


EBU5608 Product Development and Management

Topic 5 – Opportunity Identification

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Agenda


- Opportunity, definition and types
- Opportunity identification process
- Role of Research and Development



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A generic product development process

- Product development **starts** with planning and **concludes** with product launch
- A generic product development process can be used as an example
- The process has six distinct phases
 - 0. Planning** →
 - 1. **Concept development** →
 - 2. **System-level design** →
 - 3. **Detail design** →
 - 4. **Testing and refinement** →
 - 5. **Production ramp-up** →

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Today


- Phase 0 - The 5-steps of Product Planning Process
 - Step 1 – Identify Opportunities**
 - Step 2 – Evaluate and prioritise projects
 - Step 3 – Allocate resources and plan timing
 - Step 4 – Complete pre-project planning
 - Step 5 – Reflect on the results and the process



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What is an opportunity?

In the context of product development, an opportunity is


- an **idea** for a new product
- It is a **product description** in an **embryonic form**
 - a newly sensed **need**,
 - a newly discovered **technology**,
 - a rough **match between a need** and a **possible solution**
- It can be thought of as a **hypothesis** about how value might be created



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Business growth – Ansoff’s growth matrix

- Ansoff’s Growth Matrix (see next slide):
 - Ansoff’s directional policy matrix is a tool that can be used by organisations to identify the variety of **growth options** available to them.
 - This is also known as the ‘**Product-Market**’ growth matrix because it combines two of the key variables that enable a business to grow
 - An increase in **market** opportunities
 - An increase in **product** opportunities

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Ansoff's growth matrix (cont.)


	Current Products	New Products
Current markets	1. Market penetration strategy	3. Product development strategy
New markets	2. Market development strategy	4. Diversification strategy

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Ansoff's Directional Policy Matrix

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Ansoff's growth matrix
- market penetration




- Covers **current** markets/current products
- Opportunities can exist within a business's existing markets through **increasing the volume of sales** of existing products
- Utilising the marketing mix to look for ways to increase market **penetration** is a common approach
 - e.g. a different way or time for customers to use your products
 - Gain greater market **share**
 - i.e. gain competitors' customers



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Ansoff's growth matrix - market development




- Covers **current** products/**new** markets
- Opportunities are said to exist for a business's products through making them available to **new markets**
 - e.g. using **existing** products in **new** geographical markets
 - e.g. selling your existing products to a new **age group** of customers
- Keeps the security of handling existing products




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Ansoff's growth matrix - product development



- Covers **new** products/**current** markets
- Opportunities, offering new or improved products to **existing markets**
- Frequently, when a firm creates new products, it can gain **new customers** for these products
- New product development can be a crucial business development strategy for firms to stay competitive
- This is the focus of this **module**



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Ansoff's growth matrix - diversification






- Covers **new** products/**new** markets
- Moving into new markets, potentially with a base from your **existing product** knowledge or diversification through **acquisition** of other companies
- For example, the Virgin group has used its respected brand name to diversify
 - Started in the music business
 - Is now in travel, leisure, telecoms, health, finance, shopping


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Ansoff's growth matrix and risk



- The element of risk **increases** the further the strategy moves **away** from **known** quantities - the existing product and the existing market
- Product development** (requiring, in effect, a new product) and **market extension** (a new market) involve a greater risk than market penetration
- Diversification** (both new products and new markets) generally carries the greatest risk of all


	Current Products	New Products
Current Markets	1. Market penetration strategy	3. Product development strategy
New Markets	2. Market development strategy	4. Diversification strategy

risk


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Effective opportunity tournaments




1. Generate a large number of opportunities
2. Seek high quality of opportunities generated
3. Create high variance in the quality of opportunities

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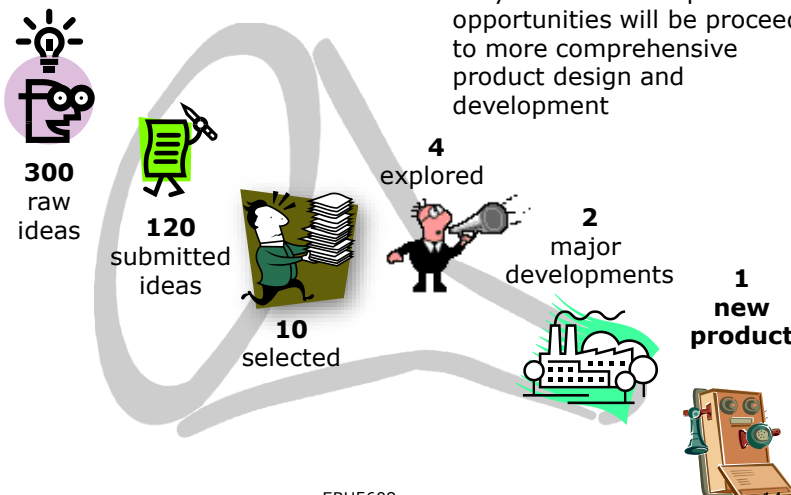
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Opportunities Funnel

Only the most exceptional opportunities will be proceeded to more comprehensive product design and development



300 raw ideas

120 submitted ideas

10 selected

4 explored


2 major developments

1 new product

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Opportunity identification process


The Ulrich and Eppinger identify a **six-steps** process for Opportunity Identification as follows:

- Establish **a charter**
- Generate and sense **many opportunities**
- **Screen** opportunities
- Develop **promising opportunities**
- Select **exceptional opportunities**
- **Reflect** on the result and process.

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1. Establish a charter

A **charter** articulates the **goals of the organisation** (in relation to NPD) and establishes the **boundary conditions for an innovation** effort. Charters can be termed as mission statement for a new product.


In the FroliCat example, the charter was:

"Create a physical product in the Cat toy category that we can launch to the market within about an year through our existing retail sales channels"

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2. Generate & sense many opportunities

Focus has to be both on **internal** and **external sources** of raw opportunities. Some of these are generated:


1. Internally e.g. **R&D department**
2. By the current or potential **customer**
3. Through a **competitive product**
4. By **sales forces**
5. Through collaboration with **universities**
6. By independent **inventors**
7. By **distribution partners**
8. By **other partner** companies



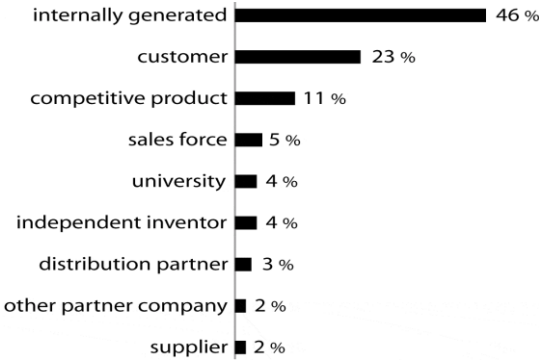
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Where do opportunities come from?




internally generated	46 %
customer	23 %
competitive product	11 %
sales force	5 %
university	4 %
independent inventor	4 %
distribution partner	3 %
other partner company	2 %
supplier	2 %

Source:
Terwiesch and Ulrich survey of 524 managers in diverse service and product industries.

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Where do opportunities come from?

- There are two ways in which **opportunities** can be **identified**
 - Information can be gathered **passively**
 - Information can be gathered **proactively**. i.e.
 - Document **frustrations** and **complaints** that **current customers** experience with existing products
 - Interview **lead users**, with attention devoted to
 - innovations** by these users and
 - modifications** these users may have made to existing products



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Where do opportunities come from?


- Consider implications of **trends** in lifestyles, demographics and technology
 - for **existing** product categories and
 - for opportunities for **new** product categories
- Systematically gather suggestions from **current customers**
 - perhaps through the sales force or customer service system
- Carefully study **competitors'** products on an ongoing basis



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Where do opportunities come from?

- Track the status of **emerging** technologies to facilitate **transfer** of the appropriate technologies from basic research and technology development into product development
- The **opportunity funnel** should be continually collecting ideas
- Therefore, new product ideas may arise at **any time**







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Role of R&D


- Definition:
 - “to **develop** new knowledge and **apply** scientific or engineering knowledge to connect the knowledge in one field to that in others” (Roussel et al. (1991)) [1]
- Research or Development
 - **Research** – discovery of new knowledge and scientific research
 - **Development** – new product development for commercial gain
- The activities of R&D can be placed along a line of **product tangibility**



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The main activities of R&D

- The main activities of **industrial** R&D can include [3]:
 1. Discovering and developing **new technologies**
 2. Improving understanding of the technology in **existing products**
 3. Improving and strengthening understanding of technologies used in **manufacturing**
 4. **Understanding research** results from universities and other research institutions









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R&D – strategic areas



- The European Industrial Research Management Association recognises R&D as having three distinct strategic areas which all need investment:[8]
 - R&D for **existing businesses**
 - R&D for **new businesses**
 - R&D for **exploratory research**

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R&D – strategic areas

R&D and its link with businesses

1. R&D for existing businesses

This will ensure that the business can compete and exploit all opportunities available to it

2. Drive new businesses

Business opportunities will continually arise. R&D will ensure that these can be exploited


3. Exploratory research

This helps to develop understanding of technology that the business is using or may use

[4]

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Allocating funds for R&D – Strategic decision-making

Corporate strategy

Business strategies

What are the aims of the businesses?

What can we afford?

How can R&D contribute?

Allocation of resources to R&D

Research and Technology Strategy

Management of research projects

Existing projects

Selection of new products

Operational Activities


Technical Service

Technology scanning

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Allocating funds for R&D – Strategic decision-making


- The first stage is to identify the **Corporate Strategy**
- Questions at the strategic level should be:
 - What **might** the company do?
 - What **can** the company do?
 - What **should** the company do?
- Using the answers to these questions to identify how this corporate strategy can be achieved leads to the development of **business strategies**
- The identification of the **business strategies** takes feeds from the R&D activities, operational activities etc. as well as the corporate strategies



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3. Screen opportunities

- The purpose of screening is
 - to **eliminate** any opportunities that are **unlikely to result in the creation of value**,
 - to **focus** attention on the **opportunities** worthy of further investigation
 - **not to pick the single best opportunity!**
- There are two effective **approaches to screen** opportunities:
 - Web-based **surveys**
 - Workshops with **multi-voting**

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4. Develop promising opportunities

- At this step the team should invest **modest levels of resources in developing** a few of the screened opportunities. More details should be sought for these opportunities. These can include:
 - **customer interviews,**
 - **testing** of existing products,
 - **concept generation,**
 - quick **prototypes,**
 - estimates of **market sizes** and **growth** rates.
- The goal here is to resolve the greatest uncertainty surrounding each one at the lowest cost in **time** and **money**.

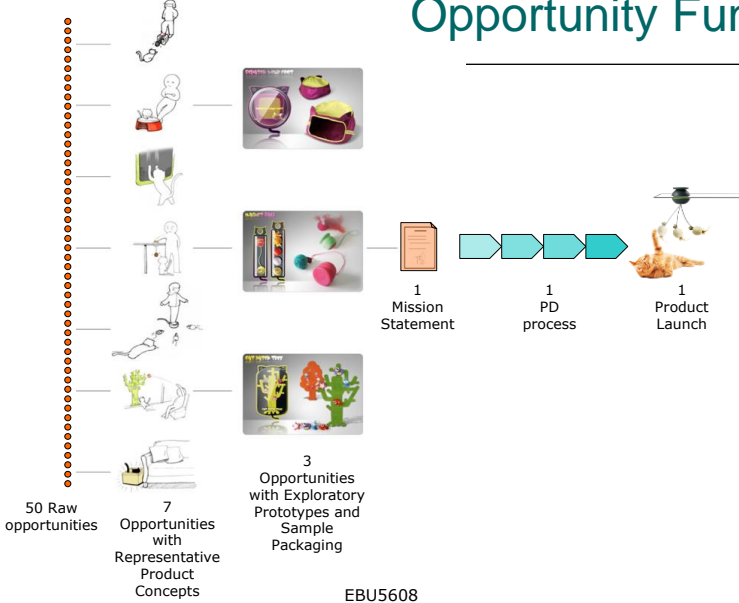
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FroliCat Sway Opportunity Funnel




The diagram illustrates the 'FroliCat Sway Opportunity Funnel'. It begins with a vertical column of 50 red dots on the left, labeled '50 Raw opportunities'. To the right of this column are seven line drawings of cats in various poses, representing different product concepts. Below these drawings, the text reads '7 Opportunities with Representative Product Concepts'. Further right, three product prototypes are shown: a cat toy with a ball, a cat toy with a bell, and a cat toy with a feather. Below these, the text reads '3 Opportunities with Exploratory Prototypes and Sample Packaging'. To the right of the prototypes, a flowchart shows the progression: '1 Mission Statement' (represented by a document icon), followed by '1 PD process' (represented by three blue arrows), and finally '1 Product Launch' (represented by a cat toy with a ball). The entire funnel is titled 'FroliCat Sway Opportunity Funnel'.

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5: Select exceptional opportunities

- The aim is to **select a few** that warrant a **significant investment** in product development.
- A specific approach used within established companies is called, '**Real-Win-Worth-it**', developed originally by 3M. It summarises 3 questions that the organisation should attempt to answer when looking for the exceptional opportunities:
 - Is the opportunity **real**?
 - Can you **win** with this opportunity?
 - Is the opportunity **worth it** financially?

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1. Is the opportunity **real**?

Questions to ask	Yes / No
Is there a need? (What is the need ? How is the need presently satisfied?)	
Can the customer buy? (size of the market, customer decision-making process)	
Will the customer buy? (perceived risks & benefits, exceptions on price and availability)	
Is there a viable concept for product already? (How likely are we able to develop a viable concept?)	
Is the product acceptable within the social, legal, and environmental norms?	
Is the product feasible? Can it be made? Is the technology available? Does it satisfy the needs?	
Will our product satisfy the market? Is there a relative advantage to other products?	

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1. Is the opportunity **real**?

Questions to ask	Yes / No
Can it be produced at low cost?	
Are the risks perceived by the customer acceptable? What are the barriers to adoption?	
ANSWER ->	

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2. Can you **win** with this opportunity?

Questions to ask	Yes / No
Do we have a competitive advantage? Is it sustainable? (performance, patents, barriers to entry, substitution, price)	
Is the timing right?	
Does it fit our brand?	
Will we beat our competition? (How much will they improve? Price trajectories, entrants)	
Do we have superior resources? (engineering, finance, marketing, production; fit with core competencies)	
Do we have the management that can win? (experience? Fit with culture? Commitment to this opportunity?)	
Do we know the market as well as or better than our competitors? (Customer behaviour, channels?)	

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3. Is it **worth** doing?

Questions to ask	Yes / No
Will it make money?	
Do we have the resources and the cash to do this?	
Are the risks acceptable to us? (What could go wrong? Technical risk versus market risk)	
Does it fit our strategy? (fit with our growth expectation, impact on brand, embedded options)	
ANSWER ->	

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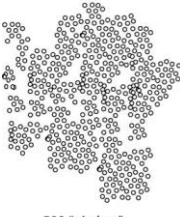
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Hollywood Film Studios



500 "pitches"



3-5 years
\$50-200 million




1 new feature film

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Product Naming Tournament

Initial Ideas	Best Ten	Best Three	Final Name
AstroPong Catapong Catapulooza Experipult FlingThing Fooz Funpult Hurricane Hurltizer LearningLever PennPong Physazz PingFling Pongit Slingcat Swish TheCatapult Varipult Xpult	Catapong Catapulooza Experipult FlingThing Funpult Hurricane PingFling Slingcat Varipult Xpult	Catapong Varipult Xpult	Xpult



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6. Reflect on the results and the process

- The reflection can be done by organisations asking themselves the following questions:
 - How **many of the opportunities** identified came from **internal** sources versus **external** sources?
 - Did we consider **dozens or hundreds** of opportunities?
 - Was the **innovation charter** too narrowly **focused**?
 - Were our **filtering criteria biased**, or largely based on the best possible estimates of eventual product success?
 - Are the resulting opportunities **exciting to the team**?

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Overview - Four ways to identify more business opportunities


- Listen to your potential clients and past leads
- Listen to your customers
- Look at your competitors
- Look at industry trends and insights

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Summary


- Opportunity, definition and types
- Opportunity identification process
- Various steps in opportunity identification
- Role of Research and Development



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Reading

- **Core Textbook** (Ulrich & Eppinger, 5th Edition)
 - Chapter 3. Opportunity Identification, **pages 33 - 52**



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