

A graphic of a water splash with droplets and ripples, positioned behind the text.

**KMSG18**  
**TRANS**  
*formation*

Microsoft Operations, 1 Marina Boulevard  
29th to 31st August 2018

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# Transforming mindsets - leading the way with innovation

Bruce Boyes, Editor and Lead Writer, RealKM Magazine  
[www.bruceboyes.info](http://www.bruceboyes.info) [www.realkm.com](http://www.realkm.com)

**REAL** **KM** Evidence based.  
Practical results.

# Agenda

- Introduction to masterclass
  - Participant introductions
  - What does innovation mean for you?
- The open innovation paradigm
- How knowledge management (KM) supports innovation
- Responsibilities of the different actors in the KM—open innovation system

# Introduction to masterclass

# Topics

- Participant introductions
- What does innovation mean for you?
- Basic definition
- Applications of innovation
- Note: References and image credits for all of the materials used in this presentation can be found at the end of the presentation.

# Basic definition of innovation

Merriam-Webster Dictionary defines innovation as:

1. the introduction of something new
2. a new idea, method, or device

# Applications of innovation

- Business
- Government services
- Meeting the international Sustainable Development Goals (SDGs)



## Retail



Consultancy & Business  
Advisory



Workshop And Event



Best Practices Study  
Missions



Benchmarking



Research And Publications



## Business Innovation Model

### THE SOLUTION

To stay ahead of competition, businesses need to be adaptable and relevant. Innovation is critical to drive business growth and sustainability. Businesses have to continuously innovate and cultivate an innovative culture or risk being disrupted.

# Embracing Innovation in Government

## Global Trends 2018

Read the report at  
<http://oe.cd/innovation2018>

### How are governments innovating to address unprecedented challenges?

The OECD Observatory of Public Sector Innovation (OPSI) and the UAE Centre for Government Innovation have conducted a global review of government innovation trends. Drawing on extensive research, and a global Call for Innovations, the report highlights key trends and case studies.

**Key trends in public innovation identified through this review**



Identity

**Building digital identities as a foundation for new services, supporting people and businesses to express their unique identities, and spurring new discussions on national identity.**



Systems approaches and enablers

**Embracing systems approaches to lead a paradigm shift in how services are provided, transforming and re-aligning the underlying processes and methods of the business of government.**



Inclusiveness and vulnerable populations

**Fostering better conditions for all people in order to address complex current and future problems, and to create a world where everyone has access to opportunities for a better life.**

**276**

submissions  
from 58 countries

**10**

featured as case studies in this review



Observatory of  
Public Sector Innovation



<http://oe.cd/opsi>



@OPSIgov



[opsi@oecd.org](mailto:opsi@oecd.org)



<http://tiny.cc/opsinewsletter>

مركز محمد بن راشد  
للتحسين الحكومي  
MOHAMMED BIN RASHID CENTRE  
FOR GOVERNMENT INNOVATION



BETTER POLICIES FOR BETTER LIVES

# Embracing Innovation in Government Global Trends 2018





# UNLEASH SEARCHES 1,000 YOUNG TALENTS TO INNOVATE FOR SDGS IN SINGAPORE



UN SDG Action Campaign

January 26, 2018

Data innovation, globalgoals, innovation, solutions

From May 30 to June 6, Singapore will be the host for UNLEASH 2018 and the second cohort of 1,000 young talents from all over the world, who will work on new, innovative and disruptive solutions to achieve the UN Sustainable Development Goals. [Applications are open](#) from January 15 – February 15, 2018.

The first UNLEASH took place in Denmark in August 2017. In November 2017, the Danish Prime Minister, Lars Løkke Rasmussen, handed over UNLEASH to the Singaporean Prime Minister Lee Hsien Loong during an official visit.

# The open innovation paradigm

# Topics

- Henry Chesbrough, “father” of open innovation
- The open movement
- Comparison of closed and open innovation systems
- Principles
- Mechanisms
- Actors

# Open innovation

- “Open innovation” has become one of the most important innovation research and practice trends worldwide.
- For example, Carlos Moedas, European Union (EU) Commissioner for Research, Science and Innovation, outlined the goals of his department as being “Open Innovation, Open Science and Open to the World” in a 2015 speech.



## European Commission - Speech - [Check Against Delivery]

### Open Innovation, Open Science, Open to the World

22 June 2015

Carlos Moedas – Commissioner for Research, Science and Innovation

Brussels, 'A new start for Europe: Opening up to an ERA of Innovation' Conference

On 25 April this year, an earthquake of magnitude 7.3 hit Nepal. To get real-time geographical information, the response teams used an online mapping tool called Open Street Map. Open Street Map has created an entire online map of the world using local knowledge, GPS tracks and donated sources, all provided on a voluntary basis. It is open license for any use.

Open Street Map was created by a 24 year-old computer science student at University College London in 2004, has today 2 million users and has been used for many digital humanitarian and commercial purposes: From the earthquakes in Haiti and Nepal to the Ebola outbreak in West Africa.

This story is one of many that demonstrate that we are moving into a world of **open innovation** and **user innovation**. A world where the digital and physical are coming together. A world where new knowledge is created through global collaborations involving thousands of people from across the world and from all walks of life.



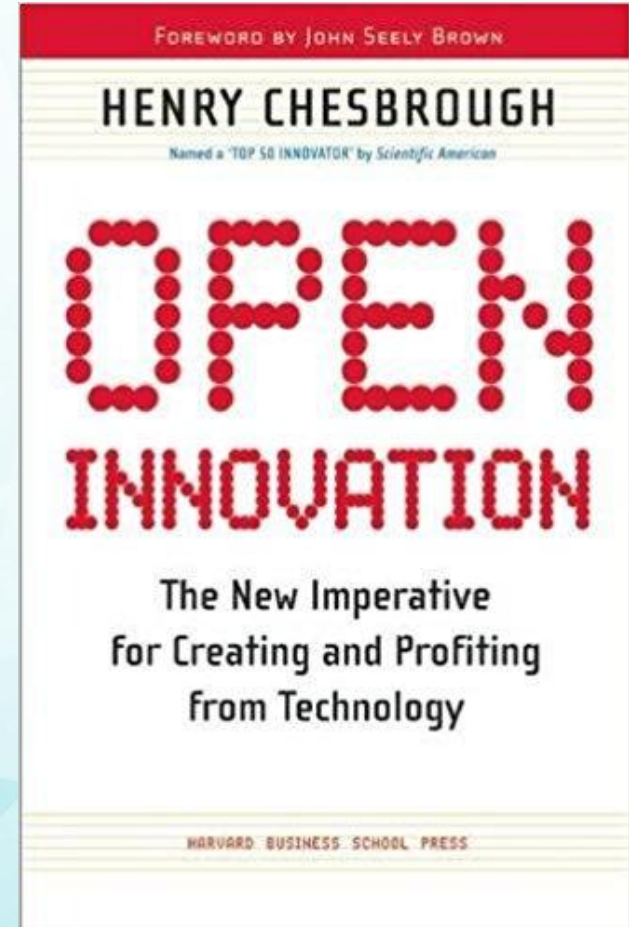
# Open innovation

- The “father” of open innovation is **Henry Chesbrough**, adjunct professor and faculty director of the Center for Open Innovation of the Haas School of Business at the University of California.



# Open innovation

- Chesbrough promoted the use of the term “open innovation” in reference to the increasing embrace of external cooperation in a complex world in his book *Open Innovation: The New Imperative for Creating and Profiting from Technology* (2003).



# Open movement

- “Open innovation” is part of the “open movement”.
- The “**open movement**” is the overall name given to a collection of “open” activities across the research, government, and business sectors. Includes open access publishing, open source software, open data, and open educational resources (OERs).

# Information sources

The information sources for the following open innovation slides are:

- Chesbrough, H. (2012). Open innovation: Where we've been and where we're going. *Research-Technology Management*, 55(4), 20-27.
- European Commission *Open Innovation, Open Science and Open to the World* report.

# Open Innovation

## Where We've Been and Where We're Going

*The father of open innovation offers his assessment of the history and future of the model.*

Henry Chesbrough

**OVERVIEW:** The term “open innovation” was introduced in my 2003 book, which outlined a new model for industrial innovation. Since that time, the concept has been adopted by hundreds of academic articles and been incorporated into the innovation practices of a similarly large number of companies. At the editors’ invitation, this article reviews this recent history and offers a perspective on where open innovation is going in the future.



European  
Commission

Open Innovation  
Open Science  
Open to the World

*– a vision for Europe*

# Open innovation

- Open innovation has become a new paradigm for organizing innovation.
- It assumes that companies can and should use external ideas as well as internal ideas, and internal and external paths to market, as they look to advance their innovations.

# Open innovation

- Open innovation processes combine internal and external ideas together into platforms, architectures, and systems.
- Open innovation processes utilize business models to define the requirements for these architectures and systems.
- These business models access both external and internal ideas to create value while defining internal mechanisms to claim some portion of that value.



# Two kinds of open innovation

- There are two important kinds of open innovation: outside-in and inside-out.
- The **outside-in part of open innovation** involves opening up a company's innovation processes to many kinds of external inputs and contributions.
- It is this aspect of open innovation that has received the greatest attention, both in academic research and in industry practice.

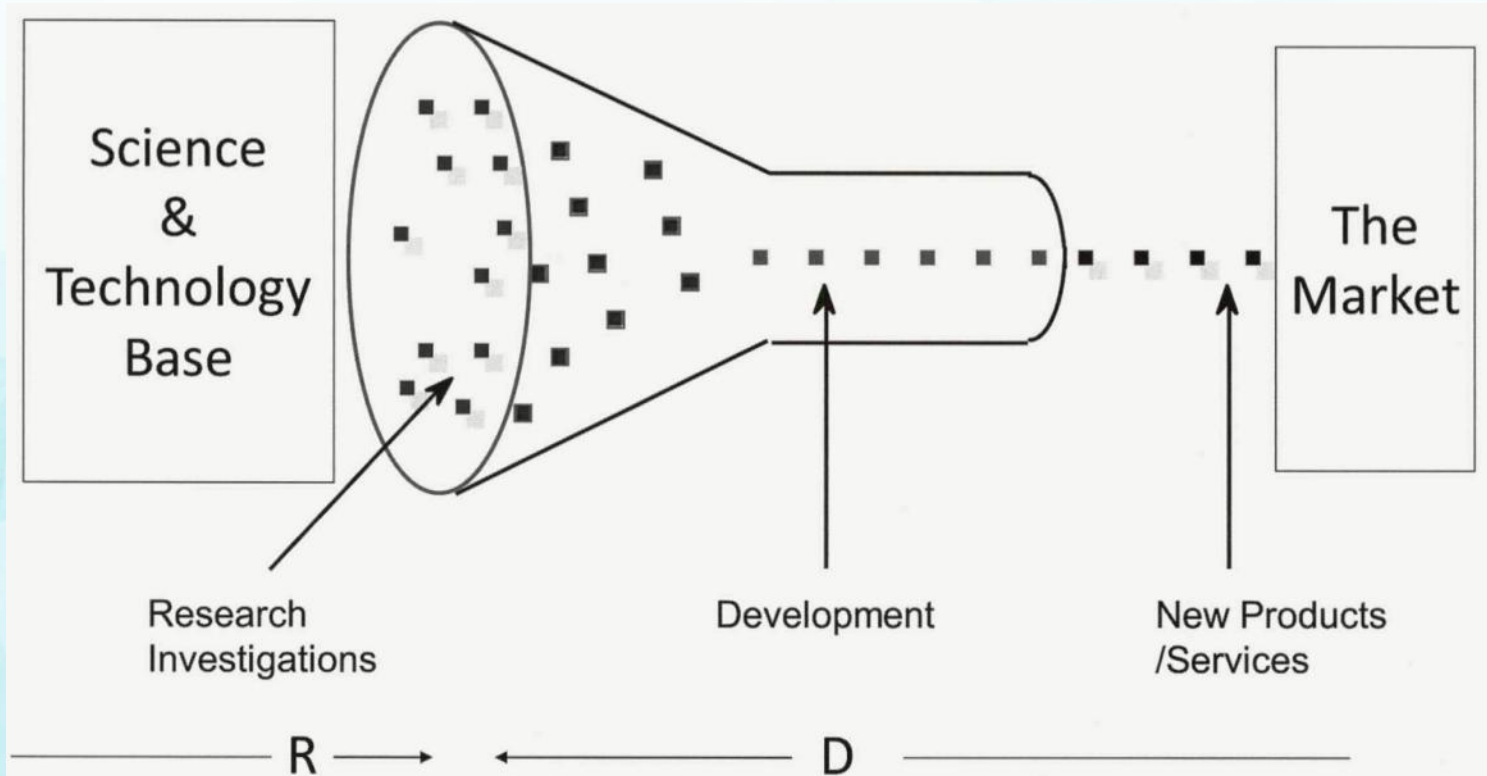
# Two kinds of open innovation

- **Inside-out open innovation** requires organizations to allow unused and underutilized ideas to go outside the organization for others to use in their businesses and business models.
- In contrast to the outside-in branch, this portion of the model is less explored and hence less well understood, both in academic research and also in industry practice.

# Comparing closed and open innovation

- We'll now look at diagrams and explanations of a **closed innovation system** compared to an **open innovation system**.
- The diagrams and explanations will show how open innovation promotes an **information age mindset** toward innovation that runs counter to the secrecy and silo mentality of traditional corporate research labs.

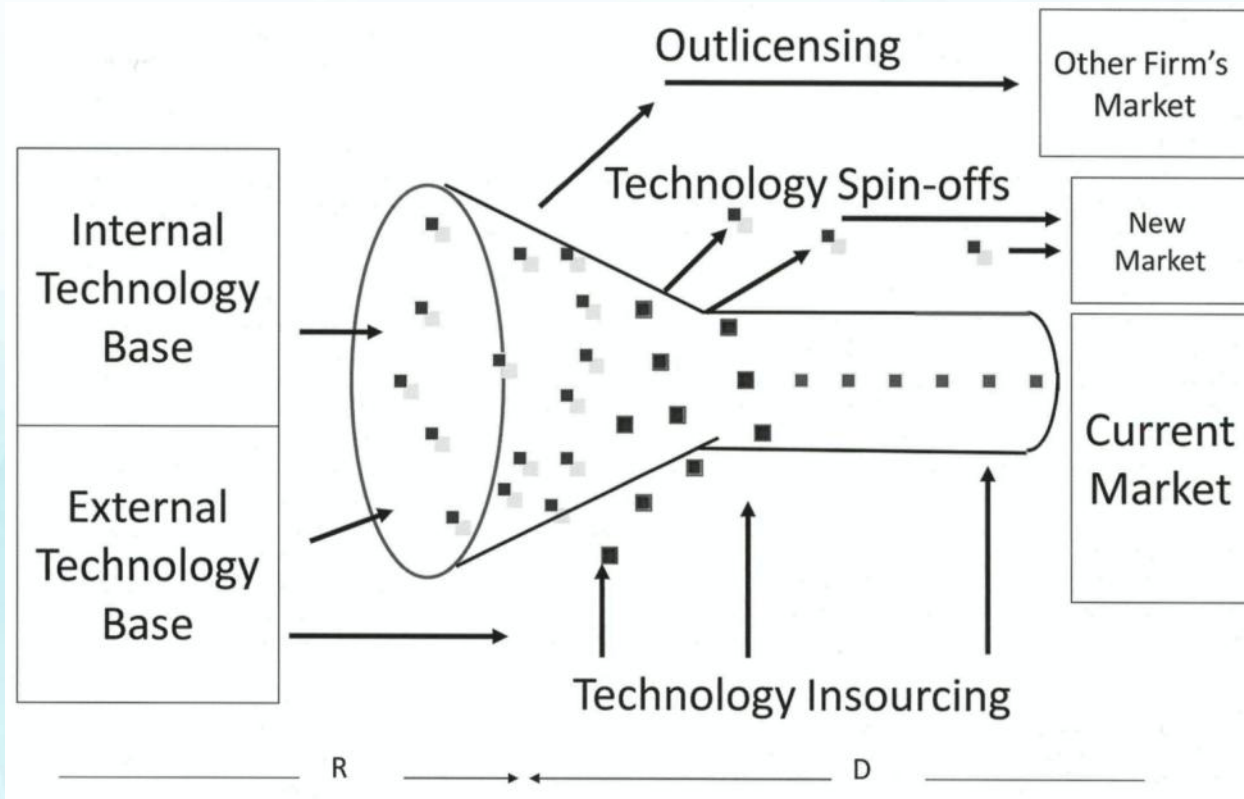
# Closed innovation systems



# Closed innovation systems

- Under the closed model of innovation, research projects are launched from the science and technology base of the company.
- They progress through the development process, and some projects are stopped while others are selected for further work.
- A few successful projects are chosen to go through to the market.
- This traditional innovation process is closed because projects can only enter it in one way, at the beginning from the company's internal base, and can only exit in one way, by going into the market.

# Open innovation systems



# Open innovation systems

- In the open innovation model, by contrast, projects may enter or exit at various points and in various ways.
- Here, projects can be launched from either internal or external technology sources, and new technology can enter into the process at various stages - the outside-in portion of the model.

# Open innovation systems

- In addition, projects can make their way to market in many ways as well, such as through outlicensing or via a spin-off venture company, in addition to going through the company's own marketing and sales channels. This is the inside-out part of the model.
- The model is "open" because there are many ways for ideas to flow into the process, and many ways for them to flow out into the market.
- Intel, Philips, Unilever, and Procter & Gamble all exemplify aspects of this open innovation model.



# Principles

CLOSED INNOVATION PRINCIPLES	OPEN INNOVATION PRINCIPLES
The smart people in our field work for us.	Not all the smart people work for us. We need to work with smart people inside and outside our company.
To profit from R&D, we must discover it, develop it, and ship it ourselves.	External R&D can create significant value; internal R&D is needed to claim some portion of that value.
If we discover it ourselves, we will get it to market first.	We don't have to originate the research to profit from it.
The company that gets an innovation to market first will win.	Building a better business model is better than getting to market first.
If we create the most and the best ideas in the industry, we will win.	If we make the best use of internal and external ideas, we will win.
We should control our IP, so that our competitors don't profit from our ideas.	We should profit from others' use of our IP, and we should buy others' IP whenever it advances our own business model.

# Mechanisms

## OUTSIDE-IN

- LICENSING IN
- ACQUISITIONS
- SHORT TERM FELLOWSHIPS
- SPINNING-IN
- VENTURING
- USER DRIVEN INNOVATIONS
- INNOVATION DRIVEN BY SUPPLIER/COMPETITORS

## INSIDE-OUT

- LICENSING OUT
- DIVESTMENTS
- R&D FOR OTHER COMPANIES
- SPINNING-OUT

## COUPLED PROCESSES

- ALLIANCES
- COOPERATION
- JOINT VENTURE
- JOINT R&D
- CO-CREATION

# Actors

## THE PUBLIC SECTOR

The public sector has a central role to play in promoting Open Innovation. First and foremost it creates the regulatory environment in which all other actors operate. It puts in place rules and tools that can incentivise an open circulation of knowledge and cooperation among different actors with the aim to develop and market innovative solutions. Secondly, it offers better modes of coordination among the economic actors involved in order to enhance productivity and value. Thirdly, it can create a demand for innovation, both through the above-mentioned regulatory means and, for instance, through the procurement of innovative solutions.

## THE FINANCIAL SECTOR

Innovation can be a risky business, therefore accessing funding and / or finance is not always easy for those who have innovative ideas. Building more innovation-friendly financial instruments and institutions and promoting the integration of existing funds and tools is essential to support Open Innovation. It is important that investors of all kinds find their interest in investing in innovation.

## INNOVATIVE BUSINESSES

Businesses play a key role in innovating. In order to be able to bring innovations to the market, they must be able to maximise their returns on the resources allocated to innovating. This is the reason why it is important to reduce European market fragmentation, while fostering faster market access and development.

## ACADEMIA

Universities, Higher Education Institutions, and Public Research Organisations / Research and Technology Organisations have a key role to play in the innovation eco-system, not only as knowledge producers, but also as co-creators and generators of skilled human capital. Challenges in this component of the eco-system include the co-creation capabilities of universities, the design of incentives for academics when working with users and the absorptive capacity of academic knowledge within firms.

## CITIZENS

Citizens, users and Civil Society Organisations have a central and transversal role to play in bringing innovation to the market. They create a demand for innovative products and services, they can fund and / or finance projects that are relevant to them, they can be at the source of innovative ideas worth spreading and scaling up and they can have a say in what research is meaningful to them and can impact their lives.

# How KM supports innovation

# Topics

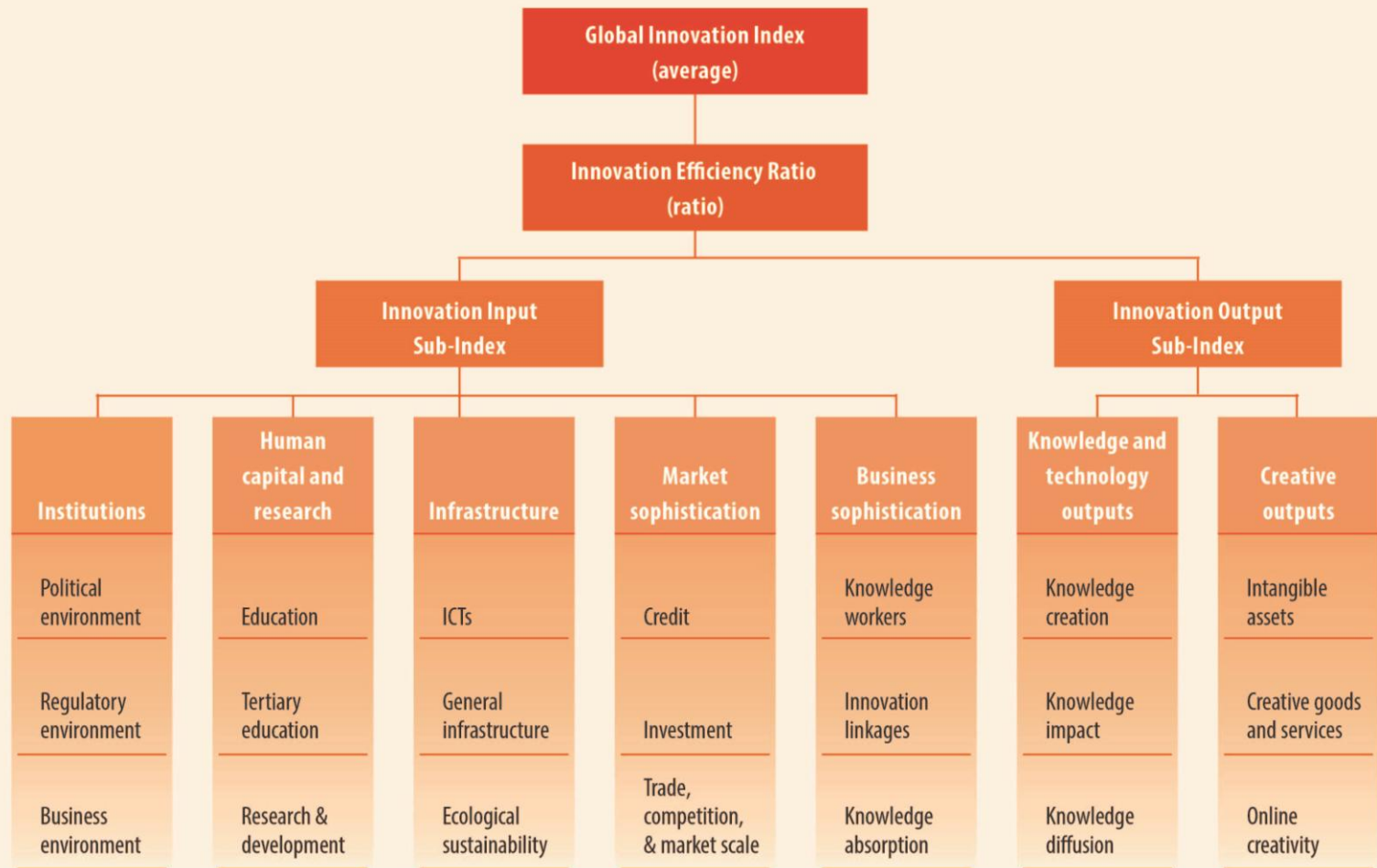
- Global Innovation Index (GII)
- Link between KM and innovation in research

# Global Innovation Index (GII)

- The Global Innovation Index (GII) is an evolving project that builds on its previous editions while incorporating newly available data and that is inspired by the latest research on the measurement of innovation.
- The GIJ relies on two sub-indices, each built around key pillars:
  - Innovation Input Sub-Index
  - Innovation Output Sub-Index

# Global Innovation Index (GII)

- Five input pillars capture elements of the national economy that enable innovative activities.
- Two output pillars capture actual evidence of innovation outputs.
- Each pillar is divided into sub-pillars and each sub-pillar is composed of individual indicators.
- KM-related indicators are present in the “business sophistication” and “knowledge and technology outputs” pillars.





## Global Innovation Index 2018 rankings

Country/Economy	Score (0–100)	Rank	Income	Rank	Region	Rank	Efficiency Ratio	Rank	Median: 0.61
Switzerland	68.40	1	HI	1	EUR	1	0.96	1	
Netherlands	63.32	2	HI	2	EUR	2	0.91	4	
Sweden	63.08	3	HI	3	EUR	3	0.82	10	
United Kingdom	60.13	4	HI	4	EUR	4	0.77	21	
Singapore	59.83	5	HI	5	SEAO	1	0.61	63	
United States of America	59.81	6	HI	6	NAC	1	0.76	22	
Finland	59.63	7	HI	7	EUR	5	0.76	24	
Denmark	58.39	8	HI	8	EUR	6	0.73	29	
Germany	58.03	9	HI	9	EUR	7	0.83	9	
Ireland	57.19	10	HI	10	EUR	8	0.81	13	
Israel	56.79	11	HI	11	NAWA	1	0.81	14	
Korea, Republic of	56.63	12	HI	12	SEAO	2	0.79	20	
Japan	54.95	13	HI	13	SEAO	3	0.68	44	
Hong Kong (China)	54.62	14	HI	14	SEAO	4	0.64	54	
Luxembourg	54.53	15	HI	15	EUR	9	0.94	2	
France	54.36	16	HI	16	EUR	10	0.72	32	
China	53.06	17	UM	1	SEAO	5	0.92	3	
Canada	52.98	18	HI	17	NAC	2	0.61	61	
Norway	52.63	19	HI	18	EUR	11	0.64	52	
Australia	51.98	20	HI	19	SEAO	6	0.58	76	

# KM-innovation linkages

- A 2018 study<sup>1</sup> carried out a keyword network analysis of 7553 research articles to explore the linkage between knowledge management and innovation. The resulting network was mapped using visualisation software.
- In the centre of the network map is the keyword “knowledge management”. Nearby and also in the core of the network (colored red), is the keyword “innovation”.
- The research strongly supports previous research confirming the strong linkage between knowledge management and innovation.

<sup>1</sup>Breznik, K. (2018). Knowledge Management-from its Inception to the Innovation Linkage. *Procedia-Social and Behavioral Sciences*, 238, 141-148.



# Using KM to facilitate innovation

- However, although KM has a strong relationship to innovation, KM and innovation have established themselves as separate fields and distinct areas of research.
- To gain an understanding of how the two fields have converged, and how a shared focus of study and application might be facilitated in the future, a 2016 study<sup>1</sup> conducted a literature review of KM and innovation articles published between 2006 and 2016.

<sup>1</sup>Ramona-Diana, L.E.O.N., & Bolisani, E. (2016). The nexus between knowledge management and innovation. A literature review. *Opportunities and Risks in the Contemporary Business Environment*, 662.

# The nexus between KM and innovation

- The study found that the typical innovation topics addressed in KM papers were:
  - Project management
  - Implications of KM programs on innovation performance and the innovative capabilities of companies
  - Product development
  - R&D management

# The nexus between KM and innovation

- The study found that the typical KM topics addressed in innovation papers were:
  - KM processes
  - Communities where different people collaborate and share knowledge for a common goal
  - Small and medium enterprises (SMEs)

# The nexus between KM and innovation

- The study then identified topics that can facilitate a shared focus of study and application:
  - Knowledge-based view of the firm; learning organization
  - Knowledge-intensive business services (KIBS)
  - Knowledge protection, intellectual property
  - Networks and networking

# **Responsibilities of the different actors in the KM–open innovation system**



# Responsibilities of the different actors

- In the following slides, the responsibilities of the different actors in the KM—open innovation system are explored, using the four primary actor types identified in the European Commission *Open Innovation, Open Science and Open to the World* report:
  - The public sector
  - The financial sector
  - Innovative businesses
  - Academia

## THE PUBLIC SECTOR

The public sector has a central role to play in promoting Open Innovation. First and foremost it creates the regulatory environment in which all other actors operate. It puts in place rules and tools that can incentivise an open circulation of knowledge and cooperation among different actors with the aim to develop and market innovative solutions. Secondly, it offers better modes of coordination among the economic actors involved in order to enhance productivity and value. Thirdly, it can create a demand for innovation, both through the above-mentioned regulatory means and, for instance, through the procurement of innovative solutions.

# Topics

- Example of the EU regulatory environment
- The role of business excellence frameworks



European  
Commission

# Better regulations for innovation – driven

investment  
at EU level

*Commission Staff  
Working Document*



## Foreword

I am committed to getting the conditions right for innovation in Europe. Clearly one of the most important of these conditions is the regulatory framework. This is why the Commission has already innovation within its new Better Regulation framework and has emphasised the importance of innovation friendly regulation in its Single Market strategy.

This document presents, for the first time, an in-depth analysis of how the regulatory environment at EU level can hamper, or indeed stimulate, innovation. It builds on the outcome of consultations that took place during the past year with Member States, and a range of organisations and industry stakeholders. These exchanges and the analysis performed by the European Commission services have helped build an evidence base, in the form of case studies, across different sectors and provide a basis for debate and action at political level.

# The role of business excellence frameworks

- Business excellence frameworks are designed to assist organisations to improve their performance and become more competitive.

# Examples of business excellence frameworks

- EFQM Excellence Model  
[www.efqm.org/efqm-excellence-model](http://www.efqm.org/efqm-excellence-model)
- Baldrige Excellence Framework  
[www.nist.gov/baldrige/publications/baldrige-excellence-framework/businessnonprofit](http://www.nist.gov/baldrige/publications/baldrige-excellence-framework/businessnonprofit)
- Australian Business Excellence Framework  
[www.saiglobal.com/Improve/ExcellenceModels/BusinessExcellenceFramework/](http://www.saiglobal.com/Improve/ExcellenceModels/BusinessExcellenceFramework/)
- Singapore Business Excellence Framework  
<https://www.enterprisesg.gov.sg/quality-standards/business-excellence>

# The role of business excellence frameworks

- A 2017 study<sup>1</sup> set out to explore the ways in which a business excellence framework can inform knowledge management practices that lead to sustained innovation performance.
- The methodology consisted of a literature review, the development of a theoretical model of knowledge management (KM) and business excellence using the Australian Business Excellence Framework (ABEF), and then a qualitative study.

<sup>1</sup>Gloet, M., & Samson, D. (2017, January). Linking Knowledge Management, Business Excellence and Innovation Performance. In *Proceedings of the 50th Hawaii International Conference on System Sciences*.



# Australian Business Excellence Framework (ABEF)



# The role of business excellence frameworks

- The qualitative research involved six case studies of Australian service sector organisations that had won an Australian Business Excellence Award.
- They were a revenue services organisation, an ambulance services organisation, an environmental monitoring organisation, a real estate company, and a regional city council.

# The role of business excellence frameworks

- Analysis of the case study data revealed the manner in which the ABEF informed knowledge management practices and contributed to innovation.
- The six case study organisations were found to be heavily committed to KM, and respondents from all six strongly agreed that KM provided strong support for business excellence activities and contributed to innovation.

# Identified critical success factors included:

- Linking KM to business strategy
- Linking technology to people and processes
- Gaining the support of senior management
- Focusing on the needs of clients and/or customers
- Implementing two-way and open communication processes
- Sharing knowledge across the organization
- Rewarding knowledge work
- Planning processes that crosscut all business units and/or divisions
- Creating a common language of KM

## Other findings of note include:

- For most of the organisations, the definition and scope of innovation was limited to incremental rather than radical or large scale innovation.
- In all six cases, a strong emphasis on innovation based within the organisational culture as opposed to innovation based within value-chains was evident.
- The public sector organisations in particular focus strongly on continuous improvement in an environment where providing high quality service and delivering greater value to stakeholders drives KM and innovation.
- In contrast, the two private sector organizations view innovation as a source of direct competitive advantage through the discovery of new techniques, the development of new products and services as well as the improvement of existing services through continuous improvement.

## THE FINANCIAL SECTOR

Innovation can be a risky business, therefore accessing funding and / or finance is not always easy for those who have innovative ideas. Building more innovation-friendly financial instruments and institutions and promoting the integration of existing funds and tools is essential to support Open Innovation. It is important that investors of all kinds find their interest in investing in innovation.



European  
Commission

# EU BUDGET FOR THE FUTURE

HORIZON EUROPE

#EUBudget #HorizonEU



7 June 2018

## EU FUNDING FOR RESEARCH AND INNOVATION 2021-2027

Investing in research and innovation is investing in Europe's future. It helps us to compete globally and preserve our unique social model. It improves the daily lives of millions of people here in Europe and around the world, helping to solve some of our biggest societal challenges.

Building on the achievements and success of the EU's past flagship research and innovation programmes, the Commission proposes a budget of €100 billion for 2021-2027 for Horizon Europe and the Euratom Research and Training Programme.

## ACADEMIA

Universities, Higher Education Institutions, and Public Research Organisations / Research and Technology Organisations have a key role to play in the innovation eco-system, not only as knowledge producers, but also as co-creators and generators of skilled human capital. Challenges in this component of the eco-system include the co-creation capabilities of universities, the design of incentives for academics when working with users and the absorptive capacity of academic knowledge within firms.



# Topics

- Teaching open innovation skills and abilities
- Innovation incubators
- Libraries as innovation incubators

# Teaching open innovation skills and abilities

- The European Union (EU) *Report on Industrial Needs for Open Innovation Education* presents the findings of a survey of EU companies.
- Conclusions are made in regard to open innovation activities adoption, open innovation needs, and the skills and abilities that an open innovation specialist should have.
- The report is the basis for the development of the open innovation curriculum, segment-specific customizations, and the collection of specific cases and practices of open innovation.

# Open innovation skills

- Intellectual property (IP) management skills
- Negotiation skills
- Entrepreneurship skills
- Leadership skills
- Team-working skills
- Multitasking skills
- Problem solving skills
- Virtual collaboration skills
- Internal collaboration skills
- External collaboration skills
- Trust skills
- Communication skills
- Networking skills

# Open innovation abilities

- Technology and business mindset
- Project management
- Adaptability and flexibility
- Managing inter-organisational collaboration processes
- Ability to work in an interdisciplinary environment
- Ability to work in internal cross-functional teams
- Strategic thinking
- Creativity

# Open innovation abilities (continued)

- New media literacy
- Cultural awareness
- Ability to work with different professional communities
- Ability to share knowledge and ideas internally / within an organisation
- Ability to share knowledge and ideas externally
- Risk awareness
- Failure tolerance

# Applying the open innovation skills and abilities in recruitment

- The report authors do not expect any open innovation manager will have all of the 13 skills and 15 abilities.
- However, they recommend that firms searching to employ an open innovation manager assess the skills and abilities dimensions (along with other requirements) during manager selection.

# Innovation incubators

- Another way that universities are supporting innovation is through the establishment of **innovation incubators**.
- For example, the following innovation incubators established at Harvard University (US), Oxford University (UK), and Macquarie University (Australia).

# PRESS RELEASES

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14 OCT 2010

## Harvard Launches Innovation Incubator

### Opens lab for innovation and entrepreneurship in Allston

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BOSTON—Harvard University announced today the opening of its first lab for innovation and entrepreneurship with the goal of spurring innovative ventures across the University, at Harvard Business School (HBS), and in the Allston-Brighton neighborhood. The Harvard Innovation Lab will open in fall 2011 in a building on Western Avenue in Allston that formerly housed public broadcasting's WGBH.

"For the University as well as for the economy and our nation, the importance of innovation cannot be overstated," said Harvard President Drew Gilpin Faust. "It is also of utmost importance and great interest to our students and faculty, many of whom are inventors and entrepreneurs. This lab will foster team-based activities and deepen interactions among both aspiring and experienced innovators across the schools of Harvard."





# STARTUP INCUBATOR

SUPPORT FOR YOU AND  
YOUR NEW VENTURE



**John Barilaro**

Deputy Premier

Minister for Regional NSW, Small Business and Skills

**Victor Dominello**

Member for Ryde

Minister for Finances, Services and Property

## MEDIA RELEASE

25 September 2017

### **ROYAL OPENING FOR MACQUARIE UNIVERSITY INCUBATOR**

The Minister for Finance, Services and Property Victor Dominello today joined His Royal Highness The Duke of York, Prince Andrew, at the official opening of a new state-of-the-art business innovation centre funded by the NSW Government at Macquarie University.

The Deputy Premier and Minister for Small Business John Barilaro said the Macquarie University Incubator will bring university researchers together with local businesses and entrepreneurs to create new products and ideas.

“The launch of the Macquarie University Incubator by His Royal Highness The Duke of York, Prince Andrew, is a historic occasion for Macquarie University and NSW,” Mr Barilaro said.

“The NSW Government has funded the centre’s construction through the Boosting Business Innovation Program which is providing \$18 million to the state’s 11 universities – including \$1.5 million to Macquarie University – and the CSIRO.

“The aim of the program is to drive innovation and develop new ideas by bringing our best business and academic brains together.

# But do university innovation incubators achieve results?

- A 2016 study<sup>1</sup> for the Baugh Center for Entrepreneurship and Free Enterprise analyzed the impact of academic incubators on the quality of innovations produced by US research-intensive academic institutions.

<sup>1</sup>Kolympiris, C., & Klein, P. G. (2017). The Effects of Academic incubators on university Innovation. *Strategic Entrepreneurship Journal*, 11(2), 145-170.

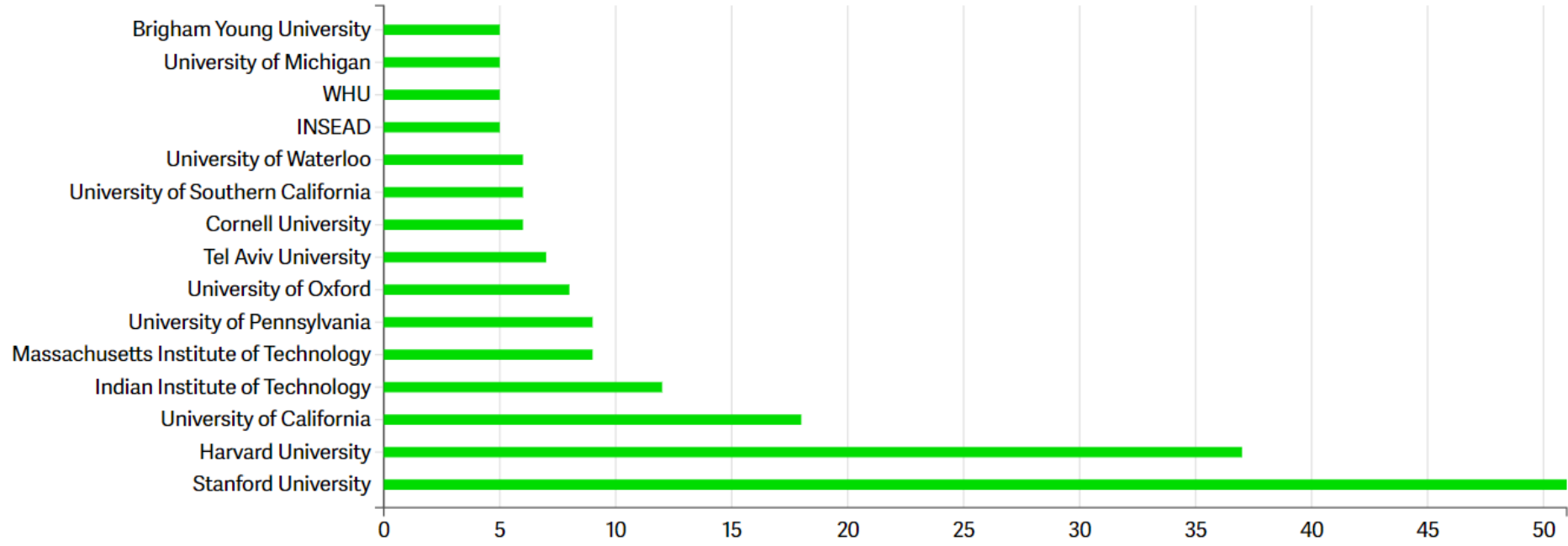
# But do university innovation incubators achieve results?

- The study found that “establishing a university-affiliated incubator is followed by a *reduction* in the quality of university innovations.” [emphasis added]
- The study authors state that: “The results suggest that university incubators compete for resources with technology transfer offices and other campus programs and activities, such that the useful outputs they generate can be partially offset by reductions in innovation elsewhere.”

# But why do some universities produce more innovators?

- While university innovation incubators might not help innovation, there are some universities that produce many more innovators than others.
- The Unicorn League table looks at the common factors behind billion-dollar start-up companies, which have come to be known as “unicorns”. The factors include the universities that were the places of study for the most founders. However, it is not actually currently known why these universities produce more top innovators.

- Topping the table is Stanford boasting 51 unicorn founders as alumni, followed by Harvard with 37.
- US institutions account for 9 of the top 15 most popular universities amongst unicorn founders.



# Libraries as innovation incubators

- Marcus Foth, Professor in Urban Informatics at Australia's Queensland University of Technology, argues that while highly specialised innovation centres are important, they don't help everyday people to “stand up” as potential entrepreneurs.

# Libraries as innovation incubators

- Foth advises that “This requires sandboxes, tinkering spaces, experimental and messy studios, garages and workshops where people from all walks of life come together to create and innovate.”
- He says that one of the best places for this to happen is libraries: “In so many ways, it is libraries that are leading the charge, evolving into spaces for incubation and innovation.”



# Libraries as innovation incubators

- Traditional ways of library use might be declining, but not only are libraries surviving, they're thriving as they embrace new ways of meeting the information and knowledge needs of society.
- One way in which libraries are evolving their relevance is through the establishment of co-working business incubators.
- This isn't actually a new idea. Some 2,000 years ago the famous Alexandria library in Egypt was often home to the self-starters and self-employed of that era.

# Libraries as innovation incubators

- Modern libraries have just about everything a 21st century innovator could need: Internet access, work space, reference materials, professional guidance.
- Innovation incubators are being established in both academic (university) libraries and public libraries, including through collaborative arrangements between both.

# Alexandria Co-Working Network

- For example, Arizona State University (ASU) in the US is establishing the Alexandria Co-Working Network of co-working business incubators inside public libraries.



# Alexandria Co-Working Network

- Named for the world's first library in Alexandria, Egypt.
- Led by ASU's Entrepreneurship and Innovation Group.
- Designed to create a statewide network of places for people to connect, collaborate and find valuable resources.

# Alexandria Co-Working Network

- The spaces, which are free and open to the public during normal library hours, provide access to co-working space, as well as resources that people can use to move their ideas forward, including:
  - experienced mentors from ASU's mentor network
  - “pracademic” (taught by practitioners) classes from ASU's Rapid Startup School
  - physical and digital assets from the libraries

# Makerspaces in libraries

- A good example of successful innovation incubation through libraries comes from the DeLaMare Science & Engineering Library at the University of Nevada, Reno.
- This library is one of the first movers of the makerspaces in libraries movement, being the first academic library in the United States to offer 3D printing and scanning as a library service available to all.
- A successful innovation incubated in the DeLaMare Science & Engineering Library is the **hummingdoc flip** stethoscope adapter for earpods.

# Makerspaces in libraries

- Makerspaces can be any area where people gather to make and create. These spaces often include 3D printers, but do not necessarily have to. In makerspaces, people share supplies, skills, and ideas, and often work together on projects.
- Many libraries have found that maker culture and makerspaces fit naturally with their existing missions, and have begun to incorporate makerspaces into the services they offer their communities.



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visual analysis using your smartphone!

HOW IT WORKS



## INNOVATIVE BUSINESSES

Businesses play a key role in innovating. In order to be able to bring innovations to the market, they must be able to maximise their returns on the resources allocated to innovating. This is the reason why it is important to reduce European market fragmentation, while fostering faster market access and development.

# Topics

- Implement KM practices that support innovation
- Consider all of the different types of innovation
- Use human capital practices that drive innovation

# Implement KM practices that support innovation

- Communities of practice
- Innovation champions
- Interactive communication tools for knowledge exchange and sharing
- Open knowledge approach

# Communities of practice<sup>1</sup>

- A community of practice (CoP) can be defined as a “group of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly.
- CoPs are frequently described as a source of creativity and innovation in academic literature.

<sup>1</sup>Dinter, B., Kollwitz, C., Möslin, K., & Roth, A. (2016). Combining Open Innovation and Knowledge Management for a Community of Practice-An Analytics Driven Approach.

# Innovation champions<sup>1</sup>

- The innovation champion promotes an innovation vigorously through the various stages of the development process against potential resistance by taking risks.
- A range of organisational and individual enablers have been identified.

<sup>1</sup>Reibenspiess, V., Drechsler, K., Eckhardt, A., & Wagner, H. T. (2018). Enabling Innovation Champions in Organizations - Results of a Systematic Literature Analysis.

# Interactive communication tools<sup>1</sup>

- Research on social media tools concludes that these tools create a dynamic, complex information infrastructure that enables easier, faster, and more widespread sharing of information inside companies.
- This facilitates openness in the business environment.

<sup>1</sup>Žemaitis, E. (2014). Knowledge management in open innovation paradigm context: high tech sector perspective. *Procedia-Social and Behavioral Sciences*, 110, 164-173.

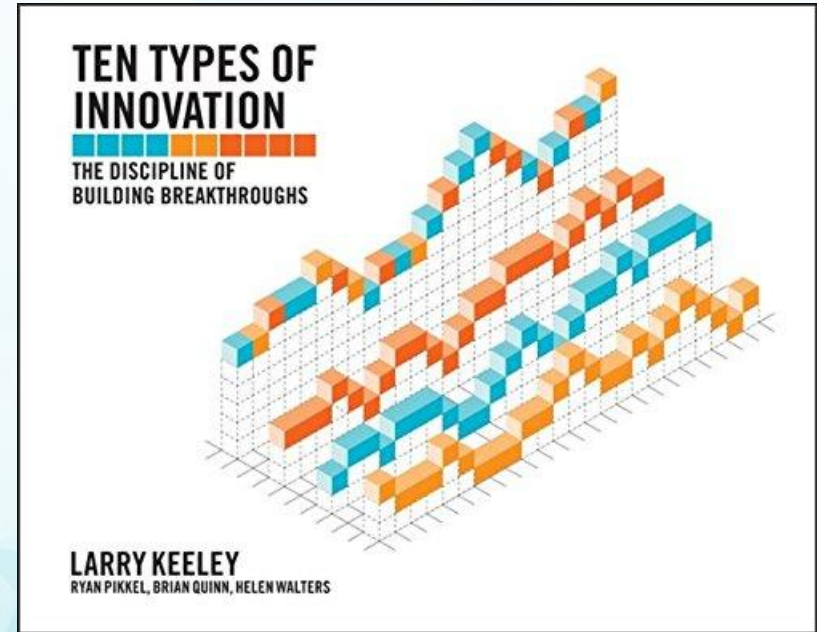
# Open knowledge approach<sup>1</sup>

- Open knowledge is defined as being generated in the open innovation environment, abiding by existing intellectual property frameworks, being a public knowledge resource, and supporting reuse, revision, remixing, and redistribution.
- Current shifts in the balance between the public domain and private province for intellectual property create the opportunity to explore open knowledge not just as a pattern, but also a governance mechanism through open knowledge management.

<sup>1</sup>Wang, Z. (2017). Open Knowledge Management Model in Open Innovation Environment.

# Consider all of the different types of innovation

- There are various ways of describing types of innovation.
- We will look at one approach that describes ten types, [www.doblin.com/ten-types/](http://www.doblin.com/ten-types/).
- With thanks to Adi Gaskell, [www.adigaskell.org/2014/12/04/how-many-types-of-innovation-are-there/](http://www.adigaskell.org/2014/12/04/how-many-types-of-innovation-are-there/).





# Ten types of innovation

1. Profit model innovations
2. Network innovations
3. Structure innovations
4. Process innovations
5. Product Performance innovations
6. Product System innovations
7. Service innovations
8. Channel innovations
9. Brand innovations
10. Customer Engagement innovations

**Network**  
Connections with others to create value

**Process**  
Signature or superior methods for doing your work

**Product System**  
Complimentary products and services

**Channel**  
How your offerings are delivered to customers and users

**Customer Engagement**  
Distinctive interactions you foster



**Configuration**

**Offering**

**Experience**

**Profit Model**  
The way in which you make money

**Structure**  
Alignment of your talent and assets

**Product Performance**  
Distinguishing features and functionality

**Service**  
Support and enhancements that surround your offerings

**Brand**  
Representation of your offerings and business

# Ten types of innovation - Configuration types

- These types of innovation are focused on the innermost workings of an enterprise and its business system.
- The configuration innovation types are:
  1. Profit model innovations
  2. Network innovations
  3. Structure innovations
  4. Process innovations

# 1. Profit model innovations

- How you make money
- Innovative profit models find a fresh way to convert a firm's offerings and other sources of value into cash. Great ones reflect a deep understanding of what customers and users actually cherish and where new revenue or pricing opportunities might lie. Innovative profit models often challenge an industry's tired old assumptions about what to offer, what to charge, or how to collect revenues. This is a big part of their power: in most industries the dominant profit model often goes unquestioned for decades.

## 2. Network innovations

- How you connect with others to create value
- In today's hyper-connected world, no company can or should do everything alone. Network innovations provide a way for firms to take advantage of other companies' processes, technologies, offerings, channels, and brands—pretty much any and every component of a business. These innovations mean a firm can capitalize on its own strengths while harnessing the capabilities and assets of others. Network innovations also help executives to share risk in developing new offers and ventures. These collaborations can be brief or enduring, and they can be formed between close allies or even staunch competitors.

### 3. Structure innovations

- How you organize and align your talent and assets
- Structure innovations are focused on organizing company assets—hard, human, or intangible—in unique ways that create value. They can include everything from superior talent management systems to ingenious configurations of heavy capital equipment. An enterprise’s fixed costs and corporate functions can also be improved through Structure innovations, including departments such as Human Resources, R&D, and IT. Ideally, such innovations also help attract talent to the organization by creating supremely productive working environments or fostering a level of performance that competitors can’t match.

## 4. Process innovations

- How you use signature or superior methods to do your work
- Process innovations involve the activities and operations that produce an enterprise's primary offerings. Innovating here requires a dramatic change from “business as usual” that enables the company to use unique capabilities, function efficiently, adapt quickly, and build market-leading margins. Process innovations often form the core competency of an enterprise, and may include patented or proprietary approaches that yield advantage for years or even decades. Ideally, they are the “special sauce” you use that competitors simply can't replicate.

# Ten types of innovation - Offering types

- These types of innovation are focused on an enterprise's core product or service, or a collection of its products and services.
- The offering innovation types are:
  5. Product Performance innovations
  6. Product System innovations



## 5. Product Performance innovations

- How you develop distinguishing features and functionality
- Product Performance innovations address the value, features, and quality of a company's offering. This type of innovation involves both entirely new products as well as updates and line extensions that add substantial value. Too often, people mistake Product Performance for the sum of innovation. It's certainly important, but it's always worth remembering that it is only one of the Ten Types of Innovation, and it's often the easiest for competitors to copy. Product Performance innovations that deliver long-term competitive advantage are the exception rather than the rule.

## 6. Product System innovations

- How you create complementary products and services
- Product System innovations are rooted in how individual products and services connect or bundle together to create a robust and scalable system. This is fostered through interoperability, modularity, integration, and other ways of creating valuable connections between otherwise distinct and disparate offerings. Product System innovations help you build ecosystems that captivate and delight customers and defend against competitors.

# Ten types of innovation - Experience types

- These types of innovation are focused on more customer-facing elements of an enterprise and its business system.
- The experience innovation types are:
  7. Service innovations
  8. Channel innovations
  9. Brand innovations
  10. Customer engagement innovations

# 7. Service innovations

- How you support and amplify the value of your offerings
- Service innovations ensure and enhance the utility, performance, and apparent value of an offering. They make a product easier to try, use, and enjoy; they reveal features and functionality customers might otherwise overlook; and they fix problems and smooth rough patches in the customer journey. Done well, they elevate even bland and average products into compelling experiences that customers come back for again and again.

## 8. Channel innovations

- How you deliver your offerings to customers and users
- Channel innovations encompass all the ways that you connect your company's offerings with your customers and users. While e-commerce has emerged as a dominant force in recent years, traditional channels such as physical stores are still important – particularly when it comes to creating immersive experiences. Skilled innovators in this type often find multiple but complementary ways to bring their products and services to customers. Their goal is to ensure that users can buy what they want, when and how they want it, with minimal friction and cost and maximum delight.

# 9. Brand innovations

- How you represent your offerings and business
- Brand innovations help to ensure that customers and users recognize, remember, and prefer your offerings to those of competitors or substitutes. Great ones distil a “promise” that attracts buyers and conveys a distinct identity. They are typically the result of carefully crafted strategies that are implemented across many touchpoints between your company and your customers, including communications, advertising, service interactions, channel environments, and employee and business partner conduct. Brand innovations can transform commodities into prized products, and confer meaning, intent, and value to your offerings and your enterprise.

# 10. Customer Engagement innovations

- How you foster compelling interactions
- Customer Engagement innovations are all about understanding the deep-seated aspirations of customers and users, and using those insights to develop meaningful connections between them and your company. Great Customer Engagement innovations provide broad avenues for exploration, and help people find ways to make parts of their lives more memorable, fulfilling, delightful – even magical.

# Use human capital practices that drive innovation

## Human Capital Practices That Drive Innovation

An i4cp Report



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# Use human capital practices that drive innovation

- Traditional product/service innovation is necessary but not sufficient to remain competitive.
- Innovation in business models and processes, including human capital and talent management practices, is essential to market performance. High-performing organizations demonstrate significantly greater proficiency in innovation in each of these areas.

# Use human capital practices that drive innovation

- The path to innovation effectiveness is neither short nor simple. It requires a culture that values and fosters innovation and a supporting system of processes, leadership, technology, training, recruiting, and rewards to create a strong and sustainable innovation capability.

# Use human capital practices that drive innovation

- Use technology-enabled collaboration/social media tools to share knowledge.
- Define and promote organizational values related to innovation.
- Include innovation as a major competency in leadership development plans.
- Individual bonuses and/or salary increases are tied to innovation.
- Have a formal program to find and promote creative/innovative programs, products, or ideas.

# Use human capital practices that drive innovation

- Put in place discrete budgets to fund innovation projects external to the enterprise (i.e. to generate ideas or products from non-employees).
- Provide internal training in creativity and innovation practices.
- Put in place a formalized or structured idea/innovation review process.
- Track innovation talent at both the college undergraduate and/or graduate level.
- Reward innovation via more engaging work and/or greater autonomy.

## Further reading

- I regularly publish the findings of new research on innovation—KM links and related issues in **RealKM Magazine** [www.realkm.com](http://www.realkm.com).
- This includes excellent research and policy insights from Adi Gaskell, who writes widely on [innovation](#) and [open innovation](#).
- Sign up for the **Weekly Wrap e-newsletter**, or follow on **social media**.
- I would like to thank Stephen Bounds and Dr Arthur Shelley (RealKM Platinum Patrons), Patrick Lambe (RealKM Gold Patron), Aprill Allen and Stuart French (RealKM Silver Patrons), and all of our other greatly valued patrons for making RealKM Magazine and its continued growth possible.

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