Orchestrating the process of building innovation portfolios

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Relationship between Portfolio & Firm Performance

Portfolio Performance

Firm Performance

NOKIA

motorola

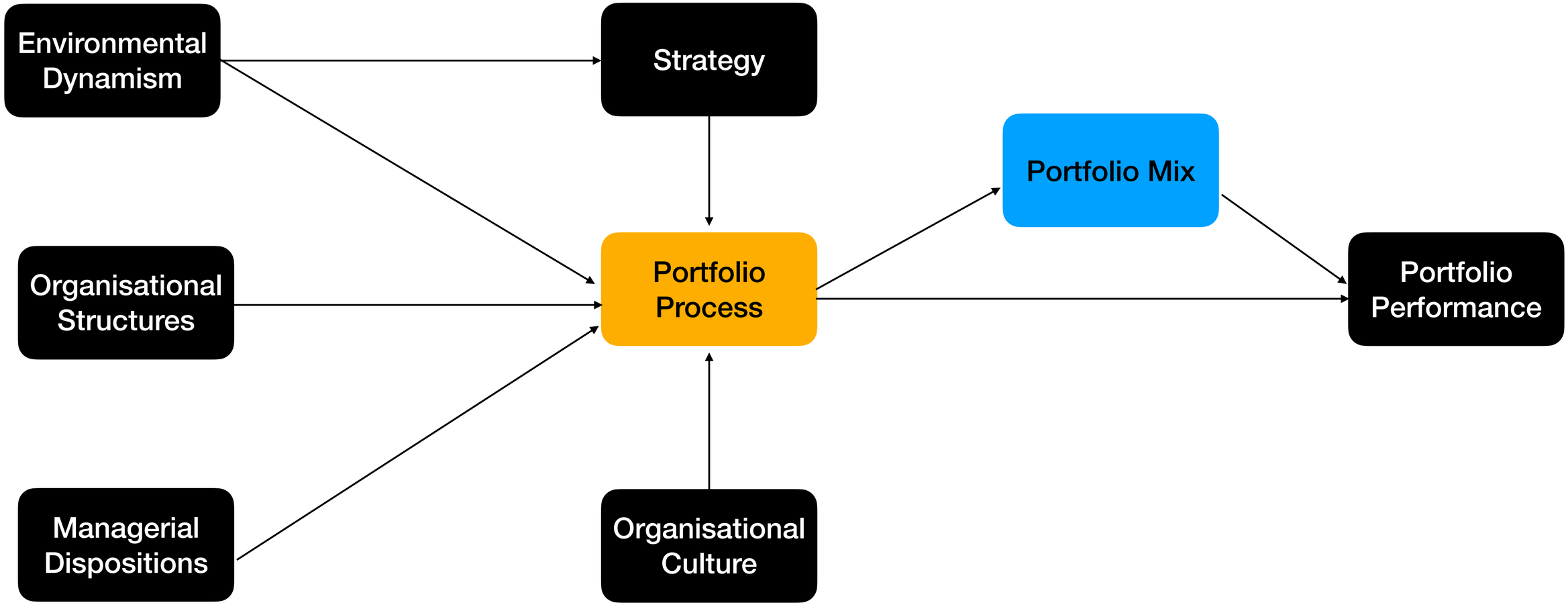
novo nordisk®

What are the key challenges in portfolio management?

- Too many projects in portfolio
- Poor project selection quality
- Missing strategic alignment
- Untimely termination of projects
- Poor transparency of project information
- Missing innovative projects in portfolio
- Missing portfolio balance
- Too many incremental projects
- Delayed project timelines

Why do they exist?

because of underlying context that shapes portfolio process and portfolio mix



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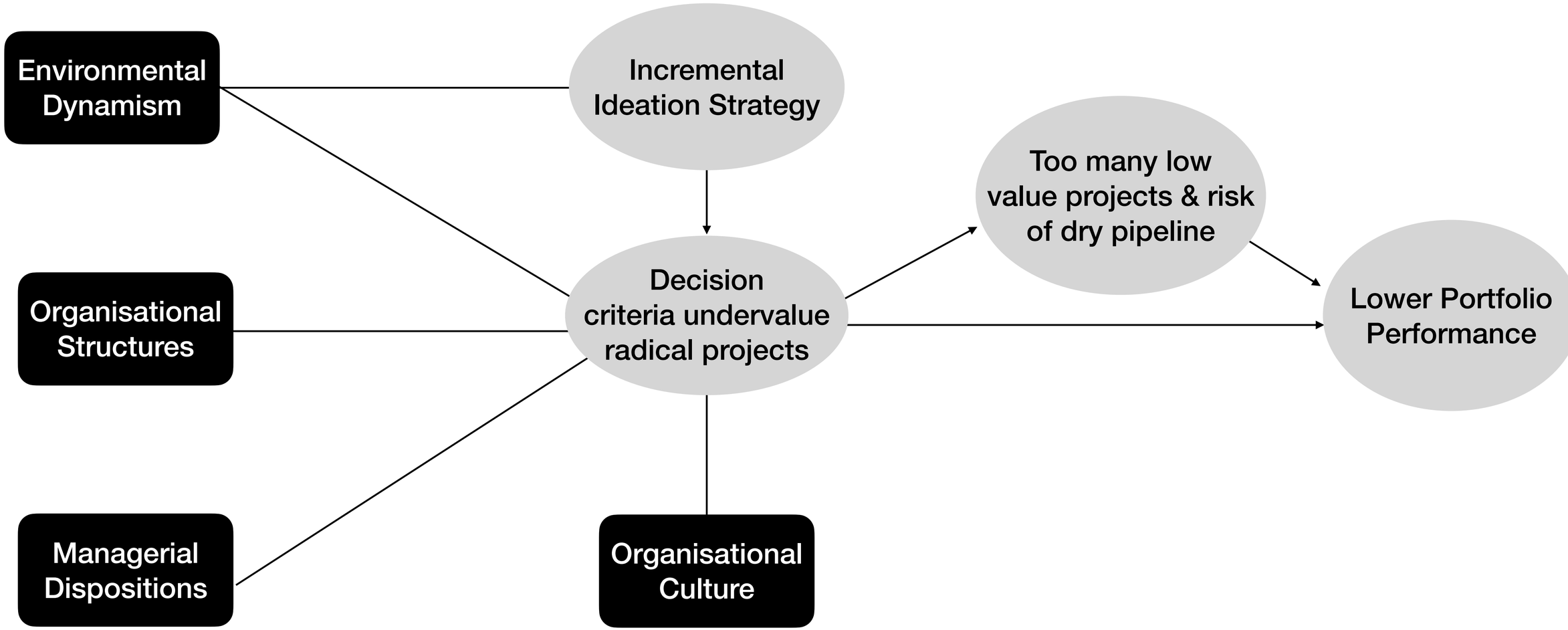
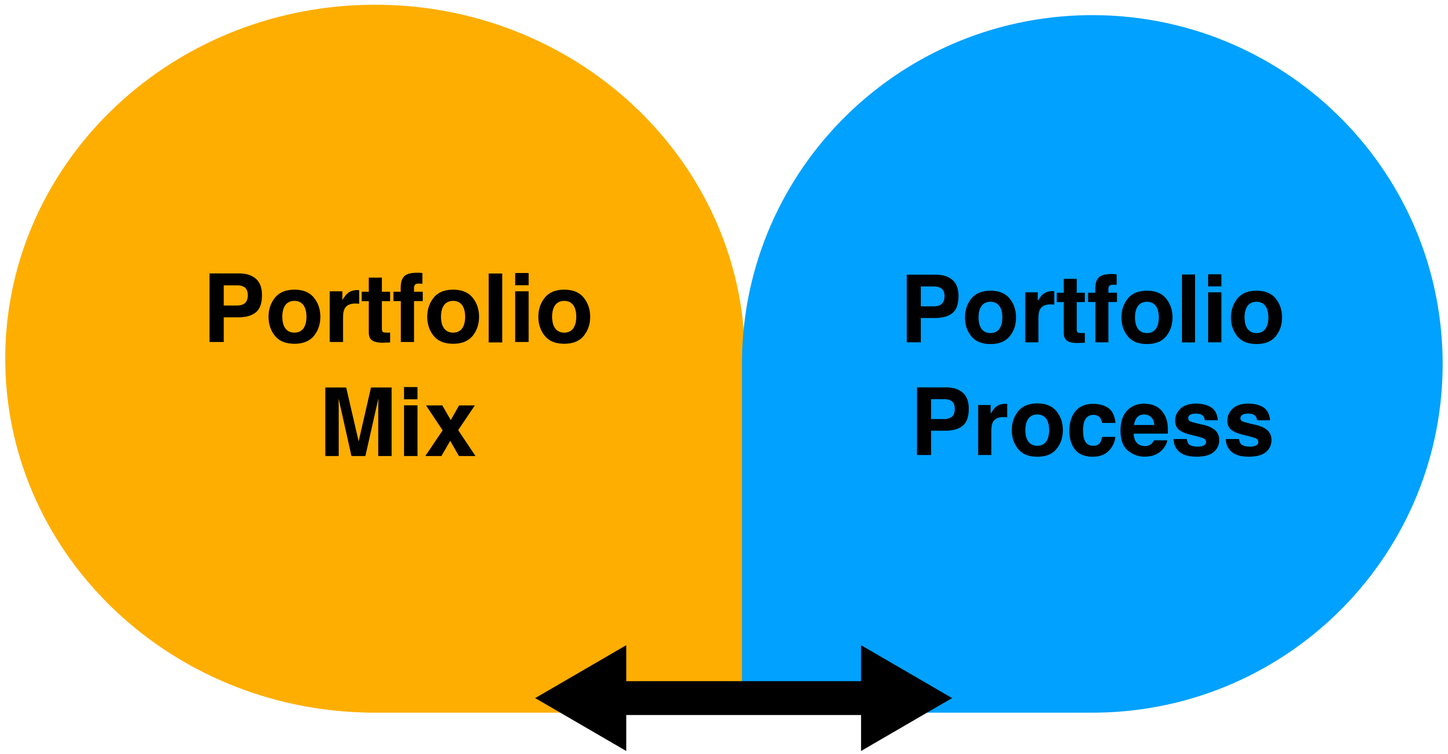


How can we address these portfolio management challenges?



Most of the attention is given to portfolio mix

Acknowledging that portfolio process is a critical aspect of portfolio mix and performance

What is the process of building portfolios?

Process derived based on fieldwork, theory and observations:

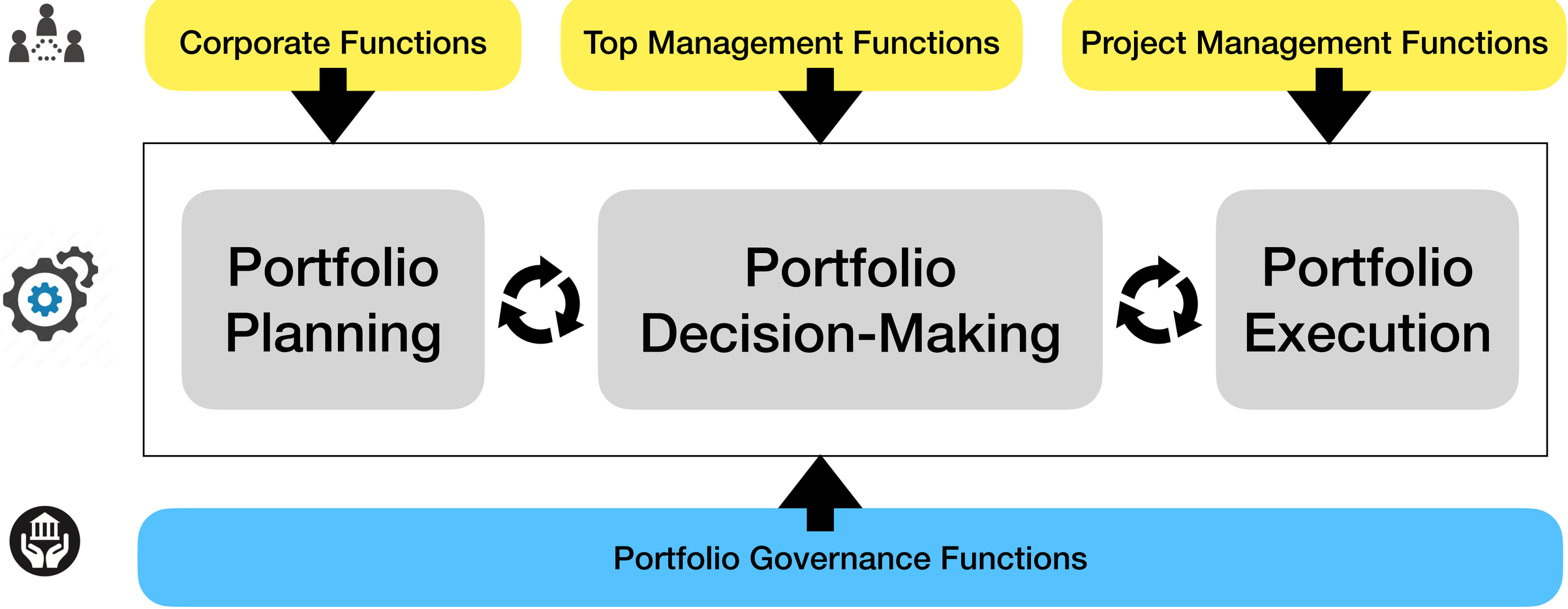
7 years

45 Technology Intensive Firms Across Industries

100 Portfolio Management Stakeholders & CXOs

$ - $$ Billion Portfolio Value

What is the process of building portfolios?



What is the process of building portfolios?

Corporate Functions

Top Management Functions

Project Management Functions

Portfolio Planning

- Ecosystem Surveillance
- Portfolio Strategy Development

Portfolio Decision-Making

- Business Case Management
- Portfolio Decision-Making

Portfolio Execution

- New Product or Service Management

Portfolio Governance Functions

Portfolio Planning

Collecting Ecosystem Information

Ecosystem Surveillance

Generating Strategic Insights

- Collecting information about entities in a ecosystem
- Choosing the level of information to be collected
- Assigning information gathering to relevant personnel/units
- Determining the budget for information gathering
- Identifying patterns & themes which business should consider

Market informed Roadmaps

Better quality business cases

Quality project assessment

Corporate Functions

Portfolio Planning

Collecting Ecosystem Information

Ecosystem Surveillance

Generating Strategic Insights

Case of Glass Manufacturing Firm

Market informed Roadmaps

Better quality business cases

Quality project assessment

Corporate Functions

Portfolio Planning

Translating Strategy

Portfolio Strategy Development

Analysing Portfolio

Identifying new projects

- **Breaking down high-level strategy into portfolio goals**
- **Identifying gaps into portfolio with respect to strategy**
- **Monitoring performance of existing portfolio & KPIs**
- **Identifying new project opportunities to fix gaps in portfolio**

Clear direction for portfolio decisions

Lower risk of dried pipeline

Better strategic alignment

Corporate Functions

Top Management Functions

Portfolio Planning

Translating Strategy

Portfolio Strategy Development

Analysing Portfolio

Identifying new projects

Case of Cleaning Equipment Firm

Clear direction for portfolio decisions

Lower risk of dried pipeline

Better strategic alignment

Corporate Functions

Top Management Functions

Portfolio Decision-Making

Preparing project business cases

Business Case Management

Assessing project business cases

- Assigning a business case task to relevant personnel/unit
- Creating a template with information for decision-making
- Aligning business case with organisational strategy
- Multi-dimensional feasibility test of business case
- Challenging assumptions underpinning business case

Better quality portfolio decisions

Evidence based prioritisation

Clear Business Case Ownership

Corporate Functions

Project Management Functions

Portfolio Decision-Making

Preparing project business cases

Business Case Management

Assessing project business cases

Case of Pump Manufacturing Firm

Better quality portfolio decisions

Evidence based prioritisation

Clear Business Case Ownership

Corporate Functions

Project Management Functions

Portfolio Decision-Making

Monitoring Portfolio Performance

Portfolio Decision-making

Making decision on projects

- Ensuring portfolio does not suffer deadlock scenarios
- Reviewing individual project performance and portfolio KPIs
- Making selection, termination, hibernation project decisions
- Agreeing on time commitment and budget for projects
- Communicating result of project decisions to relevant owners

Clear Resource Allocation

Strategic Alignment

Higher Portfolio Value

Corporate Functions

Top Management Functions

Portfolio Decision-Making

Monitoring Portfolio Performance

Portfolio Decision-making

Making decision on projects

Case of Medical Equipment Firm

Clear Resource Allocation

Strategic Alignment

Higher Portfolio Value

Corporate Functions

Top Management Functions

Portfolio Execution

Allocating resources

New Product/ Service Management

Stage-Gate system

Post-Launch Tracking

- Making resource allocation plan and deciding its method
- Configuring Stage-Gate process for project type
- Setting up a method to capture lessons learned
- Monitoring product sales & taking corrective actions
- Monitoring success ratio of project business cases

Lesser Project Delays

Increased Learning

Higher Portfolio Performance

Corporate Functions

Project Management Functions

Portfolio Execution

Allocating resources

New Product/ Service Management

Stage-Gate system

Post-Launch Tracking

Case of Consumer Electronics Firm

Lesser Project Delays

Increased Learning

Higher Portfolio Performance

Corporate Functions

Project Management Functions

Portfolio Process of Industrial Automation Equipment Firm

$$$ million Turnover Annually

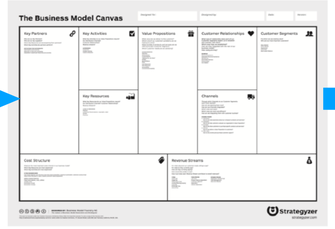
20+ Projects (Business Unit Portfolio)

8+ Market Segments

Project Type: New Technology, Lifecycle, Incremental

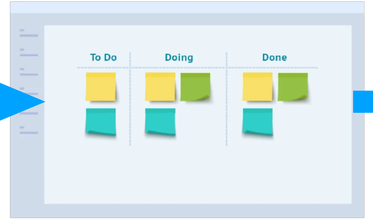
Portfolio Process of Industrial Automation Equipment Firm

Marketing, Sales, Product	Product, Senior Management	Product, Senior Management	Product, Senior Management	Product, R&D/ Engineering	Product, Marketing, Sales
Market Intelligence	**Product Roadmaps**	**Business Model Canvas**	**Portfolio Decisions**	**Project Execution**	**Product Launch**



STRATEGIC (represents 49% of the weighting)	FINANCIAL (represents 31% of the weighting)	RISKINESS (represents 10% of the weighting)
Strategic Objective #1 Weighting = 22%	Financial Criterion #1 Weighting = 16%	Risk Factor #1 Weighting = 5%
Strategic Objective #2 Weighting = 18%	Financial Criterion #2 Weighting = 8%	Risk Factor #2 Weighting = 3%
Strategic Objective #3 Weighting = 9%	Financial Criterion #3 Weighting = 7%	Risk Factor #3 Weighting = 2%

EXAMPLE



Portfolio Planning	Portfolio Decision-Making	Portfolio Execution

Portfolio Process of Industrial Automation Equipment Firm

Before:
Project decisions were taken by high-level comparison between projects

- No formal prioritisation criteria for assessing and comparing projects
- Unstructured & subjective decision-making process
- Unclear priorities leading to project delays and lower portfolio value

Product, Senior Management

Portfolio Decisions

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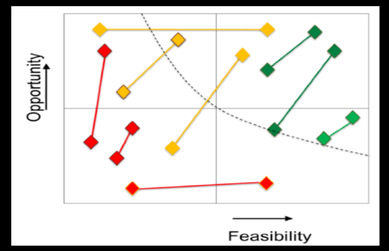
EXAMPLE

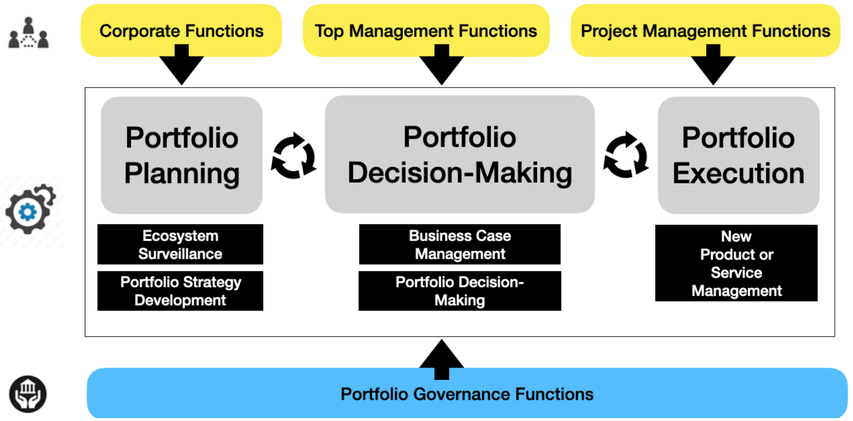
After:
Project decisions were taken by formal and structured project comparison

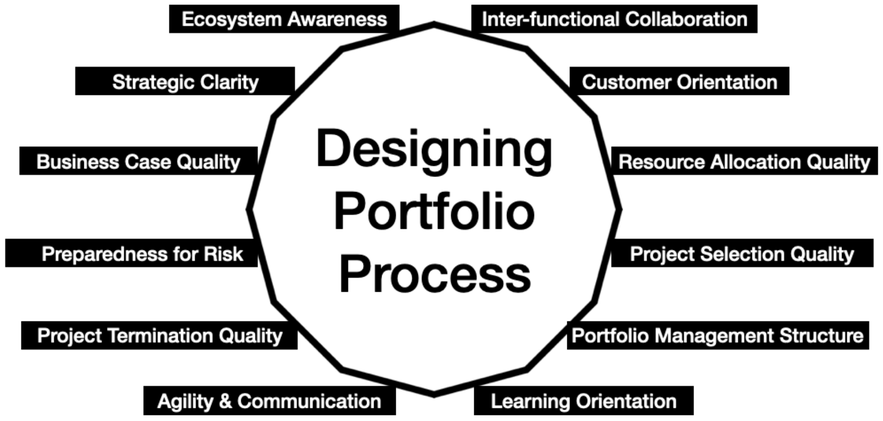


- Objective criteria and evidence based prioritisation
- Structured and stakeholder aligned decision-making
- Better resource allocation quality and lower project delays

~~Poor project selection quality~~ ~~Missing strategic alignment~~ ~~Delayed project timelines~~

Configuration Tool for Portfolio Processes





UNIVERSITY OF CAMBRIDGE — Assessment of Portfoli

Low Medium High

Scores 0-3 4-7 8-10

	RELEVANCE	IMPORT
A. Ecosystem Awareness		
• Invest resources for market and customer investigations (e.g. funds, personnel)	YES	7
• Identify market and social trends across different geographical regions	YES	5
• Investigate new technologies and review Intellectual Property (internally and externally)	YES	8
• Scan for opportunities for Merger & Acquisition (e.g. set-up incubators)	NO (2YES)	3
• Gather competition insights from commercial ends (e.g. from sales, suppliers, distributors)	YES	6
• Monitor existing products in market and identify life cycle management needs	YES	7
• Analyze & prioritize micro/macro trends to identify business requirements	YES (1 NO)	5
B. Inter-functional Collaboration		
• Govern portfolio(s) from different functional perspectives– R&D, Finance, Marketing etc.	YES(1 NO)	5
• Functional and regional experts together conduct business reviews	YES	8
• Corporate functions share project and portfolio level information with each other	YES	7
• Corporate functions together create, maintain, and own technology and business roadmaps	YES	8
C. Strategic Clarity		
• Use strategic buckets to guide overall resource allocation	YES	9
• Identify strategic targets based on long term roadmaps (e.g. new product introduction rate, revenue growth)	YES	8
• Set direction and priorities for developing technology platforms and capabilities	YES	9
• Translate business strategy into new product ideas and plans	YES (1 NO)	7
• Use strategy and roadmaps to define new product assessment criteria	YES	7
• Fill strategic gaps in portfolio(s) by identifying new project opportunities across different organizational levels	YES	6
D. Customer Orientation		
• Understand customer roadmaps and identify value addition opportunities or unmet needs	YES (1 NO)	7
• Maintain dialogues with customers from early stages of product/technology development	YES (1 NO)	7
• Gather customer feedback on short & long term product plans by doing prototyping or trials using new technologies (e.g. Virtual Reality)	YES (1 NO)	7
E. Business Case Management Quality		
• Do due-diligence to gather evidence behind assumptions and numbers in business cases	YES (1 NO)	6
• Ensure accountability & feasibility of business cases from functional perspectives (e.g. by creating functional approvals points in the cases)	YES	7
• Get the information from the business cases that is required for portfolio decision-making (e.g. NPV, strategic impact)	YES	8
• Generate visuals & insights/recommendations based on business case assessment as needed by top management for decision-making	YES	8
• Identify issues while monitoring progress of business cases (e.g. unmet objectives, low sales)	YES	7
F. Resource Allocation Quality		
• Get operational clarity (e.g. resource availability) at project as well as portfolio levels	YES	8
• Manage resource allocation requests and conflicts (e.g. by using a resource management process)	YES (1 NO)	7
• Use explicit basis to prioritize or negotiate resource allocations (e.g. roadmaps/criteria)	YES	9
• Create resource allocation plans and assess implications of resource commitments	YES (1 NO)	7
G. Preparedness for Risk		
• Identify and manage project level risks (e.g. market, technology, delivery)	YES (2 NO)	7
• Identify and manage portfolio level risks (e.g. over-budget, balance between products' time to market)	YES	7
• Leave slack resources or capacity to handle contingencies	YES	8

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UNIVERSITY OF CAMBRIDGE — Assessment of Portfolio Management Practices

Low Medium High

Scores 0-3 4-7 8-10

	RELEVANCE	IMPORTANCE	CONSISTENCY	EXECUTION QUALITY
H. Project Selection Quality				
• Assess individual projects from multi-functional perspectives (e.g. technical, strategic criteria etc.)	YES	7	60	60
• Use assessment methods and visuals which reveal merits/de-merits of individual projects and portfolio compositions	YES	7	50	60
• Perform portfolio checks by categorizing projects from different perspectives (e.g. related to budget, balance, resources)	YES	7	50	50
• Understand opportunity cost of projects that are not selected and discuss alternatives (if needed)	YES (1 NO)	6	30	40
• Get inputs from top management for final prioritization of projects and resource authorization	YES	8	50	60
• Use stage-gate reviews to ensure validity of business cases over time	YES	9	60	60
• Identify warning signals for 'pet' projects	YES	7	40	40
• Communicate portfolio decisions with further guidance to project applicants	YES	7	50	60
I. Project Termination Quality				
• Identify internal and external warning signals leading to project termination	YES	7	50	50
• Use measures to avoid escalation of commitment in projects (e.g. forward looking attitude, back-up projects in case of termination)	YES	6	40	30
• Involve top management team in termination decisions and communicate the grounds of project termination	YES (2 NO)	8	50	60
• Use a set of criteria for project termination (e.g. fundamental limits of technology, strategically irrelevant)	YES	8	30	40
• Put projects on hold when warranted and assess implications of termination	YES	8	50	50
• Terminate 'bad' projects in early phases of execution (e.g. by using a robust stage-gate process)	YES	8	50	50
J. Learning Orientation				
• Enact and improve portfolio management process with support from top management team	YES	7	60	50
• Audit portfolio management process and introduce changes while considering organizational readiness levels	YES	7	50	50
• Capture learnings at stage-gates & create formal learning reports for future references	YES	8	40	40
K. Portfolio Management Structure & Design				
• Portfolio management team or unit (if exists) provide support to business lines and project managers	YES	7	50	50
• Portfolio management process performs the function of balancing demand vs supply of resources	YES (1 NO)	6	40	50
• Portfolio management process performs the function of change management (e.g. resource changes)	YES (2NO)	4	40	30
• Portfolio management process manage transition of ideas to businesses holistically	YES (1 NO)	5	30	30
• Take portfolio decisions in line with required leadership in market and innovation	YES	6	50	50
• Use different stage-gate processes according to projects types	YES	7	60	60
• Formally manage portfolio data using IT tools and applications	YES (1 NO)	6	50	50
• Use learning from previous projects during portfolio decision-making events	YES	7	60	50
• Use a guide that describes portfolio management activities, roles and responsibilities, project templates etc.	YES	8	40	50
• Synchronize portfolio decision-making or reviews with product and industry characteristics (e.g. high-tech product need frequent reviews)	YES (1 NO)	6	30	30
L. Agility				
• Update portfolio strategy, roadmaps, business cases	YES	8	60	70
• Reprioritize projects and resource allocations with changes in internal and external environment (e.g. change in strategic focus)	YES	9	60	60
• Communicate project and portfolio updates to top management team	YES	9	50	60
• Handle urgencies or new opportunities at project and portfolio levels (e.g. by having extraordinary portfolio decision-making meetings)	YES	9	40	40
• Assess sensitivities or implications of changes in portfolio, resource allocations etc.	YES (1 NO)	7	40	40

Building portfolio is a continuous journey…