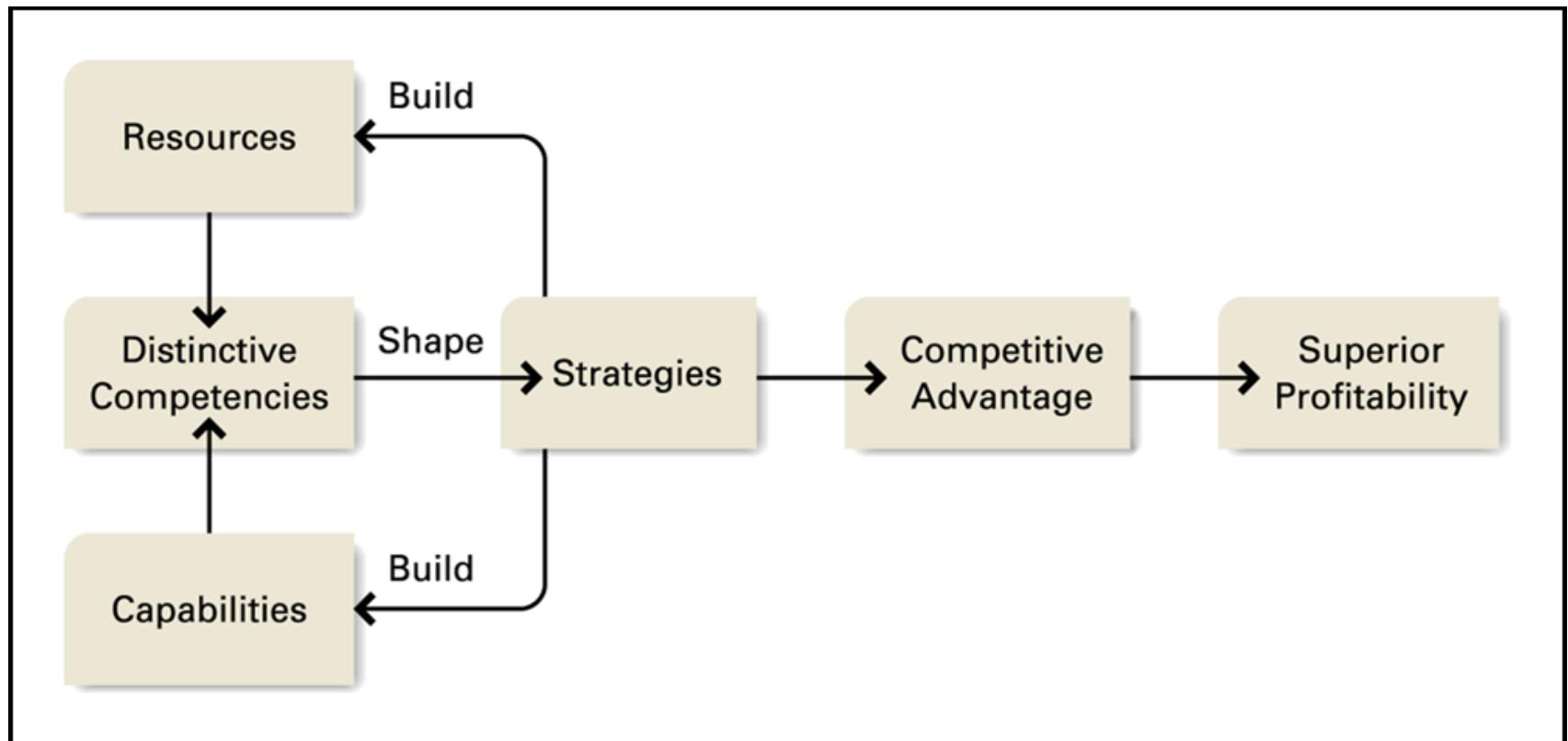


The sources of distinctive competencies: Organizational capabilities





Distinctive competencies as a source of CA





External environment

There are different levels of external (specifically to the industries) analysis:

- Industry level (M. Porter's 5 forces)
- Macro (PESTEL (specific country level))
- Regional level: mainly EU forces (4 freedoms, legislative, political, social, etc)
- Global level: the forces which drive globalization (new markets, new technologies, new rules, new agents)

+ Industry level analysis from Threats and opportunities point of view

- Clients
- Competitors
- Suppliers
- Substitutes
- Newcomers

And 6th -

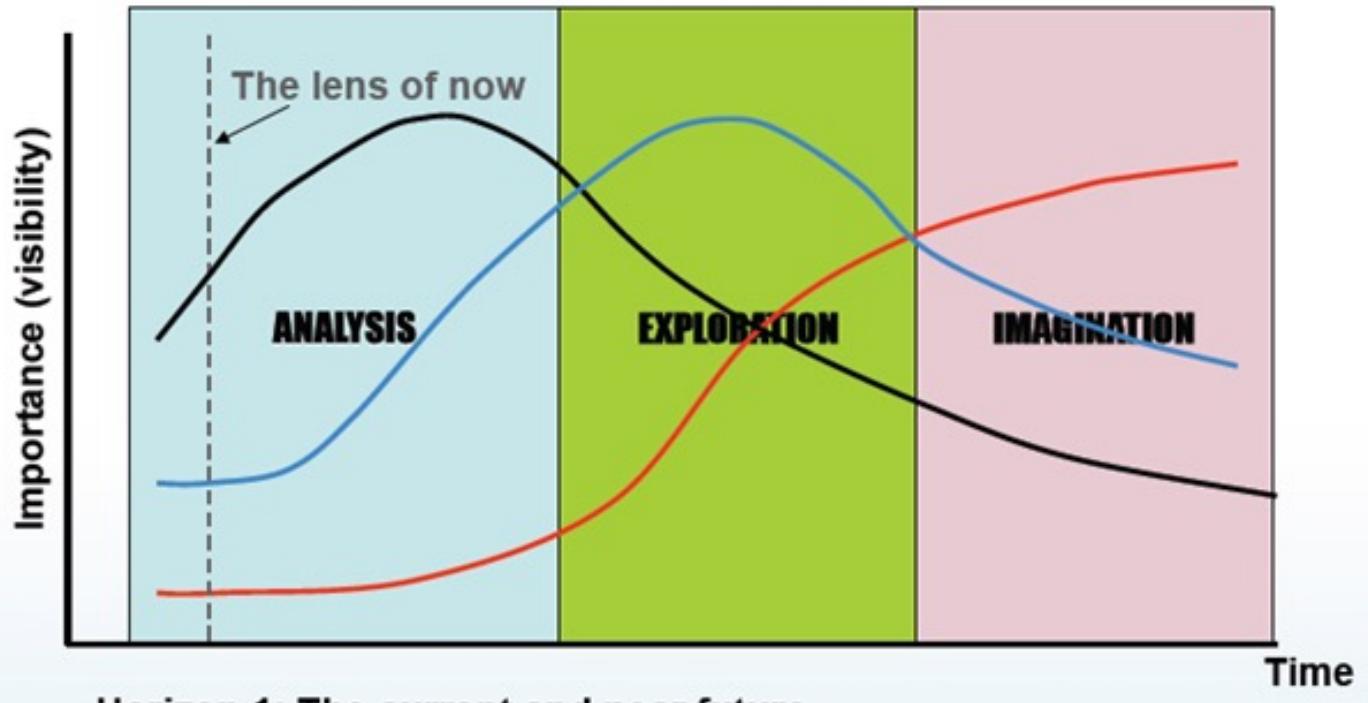
- Complimentary assets

- Watch video:

https://www.youtube.com/watch?v=mYF2_FBCvXw



Three horizons to scan



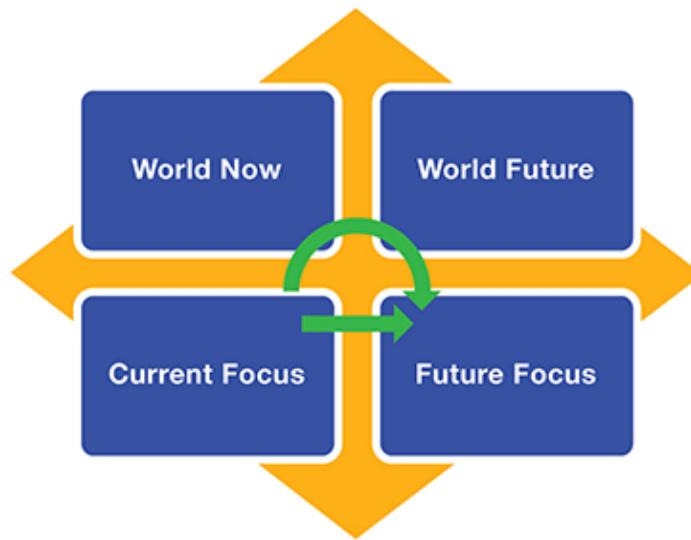
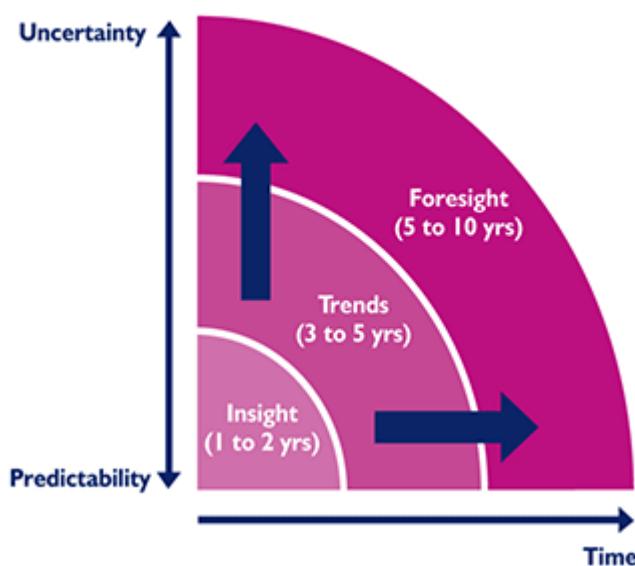
Horizon 1: The current and near future

Horizon 2: Looking towards a further out future

Horizon 3: The distant future



Get Involved...



Strategic Foresight

In Organizational and Environmental Context

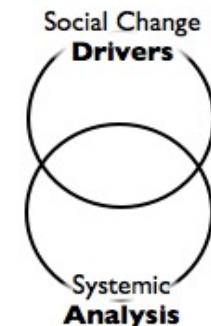
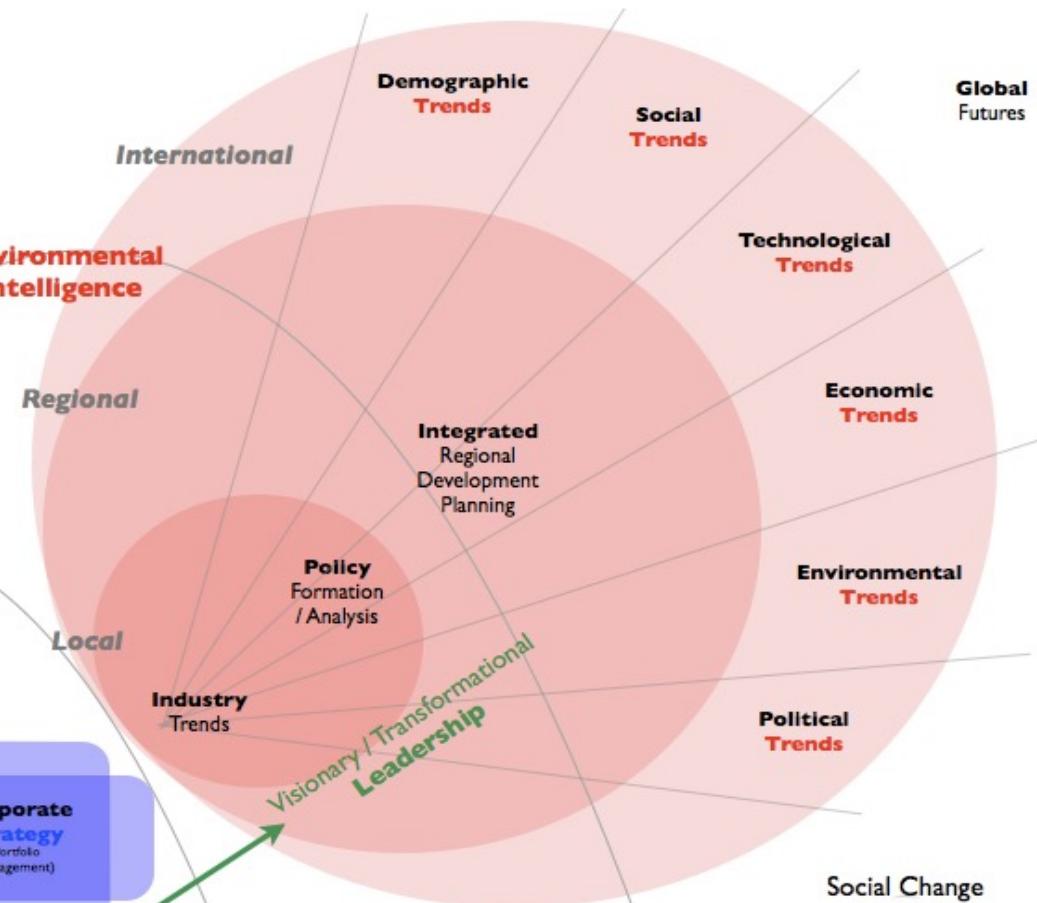
Strategic Foresight seeks to relate insights derived from environmental intelligence (across fields and in various degrees of scope), to their application within the context of business strategy, in order to enhance operations, profitability and competitive advantage.

The **rate of change** evident in turbulent times, results in strategic planning and change management becoming dynamic processes that interrelate in ongoing reciprocity.

Assessment of **social change drivers**, and analysis of the **systemic interrelationships** between factors of change, inform the impact and uncertainty of issues.

Strategic Foresight therefore informs the navigation between the responsive posture of **anticipatory management** and the innovative pursuits of **visionary leadership**.

Business Intelligence



◀ Home



A REPORT BY EIU

Telecoms and technology outlook 2023

The telecoms and technology sector has weathered the pandemic so far, but new macroeconomic headwinds will dent growth in 2023. The focus of technology innovation and investment will be on the metaverse, with the drive for standardisation and the battle with web3 at the forefront.

IEU's guide to telecoms and technology in 2023 provides a comprehensive view of the challenges, opportunities and trends to watch over the coming year.

Download report

https://www.eiu.com/n/campaigns/telecoms-in-2023/?utm_source=google&utm_medium=ppc&utm_campaign=industries-in-2023&gclid=Cj0KCQiAgribBhDkARIsAASA5bto9FIIQLPxyuX0-BB-GxP-OqIXGdRSddHRAadvGEJTv6Fv7dqZmYcYaAltmEALw_wcB

Top 9 Technology Trends In The Next 5 Years

Nate Nead / 16 Oct 2022 / Tech



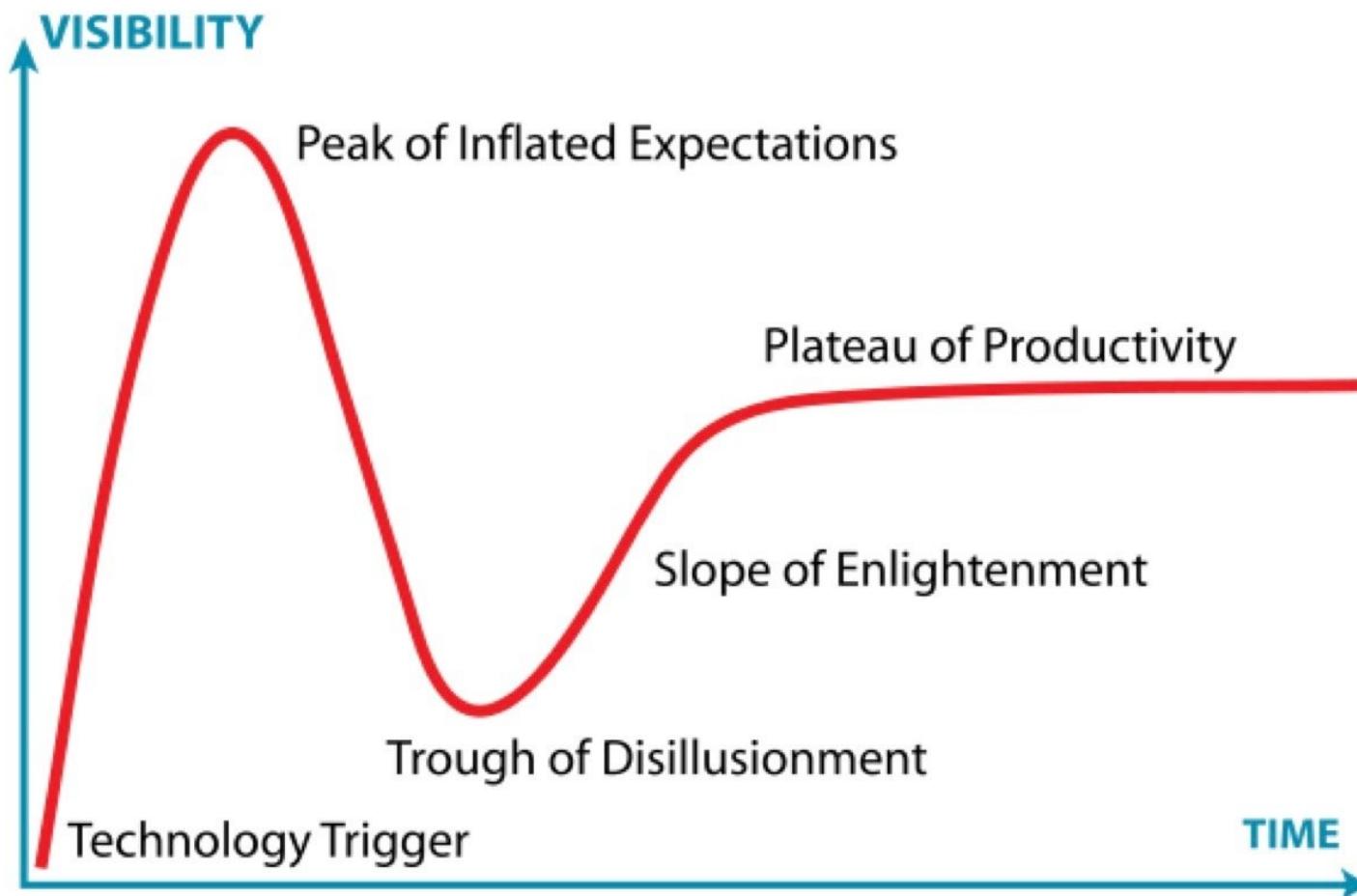
Technology is always changing and we can expect all sorts of new initiatives to take place in the next five years that will change how we live. We looked across all the top

1. Expansion Of The Metaverse
 2. Virtual and Augmented Reality
 3. Edge Computing
 4. Drones
 5. Blockchain
 6. AI
 7. ML
 8. Cloud computing (also edge computing, fog computing)
 9. RPA
Also 5G
Quantum computing

<https://readwrite.com/top-technology-trends/>



Gartner Hype Cycle

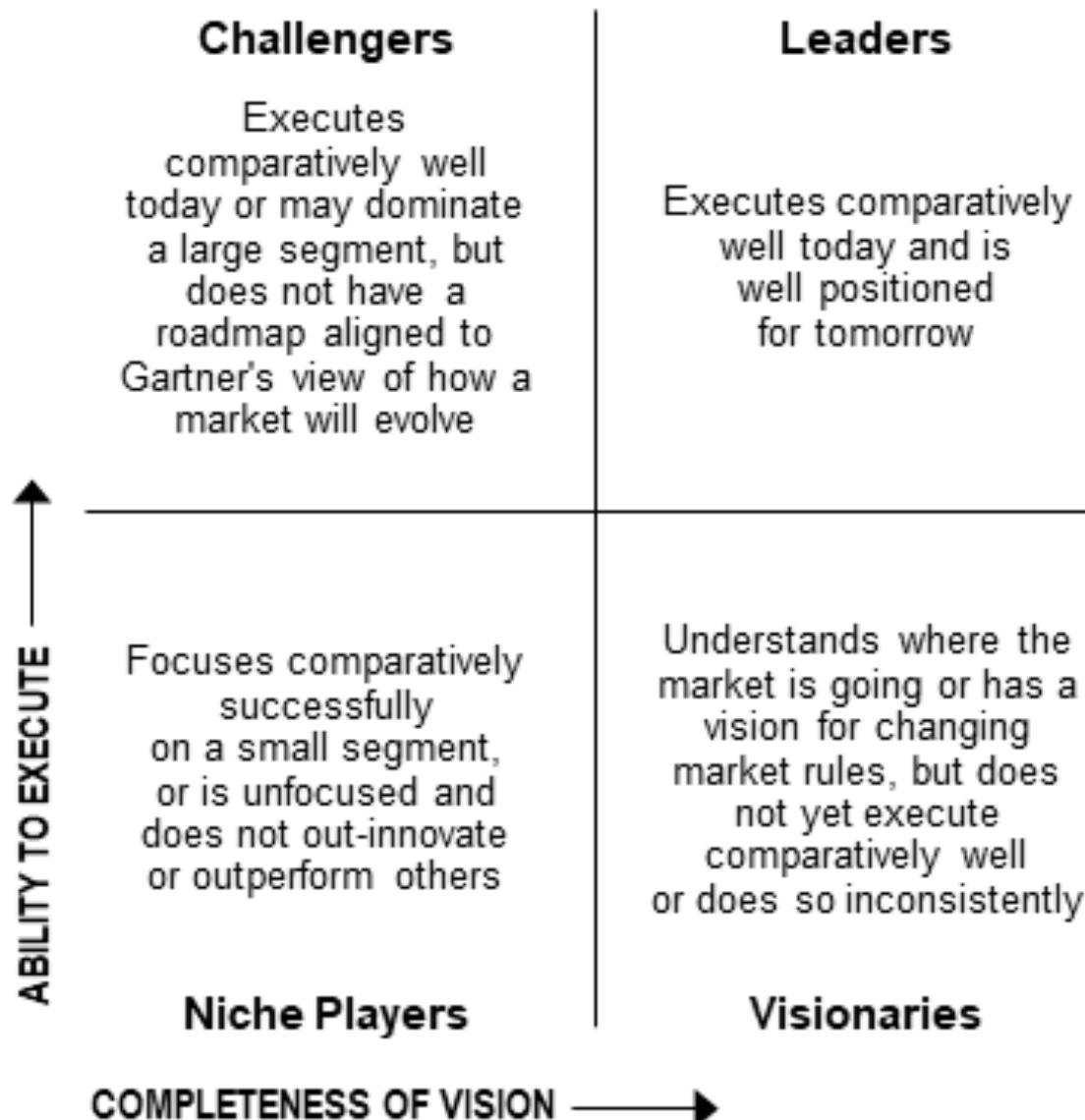


Hype Cycle for Emerging Tech, 2022



Gartner Magic quadrant Source:

<https://www.gartner.com/en/research/methodologies/magic-quadrants-research>





SWOT analysis is helpful in characterizing where company stands in regard to its CS posture

- Cybersecurity traditionally is not a focus for many companies conducting SWOT analysis;
- Do you agree with this statement?
- If yes, what are the reasons for that?



+ Cybersecurity risks are growing annually

- Please identify main reasons why it is growing?
- Where main cyberthreats coming from (which sources)?
- Why company needs to take measures?
- Does the risk level depends on the size of company and industry specifics?



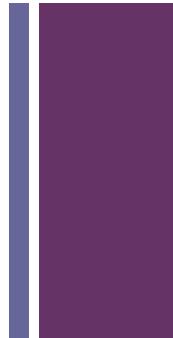


How to analyze an external environment threats from a cybersecurity perspective

- Have hackers penetrated your defenses?
- Is it possible they have penetrated and you don't know?
- Are "bad actors" approaching your employees?
- Are there people who would benefit from having access to your information?
- What is your CS posture/approach?



SWOT analysis: strengths



- **Presence:** do you have positive control over all access points to your information?
- **Information:** Have you identified your critical information? Do you understand its value? Is information protected with effective controls, procedures, personnel and technology? Is it insured against loss, damage or denial?

+ SWOT analysis: strengths

- ***Plans:*** do your plans produce CS results you desire?
- Are plans feasible, acceptable, suitable and affordable (FASA) in support of your business goals?
- Do your plans adequately address cybersecurity risks?
- Do your staff understand and implement your plans well?
- Do you have an effective metrics program that measures the effectiveness of your plans?

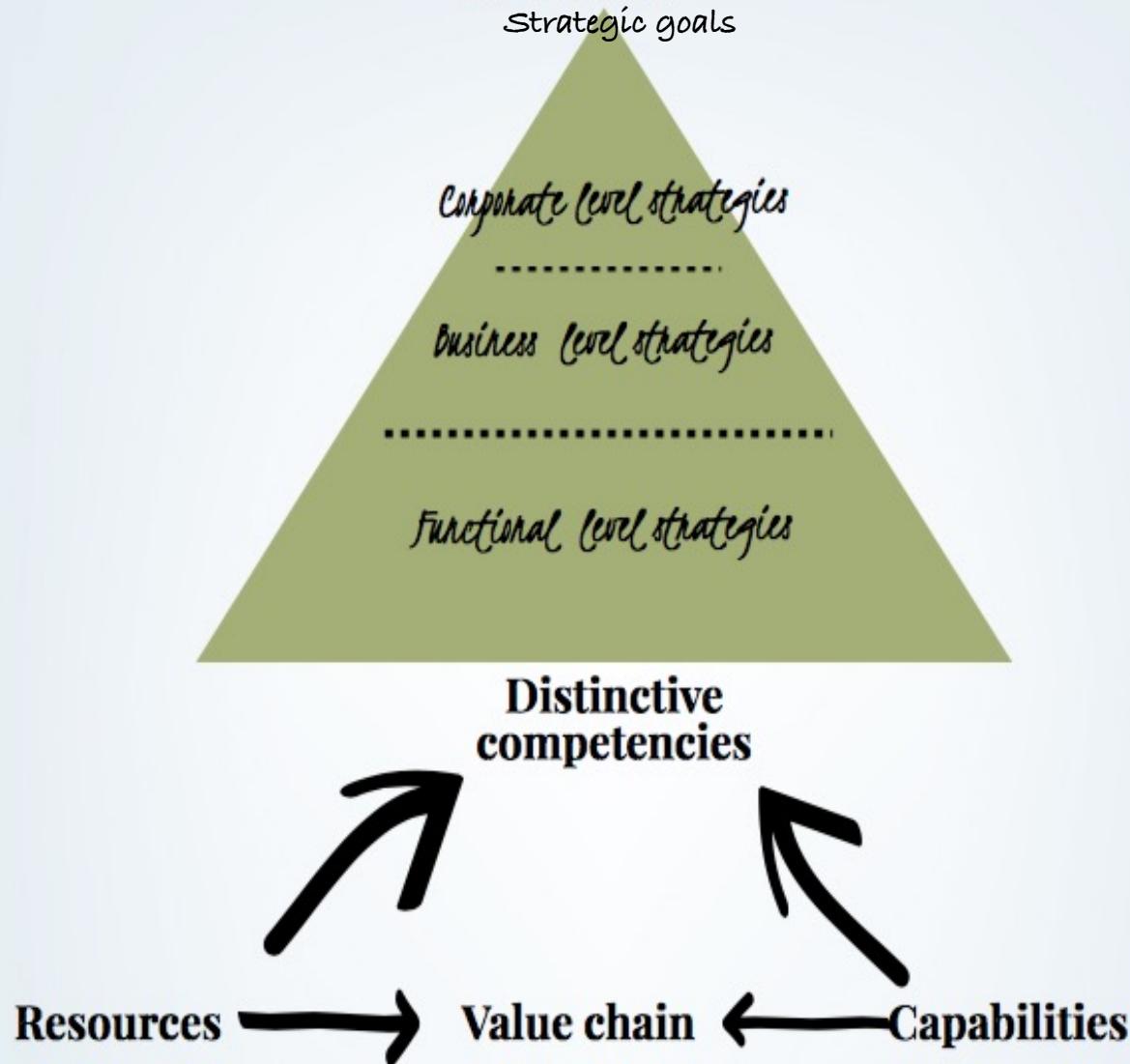
+ 3. Selecting strategies

There are 3 levels of generic strategies at company:

- **Functional** - aiming at building competition advantage on the **company** level;
- **Business** - aiming at building the competition advantage on the **market** level;
- **Corporate** - aiming at building competition advantage on the company level for further development .

Vision, Mission & Values

Strategic goals





Vision
Mission
Strategic
goals

Strategies applied for further business expansion, e.g. entering into new industries, creating new industries, etc.

**Corporate level
strategies**

Strategies applied on the market

**Business level
strategies**

Strategies applied for organizing activities within organization

**Functional level
strategies**

+ There are 4 generic strategies at functional level:

Superior
Efficiency

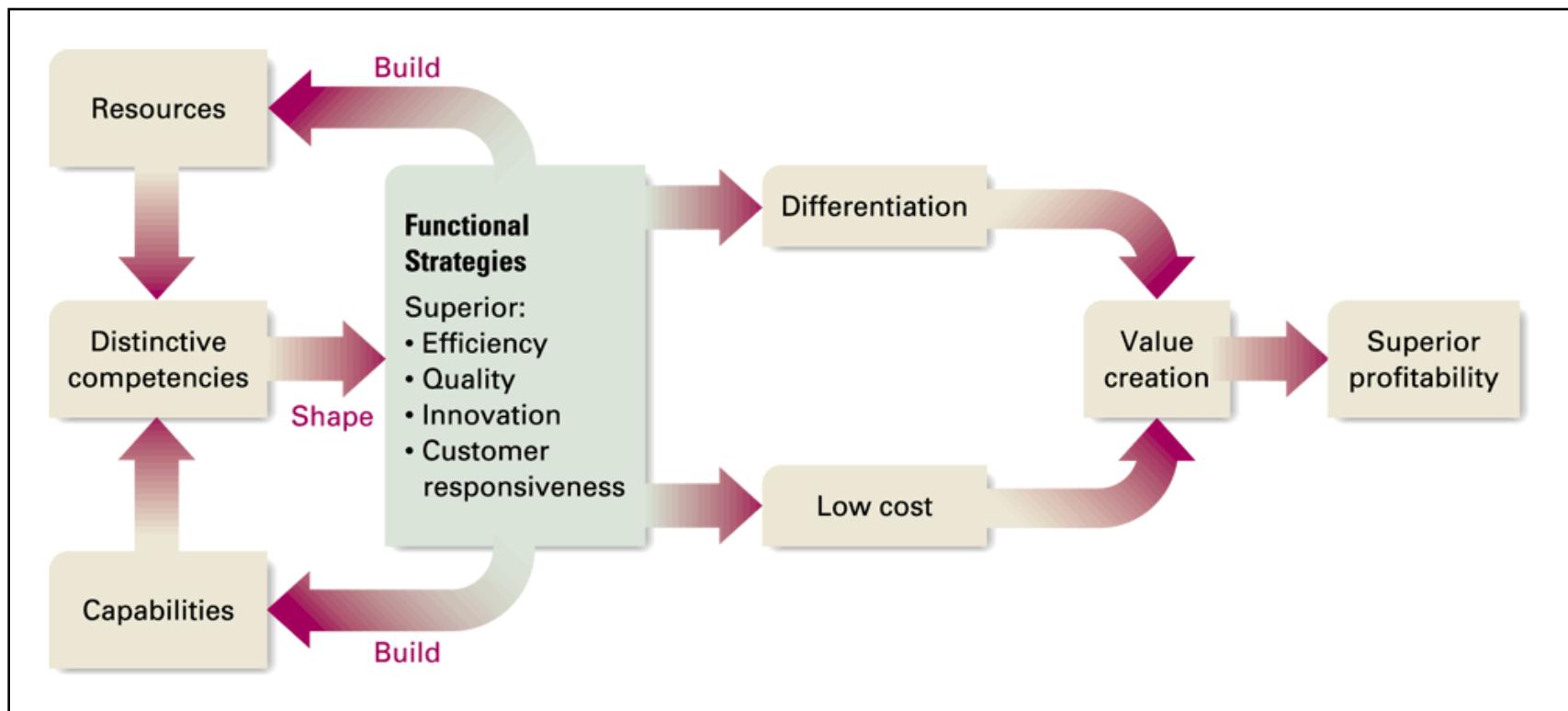
Superior
Quality

Superior
Innovation

Superior
customer
responsiveness



The Roots of Competitive Advantage





How to ensure superior efficiency?

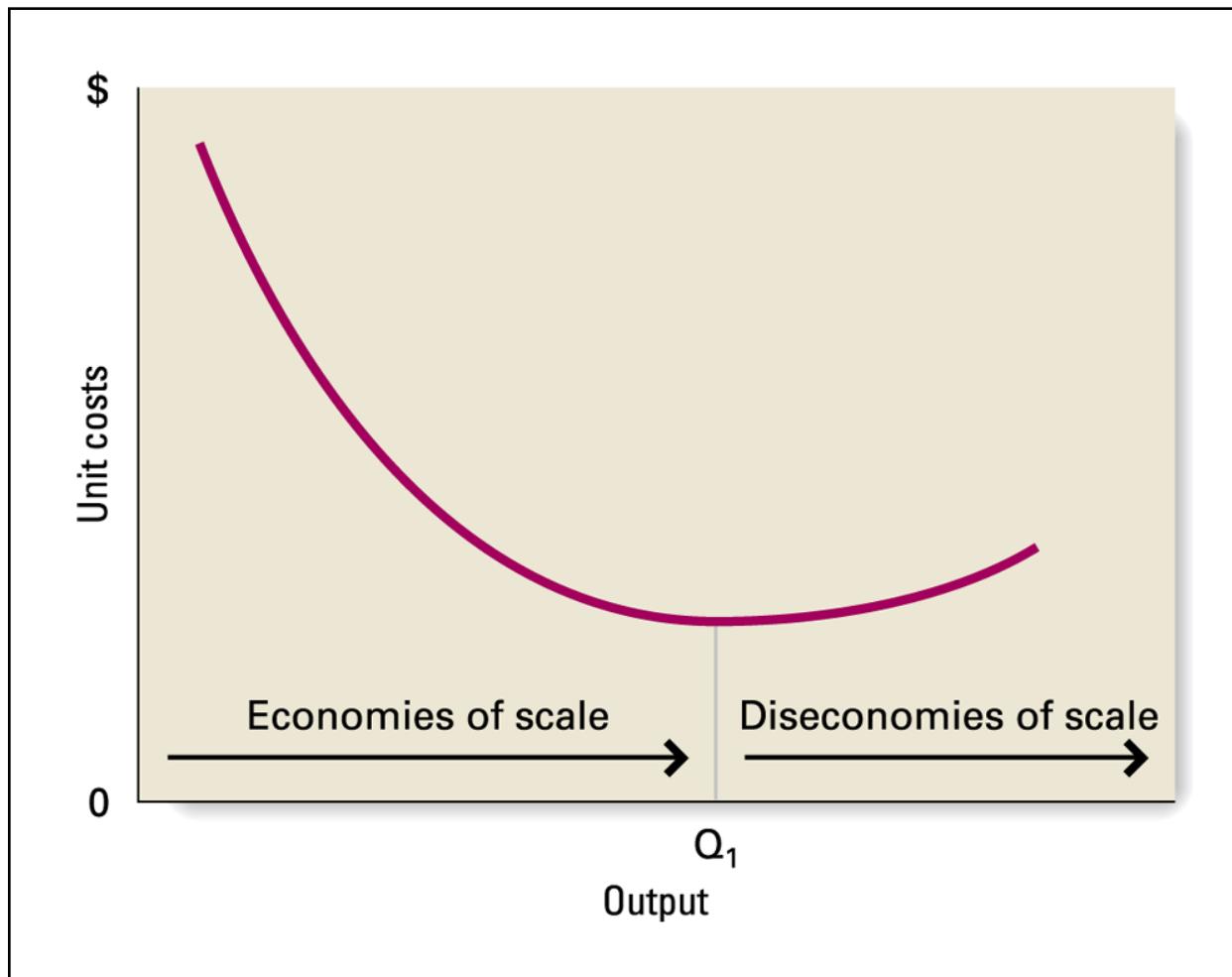
« Businesses should be looking for ways to reduce costs through improved workflows.

An effective way of accomplishing this is to scope and control the number of assets used within IT, but to this day, there are many small to medium-sized businesses that do not use an IT asset management system.

Whether due to staff shortages or limited budgets, IT shops often struggle with identifying leased/purchased equipment or software, instead using spreadsheets or databases to list fragmented information.

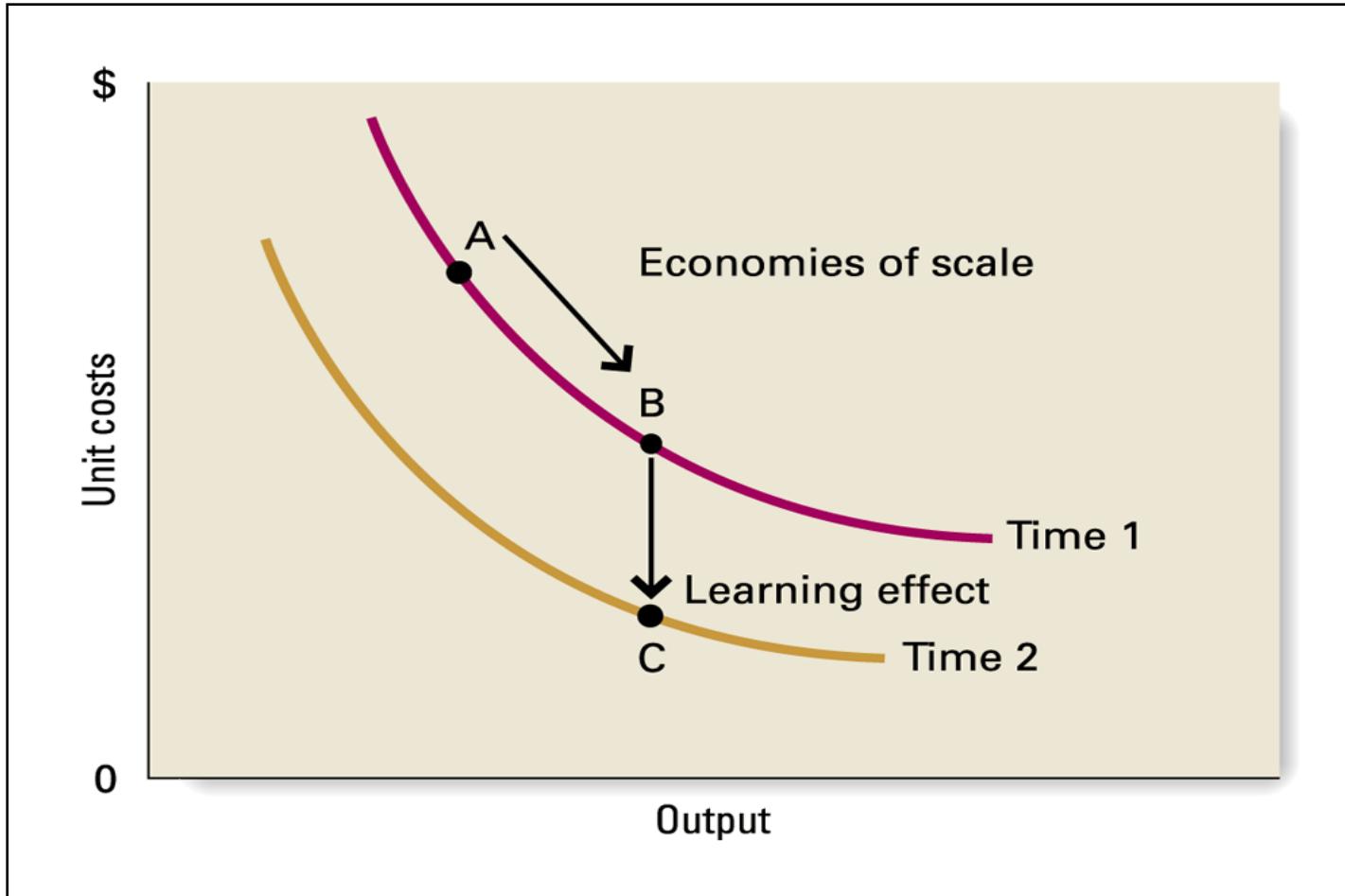
Its actually very hard task for IT, when done properly, IT asset management can have a direct impact in lowering both hardware and software spending» (L. Jekabsone).

+ Economies and Diseconomies of Scale





The Impact of Learning and Scale Economies on Unit Costs





Achieving Superior Efficiency

- Flexible manufacturing (Lean production)
 - Technology that reduces setup times for complex equipment, improves scheduling to increase use of individual machines, and improves quality control
 - Increases efficiency and lowers unit costs
 - Mass customization reconciles two goals: low cost *and* differentiation through product customization



How to ensure superior efficiency?

- Please provide additional ideas how company can increase efficiency?
- Please provide ideas how ICT management can contribute to efficiency increase?

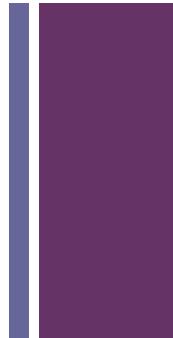
+

Primary Roles of Value Creation Functions in Achieving Superior Efficiency

Value Creation Function	Primary Roles
Infrastructure (leadership)	<ol style="list-style-type: none">1. Provide companywide commitment to efficiency.2. Facilitate cooperation among functions.
Production	<ol style="list-style-type: none">1. Where appropriate, pursue economies of scale and learning economics.2. Implement flexible manufacturing systems.
Marketing	<ol style="list-style-type: none">1. Where appropriate, adopt aggressive marketing to ride down the experience curve.2. Limit customer defection rates by building brand loyalty.
Materials management	<ol style="list-style-type: none">1. Implement JIT systems.
R&D	<ol style="list-style-type: none">1. Design products for ease of manufacture.2. Seek process innovations.
Information systems	<ol style="list-style-type: none">1. Use information systems to automate processes.2. Use information systems to reduce costs of coordination.
Human resources	<ol style="list-style-type: none">1. Institute training programs to build skills.2. Implement self-managing teams.3. Implement pay for performance.



How to ensure superior quality?



■ Discussion

1. What is quality?
2. How to ensure superior quality?
3. Please provide some samples from your organization!



Attributes Associated with a Product Offering

Product Attributes	Service Attributes	Associated Personnel Attributes
Form	Ordering ease	Competence
Features	Delivery	Courtesy
Performance	Installation	Credibility
Durability	Customer training	Reliability
Reliability	Customer consulting	Responsiveness
Style	Maintenance and repair	Communication



Achieving Superior Quality

■ Developing Superior Product Attributes

- Learn which attributes are most important to customers
- Design products and associate services to embody the important attributes
- Decide which attributes to promote and how best to position them in consumers' minds
- Monitor competition for improvement in attributes and development of new attributes

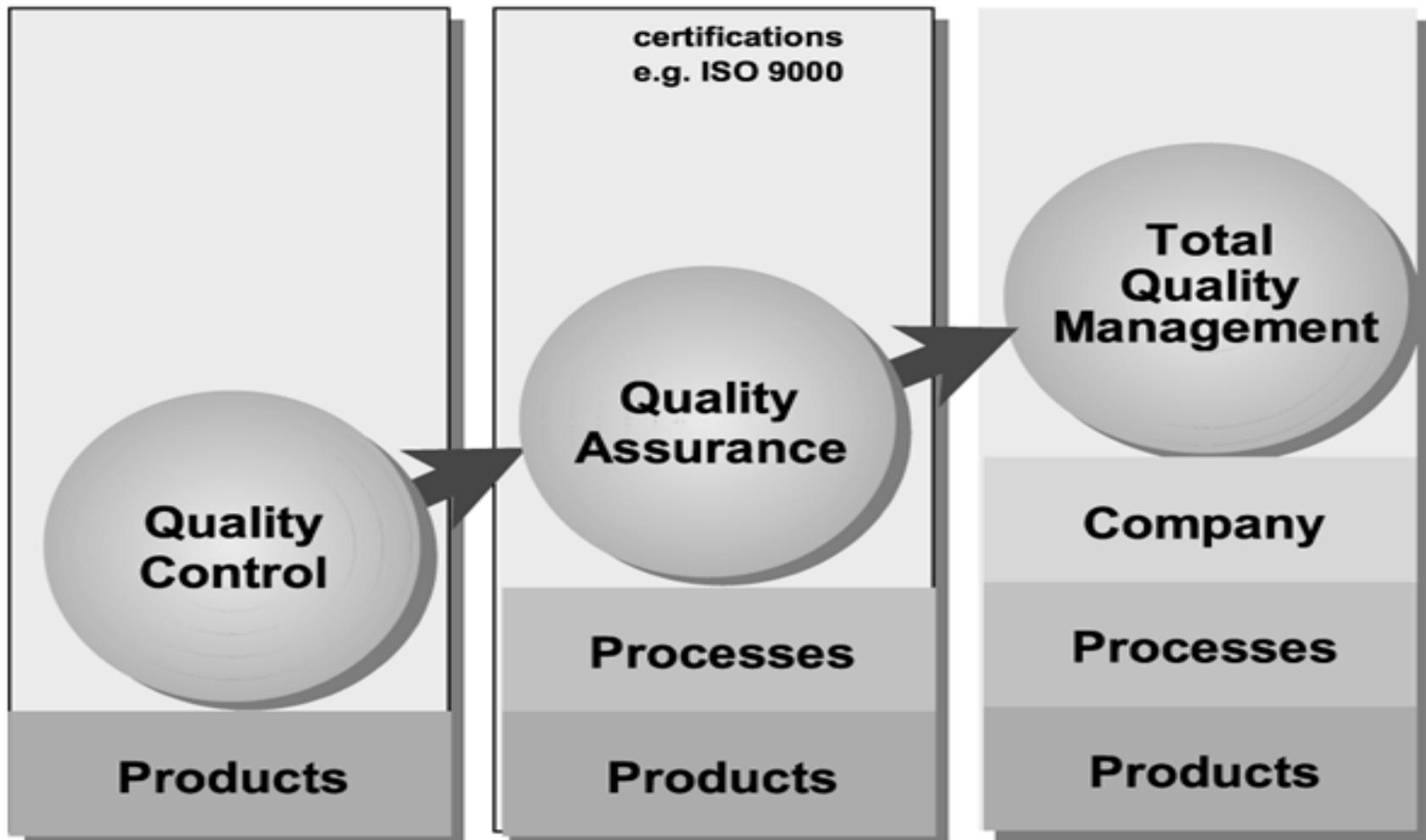


Figure 1 The evolution toward total quality management (TQM)

Total Quality Management System (TQM)

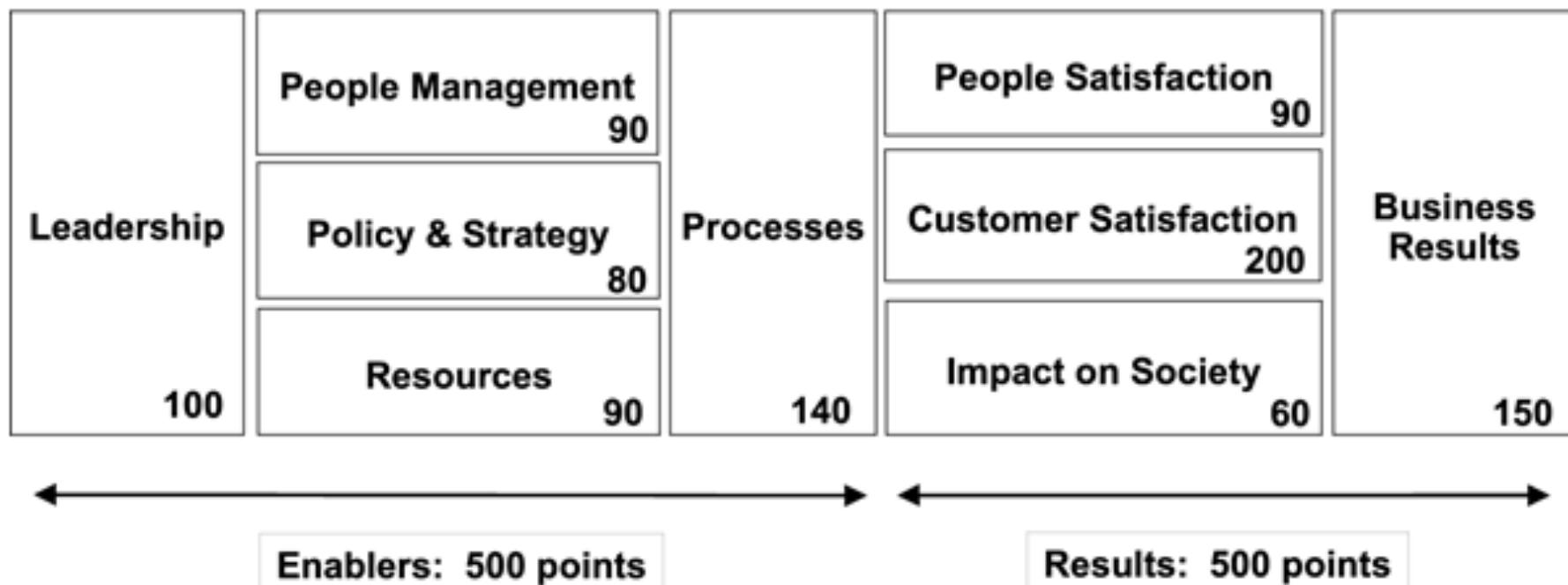


Figure 4 On the way to an integrative management system (IMS)

+ The Role Played by Different Functions in Implementing TQM

Value Creation Function	Primary Roles
Infrastructure (leadership)	<ol style="list-style-type: none">1. Provide leadership and commitment to quality.2. Find ways to measure quality.3. Set goals, and create incentives.4. Solicit input from employees.5. Encourage cooperation among functions.
Production	<ol style="list-style-type: none">1. Shorten production runs.2. Trace defects back to source.
Marketing	<ol style="list-style-type: none">1. Focus on the customer.2. Provide customers' feedback on quality.
Materials management	<ol style="list-style-type: none">1. Rationalize suppliers.2. Help suppliers implement TQM.3. Trace defects back to suppliers.
R&D	<ol style="list-style-type: none">1. Design products that are easy to manufacture.
Information systems	<ol style="list-style-type: none">1. Use information systems to monitor defect rates.
Human resources	<ol style="list-style-type: none">1. Institute TQM training programs.2. Organize employees into quality teams.



What is superior innovation?

- Discussion

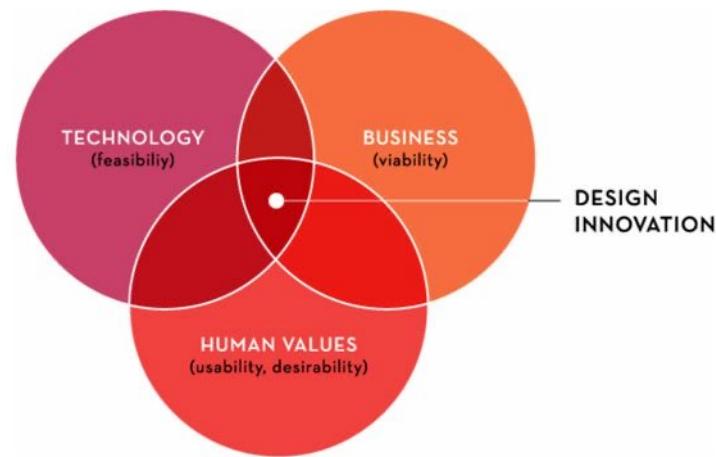
1. How to ensure superior innovation?
2. Please provide some samples from your organization!





Design innovation

- Design innovation is the result of a process of innovating in a field that is traditionally considered design such as graphic design, product design and user experience design.
- The term is also applied to the use of design and design thinking to innovative in areas such as engineering, software development and business operations.





Financial innovation [Myers and Nicholas, 1984; Miller and Merton, 1986; Allen and Gale 1988; Ross, 1988];

- the act of creating and then popularizing new financial instruments as well as new financial technologies, institutions and markets.
- it includes institutional, product and process innovation.
- ***Institutional innovations*** relate to the creation of new types of financial firms;

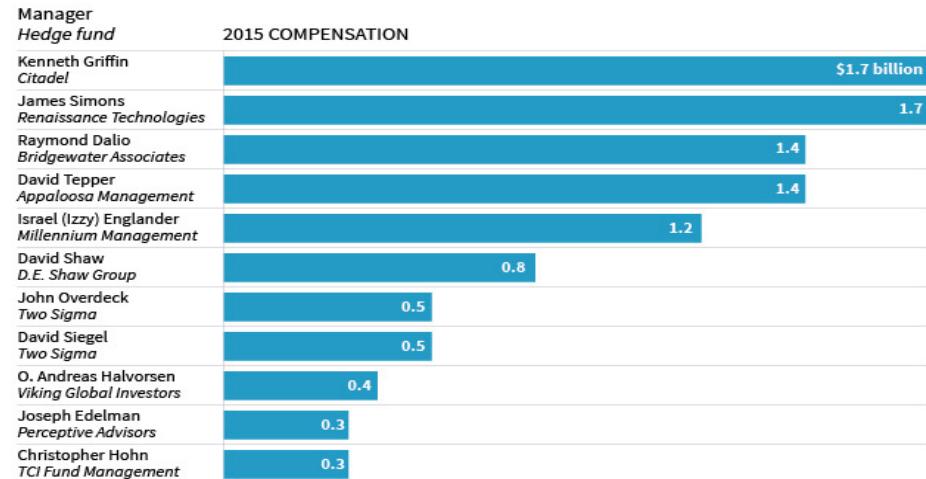




There are a wide range of different types of financial innovations

- hedge funds,
- private equity,
- derivatives,
- retail structured products,
- exchange traded funds,
- multi-family offices and
- Islamic bonds;

Top 10 highest compensated hedge fund managers



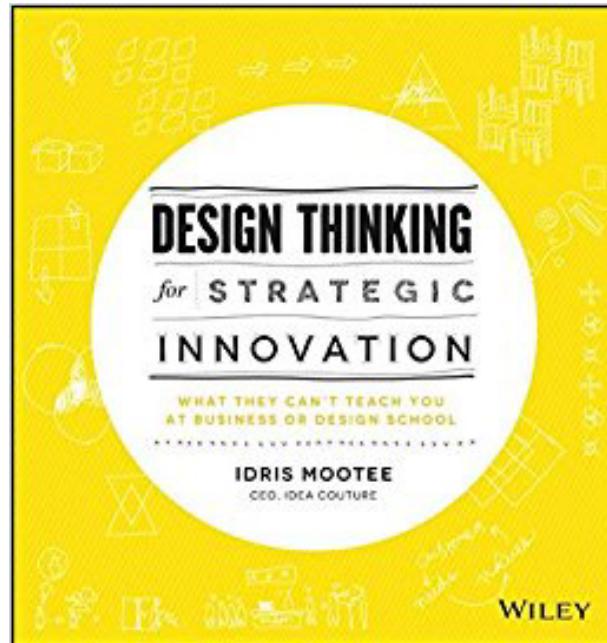
Source: Institutional Investor's Alpha's annual ranking of the world's top-earning hedge fund managers
S. Culp, 09/05/2016





Strategic Innovation

- Creation of growth strategies, new product categories, services or business models that change the game and generate significant new value for consumers, customers and the corporation





User innovation [von Hippel, 1986, Fleck, 1988];

A single user innovator is a single firm or individual that creates an innovation in order to use it.

Examples are a single firm creating a process machine in order to use it, a surgeon creating a new medical device in order to use it, and an individual consumer creating a new piece of sporting equipment in order to use it (von Hippel 2005)



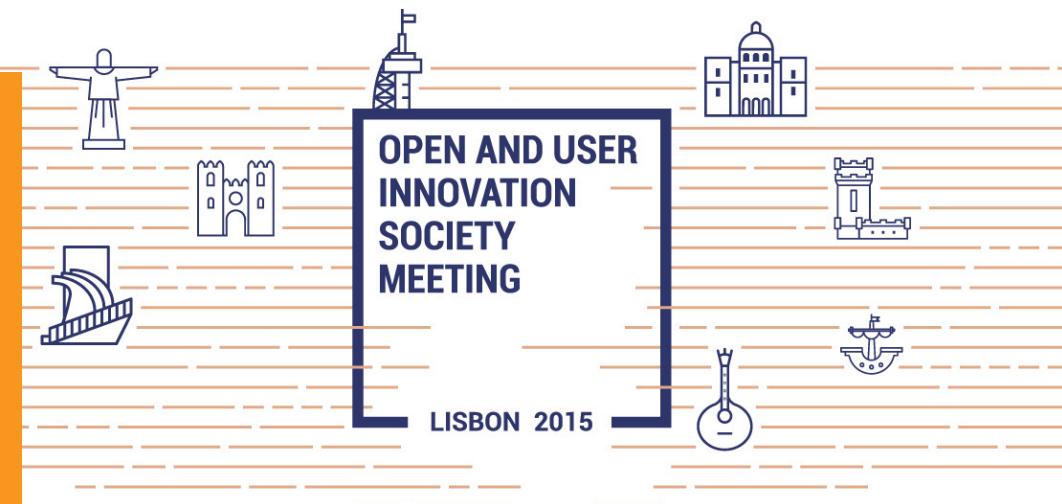
Research report: April 2010

NESTA Making Innovation Flourish

Authors: Stephen Flowers, Eric von Hippel, Jeroen de Jong and Tanja Sinozic.

Measuring user innovation in the UK

The importance of product creation by users





Social innovation [Chambon and Devevey, 1982; Laville, 1994]

- A novel solution to a social problem that is more effective, efficient, sustainable, or just than existing solutions and for which the value created accrues primarily to society as a whole rather than private individuals (James A. Phills Jr., Kriss Deiglmeier, & Dale T. Miller, 2008)

**Hitachi
Social Innovation
Forum 2017**
— TOKYO —

+ Eco-innovation [Fussler and James, 1996; James, 1997]

- product eco-innovation,
- process eco-innovation,
organizational eco-innovation,
- environmental R&D investments

Eco-Innovation and Firm Efficiency: Empirical Evidence from Slovenia

Jana Hojnik ^a

Assistant Professor, Faculty of Management, jana.hojnik@fm-kp.si

Mitja Ruzzier^a

Professor, Faculty of Management, mitja.ruzzier@fm-kp.si

Tatjana Manolova ^b

Associate Professor, tmanolova@bentley.edu

^a University of Primorska, Cankarjeva 5, 6000 Koper, Slovenia.

^b Bentley University, 175 Forest St., Waltham, MA 02452, USA.

Abstract

Eco-innovation plays an increasingly important role for the competitiveness of companies. It opens up new market opportunities due to the growing demand for eco-friendly products that can increase business efficiency. Using a dynamic capabilities lens, this article analyzes the relationships between various types of eco-innovation (product, process and organizational) and firm efficiency in the context of less innovative and more innovative companies. We use data from an online survey of Slovenian companies that have implemented eco-innovations as part of their operations. Statistical tests include an analysis of variance and a linear regression analysis.

We find that organizational eco-innovation positively affects firm efficiency at all companies independent of their innovation potential, while process eco-innovation is positively associated with firm efficiency only among more innovative companies. In addition, at less innovative

companies, firm age positively affects firm efficiency, suggesting that older and less innovative companies may enjoy learning curve benefits derived from experience. However, firm size has a positive effect on firm efficiency at more innovative companies, suggesting that more innovative companies may benefit from economies of scale. In general, more innovative companies are more likely to engage in eco-innovation and more likely to derive cost benefits (efficiency) from different types of eco-innovation.

The main limitations of our analysis are the subjective data on the level of firms' innovation and efficiency, the cross-sectional study design, and the single-country setting. Further in-depth longitudinal studies could better model the direction of causality between the implementation of eco-innovation and business efficiency, obtain objective data on business innovation, and ensure a more detailed and nuanced exploration of dynamic firm capabilities.

Keywords: eco-innovation; circular economy; firm efficiency; product eco-innovation; process eco-innovation; organizational eco-innovation; sustainability; more innovative companies; less innovative companies; Slovenia.

Citation: Hojnik J., Ruzzier M., Manolova T. (2017) Eco-Innovation and Firm Efficiency: Empirical Evidence from Slovenia. *Foresight and STI Governance*, vol. 11, no 3, pp. 103–111. DOI: 10.17323/2500-2597.2017.3.103.111

+ Function Roles for Achieving Superior Innovation

Value Creation Function	Primary Roles
Infrastructure (leadership)	<ol style="list-style-type: none">1. Manage overall project (i.e., manage the development function).2. Facilitate cross-functional cooperation.
Production	<ol style="list-style-type: none">1. Cooperate with R&D on designing products that are easy to manufacture.2. Work with R&D to develop process innovations.
Marketing	<ol style="list-style-type: none">1. Provide market information to R&D.2. Work with R&D to develop new products.
Materials management	No primary responsibility.
R&D	<ol style="list-style-type: none">1. Develop new products and processes.2. Cooperate with other functions, particularly marketing and manufacturing, in the development process.
Information Systems	<ol style="list-style-type: none">1. Use information systems to coordinate cross-functional and cross-company product development work.
Human resources	<ol style="list-style-type: none">1. Hire talented scientists and engineers.



What is superior customer responsiveness?

1. What is SCR?
2. How to ensure SCR?
3. Please provide some samples from your organization!

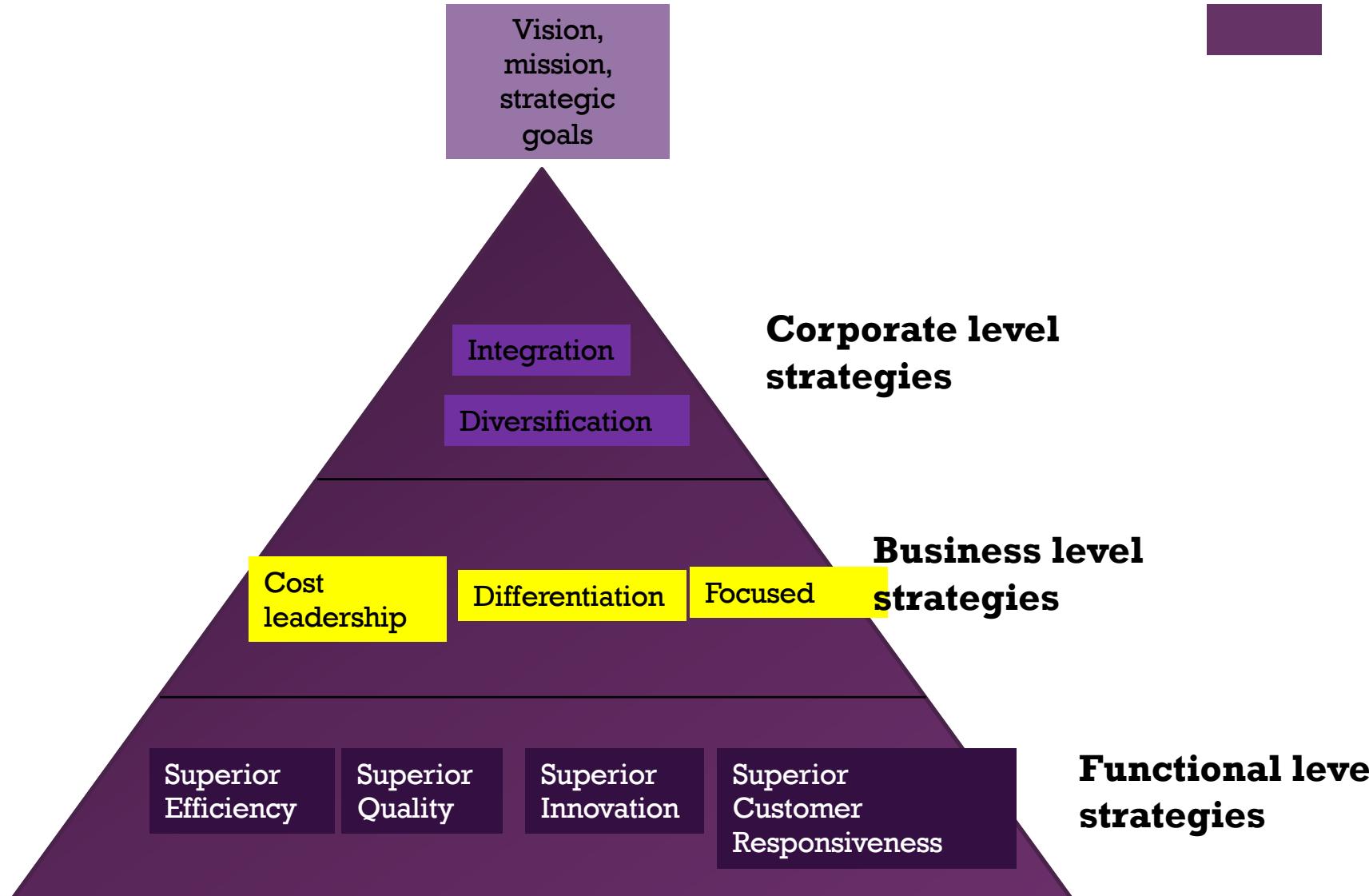


http://www.tvnet.lv/zinas/galleries/arvalstis/16280-cilveki_jusmo_par_jauno_iphone/?pic=3



The Primary Role of Different Functions in Achieving Superior Responsiveness to Customers

Value Creation Function	Primary Roles
Infrastructure (leadership)	1. Through leadership by example, build a companywide commitment to responsiveness to customers.
Production	1. Achieve customization through implementation of flexible manufacturing. 2. Achieve rapid response through flexible manufacturing.
Marketing	1. Know the customer. 2. Communicate customer feedback to appropriate functions.
Materials management	1. Develop logistics systems capable of responding quickly to unanticipated customer demands (JIT).
R&D	1. Bring customers into the product development process.
Information systems	1. Use web-based information systems to increase responsiveness to customers.
Human resources	1. Develop training programs that get employees to think like customers themselves.





Business level strategies

There are 3 main generic strategies at business level:

Cost leadership

Differentiation

Focused:
combined with differentiation or cost leadership or both

How Companies Achieve a Competitive Advantage

According to Michael Porter





Why Focus Strategies Are Different

Offers low-priced products to customers

Offers unique or distinctive products to customers

Offers products to only one group of customers

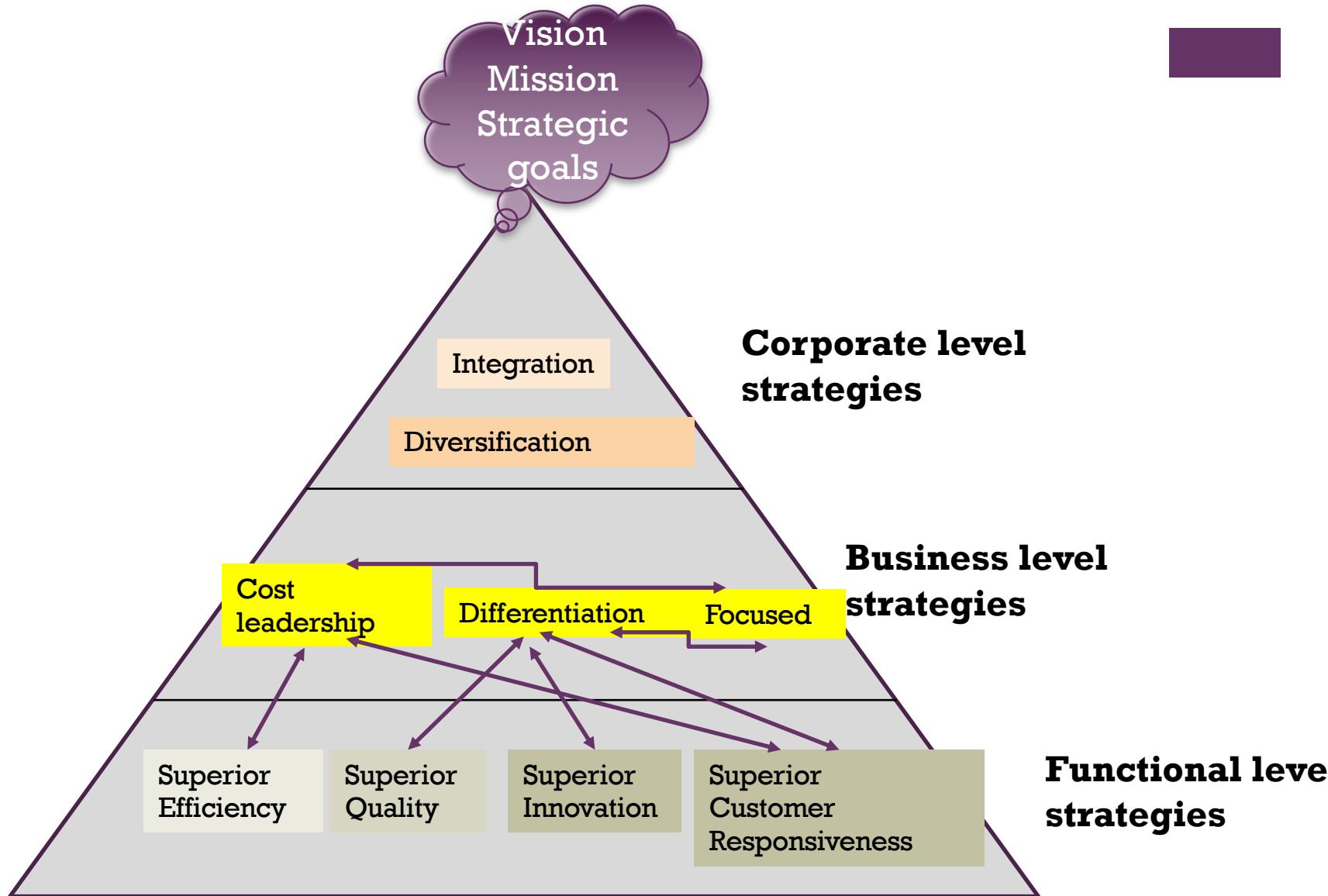
Focused Cost-Leadership Strategy

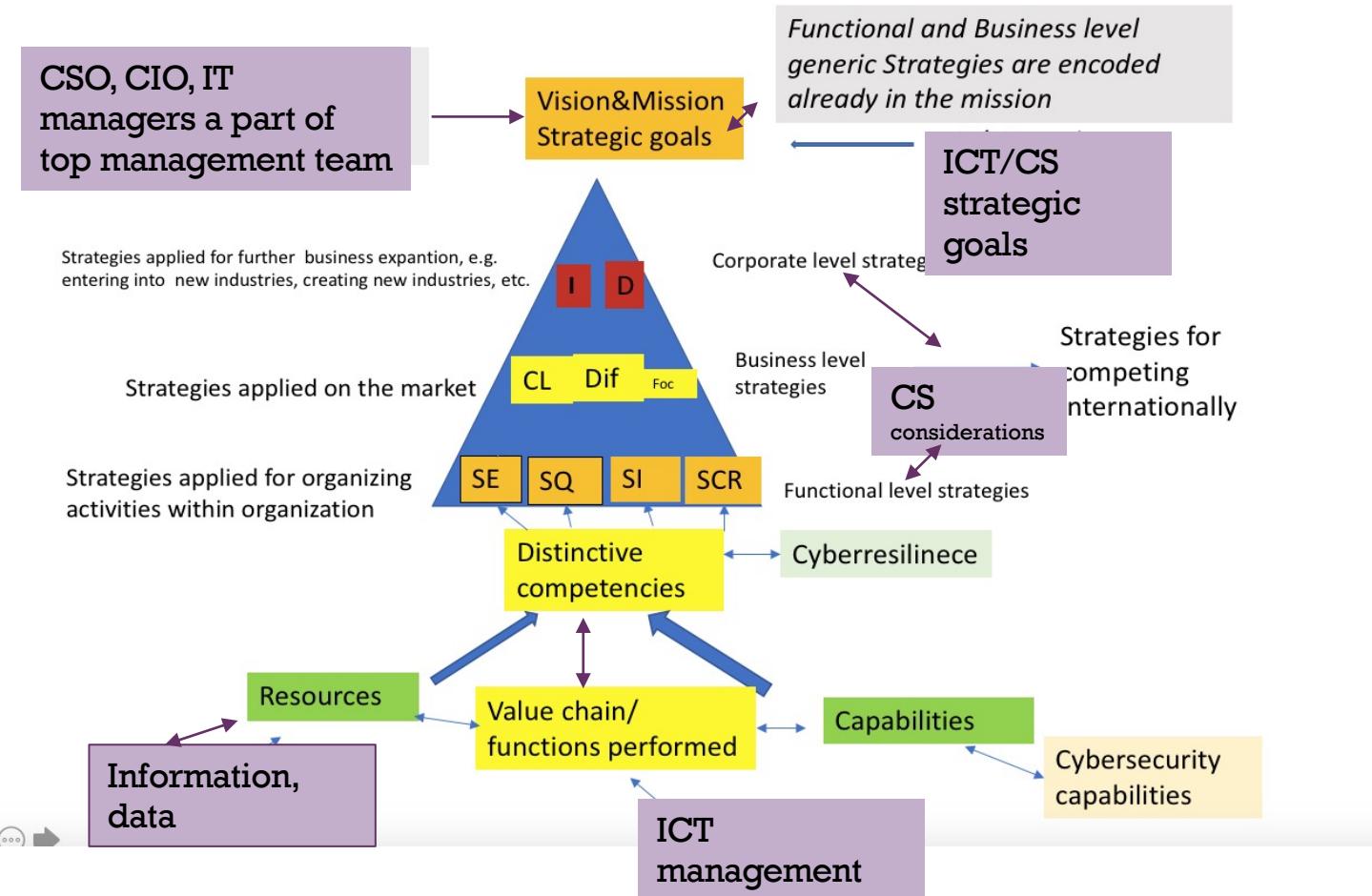
Focused Differentiation Strategy

Offers products to many kinds of customers

Cost-Leadership Strategy

Differentiation Strategy



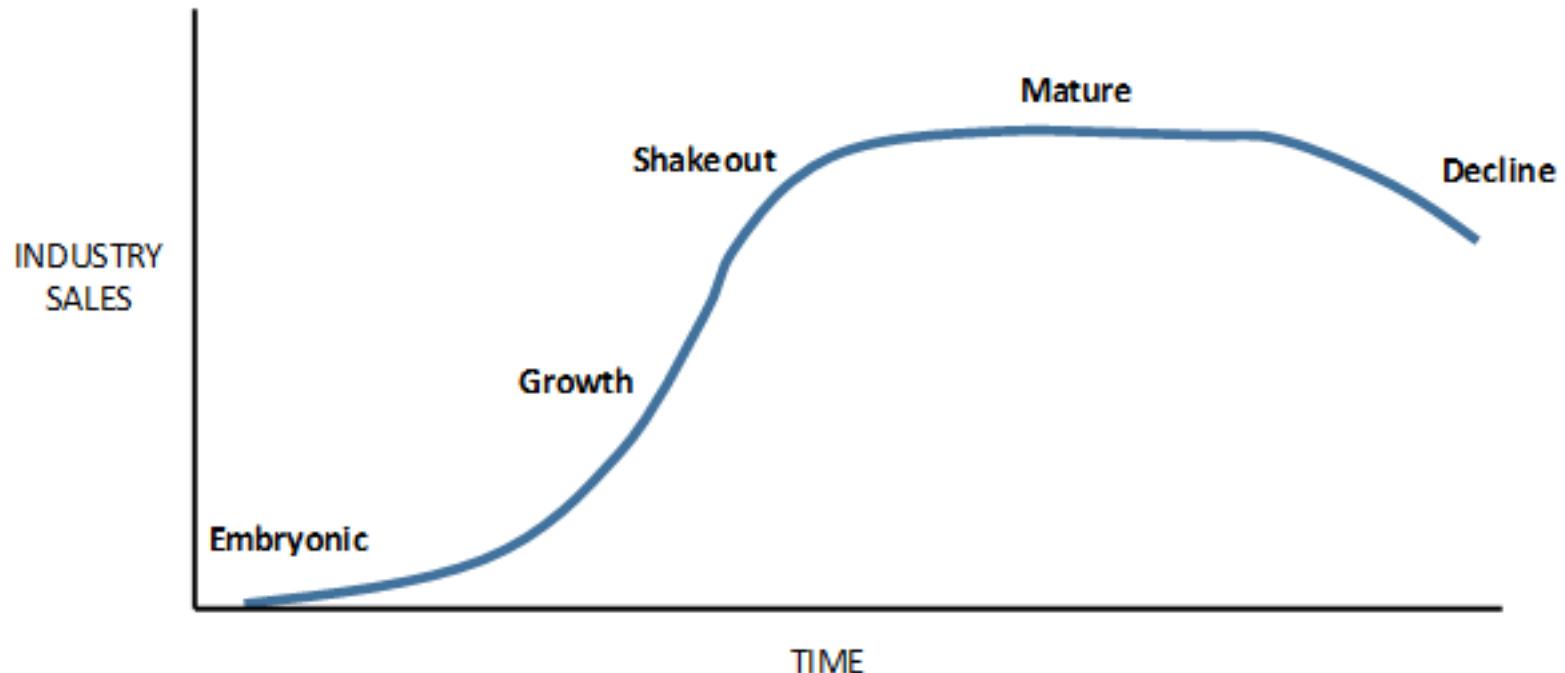




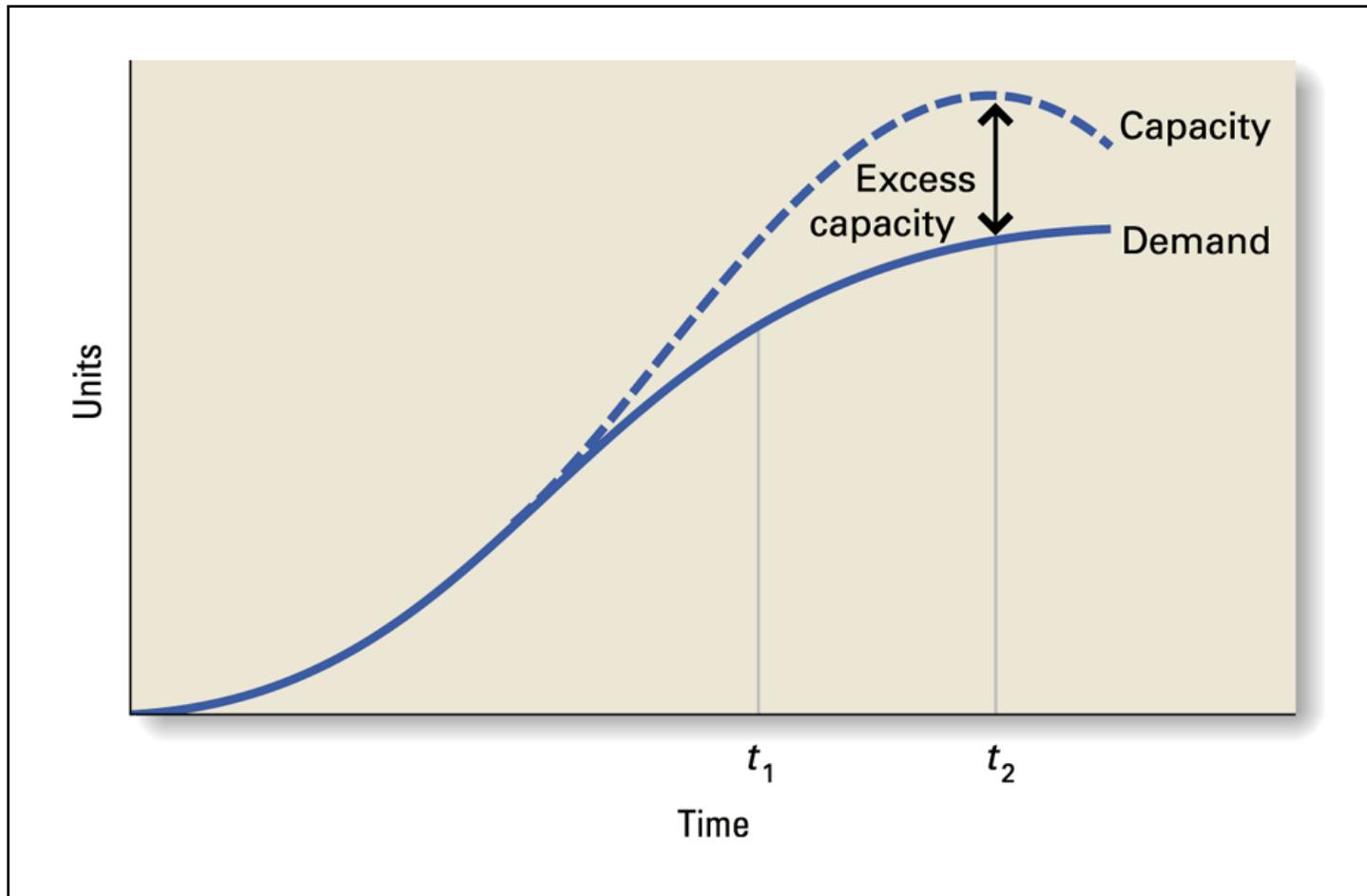
Industry life cycle



Industry life cycle



Shakeout: Growth in Demand and Capacity





The generic strategies can be changed over industry lifecycle

- Form niche to mass market;
- From differentiation to cost leadership
- From cost leadership to differentiation
- From focused single industry to diversified organization;
- Vertically integrated company;
- Horizontal integration;