ARTHURPLITTLE

GLOBAL INNOVATION EXCELLENCE BENCHMARK

INNOVATION EXCELLENCE BENCHMARK

UNDERSTAND YOUR INNOVATION PERFORMANC TO ENABLE BREAKTHROUGHS

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DEAR INNOVATOR,

 Since the 1990s Arthur D. Little has been benchmarking best practices in the management of innovation. This is the 9th iteration of our Innovation Excellence Benchmarking. Every iteration incorporates a review of current best practices based on the hundreds of Technology and Innovation Management (TIM) projects we carry out every year. We also incorporate feedback from leading academics in the area of innovation management to make sure we source ideas from our ecosystem.

BENEFITS OF PARTICIPATION

- You will receive immediate feedback with a summary of your benchmark results compared to your peer group/industry.
- A more detailed analysis will be presented by Arthur D. Little at your convenience to provide detailed insight into different innovation management practices, relative performance, and identification of improvement levers given your current context.
- Every participant also receives a report on the trends in innovation management and best practices.

CONFIDENTIALITY NOTICE

- The benchmark is conducted by the management consultancy Arthur D. Little. All data will be kept strictly confidential and in conformance with legal requirements on data security.
- Data collection will be made anonymously and analyzed without reference to the name of the individual enterprise. We have never released the names of participants.
- Individual questionnaire responses will not be published.
- We need your authorisation for us to hold your contact details on file for us to send feedback information to you. Under European Data rules (GDPR) you can request that we delete your contact details at any time.

Should you have any questions, please feel free to contact any one of us directly, or via *InnovationExcellenceBenchmark@adlittle.com*.

We look forward to discussing this fascinating subject with you

Dr Michael Kolk Partner Global Practice Leader Technology & Innovation Management Practice

Thurson Albung

Ben Thuriaux-Alemán Partner – Technology and Innovation Management Practice Global Head of Innovation Excellence

PARTICIPANT INFORMATION

Please provide your name and contact information feedback ¹	ation so we can provide you with detailed
Company and business unit	
Your name	
Job title (position, company location)	
Country	
Email address	
As part of EU's General Data Protection Regulation (GDPR) check here to agree to allow us to hold your details to contact you for feedback on results <u>http://www.adlittle.com/en/notice-privacy</u>	 Yes (receive feedback) No (complete anonymity but no feedback)

¹ The demographic data provided will only be used to provide companies with a summary of results and benchmarking information against other anonymized participants. If you do not wish ADL to hold your contact details, please tick *complete this anonymously*, however please note that it will not then be possible to provide feedback to your company.

HOW TO SUBMIT YOUR RESULTS

You are welcome to submit this questionnaire online or to save and submit this pdf by email. Alternatively, you can print this out and return it by post at the address below.

Complete online	https://www.adlittle.com/innovex/
Return pdf by email	innovation.excellence@adlittle.com
Return by post	Arthur D. Little Limited New Fetter Place West 2nd Floor, 55 Fetter Lane London EC4A 1AA

INNOVATION EXCELLENCE MODEL

- We periodically reflect and update our innovation management framework. The latest version is
 presented below and covers the essential components of the Innovation Management Practices
 (IMPs) and Processes that a company needs for innovation management. The results of our
 previous Innovation Excellence model have been published in peer reviewed journals² and the
 insights have been incorporated into the current version. The current model has been extensively
 reviewed and the 9th edition now incorporates a component on Ecosystem innovation as well as
 several best practice updates based on ADL studies on R&D best practice management, Agile
 management³, Digital Innovation⁴ and Breakthrough⁵ practices.
- By using this model, we enable firms to analyse and compare approaches to innovation across different industries, to enable participants to identify their performance and target areas for improvements.



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² Tidd & Thuriaux-Alemán (2016), <u>Innovation management practices</u>: cross-sectorial adoption, variation, and effectiveness, *R&D Management*, V46 S3, 1024–1043, October 2016

³ Beaumont, Thuriaux-Alemán, Prasad & Hatton, 2017, <u>Using Agile Approaches for Breakthrough Product Development</u>., Arthur D. Little Viewpoint

⁴ Kolk, 2018, Innovating in the digital age, Arthur D. Little Benchmark and Viewpoint

⁵⁵ Härenstam, Eagar & Thuriaux-Alemán, 2015, Systematizing Breakthrough Innovation, Arthur D. Little Benchmark and Viewpoint

FAQS – HOW TO ANSWER QUESTIONS

- Quantitative performance questions: please provide your best estimates for the responses based on latest available data. We have presented the questions to allow you to use ranges (e.g. 5-10%) to make this easier. The ranges we have selected are based on statistical analysis of data provided on previous benchmarking data in this area.
- **Questions on innovation management processes:** These are presented on a five-point scale. There is an assumption that this practice is present, at least to some extent, so that you can rate its effectiveness.
 - 1. If no aspect of this practice is operational tick "**Not used and/or Not effective**" if this process or practice is not operating at all or if in your opinion it is completely ineffective.
 - 2. Tick **"Applies in minority of cases"** if aspects of the practice exist but it is on the whole not often applied.
 - 3. Tick **"Applies to an average extent"** if the practice is used in delivering some of the benefits you anticipate but if there is clearly much more value that could be created with a better and/or more consistent process.
 - 4. Tick **"Applies in most cases"** if the practice or process delivers is generally well used and applied but where some improvements could be made.
 - 5. Tick **"Very well applied and effective"** if the practice is consistently applied and if it is effective in delivering the value expected with no (or only very marginal) further improvements.
- We sometimes get asked: "do I compare myself to best-practice competitors or the average player in my industry" or "do I compare the current situation to how I wish it were?" Our guidance is that you should think about the operation and effectiveness of these practices in your company. Are these well run? Do they work well? If you have insights into other companies that may help you calibrate but it is possible to answer the question without comparing to others. Likewise, we focus on describing the current situation rather than comparing with the "ideal" situation.
- Don't worry too much if a question doesn't appear relevant, this is a cross industry benchmark and we adjust for relative industry performance based on the data gathered in this and our previous benchmarks. That may mean that we use industry specific adjustments and give a higher weighting for a question on Agile processes for software and media industries than for regulated industries or, that we expect Fast Moving Consumer Goods to have a faster innovation breakeven time than Energy companies.
- Should I represent my company as a whole or is it better to present my Business Unit? The choice is up to you and depends on how homogenous and standardized your innovation management practices/processes are across different business units. In Q2, it is possible to select to respond for the whole company, or for a single business unit or you can fill in multiple responses for each business unit.

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COMPANY DETAILS AND INNOVATION PERFORMANCE (1/6)

1. Please tick the main focus/core industry of the business for which you are filling out this questionnaire

Aerospace and Defense	Logistics and Services			
Automotive Manufacturing and Automotive Suppliers	Manufactured Products, Engineering and Machinery (incl. High-Tech)			
Chemicals (including Speciality & Petrochemicals)	Pharmaceuticals and Bio-pharmaceutical			
Consumer Electronics	Public Services			
Electrical Engineering and Electronics incl. Industrial Electronics	Retail (excluding food and drink)			
Energy and Resources (Upstream)	Telecommunications, IT/Software and Media (TIME industries)			
Energy and Resources (Downstream)	Transport and Travel			
Financial Institutions and Insurance	Utilities (electricity, gas, water etc.)			
Food and Beverage	White Goods (Household appliances: refrigerator, stove, washing machine etc.)			
Healthcare and Healthcare providers	Other			
Medical Technology and medical devices	Other			

2. Please provide details of your sales/turnover and number of employees Use latest available data (use publicly available data if available)

Currency used in questionnaire (please tick relevant		\$	£	¥	RMB	Other
currency or add currency if required)						
Corporate sales/turnover In million currency						
Data any ideal in this superior pairs relates to		The whole group Select				
Data provided in this questionnaire relates to	Your Business Unit only					
Sales/turnover of the whole company or the Business Unit your answers are related to	In million currency					
Number of employees of the whole company or the Business Unit your answers are related to	In full-time equivalent staff (FTE)					

|--|

COMPANY DETAILS AND INNOVATION PERFORMANCE (2/6)

 Please detail magnitudes of investment and personnel deployed in innovation (including R&D) activities. Use latest available data (use publicly available data if available) 					
Total innovation & R&D spending	In million currency				
(for whole company or your unit depending on Q2)	In % of total sales				
Innovation and R&D personnel excluding outsourced personnel and partners (for whole company or your unit depending on Q2)	In full-time equivalent staff (FTE)				
Share of total innovation & R&D spending done externally?	In %				

DEFINITIONS⁶

- **Product innovation** is the development of new products, changes in design of established products, or use of new materials or components in the manufacture of established products.
- Service innovation is a new or significantly improved service concept that is taken into practice. It can be a new customer interaction channel, a distribution system or a technological concept or a combination of these. The innovation does not necessarily relate to the novelty of the technology itself.
- **Process innovation** is the implementation of a new or significantly improved production or delivery method. This includes significant changes in techniques, equipment or software. Process innovations can decrease unit costs of production or delivery, increase quality, or to deliver new or better products.
- **Business model innovation** (BMI) is the result of a combination of product/service, process innovation combined with organizational change or value chain reconfiguration which may include new ways to reach markets and customers as well as offering new or enhanced value propositions. It can include the use of partners and the external ecosystem to deliver customer value.
- **Breakthrough innovation** is an activity that develops a completely new market space (not just new for the firm) or a completely new business model. It could also be an innovation that creates an entirely new set of performance features or significantly improves performance (over x5) of existing features or reduces delivery costs by >30%. Breakthrough innovation could be Product, Service, Process or Business Model Innovation or a combination of these.

⁶ Source: <u>TEKES</u>, <u>OECD</u>, <u>European Commission DG Research</u>, Massa & Tucci, 2013, Arthur D. Little Breakthrough Innovation Study

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COMPANY DETAILS AND INNOVATION PERFORMANCE (3/6)

4. How satisfied are you with the impact of your current innovation performance?								
Please assess your capabilities for different types of innovation compared to your industry peer group	Not applicable	Very poor	Poor	Average	Good	Very good		
What is your overall assessment of your entire innovation performance?								
What is your assessment of your product innovation performance?								
What is your assessment of your service innovation performance?								
What is your assessment of your process innovation performance?								
What is your assessment of your new business model innovation performance?								
What is your assessment of your breakthrough innovation performance?								

5. In terms of your innovation efforts, can you estimate the relative percentage of effort you make (people, budgets etc.) for different types of innovation?	% of relative effort
Product innovation	%
Service innovation	%
Process innovation	%
Business model innovation	%
Total	100 %

6. In terms of your investment of breakthrough innovation, can you estimate what percentage of your total innovation effort is allocated to breakthrough innovation?

Investment in breakthrough innovation	We have not launched any breakthrough activitiesCompany does not track this data	As a % of your total annual innovation investment							
		track this data	0-5%	5- 10%	10- 15%	15- 20%	20- 25%	25- 35%	35+%
% of innovation budget dedicated to delivering breakthrough innovation									

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COMPANY DETAILS AND INNOVATION PERFORMANCE (4/6)

7. What share of your total innovation spending is spent externally (at partnering companies, universities, external venturing, etc.)?								
	Company does not	As a % of your total annual innovation investment						
	track this data	0-5%	5- 10%	10- 15%	15- 20%	20- 25%	25- 35%	35+%
As a % of your total annual innovation budget								

8. In terms of your overall innovation spending in your portfolio, can you estimate the relative percentage of effort you make for different types of innovation?

Please use approximate breakdowns in ~5% increments to estimate this allocation

Technology or product is new to the world. Technology does not exist internally and would need development. Or it exists externally and would need

modification/development to meet market needs.

Technology exists in house with some relatively minor adaptation to meet market need. Or technology exists externally and could be deployed off-the shelf to meet market need. Existing technology/product upgrade.



Data for this question is based on:	Portfolio breakdown with similar categories	
Data for this question is based on.	Estimates of current innovation efforts	

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COMPANY DETAILS AND INNOVATION PERFORMANCE (5/6)

9. Please provide estimates of the extent to which your overall proportion of sales can be attributed to **NEW products and services** offerings in the following time periods (note this includes incremental and breakthrough innovation)

Consider only new product or platform	Company does not	Latest available data							
launon, not product apgrades	track this data			in % c	of total	sales			
Sales with new innovative products, services, or		0- 2.5%	2.5- 5%	5- 7.5%	7.5- 10%	10- 15%	15- 25%	25+%	
busiless models > 1 year on the market									
Sales with new innovative products, services, or business models ≤ 3 years on the market		0-5%	5-10%	10- 15%	15- 20%	20- 30%	30- 55%	55+%	

10. Please provide estimates of new product or service EBIT contribution

Consider only new product or platform	Company	Latest available data In % of total EBIT (corporate or business unit)						
launch, not product upgrades	does not track this data							
EBIT contribution of new innovative products, services, or business models ≤1 year on the		0-2.5%	2.5-5%	5-7.5%	7.5- 10%	10- 20%	20- 30%	30+%
market								
EBIT contribution of new innovative products, services, or business models \leq 3 years on the		0-5%	5-10%	10- 15%	15- 20%	20- 30%	30- 50%	50+%
market								

11. What is your average time to break even for new product or service innovations?

Consider only new product or platform launch, not product upgrades or breakthrough projects	Company does not track this data	Average time in months/years					
		1-2m	3-4m	5-6m	7-9m	10-12m	13-15m
Average time for new products/services to break-							
even (from start of development project)		16-18m	19-24m	25-30m	31-36m	3-5 years	5+ years

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COMPANY DETAILS AND INNOVATION PERFORMANCE (6/6)

12. What is your typical impact for process innovation?									
Tick here if your organization has not launched any process innovations							estion)		
Consider both new processes and innovative process upgrades	Company does not	In %	improve	ment in o cap	cost reduc acity	ction, yiel	ld or		
	track this data	0-2%	2-5%	5-10%	10-25%	25-50%	50+%		
Typical accumulated cost reductions or yield improvement achieved over past 3 years (assume same input costs)									

13. What is your average time to break even for **new business model** innovations?

Tick here if your organization has not launched any new business models

□ (skip to next question)

Consider only business model innovations (excluding product/service innovations)	Company does not track this data	Average time in months or years taken from idea to first operational revenue reported (excluding pilots etc.)							
Average time from idea to first operational revenue reported for		0-6 months	6-12 months	12-24 months	24-36 months	3-5 years	over 5 years		
Business Model Innovation									

14. What is your typical revenue performance for breakthrough innovation?

Tick here if your organization has not launched breakthrough innovations

 \Box (skip to next question)

Consider your performance with	Company does not track this data	Share of latest annual total revenue for all breakthrough innovations launched in past 3 years							
breakthrough concepts/innovation		0-5%	5-10%	10-15%	15-20%	20-30%	30-55%	55%+	
Sales from break-through innovations launched in last 3 years									
		Average time taken to first revenues in months or years							
		Avera	ige time	taken to	years	evenues	in mont	hs or	
Average time from idea to revenue for breakthrough products/services		O-6 months	6-12 months	12-24 months	2-3 years	3-5 years	5-10 years	ths or 10+ years	

SECTIONS A TO I RELATE TO INNOVATION MANAGEMENT PRACTICES/PROCESSES (IMPS)

How would you evaluate the current strategic importance for each element of the Arthur D. Little Innovation Excellence model in your organization?								
	Strategic importance for your organization							
Definitions of current innovation management capabilities in the Innovation Excellence model	Not applicable	Not important	Somewhat important	Important	Very important			
Innovation strategy, objectives and governance – The innovation strategy delivers the objectives of the company in a long-term implementation plan. Innovation objectives are steps to achieve the company's innovation goals, which are based on corporate strategy.								
Push intelligence reflects the ability of a company to conduct technology intelligence , identify relevant technologies, tools and trends, and use these insights to improve company activities and/or develop new products, services and business models.								
Pull intelligence consists of analysing market needs directly or indirectly (e.g. through the voice of the customer) to develop new innovations (products, services, processes, business models, etc.) that meet or go beyond their expectations.								
Idea management is the process through which companies encourage creative ideas and sharing to develop, enrich and prioritize new projects for innovations (products, services, processes, business models, etc.)								
Innovation project management consists of all the steps necessary to manage the transformation of an idea into a launched innovation (product, service, process, business model, etc.)								
Innovation portfolio management consists of analysing, prioritizing, allocating resources to and terminating projects in the innovation portfolio based on alignment with strategy, resource constraints, risks and potential returns on investment.								
The deployment phase of a project marks the transition from R&D into piloting, scale-up or product launch and is an integral part of the innovation model as it offers the opportunity to gather feedback and thus continuously improve and adapt the innovation based on feedback.								
Ecosystem management is the process through which external and internal actors (suppliers, customers, contract research organizations, JV partners etc.) are leveraged to enhance a company's innovation capabilities.								

How would you evaluate the current strategic importance for the cross-cutting Innovation Management Practices/Processes (IMPs) below in your organization?

Sections A to Lalso address cross-cutting IMP components, including		Strategic importance for your organization					
Sections A to I also address cross-cutting IMP components, including Agile ways of working, Breakthrough innovation and Digital innovation management tools	Not applicable	Not important	Somewhat important	Important	Very important		
Resource and competence management is the ability to ensure innovation projects are efficiently staffed, that teams benefit from the right capabilities and that staffing processes offer sufficient flexibility to adapt to a fast-paced environment.							
Agile ways of working are innovation management practices that leverage rapid iterative loops to address key uncertainties as early as possible in the innovation process. Agile processes typically rely on multidisciplinary teams that adapt their innovation process to the specific innovation challenge at hand.							
Breakthrough innovation is the activity of developing completely new market spaces (not just new for the firm) or completely new business models.							
Digital innovation management reflects the ability of a company to successfully deploy digital technologies to strengthen its innovation capabilities and improve its overall innovation performance.							

QUESTIONS ON INNOVATION MANAGEMENT PRACTICES AND/OR PROCESSES (IMPS):

These are presented on a five-point scale. There is an assumption that this practice is present at least to some extent so that you can rate its effectiveness.

How well applied are the following Innovation Management Practices (IMPs) in managing							
	Extent of IMP application						
Statements concerning your practices	Not used and/or Not effective	Applies in minority of cases	Applies to an average extent	Applies in most cases	Very well applied and effective		
Innovation Management Practice 1							
Innovation Management Practice 2							

- 1. If no aspect of this practice is operational tick "**Not used and/or Not effective**" if this process or practice is not operating at all or, if in your opinion, it is completely ineffective.
- 2. Tick **"Applies in minority of cases"** if aspects of the practice exist but it is on the whole not often applied.
- 3. Tick **"Applies to an average extent"** if the practice is used in delivering some of the benefits you anticipate but if there is clearly much more value that could be created with a better and/or more consistent process.
- 4. Tick **"Applies in most cases"** if the practice or process delivers is generally well used and applied but where some improvements could be made.
- 5. Tick **"Very well applied and effective"** if the practice is consistently applied and if it is effective in delivering the value expected with no (or only very marginal) further improvements.

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A. INNOVATION STRATEGY, OBJECTIVES AND GOVERNANCE

The innovation strategy delivers the objectives of the company in a long-term implementation plan. Innovation objectives are necessary steps to achieve the company's innovation goals, which are based on corporate strategy.

How well applied are the following Innovation Management Practices (IMPs) in delivering your innovation objectives and strategy?

	E	Extent of IMP application					
Statements concerning strategy objectives and governance	Not used and/or Not effective	Applies in minority of cases	Applies to an average extent	Applies in most cases	Very well applied and effective		
A1. There are quantified innovation objectives related to top-line growth and/or margin improvement.							
A2. Innovation strategy and objectives are communicated across all parts of the company to guide all innovation-related activity.							
A3. Innovation strategy and performance management provide the flexibility to rapidly evaluate and pivot toward new opportunities.							
A4. We have a clear vision and strategy for digitally enhanced innovation management tools and processes (e.g. software or AI tools to support idea management, project management, portfolio management, IP reviews etc.)							
A5. The innovation strategy sets out explicit boundaries, expectations and resources for breakthrough innovation vs. incremental innovation.							
A6. There is a cross-functional innovation steering group at the corporate level involving C-level or equivalent executives (e.g. CEO, CFO and Chief Technology/Innovation Officer).							
A7. The strategy sets out a clear and well-understood target structure for categories of activities within the innovation portfolio (e.g. clear targets for percentage of activities allocated for different time horizons; incremental vs. new products; growth vs. defensive activities, etc.).							
A8. Innovation or R&D performance dashboards exist, which can provide an up-to-date comparison of R&D or innovation delivery performance against strategy and roadmaps.							
A9. We have clear governance and accountability for introduction and use of advanced digital technologies (AI, Big Data/Analytics, Machine Learning, Internet of Things, etc.) into the organization.							
A10. There is clear governance and single-point accountability for delivering breakthrough innovation.							
A11. We regularly review and test the forecast contribution of innovation activities to top-line growth							

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B. PUSH INTELLIGENCE

Push intelligence reflects the ability of a company to conduct technology intelligence, identify relevant technologies, tools and trends, and use these insights to improve company activities and/or develop new products, services and business models.

How well applied are the following Innovation Management Practices (IMPs) in managing your search for new technologies/tools/trends and integrating them to improve performance?

	1	Extent o	f IMP ap	plicatior	n
Statements concerning push intelligence	Not used and/or Not effective	Applies in minority of cases	Applies to an average extent	Applies in most cases	Very well applied and effective
B1. We operate a systematic process for collecting, organizing, interpreting and disseminating new and emerging technology tools and trends.					
B2. We have an effective process to understand our relative strengths and weaknesses in existing and future technology areas.					
B3. Responsibilities and resources for collecting and evaluating new technologies/tools/trends are clearly allocated.					
B4. We leverage digital tools (e.g. tools to map, interpret and manage patent or start-up landscapes) to analyse new technologies and trends.					
B5. We review new technologies tools and trends as part of lean/agile reviews and use these updates to support pivot decisions for projects.					
B6. We have a process to explore adjacent and/or non-core technologies to support breakthrough innovation.					
B7. We evaluate and identify new business models in the market (e.g. digital platforms) to explore new ways of offering innovative products or services, new value creation opportunities or new revenue models.					

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C. PULL INTELLIGENCE

Pull intelligence consists of analysing market needs directly or indirectly (e.g. through the voice of the customer) to develop new innovations (products, services, processes, business models, etc.) that meet or go beyond their expectations.

How well applied are the following Innovation Management Practices (IMPs) in managing market/customer/operations insights and analytics?

	I	Extent o	f IMP ap	plicatior	า
Statements concerning pull intelligence	Not used and/or Not effective	Applies in minority of cases	Applies to an average extent	Applies in most cases	Very well applied and effective
C1. Customers' needs are unpacked, analysed and segmented to guide development of the attributes of product/service/business model innovations.					
C2. We train our employees in charge of market intelligence so that they have the specific skill sets required for this task (i.e. R&D employees with little training in this area are not tasked with assessing market potential).					
C3. Internal sources (e.g. sales force, customer service) are used in a structured way to turn information into intelligence and insights.					
C4. External sources (e.g. customers, suppliers, lead users, experts and academia) are used in a structured way to turn information into intelligence and insights.					
C5. Tools and approaches such as: "voice of customer", usage and attitude surveys, or ethnographic research are used to gain deep insights into hidden, unexpressed and emerging customer needs.					
C6. We systematically use digitally enabled tools for business intelligence (e.g. big data/machine learning analysis, AI, trend analysis).					
C7. Information on markets, customers or operations results in changes of direction for new innovations (products, services, processes, business models, etc.).					
C8. We systematically develop and test different business models for revenue (bundles, subscriptions, freemium, free but monetize data) to better serve different customers.					
C9. We review competitors and their innovations to identify opportunities for our own product/service/business model innovations					

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D. IDEA MANAGEMENT

Idea management is the process through which companies encourage creative ideas and sharing to develop, enrich and prioritize new projects for innovations (products, services, processes, business models, etc.).

How well applied are the following Innovation Management Practices (IMPs) in delivering your idea management process?								
	E	xtent of	f IMP ap	plicatio	on			
Statements concerning idea management	Not used and/or Not effective	Applies in minority of cases	Applies to an average extent	Applies in most cases	Very well applied and effective			
D1. We have separate processes for idea generation (capturing ideas) and for idea enrichment (i.e. developing the idea with input from different disciplines).								
D2. The whole organization is mobilized to develop new ideas (not just the innovation function).								
D3. Time is set aside for employees to generate new ideas.								
D4. We launch challenge-based time-limited ideation activities to find new opportunities to address corporate priorities.								
D5. Our external ecosystem (e.g. customers, suppliers, inventors, academics) contributes to idea generation.								
D6. The ideation process provides insights to identify personas, "Jobs to be done", and new customer needs or ways of using product/service.								
D7. Regular workshops between Innovation, R&D and sales/marketing are used to capture market insights and generate ideas.								
D8. We use idea management software to support idea generation, review, improvement and storage.								
D9. Tools for idea generation, prioritization and selection are deployed across the company (not just in R&D or marketing).								
D10. Senior leadership has standing commitments (e.g. monthly) to assess and discuss new ideas that have been generated.								
D11. We maintain a pool of new ideas to be deployed for portfolio rebalancing or to allow redeployment of staff if projects are stopped.								
D12. There is an effective process for cross-fertilizing and enriching ideas into a project proposal.								
D13. We have access to rapid prototyping environments to enable fast idea exploration, evaluation and refinement.								
D14. Breakthrough innovation ideas are assessed in a different process with different criteria, acknowledging the different timescales and resource requirements for breakthrough projects.								
D15. We use a structured business model assessment tool (e.g. the Business Model Canvas or others) to develop and assess strategic options for innovative business models.								

A B C D E F G H	I
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E. INNOVATION PROJECT MANAGEMENT

Innovation project management consists of all the steps necessary to manage the transformation of an idea into a launched innovation (product, service, process, business model, etc.).

How well applied are the following Innovation Management P your process for managing innovation projects?	ractice	s (IMP	s) in su	pportir	ng
	E	Extent o	f IMP ap	plicatio	n
Statements concerning project management	Not used and/or Not effective	Applies in minority of cases	Applies to an average extent	Applies in most cases	Very well applied and effective
E1. We define clear end goals with time, cost, quality, revenue and margin targets as part of project development.					
E2. We allocate the most challenging/risky/complex/important projects to the most senior (tested and proven) project managers.					
E3. We adapt our project management approach to cater for different types of projects (incremental, breakthrough, fast-tracked, software vs. hardware).					
E4. We use a well-developed stage-gate process with formal milestone- based review processes.					
E5. We consider how innovation features can be best achieved equally through physical product and/or software innovation (not assuming a physical product solution by default).					
E6. Our innovation process ensures all products and services incorporate elements of data capture and sharing as a design requirement.					
E7. We incorporate digital business model innovation opportunities and considerations in our innovation project development (e.g. give away product, monetize data).					
E8. We use an agile approach to development (e.g. customer-driven, time-boxed increments, using SCRUM approaches).					
E9. We use prototypes, minimum viable products and/or targeted market research to obtain early user feedback on the product/service/business model being developed.					
E10. We have a widely adopted shared and standardised digital project management tool that provides a single validated source of data on project performance.					
E11. We use multi-functional review teams for stage-gate (or agile sprint) reviews to ensure we have wide agreement from different perspectives.					
E12. We track the risk and uncertainties of projects in development. Project management and reviews structure the project to resolve the highest uncertainties and risks as early as possible.					
E13. We have an approach that encourages project teams to focus on addressing the most significant unknowns and to "fail early" when costs are still low.					

How well applied are the following Innovation Management Practices (IMPs) in supporting your process for managing innovation projects?

	E	Extent of IMP application					
Statements concerning project management	Not used and/or Not effective	Applies in minority of cases	Applies to an average extent	Applies in most cases	Very well applied and effective		
E14. We regularly terminate projects that do not satisfy criteria for continuation, thereby freeing up resources to explore other opportunities.							
E15. We have an effective process to "learn from our mistakes" in the development process and share lessons learned.							
E16. For breakthrough projects we explore parallel approaches and concurrent engineering to make sure we have parallel options and are exploring a range of technical solutions.							
E17. We specifically evaluate business model choices and opportunities during our product/service development to refine the features of the product/service being developed and explore different revenue models and possibilities for value creation.							

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F. PORTFOLIO MANAGEMENT

Portfolio management consists of analysing, prioritizing, allocating resources to and terminating projects in the innovation portfolio based on alignment with strategy, resource constraints, risks and potential returns on investment.

How well applied are the following Innovation Management Practices (IMPs) in for Portfolio Management in your organization?

	Extent of IMP application						
Statements concerning portfolio management in your organization	Not used and/or Not effective	Applies in minority of cases	Applies to an average extent	Applies in most cases	Very well applied and effective		
F1. There is a clearly set-out process for aligning the innovation portfolio and R&D projects with corporate strategic priorities.							
F2. We maintain innovation roadmaps to link innovation activities, technologies, product/service features and customer/market trends.							
F3. The technology strategy clearly outlines the prioritized research areas which are defined in the portfolio.							
F4. There are clear portfolio balance targets ahead of portfolio reviews and these are used to inform portfolio decision making (e.g. percentage of short-term vs. long-term efforts and percentage of efforts by development stage).							
F5. The portfolio of new products/services is reviewed at least annually in a structured manner to align with changes in strategy and changes in targeted segments.							
F6. We have one source of the truth for all the project-level information required for the portfolio review.							
F7. The portfolio management process is supported by software linked to project-level data which allows visualisation, valuation and optimisation of the portfolio (including what-if analysis).							
F8. We automatically generate portfolio views and do not need to carry out any specific data collection exercises to run a portfolio review.							
F9. Our portfolio data is based on project management data that have been validated by stage-gate reviews.							
F10. We ring-fence specific funding for breakthrough innovation activities.							
F11. The portfolio review can specifically identify whether sufficient efforts and resources are allocated to breakthrough innovation and can result in corrective action if needed.							
F12. Portfolio review leads to timely decision-making on re-allocation of resources with projects sometimes stopped, accelerated or put on hold.							

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G. DEPLOYMENT

The deployment phase of a project marks the transition from R&D into piloting, scale-up or product launch and is an integral part of the innovation model as it offers the opportunity to gather feedback and thus continuously improve and adapt the innovation based on feedback.

How well applied are the following Innovation Management Practices (IMPs) for Deployment in your organization?

	I	Extent o	f IMP ap	plicatior	n
Statements concerning deployment processes in your organization	Not used and/or Not effective	Applies in minority of cases	Applies to an average extent	Applies in most cases	Very well applied and effective
G1. There are clear processes and responsibilities for transferring the innovation from R&D to market with early input by supply chain and manufacturing team members.					
G2. There is early input from the deployment/manufacturing team into the project development phase (e.g. to support design for manufacturing; or design for operation etc.).					
G3. Deployment into the market is managed by cross-functional teams with clear responsibilities in a collaborative environment.					
G4. We collect and analyse customer experience feedback on products once they are commercialized.					
G5. We use digital tools (e.g. embedding data in the design that tracks performance) to understand customers' use of our products and to gather customer feedback.					
G6. We separate continuous product/service improvement from new product/service development.					
G7. We ensure the creation of appropriate capacity and capability to prepare and enable the deployment of breakthrough or step-out innovations.					
G8. We have clear governance and accountability for the deployment of innovative digital technologies in the organization.					

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H. ECOSYSTEM MANAGEMENT

Ecosystem management is the process through which external and internal actors (suppliers, customers, contract research organizations, JV partners etc.) are leveraged to enhance a company's innovation capabilities.

How well applied are the following Innovation Management Practices (IMPs) in ecosystem management?

	I	Extent o	f IMP ap	plicatior	n
Statements concerning ecosystem management	Not used and/or Not effective	Applies in minority of cases	Applies to an average extent	Applies in most cases	Very well applied and effective
H1. There is a clear vision and strategy for ecosystem engagement in innovation activities. This is articulated across business functions and sets clear priorities.					
H2. We build trust and define measurable win-win goals with our ecosystem partners that benefit us both. We reassess goals and course-correct regularly based on interim milestones.					
H3. Innovation practitioners are encouraged to develop informal relationships with individuals and organizations in their innovation ecosystem.					
H4. We have a clear process and criteria to determine whether to collaborate and to select the appropriate collaboration form. This version includes for example in-house partnering, JV, CV, crowdsourcing and outsourcing as options.					
H5. We use digital tools (e.g. co-patenting, IP licensing/transfer, joint research, co-occurrence) to map and manage "non-obvious" ecosystem partners such as start-ups and universities across technology domains, regions and business segments.					
H6. We know where to look for potential ecosystem partners. We screen, prioritize and document the best partners to work with (start-ups, academics, contract research organizations, SMEs, etc.)					
H7. We have an organization-wide IP policy that creates win-win scenarios for our organization and external partners.					
H8. There is a committed champion/advocate in charge of co- ordinating the ecosystem approach and engagement.					
H9. External engagements have the strong support of senior management and resources (funding, staff time, etc.) are set aside for external collaboration.					
H10. Our breakthrough projects specifically recognize and resource the need to develop broad new parts of the ecosystem outside of existing partners and vendors.					
H11. We develop new business models in collaboration with our external ecosystem (e.g. technology partners, suppliers) to create new value propositions (make it cheaper, faster, more innovative, more integrated etc.) for our customers.					

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I. RESOURCE & COMPETENCE MANAGEMENT

Resource and competence management is the ability to ensure innovation projects are efficiently staffed, that teams benefit from the right capabilities and that staffing processes offer sufficient flexibility to adapt to a fast-paced environment.

How well applied are the following Innovation Management Practices (IMPs) in resource and competence management?

		Extent o	f IMP ap	plicatior	ı
Statements concerning resource and competence management	Not used and/or Not effective	Applies in minority of cases	Applies to an average extent	Applies in most cases	Very well applied and effective
I1. We have a clear resource management strategy that identifies needed capabilities as well as a development plan on how to acquire and develop capabilities.					
I2. There is a company competency strategy that identifies key capabilities to sustain competitive advantage through innovation.					
I3. Workload and resource allocation are managed to allow individuals and groups to focus on as few projects and tasks as possible at any one point.					
I4. Our planning processes specifically reserve some capacity to allow us to deal with emerging issues. Resource planning for senior technical staff results in a loading of <80% to allow us to deal with emerging issues.					
I5. We have a minimum viable staffing policy to prevent projects from failing due to serious understaffing (i.e. we either resource it properly or don't do it).					
I6. We identify (and maintain) a clear prioritised list of future technical competencies required in different technical areas (e.g. to develop roadmaps or deploy technologies in the future).					
I7. We have projects that are specifically designed to develop technical competencies in strategically relevant technical areas we have identified.					
18. We understand the relative strengths of our internal technical and innovation competencies compared to competitors.					
I9. We effectively access external resources and competencies in areas where we lack internal capabilities to help us make rapid progress with breakthrough goals.					

THANK YOU

- Thank you for your time and commitment in filling out this questionnaire.
- We look forward to receiving your completed questionnaire and the opportunity in sharing these results with you and your team. If you have any queries, please do not hesitate to contact us for assistance.
- As soon as these details are entered you will receive a high-level summary of the results.
- All participants will receive, on request, a personalized summary of the study's results designed to help you understand your performance versus your peers and to identify innovation performance levers.
- Please note that all data will be reported anonymously, and we will strictly maintain confidentiality with respect to your company's specific survey data.

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Arthur D. Little has been at the forefront of innovation since 1886. We are an acknowledged thought leader in linking strategy, innovation and transformation in technologyintensive and converging industries. We navigate our clients through changing business ecosystems to uncover new growth opportunities. We enable our clients to build innovation capabilities and transform their organizations. Our consultants have strong practical industry experience combined with excellent knowledge of key trends and dynamics. Arthur D. Little is present in the most important business centers around the world. We are proud to serve most of the Fortune 1000 companies, in addition to other leading firms and public sector organizations. For further information, please visit **www.adlittle.com.** Copyright © Arthur D. Little 2023. All rights reserved.