THE DEMOCRATIZATION OF JUDGMENT IN THE AGE OF ARTIFICIAL INTELLIGENCE

Insights from the world’s leading management thinkers

A research initiative by

ECSI consulting
European Center for Strategic Innovation

The European Centre for Strategic Innovation (ECSI) was founded in 2009 as a management research center, which aims at contributing to management practice with new theories, cases and ideas to meet the following broad challenges:

- Building extraordinary organizational capabilities able to sustain long-term profitable growth;
- Creating organizations that win with innovation.

ECSI research is based on rigorous standards and is published in the best global management magazines and media, such as the Harvard Business Review, London Business School Review, Rotman Management, and the European Business Review.

In selecting research topics, ECSI looks for novelty and, equally importantly, for relevance, ideas that address concrete business issues and are on the strategy agenda of global business leaders.

ECSI collaborates seamlessly with its sister company ECSI Consulting to bridge new management ideas into applicable methods and offerings. In 2017, ECSI Consulting was named by AIM Intelligence as one of the top 5 global strategic and innovation consulting firms.

Thinkers50

The Thinkers50 scans, ranks and shares the greatest management ideas of our times. Its definitive global ranking of management thinkers is published every two years.

Since its launch in 2001, the ranking has been topped by Peter Drucker, Michael Porter, CK Prahalad, Clay Christensen and Roger Martin. The Thinkers50 Awards have been described by the Financial Times as “the Oscars of management thinking”.

The Thinkers50 has ten established criteria by which thinkers are evaluated – originality of ideas; practicality of ideas; presentation style; written communication; loyalty of followers; business sense; international outlook; rigor of research; impact of ideas and the power to inspire.

Thinkers50 champions the latest management ideas worldwide. Thinkers50 Europe is a partnership between Thinkers50 and the City of Odense. It hosts the annual Thinkers50 European Business Forum. Thinkers50 China is based in Qingdao and is a partnership with the Haier Group.
<table>
<thead>
<tr>
<th></th>
<th>TABLE OF CONTENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Executive Summary</td>
</tr>
<tr>
<td>5</td>
<td>Introduction</td>
</tr>
<tr>
<td>7</td>
<td>Why companies need more judgment</td>
</tr>
<tr>
<td>13</td>
<td>Four actions for democratizing judgment</td>
</tr>
<tr>
<td>25</td>
<td>In closing</td>
</tr>
</tbody>
</table>
ABOUT THE RESEARCH

ECSI and Thinkers50 teamed up to develop this report on the democratization of judgment in the age of Artificial Intelligence (AI), a research initiative focused on the impact of analytical and cognitive computing technologies on the role of human judgment in business decision making.

The analysis in this report and other outputs from this project draw on the results of a poll and insights from interviews with the world’s leading management thinkers, as well as extensive desk research.

To find out more about the research initiative, please visit our websites, where you will find great insights from the full interviews with leading thinkers and links to other ECSI publications on the topic.

www.ecsi-consulting.com
agenda2018.thinkers50.com/ai-gets-real

EXECUTIVE SUMMARY

With companies investing heavily in machine learning and predictive modeling, Artificial Intelligence is now a reality. But in contrast to common belief, this is an opportunity rather than a threat. With advanced analytics, people – not data – are key to unlocking the opportunity.

Organizations can adopt the most sophisticated technologies and hire an army of data scientists, but their efforts will fail if the human aspect is understated. As many business processes – from strategy to innovation and market – are still governed and carried out by people, companies will require more human judgment in the future.

Coupling sound qualitative judgment – the ability to make a decision based on a personal interpretation of the context and available facts – with Big Data and AI can make a company unbeatable.

Getting there involves four crucial actions:
1. Democratize judgment across the organization
2. Foster employees’ skills in generating insights and applying qualitative judgment
3. Provide data access to all
4. Loosen the reins of control by shifting from a traditional ‘Prevention-Control Model’ to a ‘Post-Detection Model’

The time has come to walk the talk with respect to democratizing decision-making authority. And, if the companies who have embraced this approach are an indication, profitable growth is sure to follow.
In an age of Big Data and Artificial Intelligence, the exercise of good judgment by employees throughout an organization has never been more important.

Hardly a day goes by without the announcement of a promising new frontier for AI. From fintech to edtech, what was once fantastically improbable is becoming a commercial reality. At the same time, corporate investments in Big Data and the dividends they yield in terms of consumer insights are trumpeted on a daily basis.

Oddly, we don’t hear much about the demand created by this rising ‘supply’: In a world of Big Data and AI, the demand for sound and distributed judgment is increasing.

‘Qualitative judgment’ — the ability to make a decision based on a personal interpretation of the context and available facts — has never been more important (or overlooked).

At Thinkers50 2017 on November 13 in London, we asked 50 of the world’s leading business thinkers and commentators for their take on the future role of judgment. In our poll, respondents overwhelmingly agreed that business judgment will become more relevant as AI will increasingly support — rather than replace — human decision making.
The view of the world’s leading business thinkers on the future role of judgment

In 20 years, in which areas will judgment be the leading element in decision making?

<table>
<thead>
<tr>
<th>Area</th>
<th>Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategy</td>
<td>82%</td>
</tr>
<tr>
<td>Innovation</td>
<td>75%</td>
</tr>
<tr>
<td>Customer Service</td>
<td>33%</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>30%</td>
</tr>
<tr>
<td>Marketing</td>
<td>30%</td>
</tr>
<tr>
<td>Supply Chain &amp; Logistic</td>
<td>10%</td>
</tr>
<tr>
<td>Sales</td>
<td>10%</td>
</tr>
<tr>
<td>Finance</td>
<td>8%</td>
</tr>
<tr>
<td>Planning &amp; Budget</td>
<td>3%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>3%</td>
</tr>
</tbody>
</table>

How will AI change the way companies make decisions?

- 2%: AI will replace human decision making
- 98%: AI will support human decision making

Source: Survey conducted in November 2017 with 50 world’s leading management thinkers.
Emotional understanding and pure imagination are things that humans excel at.

There are three main reasons why judgment will remain central to the practice of management and leadership in the years to come.

First, qualitative judgment is the last preserve of humanity in making decisions. There is no question that Big Data and AI are opening up new business opportunities, while offering important advances to the realm of management. Already, they are helping organizations analyze their markets and consumers more effectively and make informed predictions.

But the Big Data revolution is also showing the limits of pure data-driven decision making: not all business decisions should be reached through scientific analysis. Certain types of decisions – particularly those related to innovation and strategy – will always entail a qualitative judgment component.

Business history is full of stories where people have willfully complemented data with their own qualitative judgment and reaped a commercial dividend. Creativity, emotional understanding and pure imagination are things that humans excel at, and the availability of a huge amount of additional data or AI technologies will not negate this fact of life.
"One thing AI is not going to do is replace creativity. AI is based on past data, about all kind of things that have happened. But it can’t tell you what is going to happen, or it can’t come up with the next great idea."

Syd Finkelstein, Steven Roth Professor of Management and Director of the Center for Leadership at the Tuck School of Business at Dartmouth College

"Humans are best at being human. We have to amplify the unique human skills related to technology. That means we have to amplify empathy, compassion, love, imagination, asking the right questions, etc. to drive AI systems. AI can give answers and produce anything in the future, but we are responsible for the purposes, the goals and the imagination."

Yuri van Geest, co-author of Exponential Organizations

"As Aristotle said 2400 years ago, ‘In the part of the world where things can be other than they are, where we can invent and create the world you need to imagine the possibilities and then choose the one for which the most compelling argument can be made.’ There has never been a greater time for the need to imagine possibilities of a better world, better consumer experiences, etc. So that will be the key job of humans in the AI age."

Roger L. Martin, the world’s number one ranked management thinker by Thinkers50
When data and prediction are cheap, companies generate more frequent customer insights, which creates the need for more frequent decisions.

As the cost of prediction goes down, the demand for judgment will increase.

Thanks to the advent of Big Data, the cost of finding and organizing data and running analyses has become much cheaper. In the Harvard Business Review article “The Simple Economics of Machine Intelligence”, Prof. Agrawal et al. explain that AI is a prediction technology, so the cost of prediction will also become cheaper over time. This means that organizations will substitute other input factors (human skills) with the low cost and better technology to collect data and develop predictions.

But at the same time the value and demand of complementary factors will rise, like more decisions to be made due to more frequent insights and predictions. This, in turn, will lead to greater demand for the application of judgment and emotional understanding (provided by humans) to make these decisions.
“As AI systems become much more advanced, organizations will need leaders to have good judgment to be able to tell when an AI system is leading to good decisions and when it might lead us down a path that is not fruitful or has bad outcomes for our stakeholders. Every AI system is built on a specific model, that model might have missing data or might be underspecified in lots of ways and we need good judgment to figure out under what conditions does the model hold, should we follow the prescription of AI, and under what conditions should we just take it as a starting hypothesis. So, being able to tell when to follow the AI word for word vs when to deviate is going to be critical skill for leaders.”

Bidhan “Bobby” Parmar, Associate Professor of Business Administration, Darden School of Business, University of Virginia

“What is interesting about AI is that it allows us to answer a lot of questions. But it doesn’t necessarily always ask questions. So, to some extent, what it does is that it shifts human beings from being providers of answers to being askers of questions, and that is a profoundly different skill. So, we have to think about judgment as a mix of those things: not only deciding what to do but knowing which questions to ask to lead us to those decisions.”

Daniel Pink, author of When: The Scientific Secrets of Perfect Timing
Distributed IT architectures can allow employees to make the right decision in a timely manner.

As data-prediction technologies are more widely distributed, judgment must also be more widely distributed.

Big Data and AI technologies will provide managers and employees with accurate data and predictions at their fingertips. These technologies employ distributed IT architectures to allow employees throughout organizations to make the right decisions in a timely way.

Companies like AT&T and IBM are leading this point-and-click AI revolution. Driven by the ambitious goal of making AI technologies available organization-wide, they provide people user-friendly, self-service tools, so they can take advantage of the new opportunities to use data and make better decisions.

Distributed data will enable more insight-driven work and demand the distribution of judgment-based decision powers.
THE DEMOCRATIZATION OF JUDGMENT IN THE AGE OF ARTIFICIAL INTELLIGENCE

"The greater the power of technology at your service, the greater opportunities emerge in terms of people able to do things without being told from the top. That way we can draw a lot of lessons from Amazon. One of the reasons why Amazon is moving faster than other great companies, is because Jeff Bezos runs a more decentralized organization. Therefore, independent parts of the company, as long as they are aligned with the corporate culture and corporate vision, they have a lot more freedom to say, “These are top 10 things we need to do”. And yes, they need to get approval, but they can keep margin ahead.”

Anil Gupta, Michael Dingman Chair in Strategy and Globalization at The University of Maryland

"With more and more AI, judgment in making decisions is going to be pervasive throughout organizations. Employees need to be free to make decisions. This demands a new control system which provides - more than the skills - the freedom, the courage and the authority to make decisions down in the organization. This will be the major change that AI brings.”

Alessandro Di Fiore, Founder and CEO of ECSI and chairman of Harvard Business Review Italia

PITHY WISDOM FROM THINKERS50
ow, and in the future, companies will require more rather than less human judgment for their innovation and market-related decisions. Moreover, sound qualitative judgment coupled with Big Data and AI can make a company unbeatable. To get there, judgment will need to be democratized across the organization. How to get started? Below are four guiding principles to follow.

FOUR ACTIONS FOR DEMOCRATIZING JUDGMENT

1. **Democratize Judgment Power**
2. ** Foster Qualitative Judgment**
3. **Skills Provide Data Access to All**
4. **Loosen the Reins of Control**
Provide space and freedom to use sound judgment to make decisions.

Companies tend to believe that innovation and market-related decisions are the responsibility of a few, highly-positioned people. There is a widespread autocratic view, which conceives that only these ‘elected ones’ are entitled to make decisions that affect customers and innovation.

By way of contrast, consider the credo that Toyota embraced in its Toyota Production System (TPS). In the TPS, everybody is responsible for the search and implementation of ideas to improve operational performance. Responsibility is pushed down to the very lowest level in the organization. In the TPS, two worlds - manufacturing and market innovation, which appear so remote from each other - share the same philosophy for success.
“Most organizations worldwide, are very effective at shutting down human judgment and the greatest indicator of that happening is when people stop asking questions that count. And so, the future, and the future especially with AI, is giving people the opportunity to ask the better question. Inviting them, to be curious in a way that they ask questions that probe deeply the system, that cause people at any level to be uncomfortable, to be wrong and be even quiet about their solution to be able to get a better answer. And so, the real key to the future and people feeling engaged and empowered, is them feeling like they can not only ask a question that might be problematic in the system, but they also have the power to answer the question they care about.”

Hal Gregersen, Executive Director of the MIT Leadership Center and Winner of the Thinkers50 2017 Leadership Award
Rolling out AI enterprise-wide requires every organization to develop a judgment protocol, a system that legitimizes the exercising of judgment within a company across all levels — and one that will change the century-old ‘command and control’ philosophy that many companies still use to make decisions.

**A TOOL TO KEEP ON YOUR RADAR: THE JUDGMENT PROTOCOL**

- **DEMOCRATIZATION**
  - Provide space and freedom
  - Push down decision powers
  - Few principles as “guiding stars”

- **EFFECTIVENESS**
  - Standardize tools and methods
  - Train the mass
  - Democratize data access

- **RISK**
  - Deception Control Model
  - Transparency for social control
  - Few principles as guiding stars

- **CUSTOMER-CENTRICITY**
  - Faster and better decisions,
  - Closer to the customer
  - Market adaptability and agility
s soon as the responsibility to identify issues and make decisions is pushed down, organizations will want to increase the probability that employees will choose the right course of action and execute on it properly.

The second core principle of the TPS is to train everyone in the workforce in quality, lean/six sigma tools and techniques. Widespread training on standardized tools increases the probability that people will come up with the right insight, decision and execution to impact performance.

Every organization should apply this same principle and standardize tools, methods and techniques to improve their employees’ skills in generating insights — and applying judgment.

For too long soft skills like emotional intelligence and judgment have been viewed as second priority. The time is ripe for a shift in perspective, to a mindset that views judgment as a key organizational capability worthy of continuous investment.
How should companies develop their internal Big Data and AI skills to harness the potential of these new technologies?

20%
Core team of experts

80%
Distributed skills across a large group of managers/employees

Source: Survey conducted in November 2017 with 50 world’s leading management thinkers
“We need to differentiate ourselves. Do things machines can’t.”

Greg Orme, Program Director, London Business School, author of The Spark: Igniting and Leading Business Creativity

Unilever encourages every one of its employees to engage with consumers to gain insights about their needs, providing allotted time during the workday for this activity on a regular basis.

To raise the effectiveness of the time and freedom provided, Unilever trains its employees in both consumer observation and probing methods, as well as on how to use some of their newly developed Big Data marketing tools like the People Data Centre, which combines social media and business analytics capturing conversations in 40 languages; or PeopleWorld, which leverages an AI platform that allows anyone within Unilever to mine its 70,000 research documents for insights.

[Source: hbr.org/2016/09/building-an-insights-engine]
Democratization of data access to the mass of employees.

Data access will raise the effectiveness of employees in using their judgment. Of course, some companies are better than others at transforming data into actionable insights. But hiring an army of data scientists will not automatically generate greater value. Rather, it is the process of data management — and particularly, the democratization of access and use of data across the organization — that creates tangible, long-lasting value.

PROVIDE DATA ACCESS TO ALL
Among the various internet platform companies, Airbnb has taken a step ahead in the democratization of data. Its entire workforce, including human resources, has access to its data science tools to make timely decisions related to requests from both users and providers of homes, as well as act swiftly on innovation opportunities.

However, Airbnb also understands that fully-inclusive data access is not enough: Its employees are also trained on how to use data tools and extract insights to make informed decisions.

Data University is Airbnb’s attempt to make its entire workforce — not just its engineers — more data literate. It has designed 101-level courses on data-informed decision making which are available to all employees.

The result: Since launching the program in late 2016, Airbnb has seen the weekly active users of its internal data tools rise from 30 to 45 per cent.

[Source: https://techcrunch.com/2017/05/24/airbnb-is-running-its-own-internal-university-to-teach-data-science/]

“Need to develop new skills to make decisions using judgment and intuition, replacing an optimization mindset with an exploration one.”

Scott Anthony, winner of the 2017 Thinkers50 Innovation Award
LOOSEN THE REINS OF CONTROL

Organizations tend to be uncomfortable at the prospect of pushing the decision-making authority down the organizational hierarchy.

The perception of risk as being related to loss of control has been the major barrier to true empowerment of the workforce. As a result, today most organizations still use a “Prevention Control Model”, i.e. checking on employees before they make any decision, by requiring preventive authorizations.

To unlock the power of human judgment in the AI age, the solution lies in shifting from a traditional ‘Prevention-Control Model’ to a ‘Post-Detection Model’. 

It’s time to change the century-old “command and control” philosophy.
Affinity, the Minnesota-based credit union, issued a framework to guide its employees in making decisions for loans. Its ‘MOE’ system (Member, Organization, Employee) operates like a ‘Constitution’ to free up the judgment power of employees and provide a guiding star when applying these powers. Employees have full latitude on rates and overriding bank’s policies based on their judgment of ‘what is right for the customer, while supported by customer analytics.

Affinity moved towards a distributed judgment model. Every employee can decide, on the spot, to provide or not provide a loan and at which rate by exercising judgment with the MOE Constitution as guiding star and customer analytics as supporting data. Employees can deviate from bank’s policies, but they are required to justify their decisions and post their rationales in Affinity’s Touche system, which stores all data and electronic records of members/clients, as well as a full history of employee explanations for lending.

The result: When Affinity employees started to make judgment-based decisions, charge-off rates for higher-risk clients dropped by almost 50 per cent — from 1.9 to 1 per cent.

“\text{No employee will ever get in trouble for doing what is right for the customer. There is only one operating policy or guideline you ever need: Trust your feelings. If it feels right and makes sense, do it on behalf of the customer.}"

\textit{Affinity MOE Constitution}
“We need to learn how to become vulnerable and to show that, especially as leaders and managers. To open up and empower the organization, we need to tap into what it means to be a human being with emotions, values, feelings and sensory experiences. These are skills we don’t spend enough time training.”

Anders Indset, author of Wild Knowledge: Outthink the Revolution
Employee empowerment has been a talking point and neat theory for too long. It is time to walk the talk with respect to innovation and market-related decision-making authority. Low cost data-prediction technologies coupled with a democratization of judgment can help to free employees from the shackles of hierarchy and create truly agile and customer-centric organizations able to adapt to the market with speed. Profitable growth is sure to follow.