PBL1

Planning and Product Strategy

LABORATORY DIGITAL INNOVATION AND MANAGEMENT (DIM) - DIM LAB

TEAM1

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Planning Process

Case Study: Toyota

Tools & Frameworks





The launch of PlayStation 3

PlayStation 2 is, still nowdays, the most sold console of all time

Sony aimed to maintain its leadership in gaming by pushing technological boundaries.

The development of the PS3 was marked by series of obstacles and great innovations, showing how strategic product planning can determine market success or failure.

How to define a winning product strategy in the era of innovation?



Product Planning is not an operational task, but a strategic process that determines the future of the company, aligning the product development process with the company's business strategy.

Product Planning adresses the following questions:

- What product development projects will be undertaken?
- What mix of fundamentally new products, platforms, and derivative products should be pursued?
- How do the various projects relate to each other as a portfolio?
- What will be the timing and sequence of the projects?







Product plans are developed with the company's goals, capabilities, constraints and competitive environment in mind.

Causes of failure:

- Lack of strategic alignment with business objectives.
- Deficiencies in understanding the market and customer needs.
- Inability to effectively manage risk and allocate resources.
- Overemphasis on incremental innovations at the expense of revolutionary ones.



Sony product planning

COMPATIBILITY WITH PS2 GAMES

INTRODUCING THE CELL PROCESSOR

> USING BLU-RAY TECHNOLOGY

A ONE-YEAR DELAY COMPARED TO XBOX 360

A HIGH LAUNCH PRICE



RISK MANAGEMENT



MARKET ANALYSIS

STRATEGIC VISION

Product planning **4 types of product** development projects:

New Product Development

Process of initiating, coordinating, and **accomplishing** the product and related production process development activities of a business unit

Consists of defining new product goals, identify target markets, and examining the fit between the new products and the firm's strategy

NEW PRODUCT PLATFORMS

DERIVATIVES OF EXISTING PRODUCT PLATFORMS

INCREMENTAL IMPROVEMENTS TO EXISTING PRODUCTS

FUNDAMENTALLY **NEW PRODUCTS**

NEW PRODUCT PLATFORMS

Major development effort to create a **new family of** products based on a new, common **platform**. The new product family would address familiar markets and product categories



DERIVATIVES OF EXISTING PRODUCT PLATFORMS

Extend an **existing** product platform to better address familiar markets with one or more new **products**.

INCREMENTAL IMPROVEMENTS TO EXISTING PRODUCTS

May only involve **adding** or **modifying** some features of existing products in order to keep the product line **current** and competitive



FUNDAMENTALLY **NEW PRODUCTS**

Involve radically **different** product or production technologies and may help to address **new** and unfamiliar markets. This involves **more risk**, but in case of success there is a huge gain for the company.

Which type of product development project do these 4 products relate to?



Apple Watch Launch (2015)

iPhone 15 Pro Launch (2023)





Apple Vision Pro Launch (2024)





iPad Launch (2010)



Apple Watch Launch (2015)

iPhone 15 Pro Launch (2023)



INCREMENTAL IMPROVEMENTS TO EXISTING PRODUCTS

DERIVATIVES OF

EXISTING PRODUCT

PLATFORMS



Apple Vision Pro Launch (2024)

iPad Launch (2010)



FUNDAMENTALLY NEW PRODUCTS

NEW PRODUCT PLATFORMS



The TOYOTA Cdse



Automotive industry 90s

Price increasing

Market competition





Regulations



Strategic challenges

Rapid growth during 90s e 80s into US market



Toyota leader in the efficiency compare to US producer

Shared componements with the models to reduce costs





Decreasing in profit and market due to the strong Yen

Okuda's accession



Transform Toyota into younger and more aggressive company

• Weak prodction planning • Decline in domestic market share • Delay in shifting production overseas



TOYOTA'S Response

Project G21 "The car for the 21st century"

The birth of the Prius



The hybrid system:

combination of an internal combustion engine and an electric motor



The hybrid technology Not an easy journey

New partnership with other company to overcome mainly battery problems and regenerative breaking system

- Increase in fuel economy
- Reduce pollution
- Increase in economy of scale and learning









Toyota's strategic decision

Toyota aimed to release the Prius in 1997, ahead of competitors

✓ First-mover advantage Brand repositioning as an innovator X High development costs X Uncertainty in consumer demand



Hybrid and <mark>electric cars are</mark>, today, an established reality. It all started with Toyota's vision and c<mark>ou</mark>rage.

Do you think a company should ever risk developing a new product platform if it means significant resource allocation and market uncertainty? Why or why not?

Planning process

IDENTIFY OPPORTUNITIES

Actively scan the environment for new technologies and unmet needs

EVALUATE AND PRIORITIZE **PROJECTS**

Use different criteria to assess strategic fit, competitive advantage, and market attractiveness

ALLOCATE → RESOURCES AND \rightarrow **PLAN TIMELINES**

> Adopt a lean&trim approach to maximize efficiency and speed



COMPLETE PRE-PROJECTS PLANNING

REFLECT ON RESULTS

Define the value proposition and a clear project vision

Create a learning loop to continuously improve the product planning process

1. IDENTIFY OPPORTUNITIES

Opportunity are presented to the company gathering inputs from across the enterprise (Marketing, Research, Customers, Current product development teams, Benchmarking of competitors, etc.)

But what happens when you have to generate a new product in a saturated market?

Some criteria for evaluating new opportunities:

- Market size and growth rate
- Competitive intensity
- Depth of the firm's existing knowledge of the market or technology
- Fit with the firm's other products or the firm's capabilities
- Barriers to competition
- Existence firm
- Existence of a product champion within the

How to innovate in a mature market

Conventional product development strategies are no longer sufficient for driving significant growth. Companies must embrace **bold innovation** to create breakthrough products, services, and solutions that serve as future growth engines.

There are five key strategies (**vectors**) that companies must adopt for bold innovation:

- Develop a bold innovation strategy
- Foster a culture that supports innovation
- Generate "Big Ideas" for integrated solutions
- Implement a strong idea-to-launch system
- Build a solid business case & focus on winners



Which of these vector did Toyota implement for their strategy while developing the Prius project? Join at slido.com #2019 881 use it again later

Don't close it, we will

Innovation mission map

Purpose: Defines a clear innovation mission aligned with corporate strategy.

How It Works:

- Identifies external opportunities & threats.
- Aligns innovation with company objectives.
- Synthesizes insights into a strategic mission statement.

Outcome: A well-defined innovation direction that guides teams effectively.

Innovation mission map

Innovation mission map

External drivers

Future opportunities would accelerate the growth of your or	es Di garnisation#	Disruptors What might disrupt your industry entirely?		Corporate strates	
1 rechnologies What technologies could support the growth of your companys	1 S Long term Who or what will diarupt yo in the long-term?	A Short term	5 Long term What is the long-term argunitation?	6 Sho What strate	
		Innovatio Define the mission for innov	on mission nation split up in 3 big please.		
Board of					

Internal drivers



2. EVALUATE AND PRIORITIZE PROJECTS

Select the most promising projects to pursue

Four Perspectives:

- Competitive strategy
- Market segmentation
- Technological trajectories
- Product platforms

Competitive strategy

Strategy is the process of aligning functional activities among each other and to define how to handle demand, opportunities, and risks created by a firm's external environment

Fundamental to have:

- a **clear** new product strategy with a **detailed action plan**
- guarantee innovativeness

1. Open to change 2. Able to adapt to emerging technologies and market trends



Competitive strategy

COST LEADERSHIP

Requires low-cost innovations and efficient product platforms



TECHNOLOGICAL FOCUS

Imposes technology roadmapping and R&D investments

IMITATION OF COMPETITORS

Assessing the customers' changing needs

Requires agility and fast-cycle development

Strategy definition is not the only prerequisite for a firm's success, but also its alignment with new products development

Select the competitive strategy that Toyota applied in the Prius project

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Don't close it, we will use it again later



Innovation Portfolio Mapping

Purpose: Maps innovation projects to strategic goals for better decisionmaking.

How It Works:

- Evaluates the balance between short-term and long-term innovation efforts.
- Ensures resource allocation is aligned with business priorities.
- Identifies gaps and opportunities in the innovation portfolio.

Outcome: A clear, strategic view of innovation investments and their impact.

Innovation portfolio mapping



Laying the Groundwork



Laying the groundwork



Innovation portfolio mapping



Innovation portfolio mapping



nsights



Insights on resource allocation

Market segmentation

Strategic market segmentation enables firms to analyze competitors' actions and evaluate the strength of their own products within specific customer groups.

Product & competitor mapping helps visualize market positioning, identifying gaps and opportunities.

Opportunity assessment:

- address weaknesses in the firm's product line.
- exploit competitors' shortcomings to gain market advantage.







Technological trajectories

Firms must decide when to adopt new basic technology in their product lines.



Technology S-Curve: visualizes product performance over time in a

It helps predict **technological shifts** and competitive advantages.

Product platform planning

A product platform is a shared set of assets (mainly components & subassemblies) used across multiple products.

Key benefits:

- Faster & cost-effective derivative product development.
- **Customization** for different market segments.

Challenges:

- New platforms require 2-10x more resources than derivative products.
- Use an **existing** platform or build a **new** one?

A **technology roadmap** is a way to represent the expected availability and future use of various technologiesd relevant to the product being considered.



Balancing the portfolio

Mapping the portfolio helps assess strategic implications. Key factors helping in developing a product portfolio include analysis on technical risk, financial return, and market attractiveness.

> Research and Technology Development

The Product-Process Change Matrix maps the developing projects accross two dimensions:

- Product line change
- Production process change

It allows to align the portfolio with the company's competitive strategy, a factor essential for the developing of low-cost strategies with high product variety and technological superiority.



Adapted from Wheelright and Clark, 1992

Innovation portfolio management flowchart

Purpose: structures and analyzes the innovation portfolio to optimize efficiency.

How it works:

- Aligns projects with company strategy.
- Assesses resource allocation and project relevance.
- Identifies areas for improvement or rebalancing.

Outcome: a structured framework for managing innovation investments effectively.

Innovation portfolio management flowchart

Innovation Portfolio Mapping

Categories		Improve & Optimize		
Sub-Categories	1 Internal Efficiency Autobalia the backs and reductions and all products and the man marks	2 Better Value Propositions Autobase that brain threader providing year which grade programmed the section terms of the former products.	3 Optional third sub-category Insertion game regenitational a series, game regenitation and to balance series with regenitations	1 New Markets or Oustomer segments Activities that include metaring new gaugespiles, in new lag new scalarses segments.
Map your strategic priorities here Distriction and the second sec	Priority 1.1 Priority 1.2 Priority 1.3	Priority 2.1 Priority 2.2 Priority 2.3	Priority 3.1 Priority 3.2 Priority 3.3	Priority 1.1 Priority 1.2 Priority 1
<section-header><section-header><section-header><section-header><section-header></section-header></section-header></section-header></section-header></section-header>	Replace res Replace res res	Replace ne Replace ne Replace ne	Rapiaca ma	
Incremental projects	Replace Replace Re	Replace Replace Replace me	Replace rea Replace rea real	
Radical/Disruptive Projects The new properties that benchmarking standing that small implements benchmarked benchmark an user statistic benchmarked benchmark an user statistic benchmarked benchmark an user statistic	Replace Replace Replace ne	Replace Replace Replace ne ne	Replace ma Replace ma ma	
Architectural Innovation Drojects	de	The Improve and Optimize category b finition excludes any activity that invo doing something 'architectural'	y dves	Regions in Parlies In Parlies in International Internation



3. ALLOCATE RESOURCES AND PLAN TIMING

Aggregate planning helps an organization make efficient use of its resources by pursuing only those projects that can reasonably be completed with the budgeted resources.

Capacity utilization ratio

Critical resources:

- Effort of the development staff (personhours/person-months)
- Model shop facilities
- Rapid prototyping equipment
- Pilot production lines
- Testing facilities

The organization must decide which projects are the most important to pursue, considering the adequate resources they need to succeed

Estimated of required resources Estimated available resources

3. ALLOCATE RESOURCES AND PLAN TIMING

Pipeline management - determining the timing and sequence of projects - considers the following factors:

- Timing of product introductions
- Technology readiness
- Market readiness
- Competition



The plan may include a mix of fundamentally new products, platform projects and derivative projects and derivative projects of varying size



The set of projects approved by the planning process, sequenced in time, becomes the product plan.



4. COMPLETE PRE-PROJECT PLANNING

Once the project has been approved, a **pre**project planning activity takes place, involving a core team.

The product vision statement defines the objective the company pursues, in a general way.

More detailed decisions are captured in a mission statement.

Leadership, staff and budgets are also generally defined in this step.

Mis

Product Desc

Benefit Prop

Key Business

Primary Mark

Secondary M

Assumptions

Stakeholders

ssion Statement: Multifunctional Office Document Machine		
cription	 Networkable, digital machine with copy, print, fax, and scan functions 	
osition	 Multiple document processing functions in one machine Connected to office computer network 	
Goals	 Support Xerox strategy of leadership in digital office equipment Serve as platform for all future B&W digital products and solutions Capture 50% of digital product sales in primary market Environmentally friendly First product introduction 4th Q 1997 	
ket	 Office departments, mid-volume (40–65 ppm, above 42,000 avg. copies/mo.) 	
larkets	Quick-print marketSmall "satellite" operations	
and Constraints	 New product platform Digital imaging technology Compatible with CentreWare software Input devices manufactured in Canada Output devices manufactured in Brazil Image processing engine manufactured in both the United States and Europe 	
;	 Purchasers and users Manufacturing operations Service operations Distributors and resellers 	

Mission statements

The mission statement may include some or all of the following information:

- Brief (one-sentence) description of the product
- Benefit proposition
- Key business goals
- Target market(s) for the product
- Assumptions and constraints that guide the development effort
- Stakeholders

What do you think is Toyota's mission statement?



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5. REFLECT ON THE RESULTS AND THE PROCESS

In this final step, the organization should assess the **quality** of both the process and the results.

- Is the opportunity funnel collecting exciting ideas?
- Does the product plan support the competitive strategy of the firm?
- Are the resources allocated sufficient enough to pursue the firm's competitive strategy?
- Are the elements of the mission statement consistent?
- How can the product planning process be improved?

This early stage is the time to **correct** possible **flaws** in the project plan, before they become more severe and expensive for the company

Q&A One person per team Join at

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Thank You



