

# KnowledgePills

BY ESADE FACULTY

EXECUTIVE EDUCATION

---

How to improve  
decision-making in groups

BY NÚRIA AGELL | pg. 02

---

---

Can a robot  
be a leader?

BY XAVIER FERRÀS-HERNÁNDEZ | pg. 04

---

---

7 mindsets of  
innovative leaders

BY JAAP BOONSTRA  
AND JOÃO BRILLO | pg. 07

---

---

The big challenges facing  
SMEs and the keys to  
improving competitiveness

BY LUIS VIVES | pg. 11

---

# How to improve decision-making in groups

## New computational algorithm reveals measures to reach consensus in groups

**Decision-making can be a very subjective process. This is especially true when decisions have to be made in groups, where there tend to be more disagreements and differences of opinion and it is more difficult to reach a consensus.**

Using linguistic analysis and mathematical algorithms, the researchers monitored how experts used words in group decision-making environments and measured their degree of disagreement, hesitance and consensus.

“Linguistic terms are a key factor for understanding the uncertainty inherent in human reasoning when expressing preferences,” says Prof. Agell. “When decision-makers’ assessments involve hesitance, linguistic information can be a powerful tool for measuring the level of discordant or polarized opinions among the experts in the group.”

### Reaching consensus

When faced with several scenarios in group decisions, the algorithm calculates not only the experts’ degree of consensus on each possible solution but also the amount of dissent within the group by considering hesitant opinions.

In order to do this, the system analyzes hesitant fuzzy sets of words used by the experts and calculates the average level of consensus based on the distance between the group’s central opinion and the individual opinion of each expert.

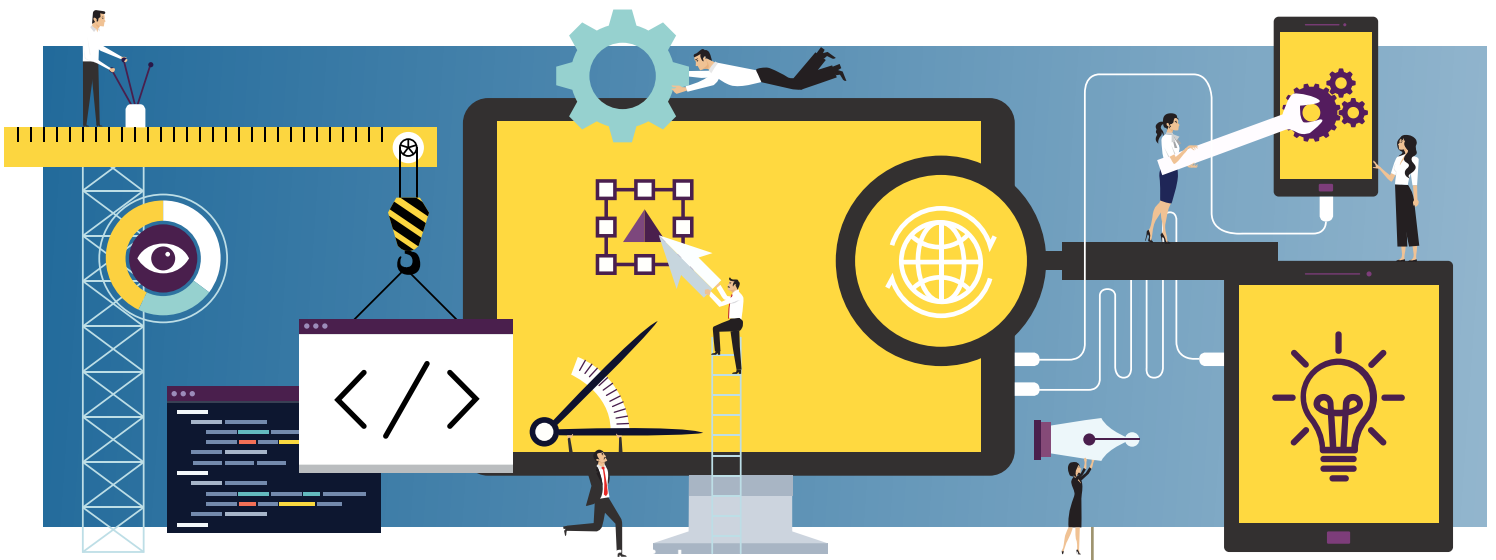


**Núria Agell**

Núria Agell holds a degree in mathematics from the University of Barcelona and a PhD in applied mathematics from UPC-BarcelonaTech for a dissertation on artificial intelligence. She is an active member of the Catalan Association for Artificial Intelligence (ACIA) and the EURO Working Group on Multicriteria Decision Aiding. She spent research periods at the Laboratory for Analysis and Architecture of Systems (LAAS-CNRS) in Toulouse and the University of Edinburgh Business School. From 2006 to 2010, she served as President of the ACIA.

Her main research interests are the development of artificial intelligence techniques and decision-making systems. In particular, she is interested in learning algorithms, qualitative and fuzzy reasoning, multicriteria and group decision-making, recommending systems and consensus modelling.

She is the coordinator of the ESADE Research Group on Judgements and Decisions in the Marketplace. She is currently the leading coordinator of several publicly and privately funded projects on the application of artificial intelligence to business and marketing.



“The results show that the level of consensus in groups is closer to common-sense reasoning,” says Prof. Agell. “And the measurement of dissent in terms of the existing differences is crucial to differentiate among groups and find the possible ways to reach consensus.”

### Finding the right experts

Sometimes, when choosing decision-makers to assess a set of alternatives, a more precise expert is preferable to a more hesitant one. Other times, it can be useful to include a more dissenting expert who can open a door to innovation. And sometimes it’s just the other way around.

In their research, the authors designed an expert profile that keeps track of experts’ previous assessments and determines how precise and how dissenting they are with respect to the decision-making team. This profile could be useful to anyone who has to choose the members of a decision-making group because it can identify the main characteristics of each potential member’s assessments beforehand.

“For instance, if we want to have a committee where consensus is easily reached, we can choose decision-makers whose opinions are close to the average opinion, which means low precision and low dissent,” says Prof. Agell.

“On the contrary, if we prefer a committee where polarized opinions are strongly defended, we should choose determined decision-makers whose opinions tend to be far away from the central opinion, which means high precision as well as high dissent.”

The profiles collect the experts’ behavior in previous assessments and can be useful for selecting the right individuals for future committees or decision-making groups.

“

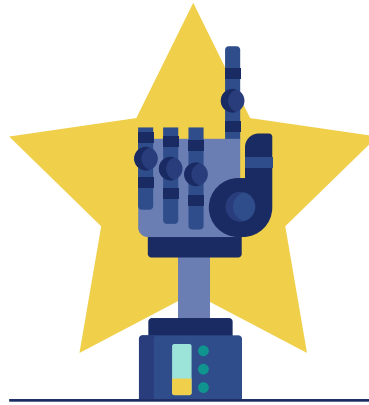
Linguistic terms are a key factor for understanding the uncertainty inherent in human reasoning when expressing preferences

”



# Can a robot be a leader?

The future of management in a world of electronic brains



**Artificial Intelligence (AI) is increasingly able to make decisions in complex situations. Digital machines are replacing all kinds of human tasks, whether repetitive, specific, manual or cognitive.**

There is, however, a worrying dark side to this potent force. We are increasingly bombarded with news stories on the way machines may threaten jobs — something that has huge implications for modern Capitalist society. Robots are eliminating jobs in factories, warehouses, and customer service centers at an accelerating pace.

The future of work will be shaped by digital automation, which may open the door to hyper-productive corporations without employees. Yet with ever-greater AI capabilities, the future could also be one that dispenses with human management.

With intelligent automation, managers at various levels may also become redundant. We could well see data-processing networks making decisions and sending electronic instructions to the corporate structure round the clock. What better than an intelligent algorithm to analyze data and to make decisions in Marketing, Human Resources, Operations, and Finance?

## The electronic CEO

We might even have a future ‘Digital CEO’ (just an algorithm) that would continuously analyze all worthwhile information on the news, review customer comments on social networks, and supervise internal production indicators.



## Xavier Ferràs Hernández

Xavier Ferràs is Associate Professor of Operations Management, Innovation & Data Sciences at ESADE and Executive Director of Business Custom Programs. He was formerly Dean of the Faculty of Business and Communication at the University of Vic.

Until 2012, Prof. Ferràs was Director of the ACC10 Center for Business Innovation (Catalan Agency for Competitiveness), and was responsible for technology transfer policies, R&D and development of clusters in Catalonia. He previously served as CIDEM's Director of Business Development, Head of Innovation, Coordinator of the Technological Innovation Plan for Catalonia (2001-2004), and was member of the committee drafting the Research and Innovation Plan (2005-2008).

Among other executive positions bearing on technology and innovation, he has served on Boards of Trustees and Executive Boards at BAIE (aerospace cluster), Biocat (biotechnology cluster), CTM technological centers (advanced materials), Barcelona Media (audiovisual), CTAE (aerospace), LEITAT (manufacturing), the Microsoft Productivity Center in Manresa, the Catalan Foundation for Research, the i-CERCA Foundation (Research Center of the Catalan Government), Invertec (Venture Capital Company), and Creafutur.



This electronic CEO would give the right orders to manufacturing plants to maximize corporate results. The entire management could be replaced by a digital machine that would learn all by itself and become more productive with every passing day.

Given this backdrop, many questions arise that go far beyond just the economic implications of AI. How will Artificial Intelligence affect the practice of management itself?

### **Operations management and strategy**

Machines are clearly superior in the interpretation of Big Data, pattern identification, error prevention and subsystem coordination. Management processes that are strongly based on logic, statistics, and rational decision-making will soon be performed much better by intelligent algorithms.

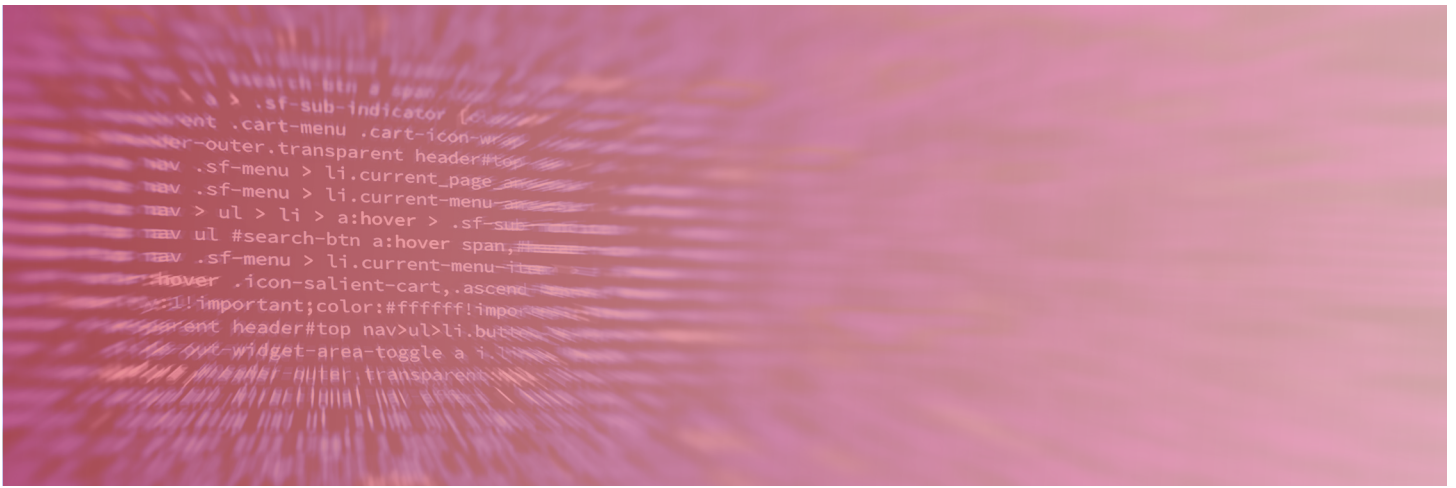
This will obviously soon be the case in the fields of Operations Management, where decisions and policies bearing on Stock Management, Procurement, Supply Chains, Production Planning, Quality Control, Distribution Logistics, all require a high level of mathematical reasoning. This is also the case in Financial Management. Once the strategy is defined and the corporate objectives are set, machines can be left to get on with implementing the strategy all by themselves.

Under these models, not only will production lines be robotized but so too will Operations Management in those fields that are highly susceptible to automation.

“

Artificial Intelligence is increasingly able to make decisions in complex situations. Digital machines are replacing all kinds of human tasks, whether repetitive, specific, manual or cognitive

”



## Will robots replace managers?

Leadership is an example of a very human activity – it requires understanding and interpretation of emotions (your own and those of others). It is an activity that needs interaction among people, recognition of individual needs, and the use of this recognition to guide teams toward achieving defined goals.

Can a robot be a leader? MIT researchers show that it would not be difficult for people to receive robot instructions. People could accept a robot as a boss. Yet it is one thing to give cold instructions to a human team mate and quite another to lead people, to have the emotional ability to guide a team in VUCA (Volatile, Uncertain, Complex and Ambiguous) situations. To do so, trust must be forged — something for which emotional skills are needed.

Although artificial intelligence is highly capable when it comes to, say, determining the key characteristics of a product to be launched in a particular market, or in diagnosing some types of cancer, AI still lacks the emotional skills to successfully complete interactions with people (for instance, creating brands with emotional values, persuading a customer, negotiating a major contract, or communicating a serious illness in a medical process).

Machines cannot assume the functions of institutional representation. Could a machine act as a company's institutional representative? Could it have legal responsibilities? Could a machine even be the owner of a business or, say, a patent? It is likely that processes that involve persuasion, leadership, institutional relations, and ownership will resist the encroachments of Artificial Intelligence better.

“

Machines are clearly superior in the interpretation of Big Data, pattern identification, error prevention and subsystem coordination

”

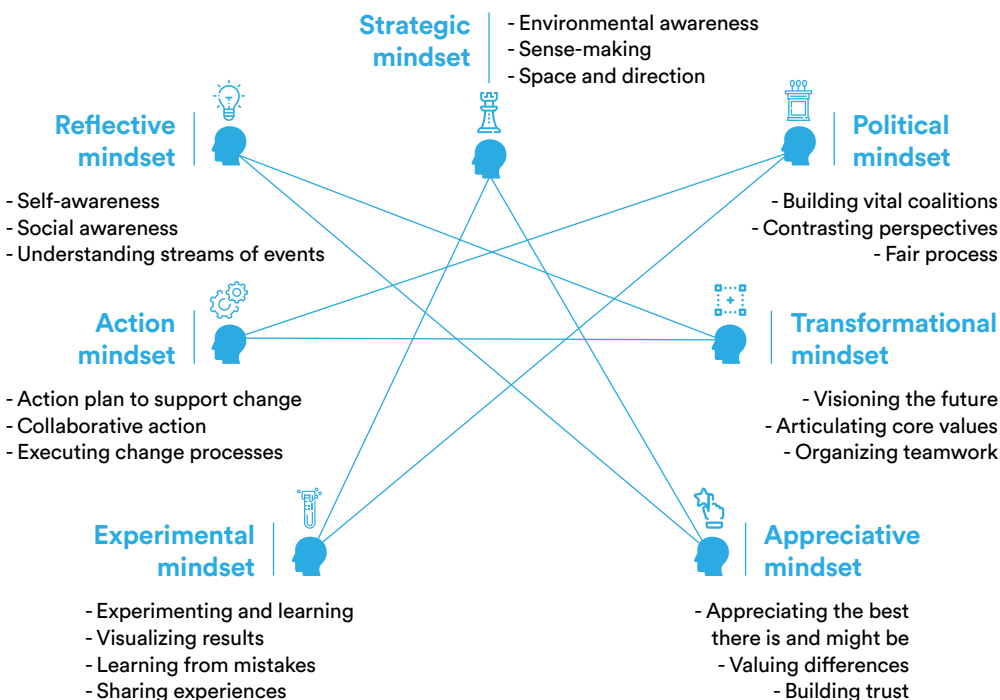
# 7 mindsets of innovative leaders

In their latest book, *Liderança e cultura organizacional para inovação*, ESADE Visiting Professors Jaap Boonstra and João Brillo reveal how successful organizations implement innovation and what sets of skills and mindsets innovative leaders have in common.

Who are the leading champions of cultural change for innovation? It's not just top and mid-level managers. Professionals and specialists also frequently assume leadership roles in these processes. In all cases, they are people who follow their ambition and genuinely feel that things can be done differently and better. They believe that making an effort to change is worthwhile and they are prepared to take risks.

Successful leaders of organizational change for innovation work on change and innovation from a position of commitment and personal motivation. The authors highlight 7 fundamental mindsets of these champions of cultural change for innovation.

## 7 mindsets of cultural change for innovation



**Joao Brillo**

Joao Brillo is Visiting Professor at ESADE Business School. He holds a PhD and MS in Production Engineering from the Federal University of Rio de Janeiro, Brazil and a Post-Doctorate in Innovation.

Brillo is Professor of MBA and Corporate Solutions at Ibmec Business School, Rio de Janeiro, Brazil, in the disciplines of Strategic Management of Human Resources, Organizational Behavior, Leadership, People Management and Leadership of High-Performance Teams.

He pursued his executive career in Shell and Suzano, having worked in the areas of Human Resources, Logistics, Controlling, Economic Planning, Finance and Marketing.

## 1. Strategic mindset

Cultural change involves playing with meanings. When situations are uncertain, people look for information and meaning in order to be able to interpret the situation. The meaning gives color to the situation and direction to behavior. If the continued existence of a company is at stake, uncertainty is generated, which can sometimes have a paralyzing effect. People who take the initiative in such cases – interpreting the situation and showing the way forward – offer a new perspective on the existing situation and the future. That is how they inspire others to join them on that course and seize the new future. It's about people who make a difference in uncertain situations and are capable of imagining the future.

## 2. Political mindset

Many stakeholders are active in and around organizations. Shareholders are important for financial continuity and loyal customers are essential for the stability and sustainability of business organizations. Competitors, new entrants and substitutes may threaten existing business models and challenge innovations. Politicians and their political advisors influence business by expressing their opinion and developing new laws and rules... To prepare a business for the future, it is essential to consider the stakeholders that influence the existence of the organization. Internal player groups also contribute to the dynamics inside the organization.

## 3. Transformational mindset

Leaders of cultural change foster innovations by formulating a challenging vision, which they then use to motivate others. To achieve cultural change, they form vital coalitions of people who want to play a leading role in that vision and create innovative teams that challenge existing business concepts.

Transformational leaders visualize the future. This vision reflects the meaning of the organization and makes clear what the organization represents and aims for. The strength of the business is also discernible from the vision. A motivating vision appeals to people's need to be proud of their work and describes the organization's meaning for its customers and society.



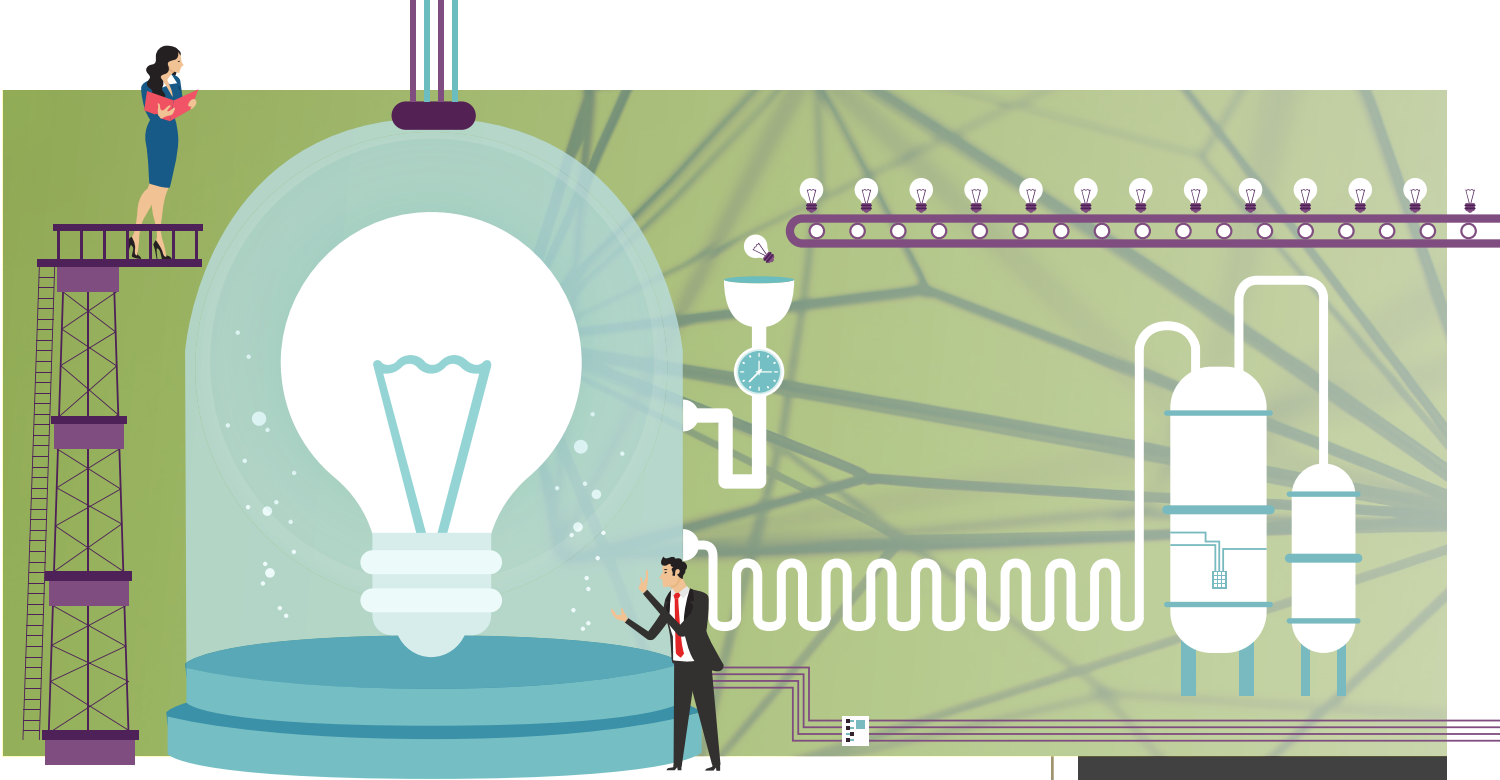
## Jaap Boonstra

Jaap Boonstra is Professor at ESADE Business School and Professor at Vienna University for Economy and Business [Wirtschafts Universität Wien — WU]. He is a Lecturer at the Netherlands School of Government (NIG) in The Hague. He formerly worked as Professor of 'Organizational Change and Learning' at the University of Amsterdam (UvA) (The Netherlands) and as Dean of Sioo (inter-university center for organizational change and learning).

At ESADE Business School, Jaap is involved in education for strategic and cultural change in organizations, organizational and professional development, and cross-cultural mergers and alliances. His research focuses on transformational leadership, barriers to organizational change and innovation, power dynamics in organizational change, and the sustainable development of organizations.

Jaap has published over two hundred articles on technological and organizational innovation, management of organizational change, organizational learning, politics in organizations, strategic decision-making, and transformational change in the service sector and public administration.





#### 4. Appreciative mindset

Leaders of cultural change for innovation are aware of the past and acknowledge the contributions of their predecessors. They know how to value others for what they contribute to the company. They involve others in the cultural change, they provide space for emotions and they are honest in telling what the change means for the people in the company.

Initiators of cultural change for innovation build on trust and appreciate difference because differences can be a source of renewal and innovation. Innovative leaders appreciate difference, build on trust and use conflicts to open a dialogue about the company's cultural values.

#### 5. Experiential mindset

This mindset is about experimenting with renewal, making results visible, accepting and learning from mistakes and sharing rich experiences. In every organization, people learn from critical events and mistakes. These learning experiences shape the organization's culture because in these kinds of situations people learn how they have to deal with unexpected events.

The idea behind this is that people in learning organizations are curious and willing to experiment. Experimenting and learning means that people of different backgrounds are prepared to share their knowledge and welcome each other's success.

“  
Initiators of  
cultural change  
for innovation  
build on trust  
and appreciate  
difference  
because  
differences can  
be a source of  
renewal and  
innovation

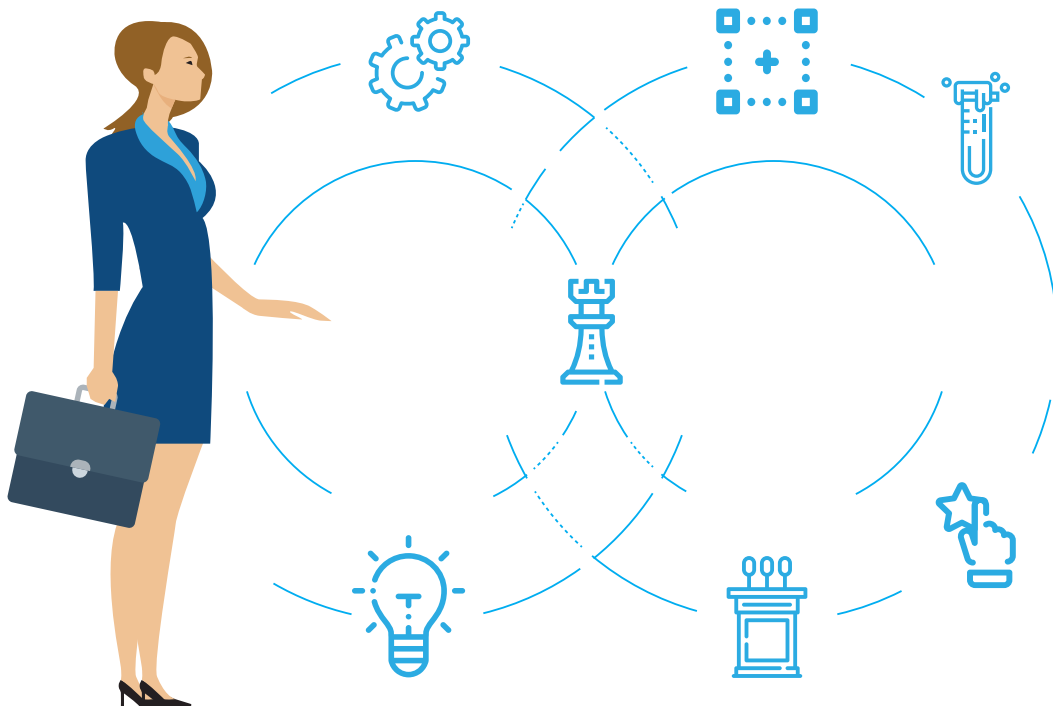
”

## 6. Action mindset

Innovation without active implementation is a daydream. Implementation without a strategic view of innovation is a nightmare. Leaders of cultural changes and innovations have an action orientation as well. They want to achieve results and are committed to realizing profound changes. People who take the initiative to change their organization will find that many interventions are available. Interventions are the tools on an exciting journey – the necessary activities to realize an ambition. The art lies in arriving at a consistent combination of interventions and developing an action plan that match the reason for the change and the overarching change strategy in order to realize renewal or innovation.

## 7. Reflective mindset

Leaders of cultural change for innovation are aware of developments in the surrounding environment and know what is happening in the organization. They know themselves and study others in depth. They use this awareness to direct the energy of the organization's people and to perform innovation. During cultural change for innovation, tensions are obvious and a part of the game. Curiosity helps to discover the unwritten rules of the game and the underlying dynamics that guide behavior. Profound change puts the existing values, habits and forms of conduct under pressure, and tensions and conflicts can arise from this.



“

Successful leaders of organizational change for innovation work on change and innovation from a position of commitment and personal motivation

”

# The big challenges facing SMEs and the keys to improving competitiveness

Due to their limited size and resources, small and medium-sized enterprises (SMEs) have traditionally been associated with a limited capacity to compete and to innovate. But SMEs also have a number of advantages over large companies: less bureaucracy, more communication, higher levels of employee commitment and more flexible structures.

In today's world, agility and the ability to do things unconventionally can be a source of competitive advantage. Innovation and digitalization have opened up new opportunities for SMEs to become more competitive, increase in size and generate business growth.

## The 4 big challenges facing SMEs

SMEs must overcome four limitations to improve their competitiveness and positioning:

### 1. Access to talent

Many SMEs have trouble when it comes to professionalizing their management and creating high-level executive teams. Their limited financial resources and capacity for talent growth make it difficult to attract the highly qualified professionals they need to compete in the market.



**Luis Vives**

Dr. Luis Vives is the Associate Dean of the Full-Time MBA, Director of the Multinational MBA and Associate Professor of Strategy and General Management at ESADE. Before joining ESADE, Dr. Vives was a Postdoctoral Fellow at the Sloan School of Management at the Massachusetts Institute of Technology (MIT).

Dr. Vives has been a visiting scholar at Harvard University and visiting professor at various universities in Europe and Latin America. As a lecturer and consultant, he has worked with multinational companies in the United States, Europe, Latin America, Asia and the Middle East across multiple sectors, including banking, insurance, telecommunications, wines and spirits, pharmaceuticals, creative industries, logistics and industrial groups.

His research focuses on the creation and development of innovative business models. His work has appeared in journals such as *Sloan Management Review*, *Journal of Organizational Behavior*, *Long Range Planning*, *Advances in International Management* and *Advances in Strategic Management*.



## 2. Access to financing

SMEs tend to be very dependent on banks because it is difficult for them to access sources of financing in other markets. Although some SMEs have recently developed business models that allow access to new funding sources, generally speaking these companies remain at a disadvantage.

## 3. Investment capacity for branding

In today's increasingly global world, a recognized brand can make a company more competitive. SMEs often have trouble investing the necessary resources to create a recognized brand, which would allow them to differentiate themselves by reaching new customers and markets.

## 4. Investment capacity in innovation

Innovation is the key to generating new products and value propositions that meet customer needs and, in turn, make the company more competitive. Many SMEs find it difficult to invest time and resources in these activities, so they end up competing in price – an unsustainable strategy in the medium and long term.

“

In today's world, agility and the ability to do things unconventionally can be a source of competitive advantage

”





## How to make SMEs more competitive

SMEs should work with schemes that help them become more competitive in order to achieve better results and growth. They should also look for formulas that generate opportunities and create value. Innovation and digitalization play a key role in this endeavor.

When it comes to innovation, most attention has traditionally focused on the launch of new products or services. SMEs face a twofold challenge in this regard, since they must invest resources not only to innovate – an uphill battle for this type of companies – but also to support differentiation.

In the context of SMEs, innovation in processes and innovation in business models are two modes of innovation that are essential to ensuring success in the medium and long term.

**Innovation in processes** involves changing how added value is created. It is normally associated with achieving greater operational efficiency by developing new production processes (to achieve greater efficiency or excellence) or new management processes. To achieve innovation in processes and reach the necessary scale to be competitive, SMEs must be creative and think differently.

SMEs also have the opportunity to explore **innovation in business models**: changing the rules of a particular industry or sector. Innovation in business models changes how customer value is generated and creates new ways of capturing value. One area often neglected by SMEs is searching for new ways of capturing value and alternative income sources. Finding new ways for customers to pay for services (for example, shifting from paying for a product to paying for a service or creating leasing options) can also be a source of competitive advantage that generates loyalty and improves competitiveness.

Improving the customer experience is another relevant source of innovation that can make companies more competitive. Once again, SMEs can leverage their smaller scale to deliver quick, personalized customer service – a perennial challenge for larger companies.

By understanding and responding to customers' needs, many successful SMEs have managed to evolve from a product model to a combination of product and services.

“

Innovation and digitalization have opened up new opportunities for SMEs to become more competitive, increase in size and generate business growth

”

**ESADE**  
Business School

RAMON LLULL UNIVERSITY

**Executive  
Education**

YOUR PARTNER  
FOR GLOBAL  
LEARNING



**KnowledgePills**

BY ESADE FACULTY | 2018

[www.esade.edu/exed](http://www.esade.edu/exed)