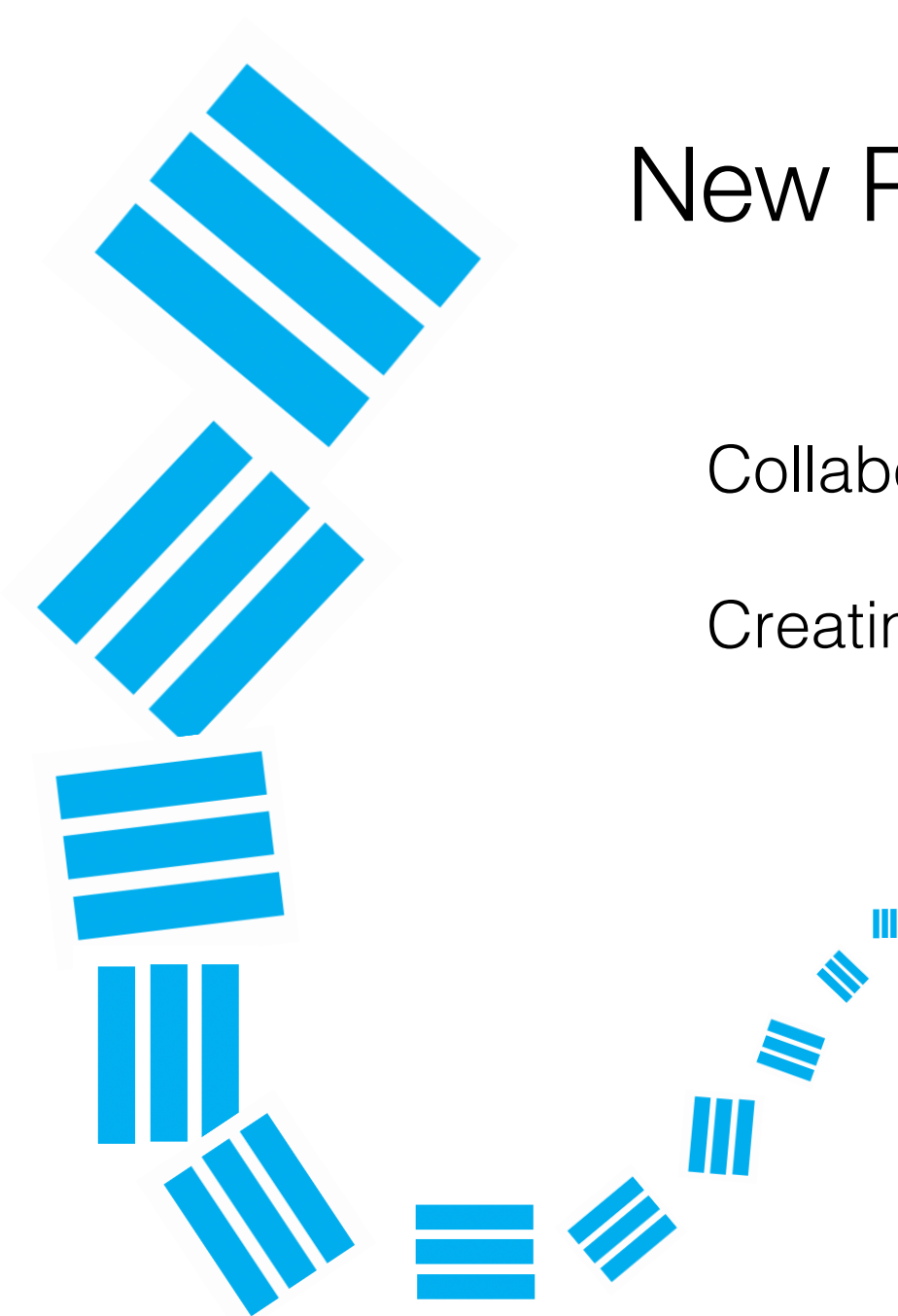


New Product Development

Collaborative Product Development

Creating NPD Teams

Alan Mumby
Session VI



[*The*] Productivity in product innovation in the top performing businesses is five times what it is in the average business.....

.....and they get five times as much new product output for the same investment!

And the top performers get 12 times the productivity as poor performers.

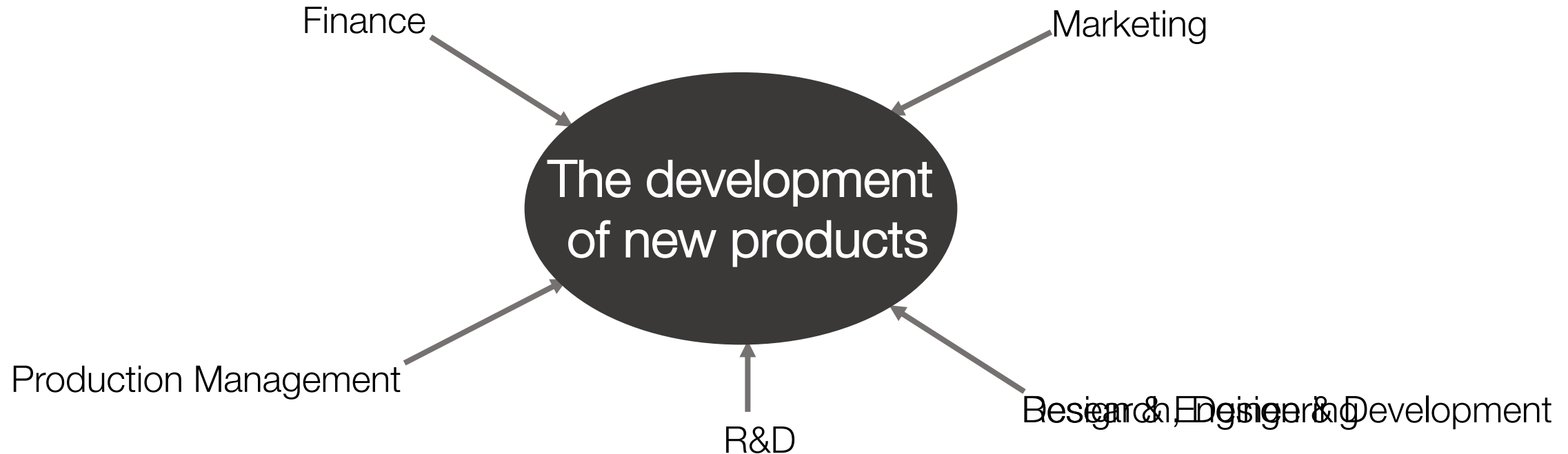
In business - innovation and NPD
are context dependent.

The management of the process is dependent on the type of product being developed.

If we divide new product development up into 'technical' and 'marketing activities', where is the effort put in and by who.....?



classification of NPD activities across different industries



The variety of views presented on the subject is not a weakness. Indeed, it should be viewed as a strength, for these different perspectives all bring something to the table.

MANAGING INNOVATION CONCERNS THE CONDITIONS THAT HAVE TO BE IN PLACE TO ENSURE THAT THE ORGANISATION AS A WHOLE IS GIVEN THE OPPORTUNITY TO DEVELOP NEW PRODUCTS.

THE ACTUAL DEVELOPMENT OF NEW PRODUCTS IS THE PROCESS OF TRANSFORMING BUSINESS OPPORTUNITIES INTO TANGIBLE PRODUCTS -

SO FROM THE PERSPECTIVE OF INPUT/ CONTRIBUTION, IT IS PRETTY MUCH AN ACROSS THE BUSINESS ACTIVITY

NPD takes into consideration the input and management of all the professional disciplines that are involved in the development of new products.

Each of these professional disciplines have developed their own perspectives on the subject of NPD. These are based largely on their experiences of their involvement in the process.

manufacturing perspective

Production management tends to examine the development of new products from a manufacturing perspective,

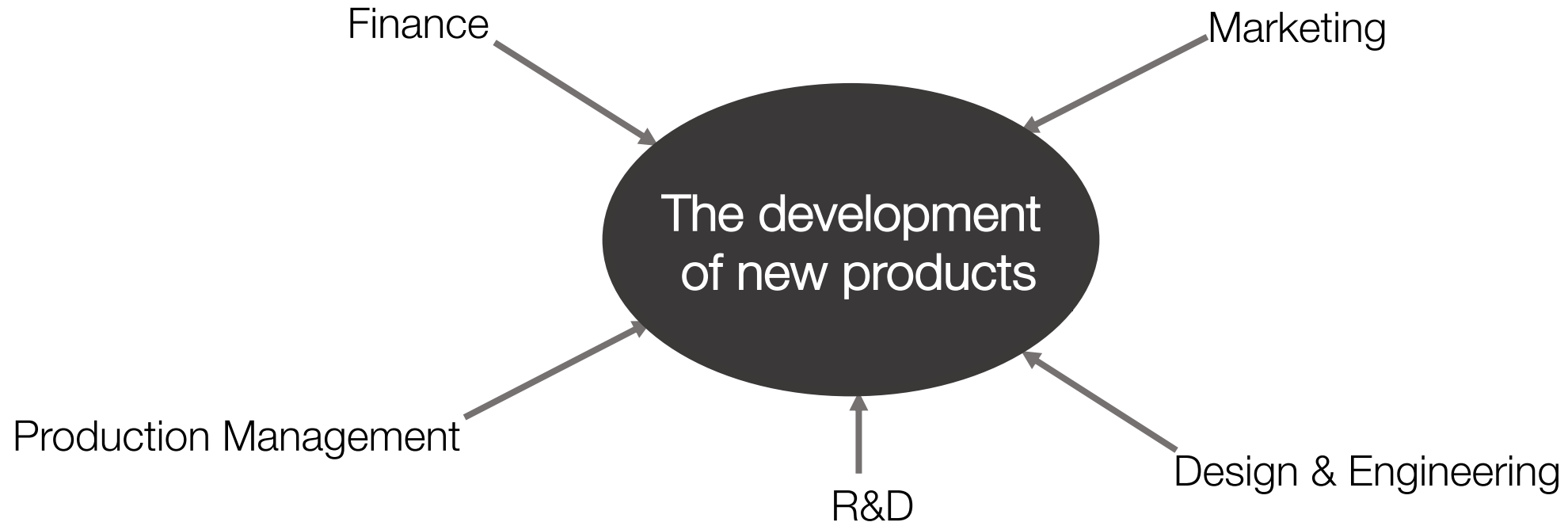
that is, how can we most effectively manufacture the product in question?

marketing perspective

Marketing, on the other hand, could take a slightly different perspective and would be concerned with trying to understand the needs of the customer and how the business could best meet these needs.

But producing what the customer wants may or may not be either possible or profitable.

The lack of a common approach to the development of new products is due to this multiple perspective.



So we come back to this ! and the need for... **Collaboration**

A Collaborative Approach
to Product Development

New Product Development Projects Collaboration & Teams

New product development often requires activities that are the responsibility of different departments or areas within the company.

So we create cross-functional NPD teams to lead and manage the development process for the project.

However there can be considerable variation, in how teams are formed and managed

And the team can also be constrained and enhanced by who's available ?!

The presence or absence of a key individuals makes a critical difference.

The personal attributes, interests, training and other characteristics of top and middle management plays an important role in determining how quick a firm introduces innovation.

What's going to affect the new product development team's performance?

- the size ?
- the composition ?
- the structure ?
- the administration ?
- the leadership.....?

Does the size of the team actually matter ?

New product development teams may range from a few members to an assembly of members.

The development team that created the IBM personal computer had 19 members,

But more recently the average team size for development projects at IBM is close to 200

The Yahoo! Internet portal was developed by 13 software developers, split into several small teams of one to three members.

organising team structures, what's best for

1. the product and or service
2. the people

What is the design input
and when will we need it ?
are pilots or prototypes
a goal at some point ?

Which technical departments
(or individuals) do we need ?

is this a business or technically
driven innovation ?

and what on earth is the Fuzzy Front End ?

are we working from a brief,
– design and/or
technical specification ?

Who do we need to be involved
at the fuzzy front end ?

The terminology and definition of product development

The Fuzzy Front End The slightly confused ‘getting started’ period of NPD process, possibly formulating concepts of the product - Invest yes or no ?

The terminology and definition of product development

Business Opportunity	A technical or commercial idea that may be transformed into a revenue generated product
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The terminology and definition of product development

The Design Brief

A written document that thoroughly explains the problems that need to be solved. The brief focuses on the results of design, outcomes of design in relation to the objectives of the NPD.

The terminology and definition of product development

Screening

A series of evaluations, technical, commercial and business assessments of the concept

The terminology and definition of product development

**Product Design
Specification**

Precise details about the product or process,
including features and benefits

The terminology and definition of product development

Prototyping / Pilot

A tentative physical product (or process) including features and benefits

The terminology and definition of product development

Production

The product produced by scaling up the manufacturing processes

The terminology and definition of product development

Launch

The product actually marketed in either market test or launch

The terminology and definition of product development

Co-joint analysis

A method for deriving the utility values that the consumer attaches to varying levels of a product's attributes.

?

Previously....Product Development Decisions

Product attributes are additional characteristics of a product.

Simple example:



Standard



Options:



Options:



Extras:



Properties:



Properties:

The terminology and definition of product development

Commercialisation

The phase when the product is launched and hopefully generates sales revenue

The terminology and definition of product development

Commercial Success The end product that meets the goals set for it,
usually a clear profit margin

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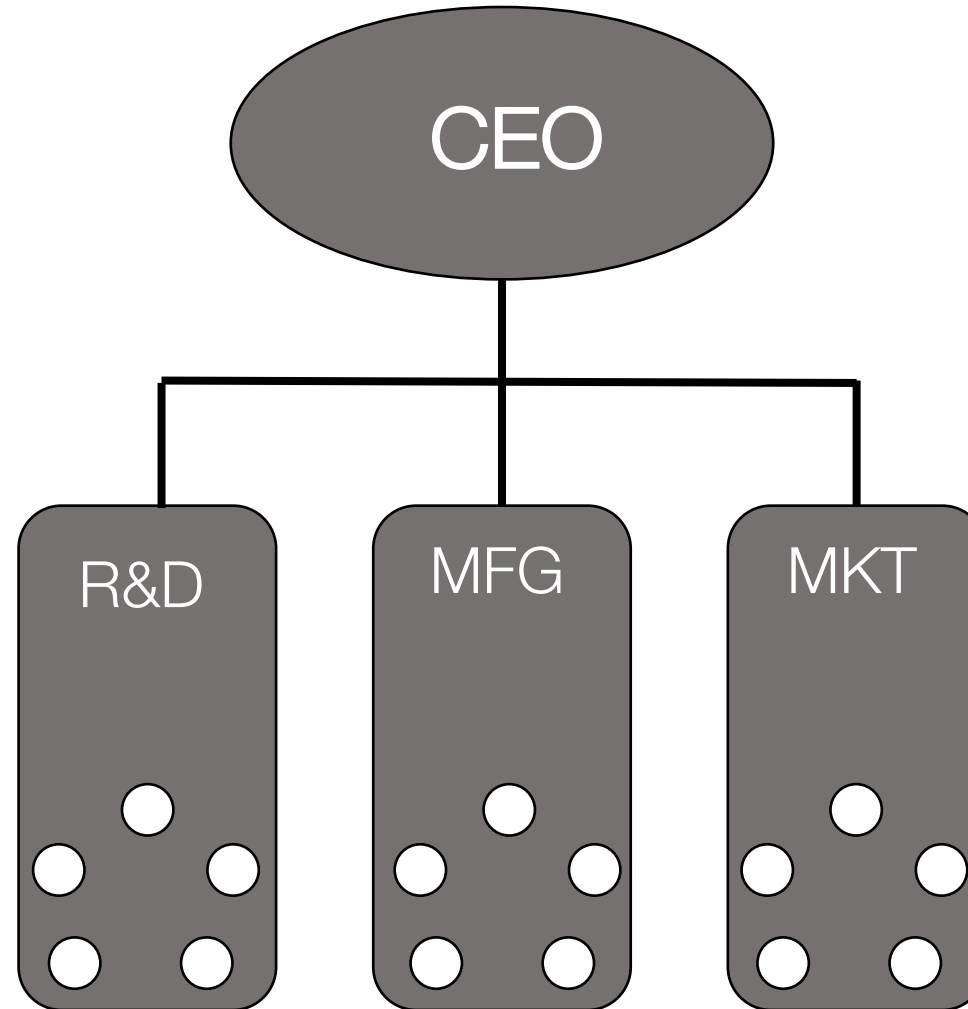
NPD Project

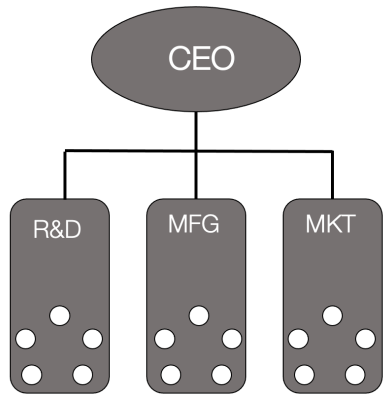
Managing
Product Development

Potential Team Structures

Functional Team Structure

No cross functional integration;
employees remain within
functional groups.





Advantages

- Simple to organize. Doesn't monopolise management time.
- Ideal for 'tactical' improvements to the day-to-day processes within a function

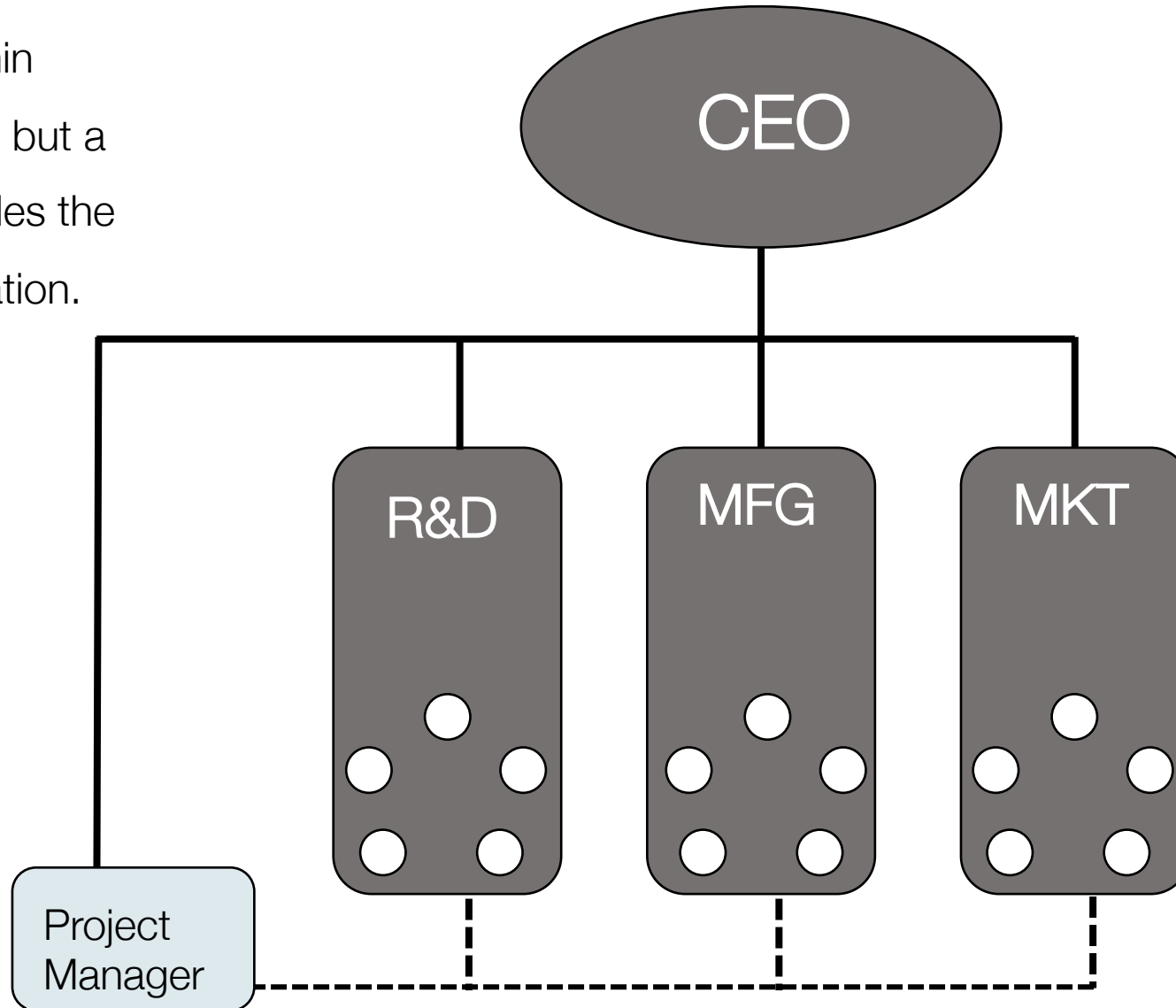
Limitations:

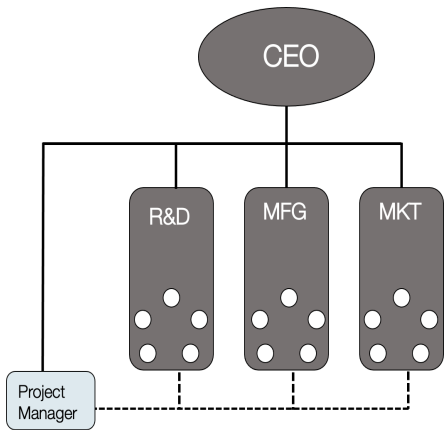
- Team may miss opportunities, as they have a narrow perspective
- Team learning is not applicable to cross-functional projects
- Not suitable for breakthrough and radical innovations

Recommended application/s

- Kaizen projects in all functions
- Developing a process orientation within the function

Employees remain within functional departments but a project manager provides the cross functional integration.





Advantages

- Bring together knowledge and responsibilities of all functions
- Works well for projects where something similar has already been successfully completed
- Require relatively low management commitment

Limitations:

- Project manager has little formal power and so may not be able to control cross functional differences.
- In competition for resources are likely to lose out to heavyweight teams

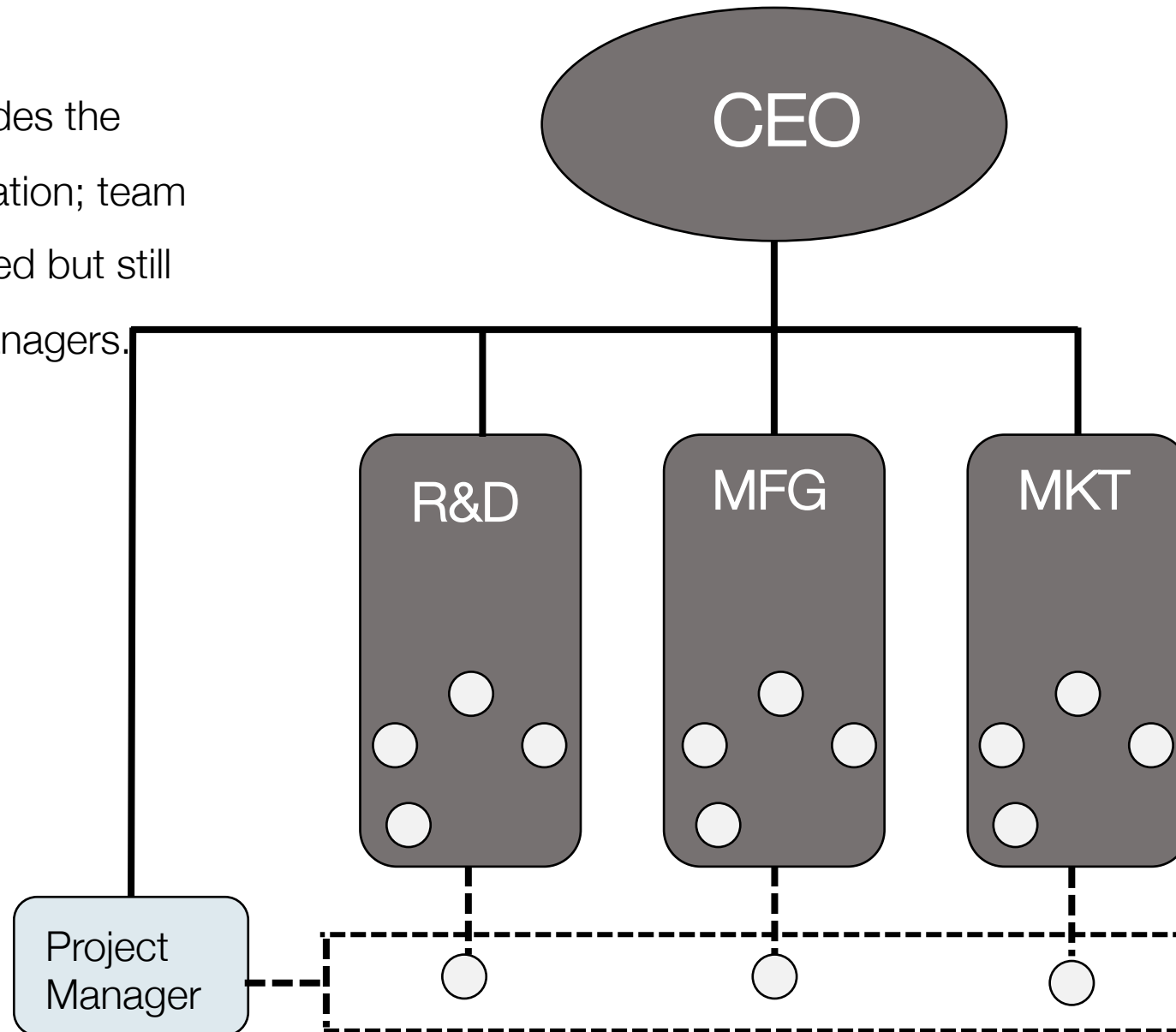
Recommended application/s

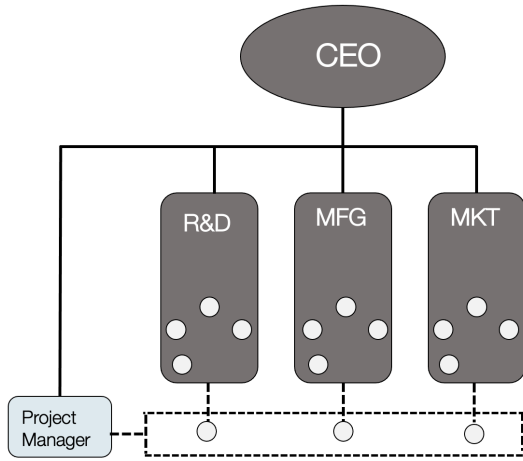
- More incremental than radical innovation projects
- More complex kaizen projects, where a cross-functional view may add a better understanding

Heavyweight Team

Managing
Product Development

Project manager provides the
cross functional integration; team
members are co-located but still
report to functional managers.





Advantages

- Due to an experienced manager taking responsibility for the heavyweight team, it has more influence
- Can use existing processes and resources
- Suitable for breakthrough projects

Limitations:

- Require an experienced manager to lead the project
- May require significant amounts of management time
- May not work well for new ventures, as they are too closely tied to the parent organisation

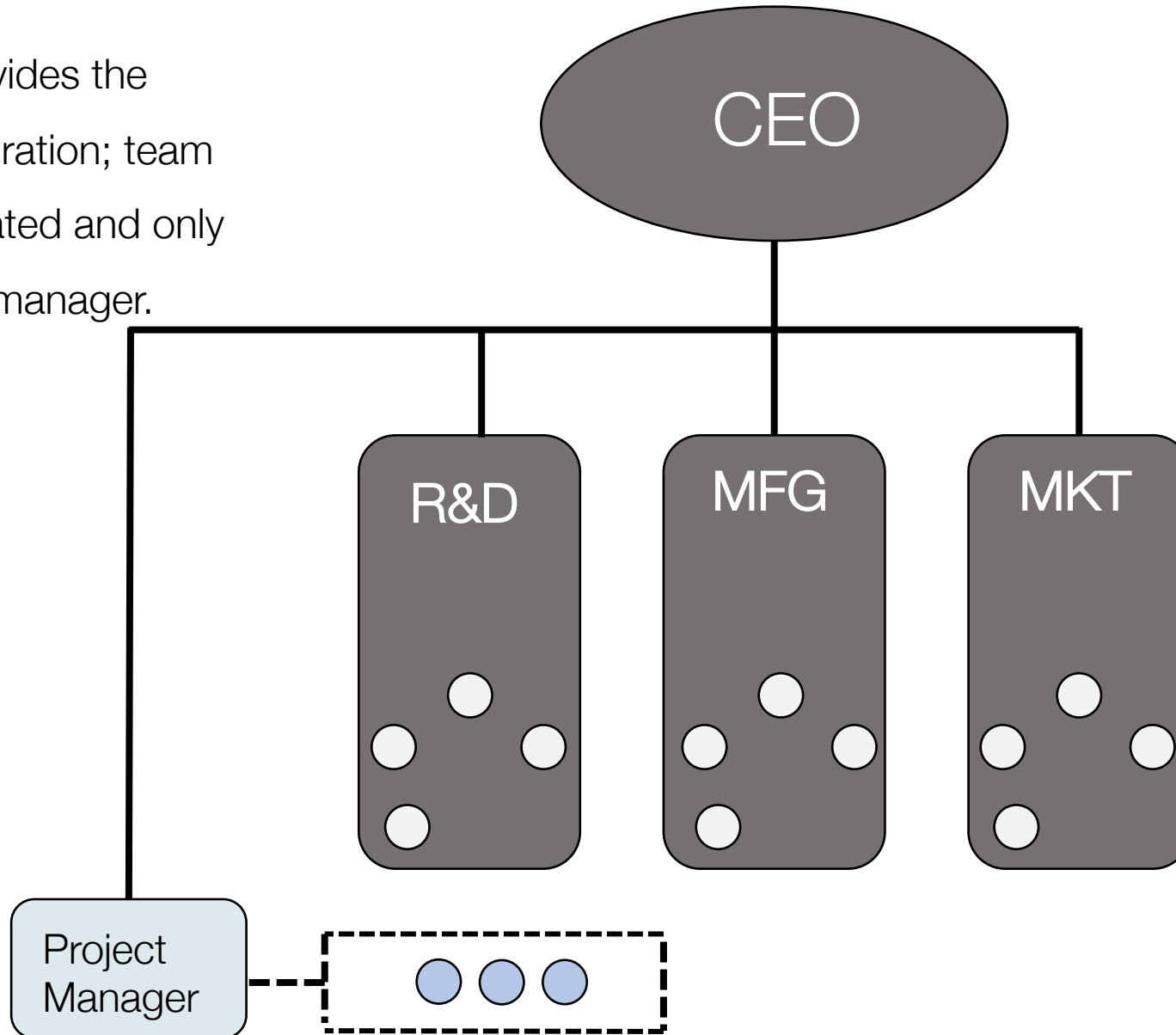
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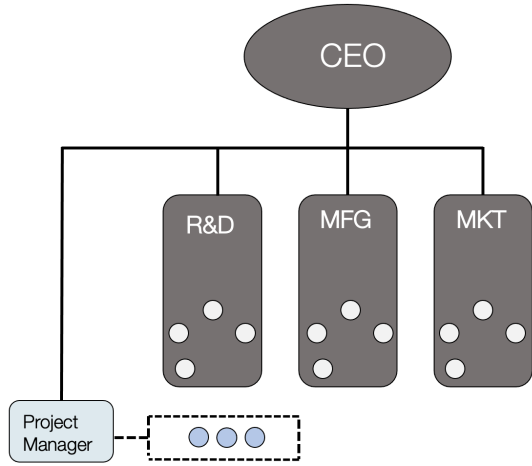
- Radical innovation projects (not recommended for low complexity projects)
- Heavyweight teams offer a good training ground for managers

Autonomous Team

Managing
Product Development

Project manager provides the cross functional integration; team members are co-located and only report to the project manager.





Advantages:

- Autonomous teams are freed of the bureaucracy and overheads of the parent organisation
- Separate location reinforces the independence of the team
- The team spirit will quickly encourage entrepreneurship
- Suitable for breakthrough and radical projects

Limitations:

- The ideas developed by such teams will test the capacity of the parent organisation to accept change
- Entrepreneurial management talent is hard to find

Recommended application/s

- New ventures: new products in new markets
- Dealing with disruptive technology
- Business model innovation

Advantages:

- Brings together levels of expertise not available in a single organisation
- Can be much faster moving than projects resourced internally
- Such teams are entrepreneurial in nature

Limitations:

- Are not co-located
- Need good communication and a simple, effective innovation process
- Sourcing outside expertise can be expensive

Recommended application/s

- Development of new technology, where the internal competence does not exist Essential for effective open innovation

Collaborative Partner ?

Managing
Product Development

CEO

External
Collaborative
Partner

Logistics

R&D

MFG

MKT

Project
Manager



Summary of Characteristics of Team Types

Different types of teams have different leadership needs.

For instance, while **lightweight teams** might have a junior or middle-management leader who provides basic but crucial coordination between the functional groups.

heavyweight and **autonomous** teams require senior managers with significant experience and organisational influence.

heavyweight and autonomous

- The team leader is responsible for directing the team's activities, maintaining the team's alignment with project goals, and serving as a communicator between the team and senior management.
- The team leader may also be the person who is primarily responsible for the management of individual team members.
- Effective team leaders are often much more directly related to the team's success than senior management or project champions.

In particular, project managers in **heavyweight** and **autonomous** teams must have

- high regard within the organisation,
- act as a concept champion for the team within the organisation,
- be good at conflict resolution,
- have multilingual skills ? they must be able to talk the language of marketing, engineering, and manufacturing
- able to exert influence upon the engineering, manufacturing, and marketing functions.

Other things being equal, teams whose project managers are deficient in one or more of these dimensions will have a lower probability of success.

- communication
- minutes of meetings
- documentation



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PRODUCT DESIGN BRIEF

Project Title: [Insert name here]

1. CLIENT INFORMATION

[What's your business? Who is your target audience?]

2. CONTACT

Name:	...
Email address:	...
Phone number:	...

3. PROJECT OBJECTIVE

[Why you are starting this project and what would you like to achieve?]

4. PROJECT DETAILS

Target audience:	...
Specific Project Goals:	· [specific & measurable goal 1] · [specific & measurable goal 2] · [specific & measurable goal 3]
Current Design Problem:	...
Project Timing:	...

5. ADDITIONAL INFORMATION

Do you have existing brand guidelines?	...
What's tone/feeling should we convey?	...
Any specific colors you like/dislike?	...

ATAR – Awareness, Trial, Availability, Repeat.



MDI Associates – managing design & innovation

Awareness

- Who, and how big part of the market is aware of your product?

Answer:

Trial

- Who, and how big part of the market is willing to try your product?

Answer:

Availability

- Who, and how big part of the market will have the possibility to access your product?

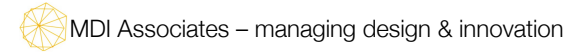
Answer:

Repeat

- Who, and how big part of the market, will keep buying this product time over time?

Answer:

Idea Question Checklist



Question:
Answer:

Question:
Answer:

Question:
Answer:

Question:
Answer:

Question:
Answer:

Question:
Answer:

Question:
Answer:

Question:
Answer:

What sort of NPD team do we need to put together for our company...