2016 GE Global Innovation Barometer

Detailed Findings

January 2016

Imagination at work

Overview

GE GLOBAL INNOVATION BAROMETER

Now in its **fifth edition** and spanning across **23 countries**, the GE Global Innovation Barometer is an international opinion survey of **senior innovation executives** all actively engaged in the management of their firm's innovation strategy. In addition, this year, the GE GIB also surveyed the views of **Informed Publics** in **13 countries**.

With both audiences, the Barometer explores how the perception of innovation is changing in a complex, globalized environment, and how they appreciate the **framework for innovation** their country has developed.

In addition, it explores the perceptions of Informed Publics on the **impact and value of innovation, the associated responsibilities** with driving and supporting innovation and their opinions on the **future of work.**

Innovation Business Executives

All respondents' line of work involves taking part in their company's innovation process/policies

Responsible for making decisions related to innovation, product development or research and development (R&D) activities in their company

2,748 Business Executives, of which **1,915** are C-suite

Informed Publics/ Informed Citizens

University education or above

In the upper quartile income of their country

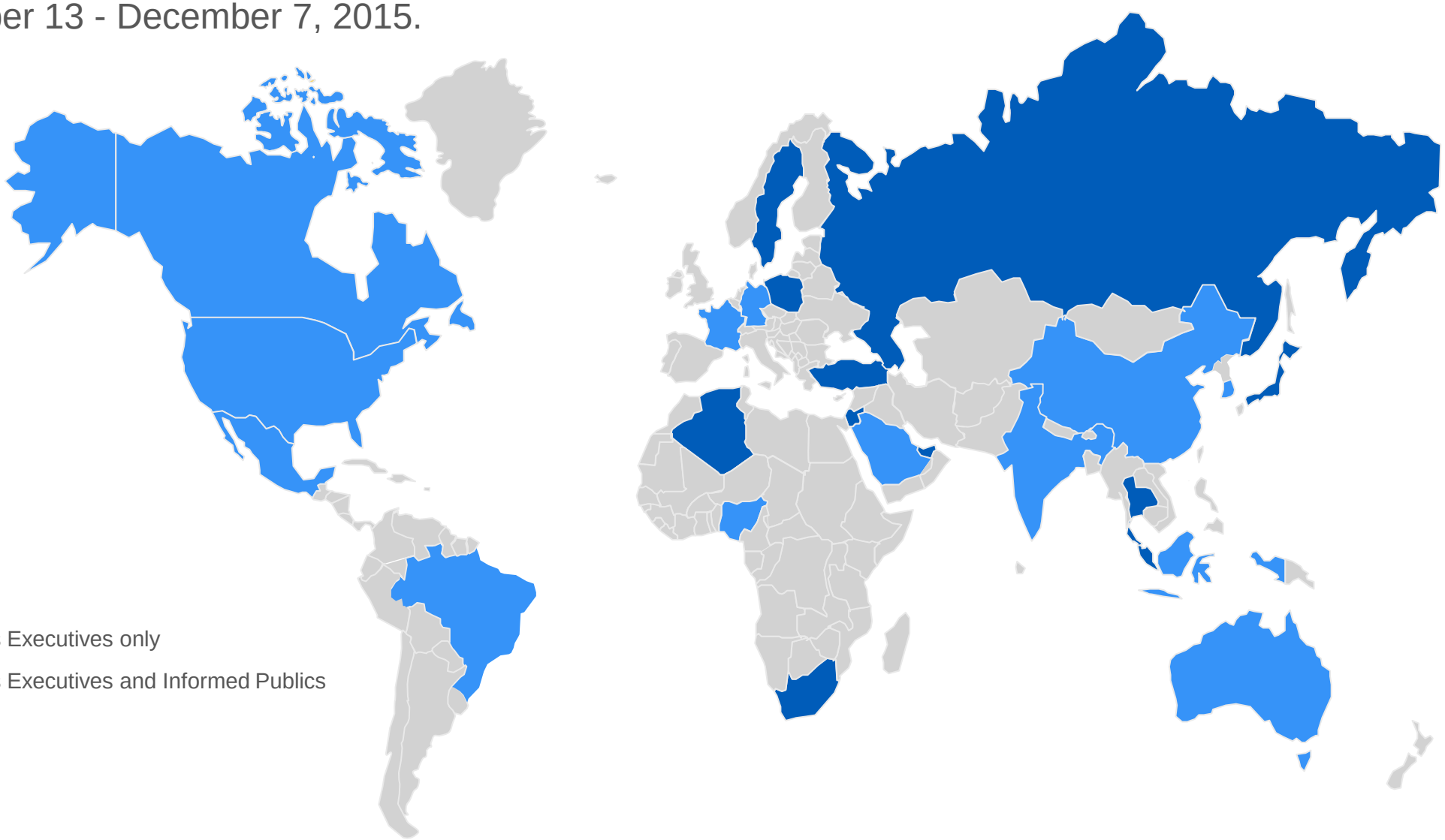
Regularly consume top tier business news publications

Regularly follow public policy matters in the news

1,346 Informed Publics

Methodology

The research was commissioned by GE and conducted by Edelman Berland between October 13 - December 7, 2015.



Business Executives only

Business Executives and Informed Publics

GE GLOBAL INNOVATION BAROMETER

2016 Key Findings

Welcoming the Revolution: Pressure Rises, Optimism Prevails

1 **A Welcome Revolution:** Both Business Executives and citizens are optimistic about the digital transformation of the world. 68% of execs and 64% of citizens cite a positive anticipation of the 4th Industrial Revolution, while all anticipate a radical transformation of the industrial sector by Advanced Manufacturing. Emerging markets feel especially empowered.

2 **Embracing New Models and Technologies:** Business Executives are adapting through new investments and partnerships. 61% are using big data to inform decision-making (up from 53% in 2014), and 77% are seeing financial results from collaboration (up from 64% in 2014).

3 **Disruptive Innovation: The Solution and the Challenge:** Although Business Executives recognize they need to innovate radically to keep up—90% think that the most innovative companies create new markets that didn't previously exist—most are also mindful of the risk of "Digital Darwinism". 81% worry about being left behind as technology evolves faster than they can adapt, creating a fear of becoming obsolete (FOBO).

4 **Everybody's Starting Up?:** Still, 57% favor a "safer" approach, pursuing incremental innovation and protecting their core business. Inertia and risk aversion are growing. Meanwhile 81% of Business Executives recognize the "start-up" ethos is increasingly becoming the example norm for creating an innovation culture within companies of all sizes.

2016 Supporting Findings

Welcoming the Revolution: Pressure Rises, Optimism Prevails

1 **Creativity and Problem-Solving Key for Future Workforce**: The future worker is changing. Executives are seeking problem solvers (56%) and creativity (54%), and an expected impact of the 4th Industrial Revolution is that some categories of skilled workers will be in high demand. Citizens are embracing the start-up ethos and value flexible (89%) and remote (79%) work. Only a few countries feel their education system is ready to address future skills, with Informed Citizens in countries like India (81%), China (78%) and Indonesia (76%) most confident.

2 **Minds and Machines Working Together:** Business Executives expect the digital revolution will make the workplace safer (43%) and create higher-value roles for workers (48%). Few fear any negative impact on employment as a result of the digital revolution; only 17% of Business Executives and 15% of citizens fear potential negative impact. Executives in the US, India, China or Germany anticipate a positive outcome in their country, while Japanese, French or Swedish execs are more skeptical.

3 **The ROI on Collaboration is Increasing:** Jumping from 64% in 2014, 77% of executives say revenue and profit generated by collaborative innovation activities have yielded an increase in financial results. 68% of executives declare their firm is open to risk-sharing associated with innovation, including revenue streams or losses that could be generated through collaborative initiatives.

4 **Emerging Markets Fearlessly Embrace Innovation:** Business Executives from emerging markets are feeling more optimistic and more empowered by the 4th Industrial Revolution than their peers in developing economies. Asian markets are amongst the most excited and confident, emerging markets the most curious. Informed Citizens in developed markets are feeling the least in control. Fewer leaders in emerging markets are also reporting difficulty coming up with radical and disruptive ideas.

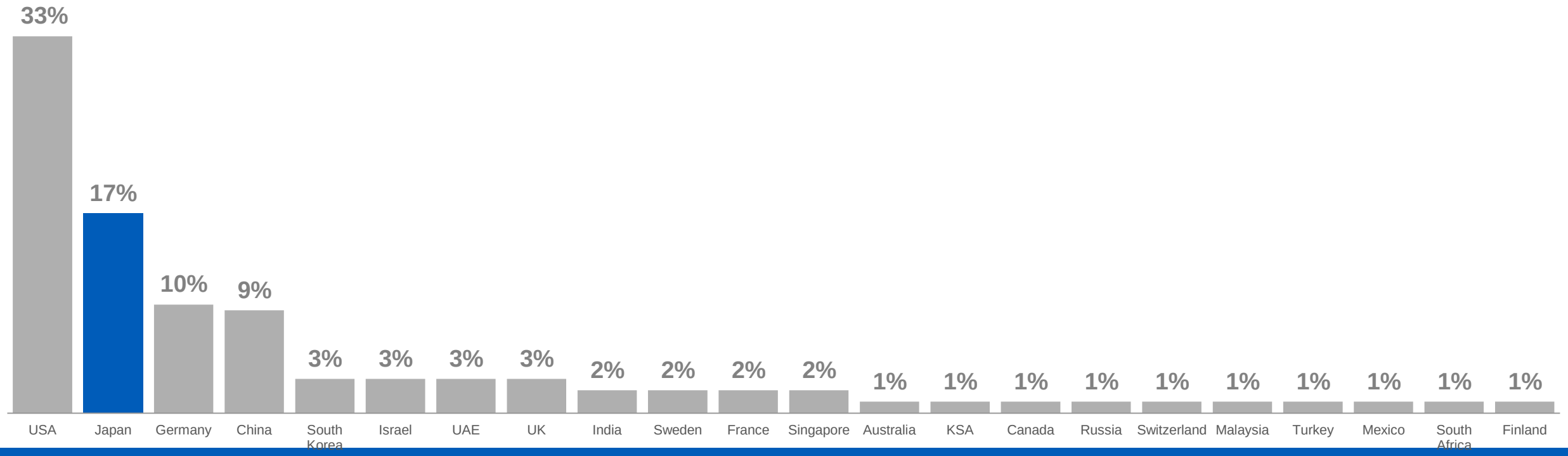
5 **A Call for Greater Government Support:** Executives and citizens alike are calling for public authorities to play a more supportive role in innovation. While few citizens (12%) believe their government is the top driver of innovation in their country, more (30%) think it should be. 57% say their country's regulations are not supportive of innovative companies, although emerging markets are more positive in their assessment. Most executives agree that data and privacy regulations are preventing more radical innovation by businesses, while citizens (64%) are willing to share access to their data if it leads to better service.

6 **The Energy Sector is Ripe for Disruption:** Globally, 61% of citizens believe that the energy sector can benefit greatly from new innovation approaches and answer the many challenges it faces. However, energy companies are less confident about the prospect of the 4th Industrial Revolution compared to other industries (50% confidence vs. 60%).

INNOVATION CHAMPIONS

Innovation champion – Japan is back, Germany down

What is the country that you consider to be the leading innovation champion?



USA	Japan	Germany	China	South Korea	Israel	UAE	UK	India	Sweden	France	Singapore	Australia	KSA	Canada	Russia	Switzerland	Malaysia	Turkey	Mexico	South Africa	Finland
-3	+5	-6	-1	- 1	+1	+2	=	=	+ 1	+ 1	+1	NEW ENTRANTS →				=	NEW ENTRANTS →				

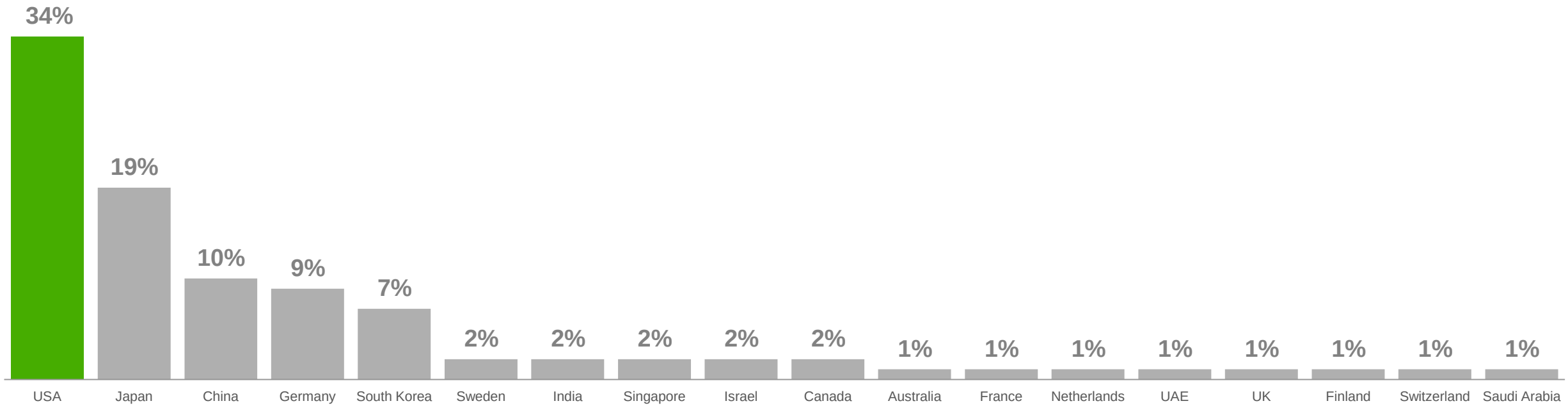
Points difference with 2014 ranking

Q1. What is THE country that you consider to be the leading innovation champion? Base business executives: 2,748

GE GLOBAL INNOVATION BAROMETER

Innovation champion – a consistent perspective from Informed Citizens

What is the country that you consider to be the leading innovation champion?



USA	Japan	China	Germany	South Korea	Sweden	India	Singapore	Israel	Canada	Australia	France	Netherlands	UAE	UK	Finland	Switzerland	Saudi Arabia
+1	+2	+1	-1	+4	0	0	0	-1	+1	0	-1	NA	-2	-2	0	0	0

Points difference between the Business Executives and Informed Public ranking

Q1. What is THE country that you consider to be the leading innovation champion? Base Informed public: 1,346

2016 GE GLOBAL INNOVATION BAROMETER
KEY FINDINGS

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BAROMETER

A WELCOME REVOLUTION

Both Business Executives and Informed Citizens are optimistic about the digital transformation of the world.

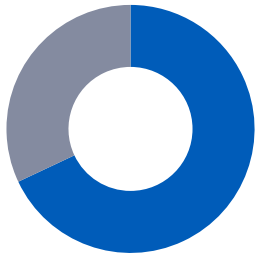
Business Executives (68%) and Informed Citizens (64%) both cite positive anticipation of the 4th Industrial Revolution, with few worrying that the digital revolution will have a negative impact on employment.

Asian markets feel especially empowered.

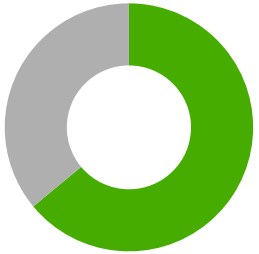
86%

Business Executives believe Advanced Manufacturing will radically transform the industrial sector.

Executives and citizens alike embrace the 4th Industrial Revolution



68%



64%

OPTIMISTIC about the prospect of entering a 4th Industrial Revolution

How does the prospect of entering a 4th Industrial Revolution make you feel?

	Business Executives	Informed Publics	
Indifferent	14%	14%	Curious
Pessimistic	15%	17%	Optimistic
Disempowered	16%	17%	Empowered
Scared	16%	14%	Excited
Anxious	19%	19%	Confident
Lost	17%	20%	In control
	70%	72%	
	68%	64%	
	62%	55%	
	61%	65%	
	60%	60%	
	59%	48%	

Q25. / Q23. How does the prospect of entering a fourth industrial revolution make you feel? Base business executives: 2,748. Base informed public: 1,346:

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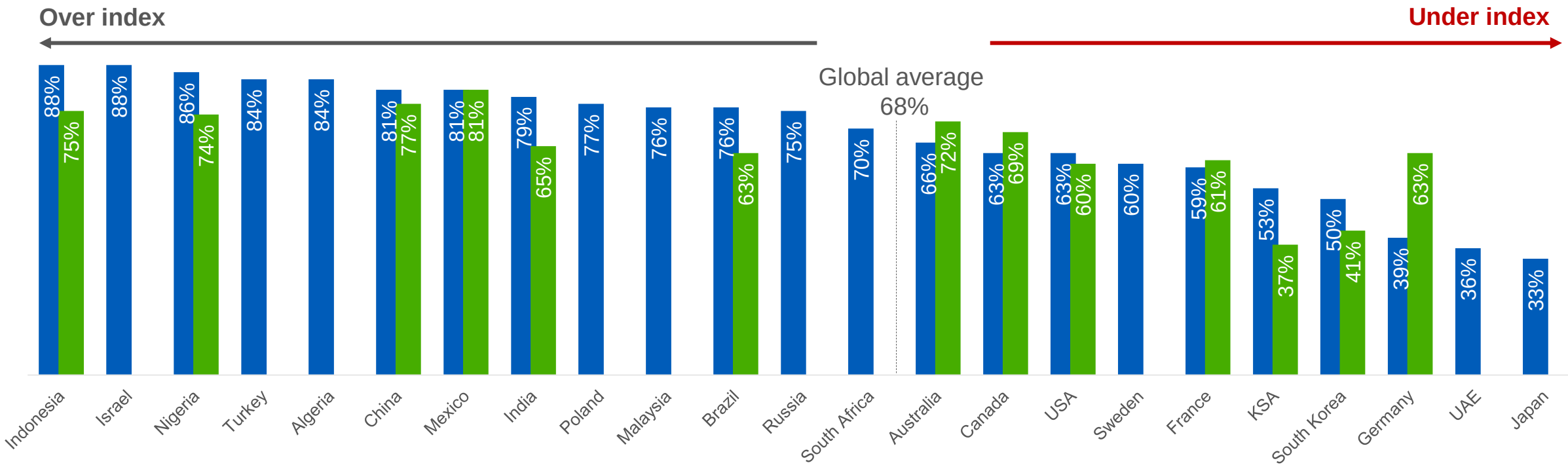
Positivity prevails across a majority of surveyed countries

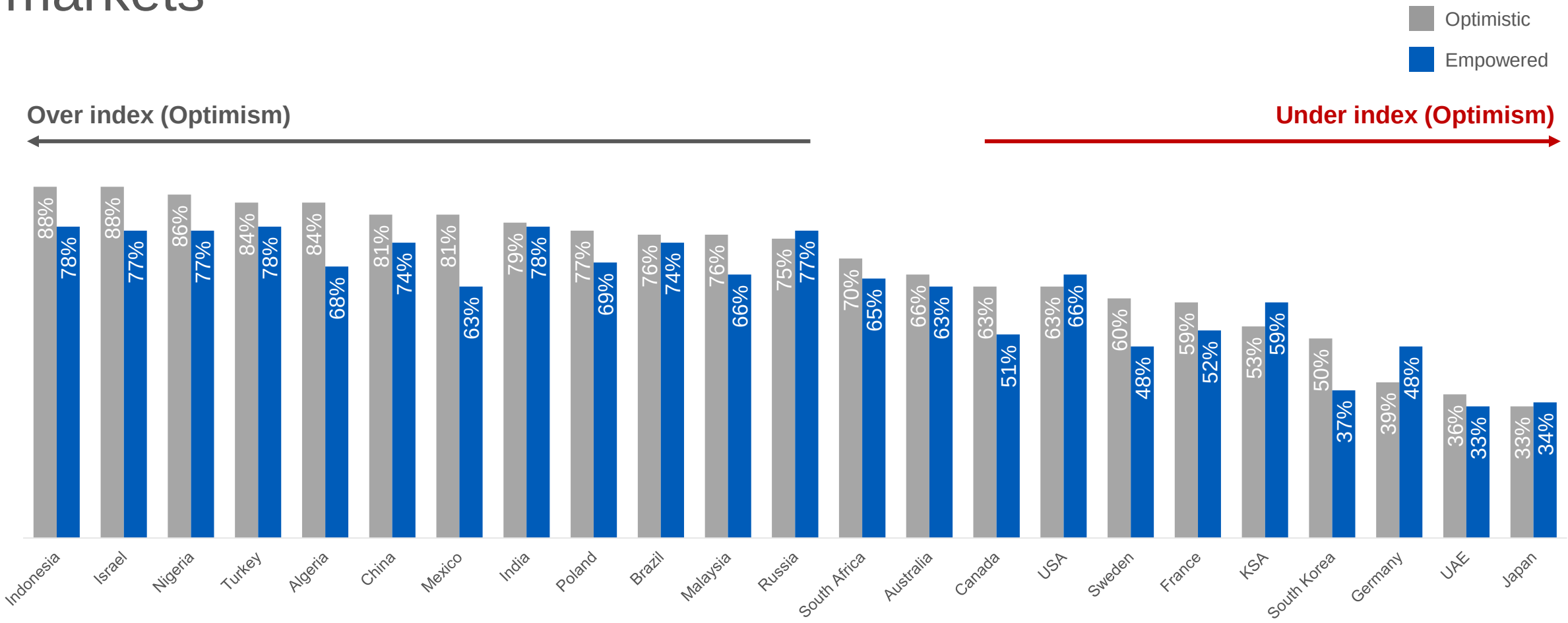
Optimism



Q25. / Q23 How does the prospect of entering a fourth Industrial Revolution make you feel? Base business executives: 2,748. Base informed public: 1,346

GE GLOBAL INNOVATION BAROMETER

Business leaders from emerging economies are feeling more optimistic and more empowered than their peers in developed markets



Q25. How does the prospect of entering a fourth industrial revolution make you feel. Base business executives: 2,748

Both business leaders and citizens have a positive view of macro trends shaping the innovation landscape

DIGITAL REVOLUTION

Few fear a potential negative impact on employment of the digital revolution

17% **15%**

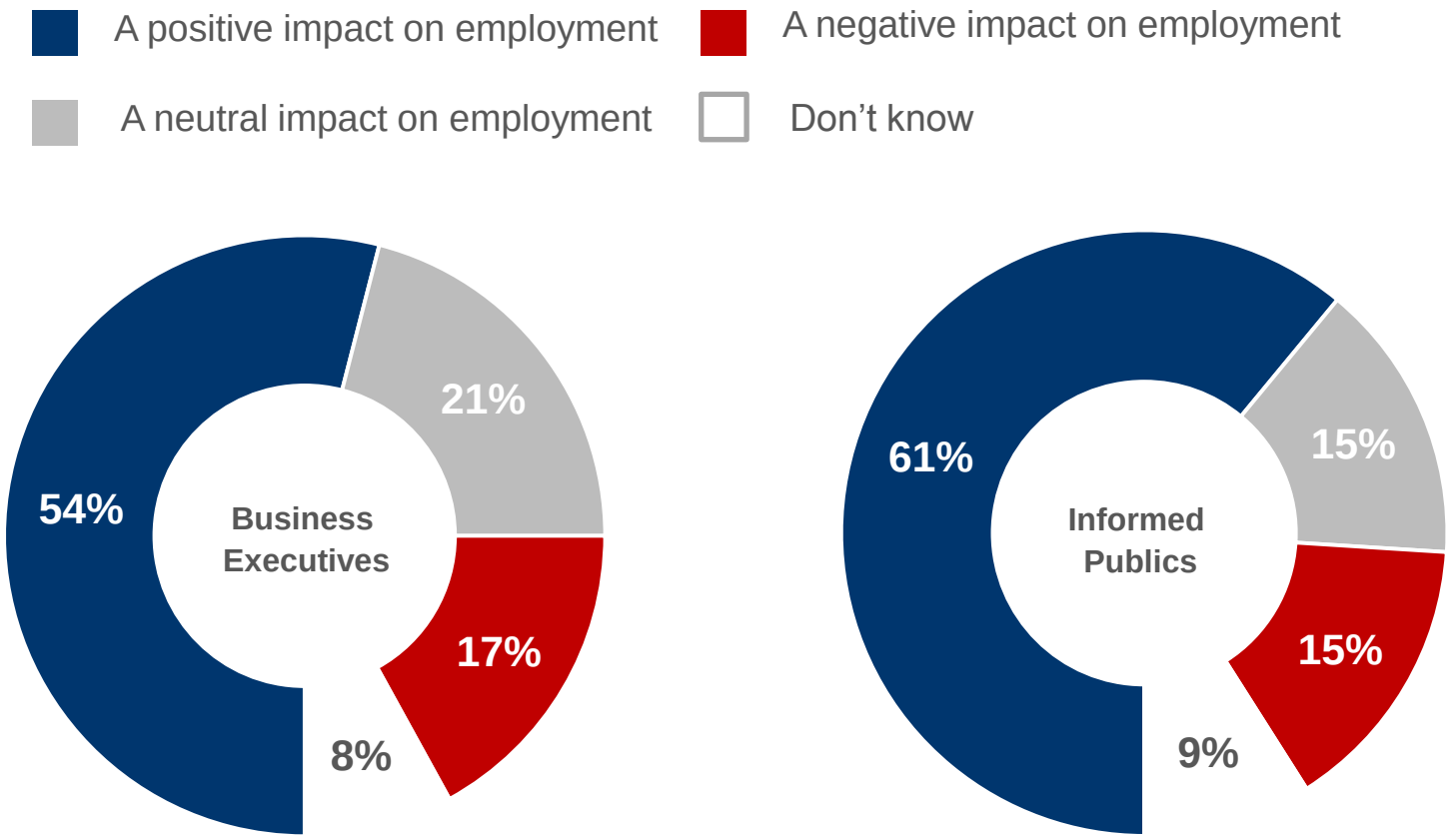
ADVANCED MANUFACTURING

Most believe Advanced Manufacturing will radically transform the industrial sector

86% **90%**

Q23.A. / Q22.A. There is currently a debate around the impact the digital revolution will have on employment. In your opinion, what will be the impact of the digital revolution? / Q25. / Q23 How does the prospect of entering a fourth Industrial Revolution make you feel? Q4./Q14 How far do you agree or disagree with the following statements? Base business executives: 2,748. Base informed public: 1,346

Executives and citizens anticipate a positive or neutral net impact on employment as a result of the digital revolution



Q22.A / Q23.A There is currently a debate around the impact the digital revolution will have on employment. In your opinion, what will be the impact of the digital revolution?
Business executives n= 2,748 Informed Public n= 1,346

GE GLOBAL INNOVATION BAROMETER

EMBRACING NEW MODELS AND TECHNOLOGIES

Businesses are adapting to this new context through investments and partnerships, and it is paying dividends.

The majority of businesses (77%) are seeing financial results from collaboration (up from 64% in 2014).

61%

of Business Executives are using big data to inform decision-making (up from 53% in 2014).

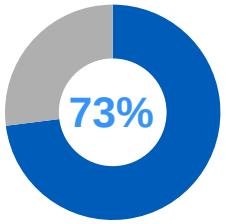
Integrating analytics is becoming more natural and delivers better results and outcomes for businesses

How important do you think the following elements are for a company to be able to innovate successfully?

61%

Use big data and analytics to improve strategic knowledge and inform decision-making 53% (2014 DATA)

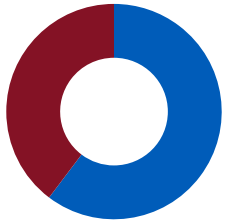
Companies increasing their ability to analyze large amounts of data in the last year?



73% Of companies have increased their ability to analyze,

up from **43%** in 2014

Of those who have increased their ability…



59% Have seen a positive outcome

41% Yet to see a positive outcome

Q7. On a scale from 1 to 10, how important do you think the following elements are for a company to be able to innovate successfully? Top 3. Q19. Has your company increased its ability to analyse large and complex amounts of data over the last year?

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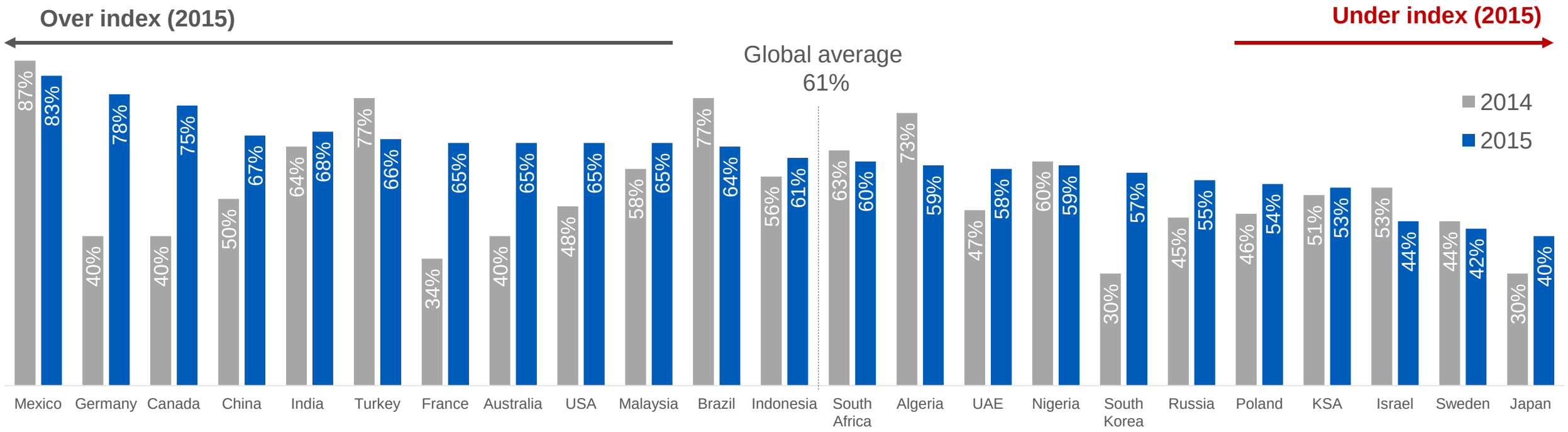
Executives are increasingly recognizing the strategic value of data and analytics

Importance to be able to innovate successfully: To use big data and analytics to improve strategic knowledge and inform decision-making (2015)

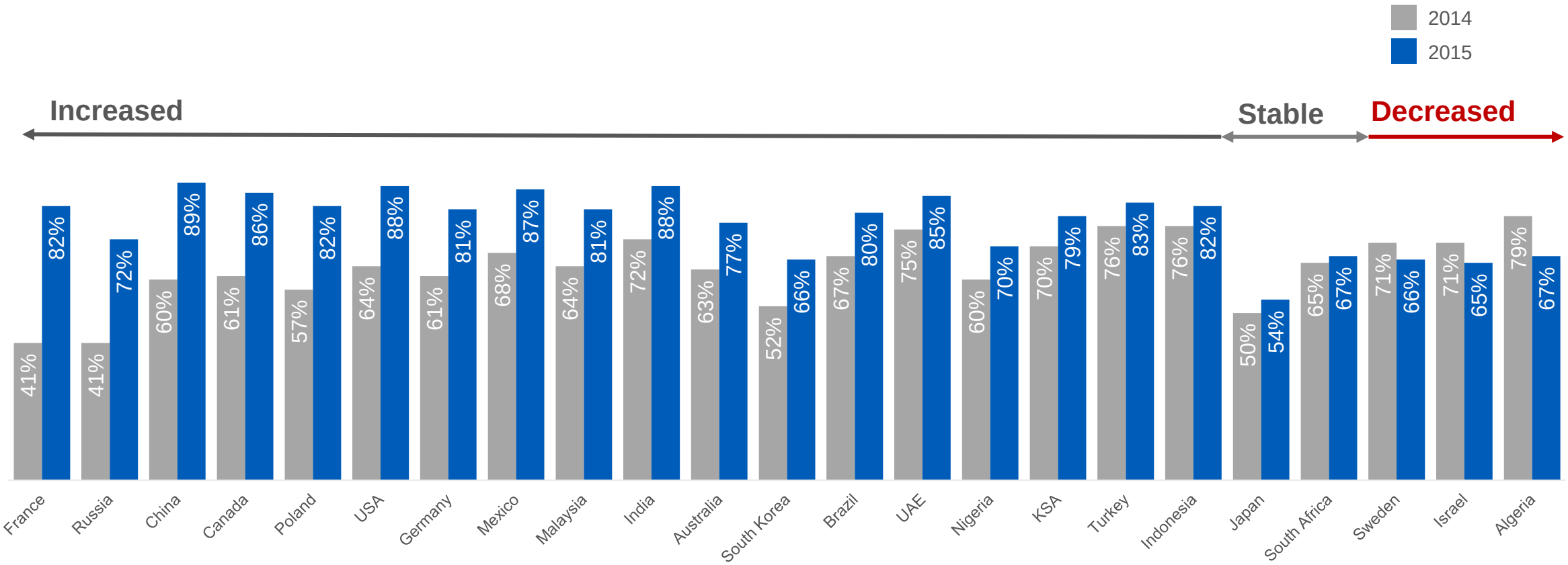


Q7. On a scale from 1 to 10, how important do you think the following elements are for a company to be able to innovate successfully? Top 3. 2014 – To use analytics and predictive knowledge 2015 - To use big data and analytics to improve strategic knowledge and inform decision-making

GE GLOBAL INNOVATION BAROMETER

Collaboration has increased in most markets

The revenue and profit generated by **collaborative innovation activities** has been growing over the last year



Q18A. Has the revenue and profit generated by collaborative innovation activities been growing over the last year? % Yes. Base business executives: 2,748

GE GLOBAL INNOVATION BAROMETER

Leaders are more willing to share both the gains and risks of collaborating, and they are seeing growing results

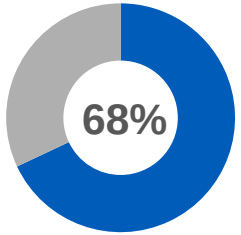
More than

77%

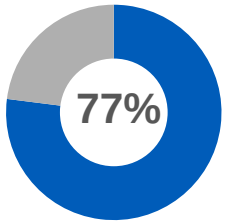
have increased revenue and profit by collaborative innovation in the last year – up from **64%** in 2014. This is even more the case for…

85% Those whose innovation strategies are steered towards breakthrough innovations

81% Those who find that to come up with radical and disruptive ideas is a challenge preventing their business' ability to innovate



Say their firm is open to sharing the revenue stream or the revenue losses that could be generated through a collaborative innovation initiative



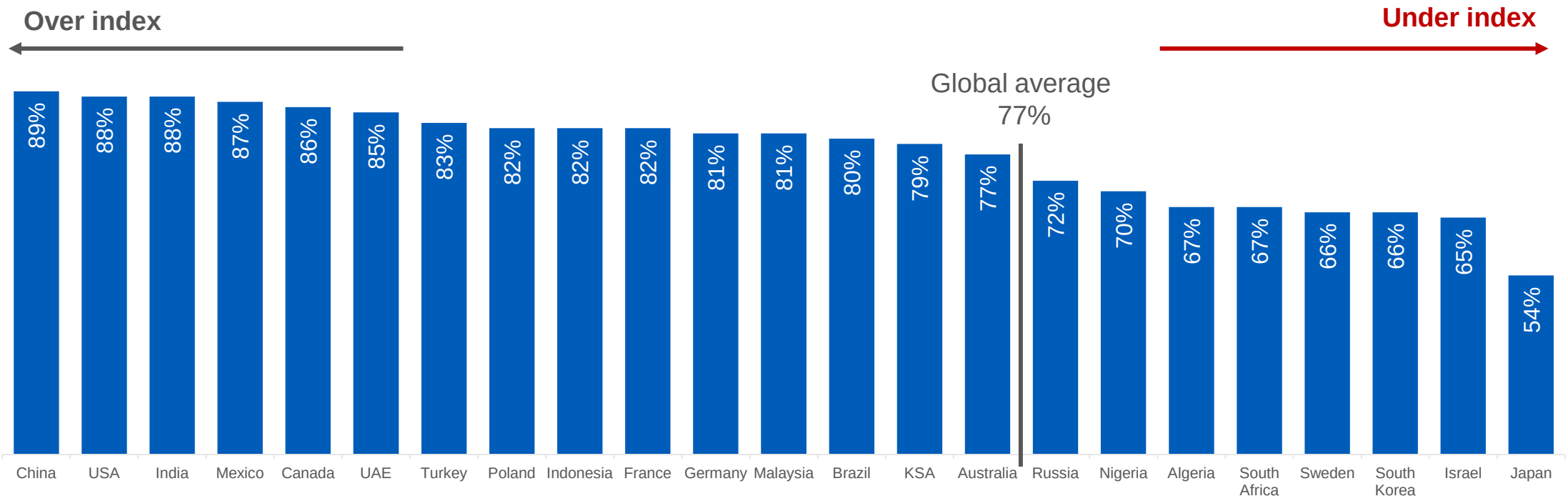
The revenue and profit generated by collaborative innovation activities has been growing over the last year 64% (2014 DATA)

Q18A. Has the revenue and profit generated by collaborative innovation activities been growing over the last year? % Yes. Base business executives: 2,748
Q18B. Is your firm open to sharing the revenue stream or the revenue losses that could be generated through a collaborative innovation initiative? % Yes. Base business executives: 2,748

GE GLOBAL INNOVATION BAROMETER

Leaders are seeing an increasing financial return on collaborative innovation

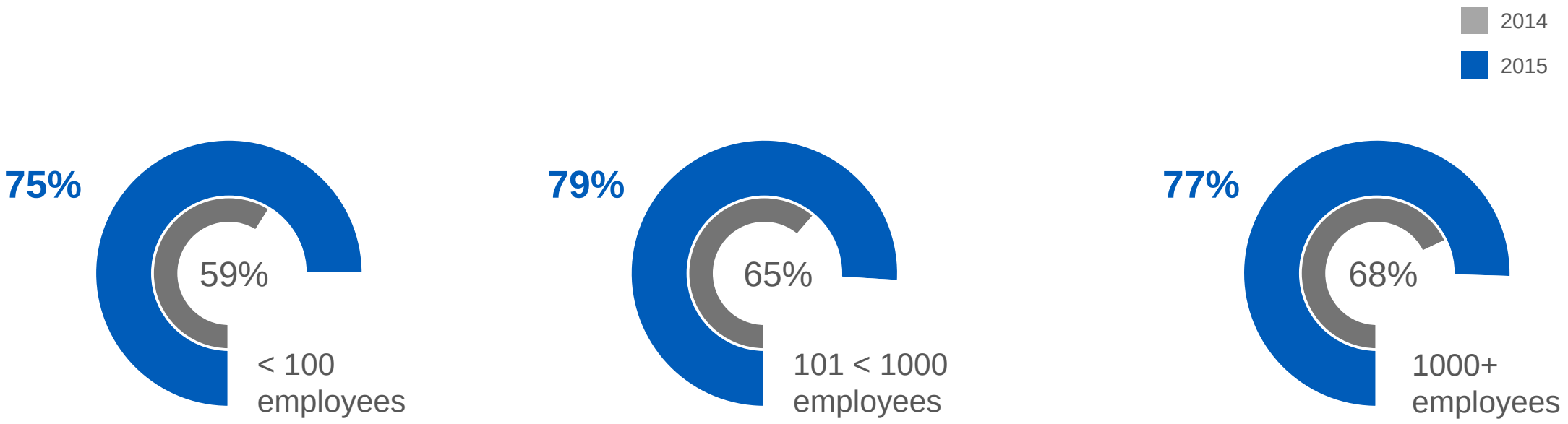
The revenue and profit generated by **collaborative innovation activities** has been growing over the last year



Q18A. Has the revenue and profit generated by collaborative innovation activities been growing over the last year? % Yes. Base business executives: 2,748

The biggest increase in collaboration has been amongst smaller businesses

The revenue and profit generated by **collaborative innovation activities** has been growing over the last year



Q18A. Has the revenue and profit generated by collaborative innovation activities been growing over the last year? % Yes. Base business executives: 2,748.

DISRUPTIVE INNOVATION: THE SOLUTION AND THE CHALLENGE

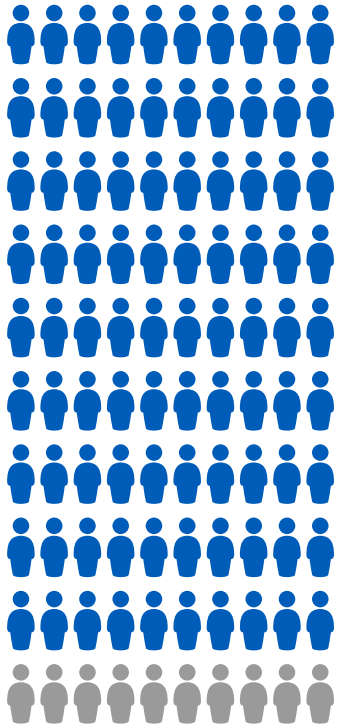
There is general agreement (90%), among executives and citizens alike, that the most innovative companies not only launch new products and services but also create a new market that didn't previously exist.

Yet, what if technology evolves faster than businesses can adapt?

81%

of Business Executives are mindful of the risk of “Digital Darwinism” or fear of becoming obsolete (FOBO).

Being disruptive is the gold standard for both executives and citizens but remains a challenging goal



90%

The most innovative companies not only launch new products and services but also create a new market that didn't previously exist

…93% Informed Public

60%

The difficulty to come up with “radical and disruptive ideas” is a key challenge to innovate efficiently (2015)

…40% Informed Public

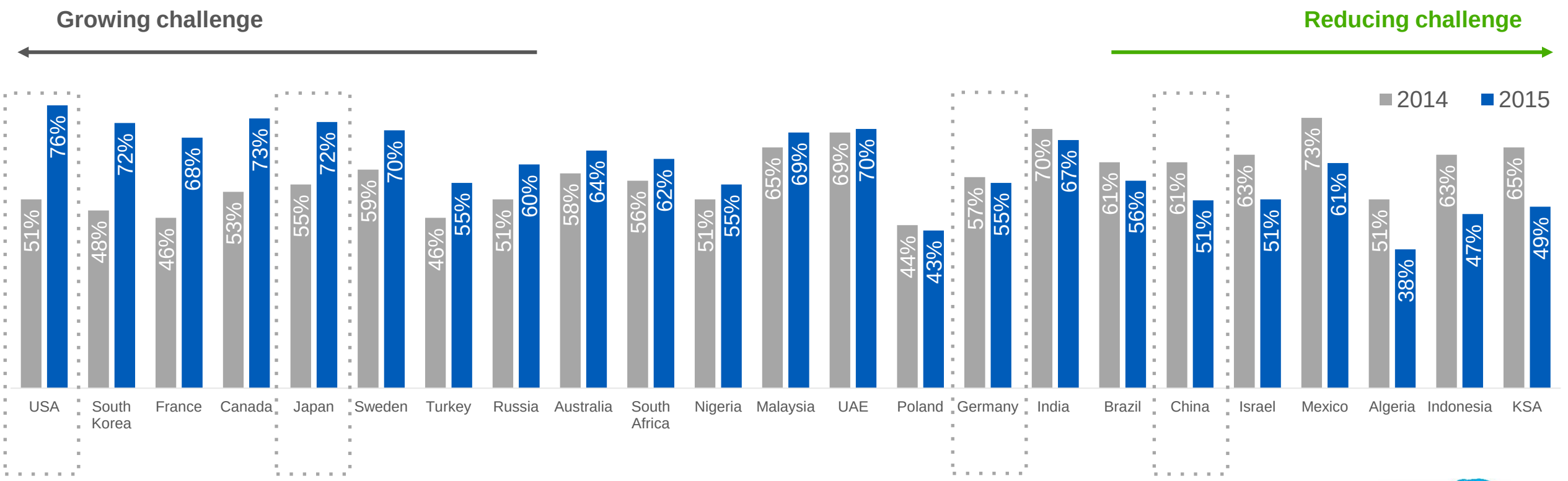
47%

In the past few years, the development of entirely new products or services has contributed to the performance of 47% of companies

Q16. For each of the following challenges preventing businesses' ability to innovate efficiently, please say how far each of them applies to your company. The difficulty to come up with radical and disruptive ideas. Net % apply. Base business executives: 2,748.

Being disruptive is a growing challenge for the "Innovation Champions," with China as an exception

The difficulty to come up with "radical and disruptive ideas"



Q16. For each of the following challenges preventing businesses' ability to innovate efficiently, please say how far each of them applies to your company. The difficulty to come up with radical and disruptive ideas. Net % apply. Base business executives: 2,748.

GE GLOBAL INNOVATION BAROMETER

81%

84%

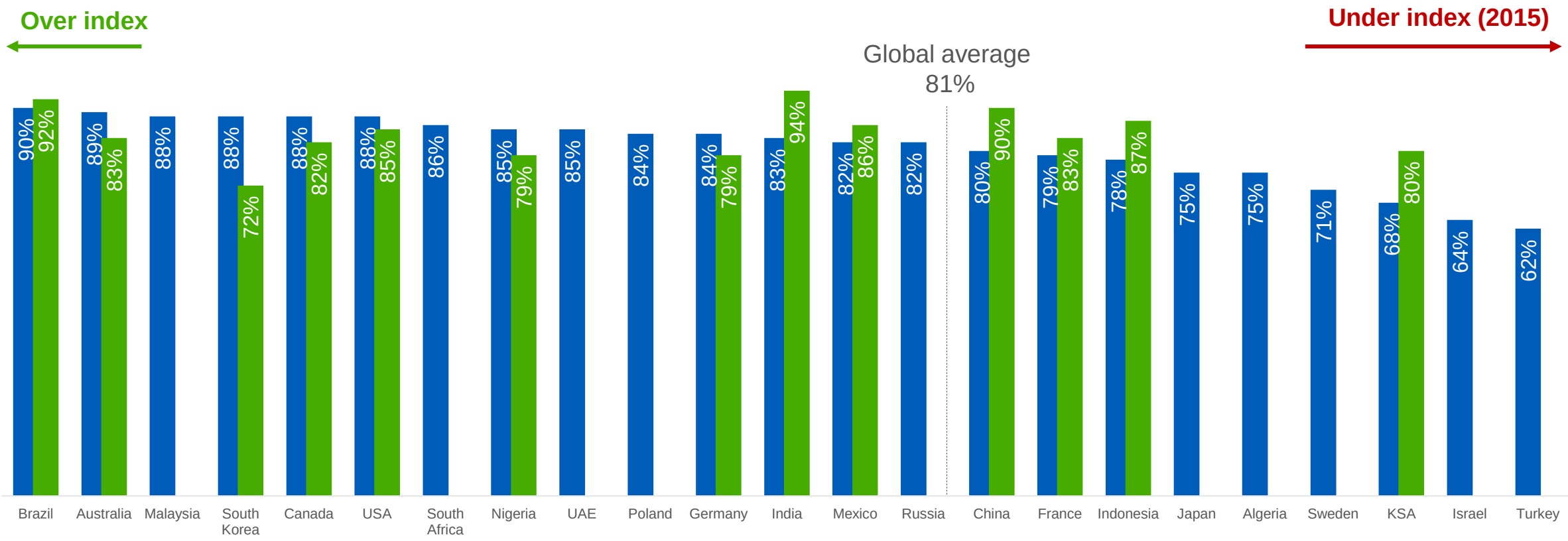
Business Executives and Informed Publics are mindful that more and more businesses face **“DIGITAL DARWINISM” -** becoming obsolete as technology is evolving faster than they can adapt

24%

Only few feel their company is performing very well at quickly adapting and implementing emerging technologies

GE GLOBAL INNOVATION BAROMETER

While Fear of Becoming Obsolete (FOBO) is a view shared across the majority of markets



Q20. How much do you agree or disagree with the following statements – More and more businesses face "DIGITAL DARWINISM" – becoming obsolete as technology is evolving faster that they can adapt. Base business executives: 2,748 informed public: 1,346

GE GLOBAL INNOVATION BAROMETER

EVERYBODY'S STARTING UP?

Being disruptive is the gold standard and 81% of Business Executives recognize the "start-up" ethos is increasingly becoming the example norm. They recognize they need to innovate radically to keep up, but most business leaders favor a "safer" approach.

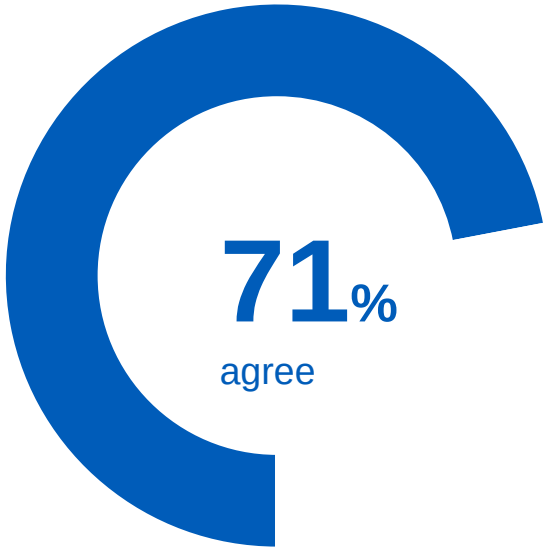
With inertia and risk aversion on the rise, incremental innovation is still driving the bottom line for most business leaders, especially those in developed markets.

However, emerging markets, especially in Asia, are embracing radical innovation and opportunities to leapfrog.

81%

of Business Executives recognize the "start-up" ethos is increasingly becoming the example norm.

The “start-up” ethos is increasingly becoming the example norm



With digital transformation we are observing the rise of **‘nomad employees'**

81%

of Business Executives and

79% of Informed Publics believe…

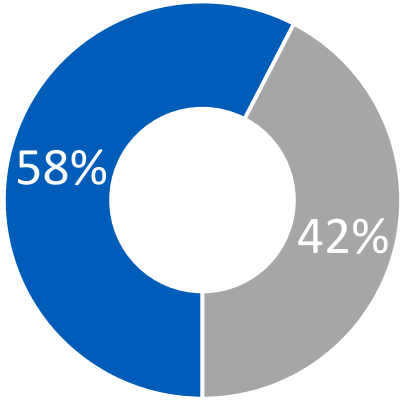
the "start-up" ethos is increasingly becoming the example norm for creating an innovation culture within companies of all sizes

Q4. / Q14. How far do you agree or disagree with the following statements? In my country… The “start-up” ethos is increasingly becoming the example norm for creating an Innovation culture within companies of all sizes / Q19. How much do you agree or disagree that the following types of ways of working might create a more productive work environment? [Agree + Strongly agree] Base business executives: 2,748. Base informed public: 1,346

GE GLOBAL INNOVATION BAROMETER

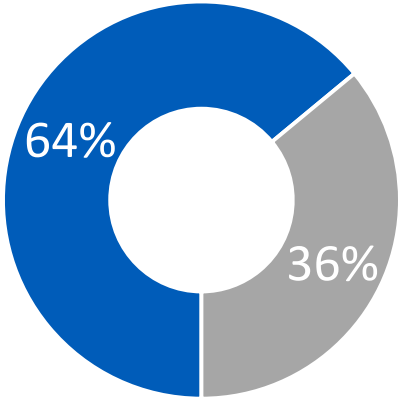
The majority of Business Executives continue to favor a "safer" approach to Innovation

Maximizing performance of **existing revenue streams** and business models



Opening up **new revenue streams** and inventing new business models

To protect the core business as much as possible, so it continues to generate the profitability needed to support research and innovation efforts



To bring innovative products and/or services to market as fast as possible **without worrying about the short term impact** it can have on the core business

China

Country most likely **to favor opening up new revenue streams** and **invent new business models**

34%

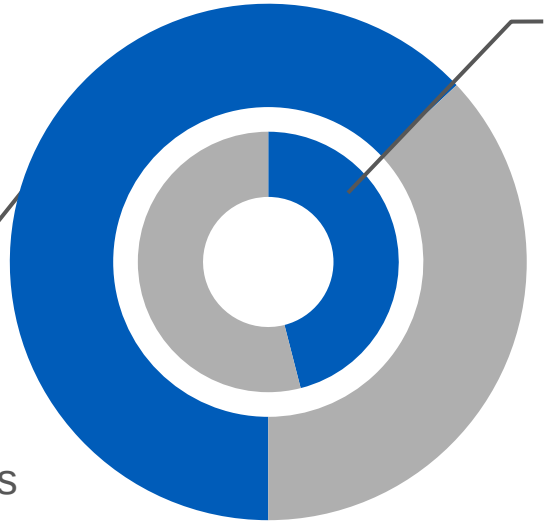
Only 1/3 recognize the development of **new business models** *(re-envisioning how a company generates revenue involving major changes in the way the company is organized, is managed and operates)* has contributed to the performance of their company

Q14. We are now going to present different innovation strategies. For each you will be shown two options. Please pick the one you feel is the most relevant to your company's approach. Q15. We are now going to present different views on the ideal innovation process. For each you will be shown two options. We would like you to pick the one you feel is the truest or the most relevant in driving successful innovation. Q9. In the past few years, what kind of innovations has contributed the most to your company's performance? The development of new business models. Base business executives: 2,748.

GE GLOBAL INNOVATION BAROMETER

Many businesses innovate incrementally as a way to mitigate risks, even while speed to market is increasingly a differentiator

63%
Incremental innovation, improving existing products and solutions



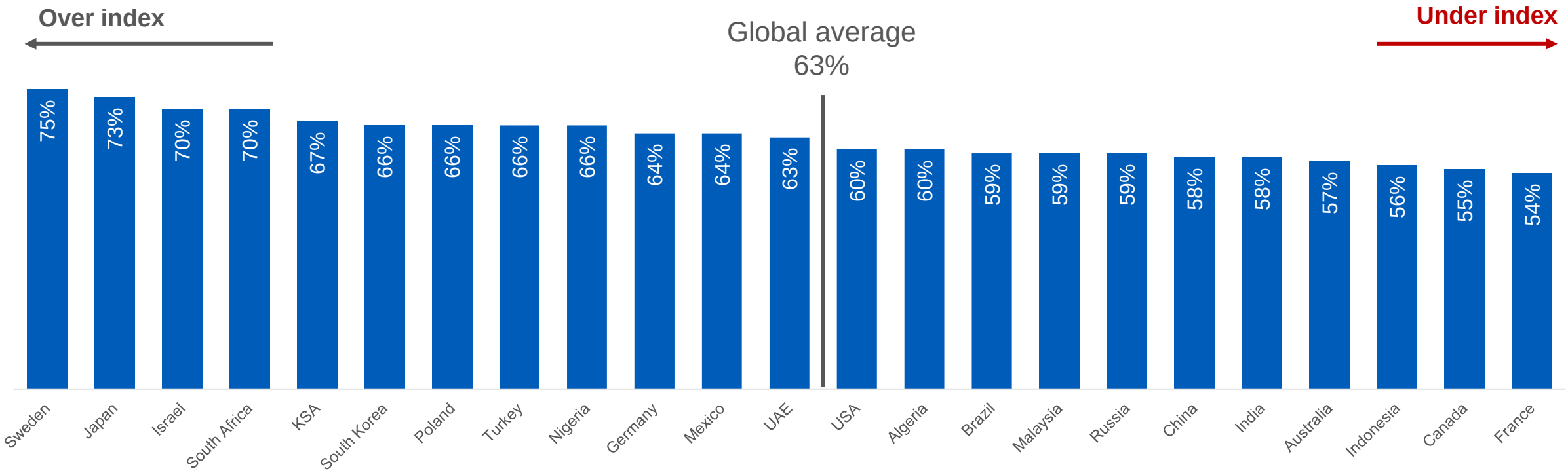
46%
To get to market as quickly as possible to keep an edge on competition, even if this means having an imperfect product or service and improving it along the way

45% **Hi-tech/IT**
Sector most likely to favor breakthrough innovation (45%)

Q14. We are now going to present different innovation strategies. For each you will be shown two options. Please pick the one you feel is the most relevant to your company's approach. Q15. We are now going to present different views on the ideal innovation process. For each you will be shown two options. We would like you to pick the one you feel is the truest or the most relevant in driving successful innovation. Base business executives: 2,748.

All markets show a preference for incremental innovation

Incremental innovation, improving existing products and solutions vs. breakthrough innovation, launching products that are completely new and have the ability to disrupt their market

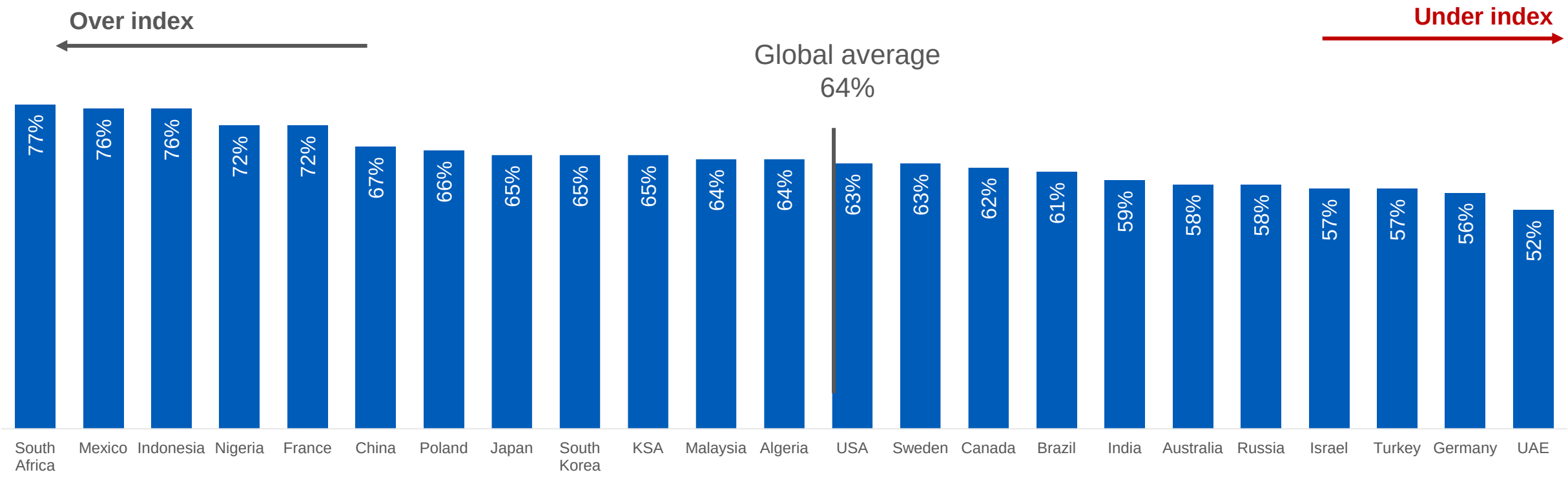


Q14. We are now going to present different innovation strategies. For each you will be shown two options. Please pick the one you feel is the most relevant to your company's approach. Base business executives: 2,748.

GE GLOBAL INNOVATION BAROMETER

Protecting the core business is the priority for most markets

To protect the core business as much as possible, so it continues to generate the profitability needed to support research and innovation efforts vs. bringing innovative products and/or services to market as fast as possible without worrying about the short term impact it can have on the core business

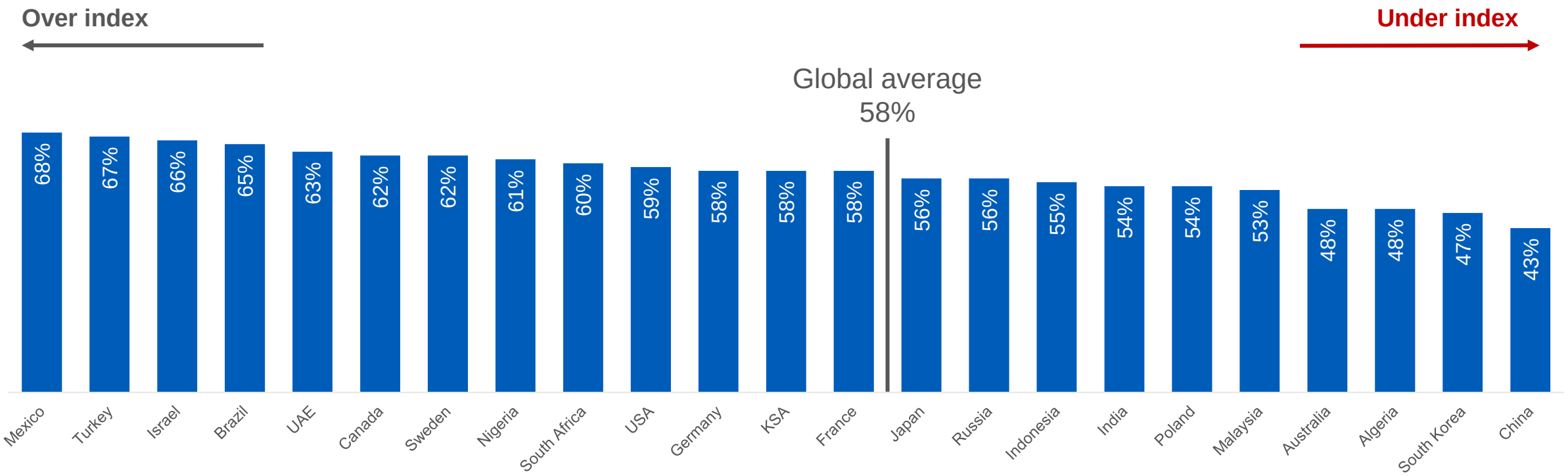


Q15. We are now going to present different innovation strategies. For each you will be shown two options. Please pick the one you feel is the most relevant to your company's approach. Base business executives: 2,748.

GE GLOBAL INNOVATION BAROMETER

The majority of markets prefer to make the most of existing revenue streams and business models

Maximizing performance of existing revenue streams and business models vs. opening up new revenue streams and inventing new business models



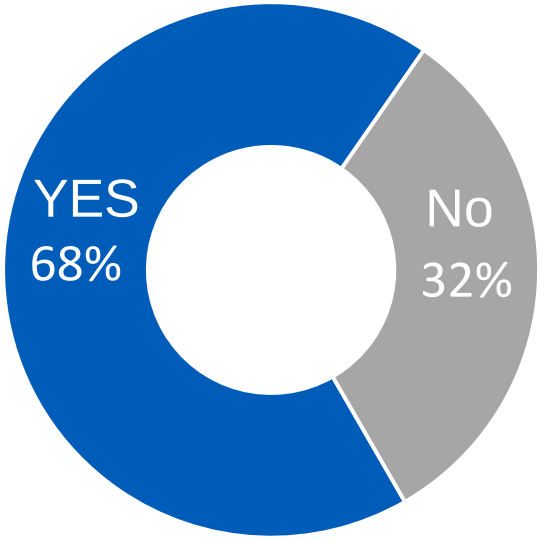
Q14. We are now going to present different innovation strategies. For each you will be shown two options. Please pick the one you feel is the most relevant to your company's approach. Base business executives: 2,748.

GE GLOBAL INNOVATION BAROMETER

Having an innovation strategy and a performance KPIs framework no longer guarantee success

Does your company have a clear innovation strategy?

62% of those with a clear innovation strategy still struggle to come up with radical and disruptive ideas



57% of those without a clear innovation strategy struggle to come up with radical and disruptive ideas, too

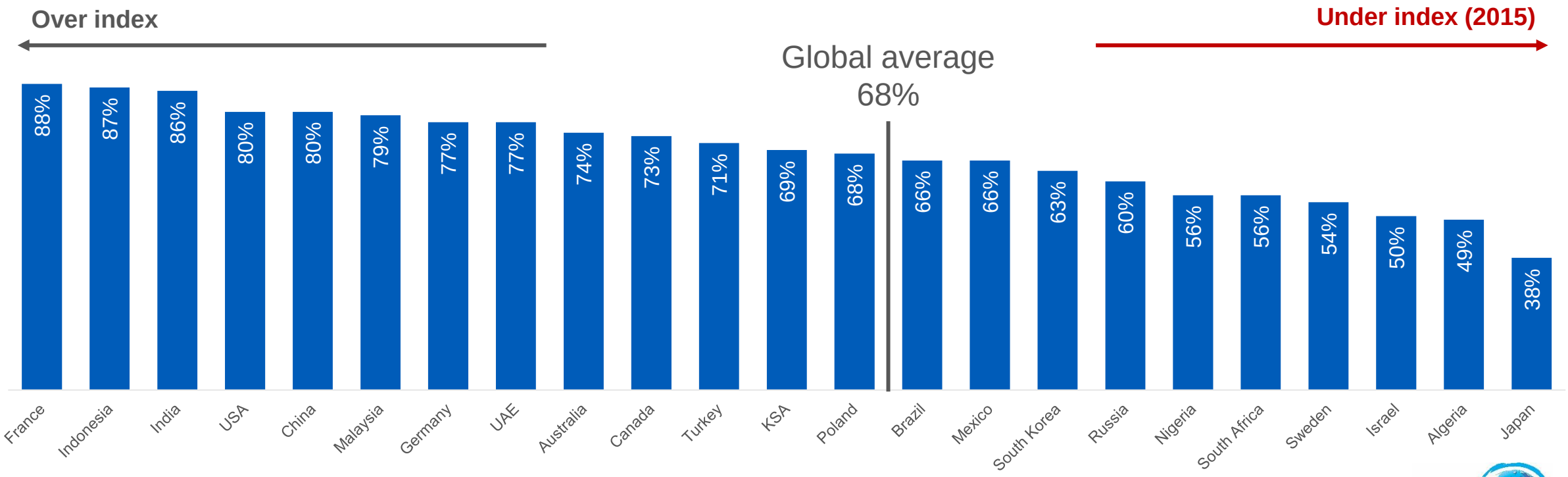
73% **Do measure the contribution of innovation to their business performance**

Q12. Does your company have a clear innovation strategy? / Q13. Do you measure the contribution of innovation to your business performance? / Q16. For each of the following challenges preventing businesses' ability to innovate efficiently, please say how far each of them applies to your company? Base business executives: 2,748

GE GLOBAL INNOVATION BAROMETER

We see polarized views in approach to innovation strategies

My company has a clear innovation strategy

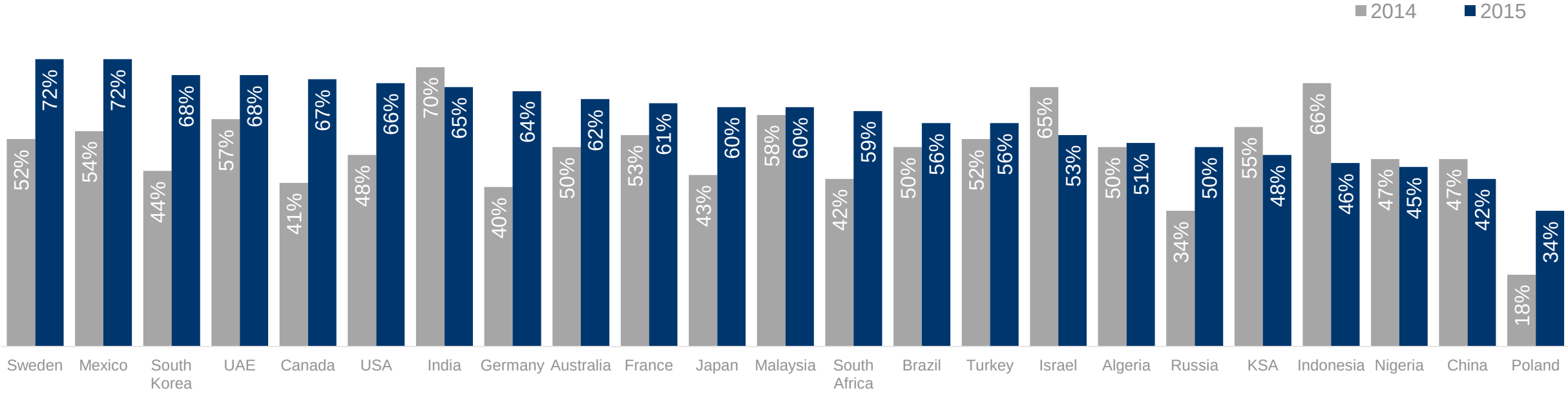


Q12. Does your company have a clear innovation strategy? Base business executives: 2,748

GE GLOBAL INNOVATION BAROMETER

Risk taking is also a growing challenge in most markets

Challenges preventing businesses' ability to innovate efficiently, the incapacity of the business to take risks



Q16. For each of the following challenges preventing businesses' ability to innovate efficiently, please say how far each of them applies to your company? Top 2.
Base business executives: 2,748. Base informed public: 1,346.

GE GLOBAL INNOVATION BAROMETER

Incremental innovation dominates companies' performance drivers; innovation that has a sustainable dimension at its core is marginally contributing

In the past few years, what kind of innovation **has contributed the most** to your **company's performance**?

58%

The improvement of existing products or services

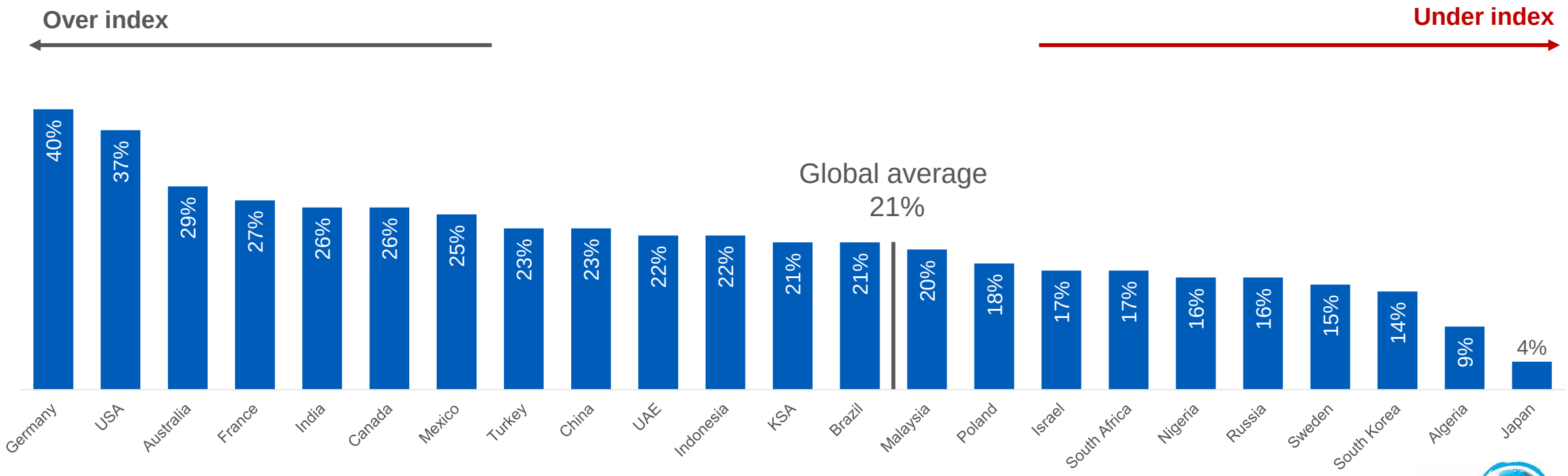
34%

The development of new business models

Q9. In the past few years, what kind of innovations has contributed the most to your company's performance? Please select up to 5 answers maximum. Base business executives: 2,748.

Willingness to accept a longer-term payoff for innovation is a general challenge, with the exception of the U.S. and Germany

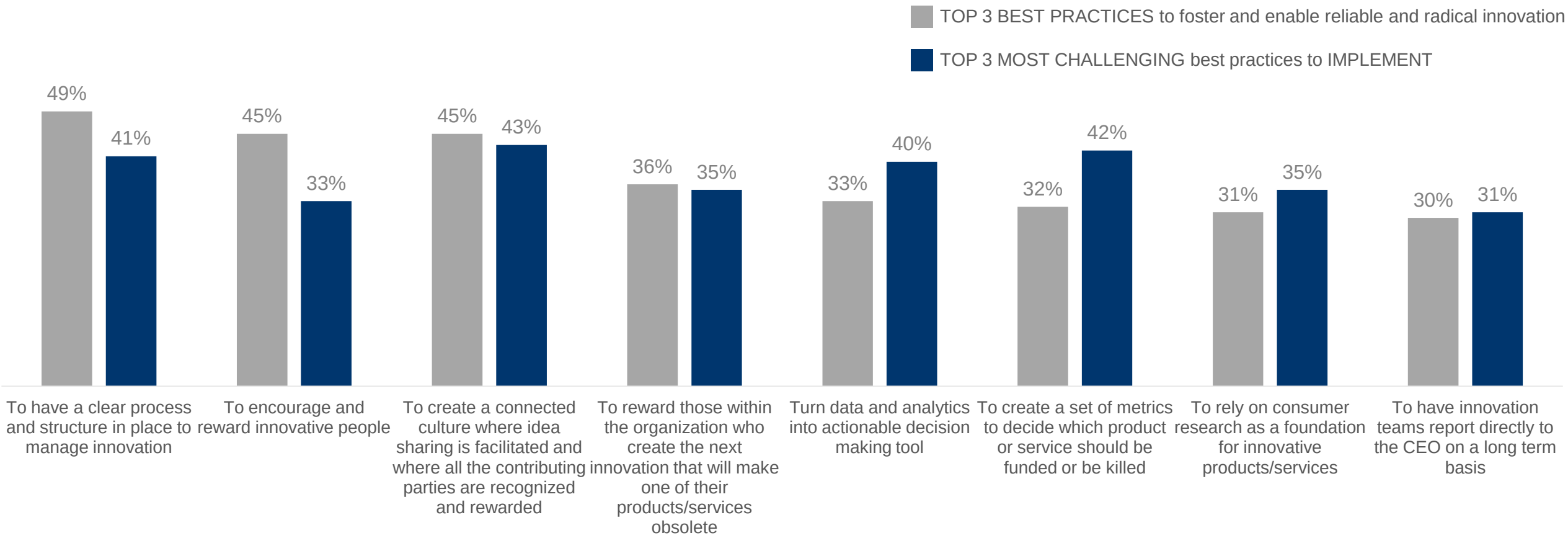
To be ready to accept long-term ROI to allow for breakthrough innovation (performs extremely well)



Q8.K How does your company currently perform against these success criteria: To be ready to accept a long term ROI to allow for breakthrough innovation. % performs extremely well.
Base business executives: 2,748

GE GLOBAL INNOVATION BAROMETER

Identifying best practices and integrating them internally is a challenge for businesses

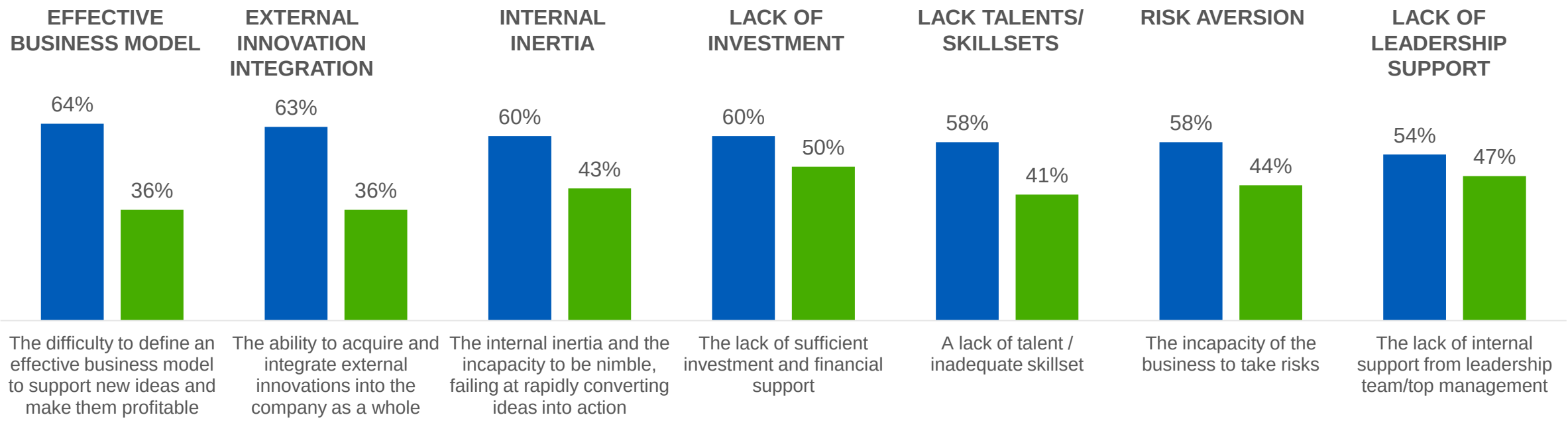


Q11A.2 Which of the following do you see as the top 3 best practices to foster and enable reliable and radical innovation? Q11B. Which of the following do you see as the top 3 most challenging best practices to implement? Base business executives: 2,748

GE GLOBAL INNOVATION BAROMETER

The Informed Public think internal inertia and lack of leadership prevent business from innovating efficiently, while execs blame ineffective business models

Challenges preventing businesses' ability to innovate efficiently



Q16. For each of the following challenges preventing businesses' ability to innovate efficiently, please say how far each of them applies to your company? Top 2.
Base business executives: 2,748. Base informed public: 1,346.

GE GLOBAL INNOVATION BAROMETER

2016 GE GLOBAL INNOVATION BAROMETER
SUPPORTING FINDINGS

GE
GLOBAL
INNOVATION
BAROMETER

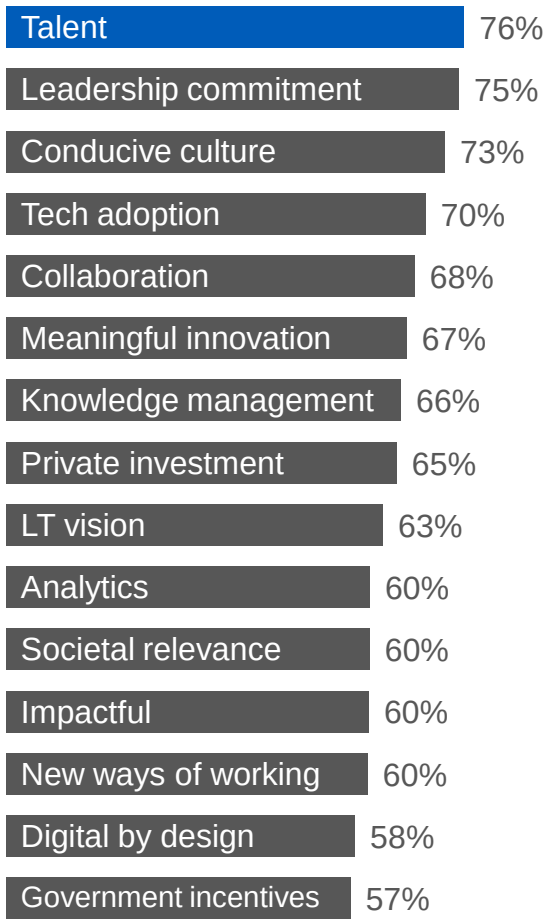
CREATIVITY AND PROBLEM-SOLVING KEY FOR FUTURE WORKFORCE

The future worker is changing. Business Executives are seeking problem solvers and creativity and the Informed Public are embracing the start-up ethos, and value flexible and remote work. However, many think we have a lot to do to prepare for tomorrow’s skills needs.

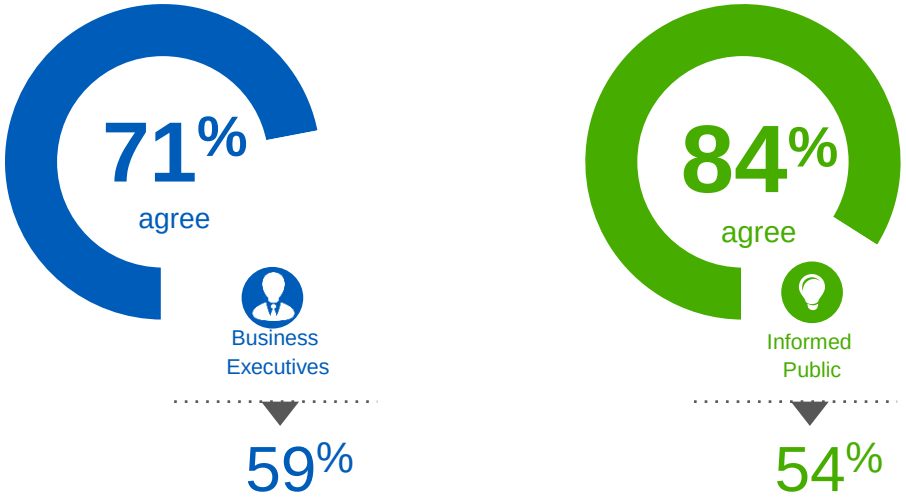
The future worker is changing

Talent acquisition remains the first innovation success factor…

And **81%** of Business Executives believe the **"start-up" ethos** is increasingly becoming the example norm for creating an **innovation culture** within companies of all sizes



With digital transformation we are observing the rise of 'NOMAD EMPLOYEES'
e.g., individuals that do not necessarily seek full-time employment but favor freelancing or contracting modes



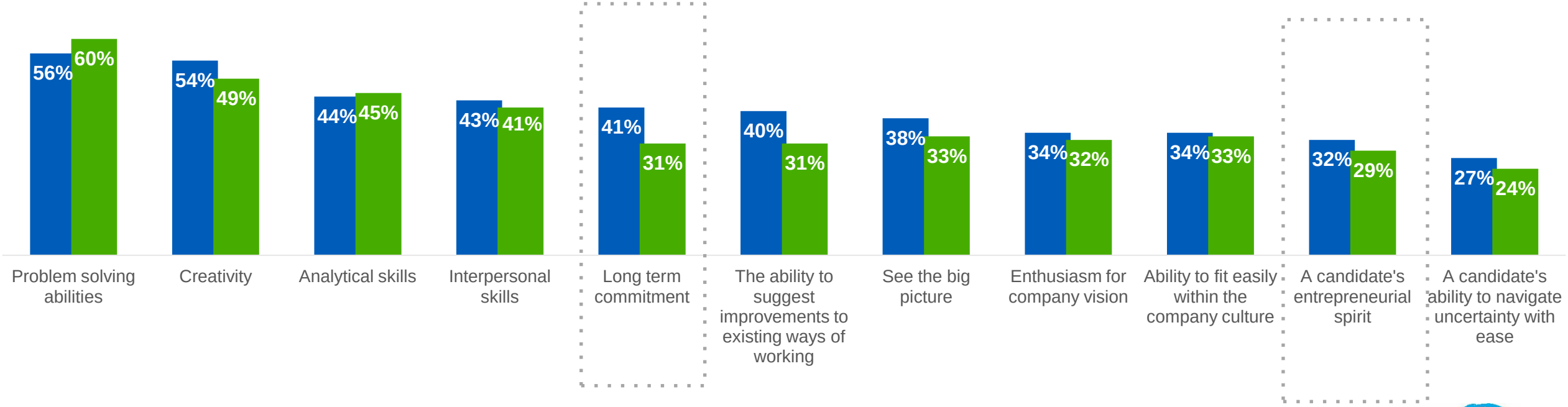
But just over half believe that the current education system is adapted to fulfill the private sector's demand for new talent and skills

Please see notes for question details

GE GLOBAL INNOVATION BAROMETER

The ideal talent are creative problem solvers, but entrepreneurs are not fully embraced

What are the main attributes you look for in CANDIDATES when considering them for a job application?



Q20. Beyond having the necessary technical qualifications for a job, what do you think are the main attributes companies are looking for in candidates when considering them for a job application? Q21. Beyond having the necessary technical qualifications for the job, what are the main attributes you look for in candidates when considering them for a job application? Base business executives: 2,748. Base informed public: 1,346.

GE GLOBAL INNOVATION BAROMETER

The Informed Public thinks the “start-up ethos” provides the most productive work environment

Top elements thought to create a more productive work environment

89%

Flexible working hours - where employees have a degree of freedom to choose their own working hours

80%

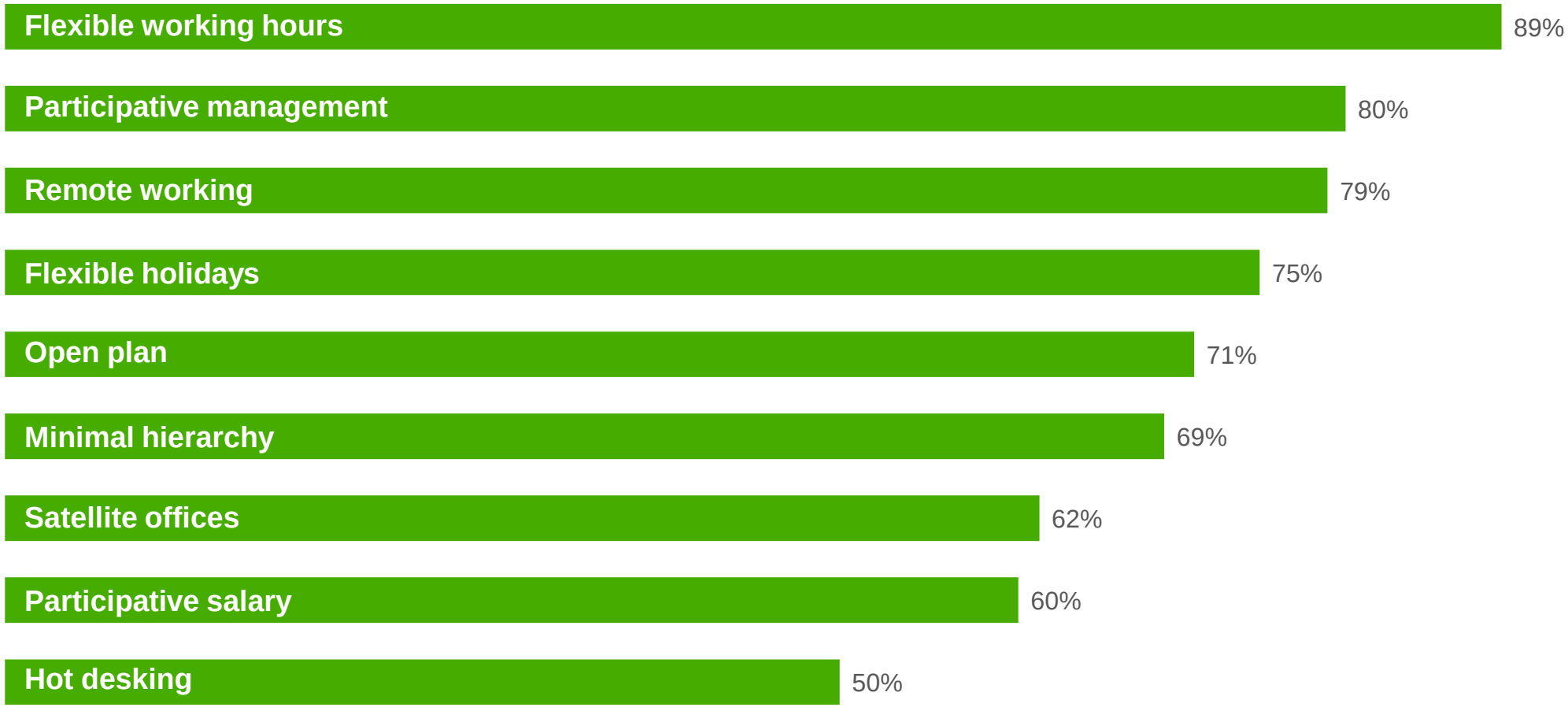
Participative management principles – where employees elect corporate leadership and have a say in the appointment and appraisal of their managers

79%

Remote working - where employees work from home, cafes, etc., on a regular basis

Q19. How much do you agree or disagree that the following types of ways of working might create a more productive work environment? [Agree + Strongly agree]
Base business executives: 2,748. Base informed public: 1,346

The Informed Public sees value in changing our ways of working to create a more productive work environment

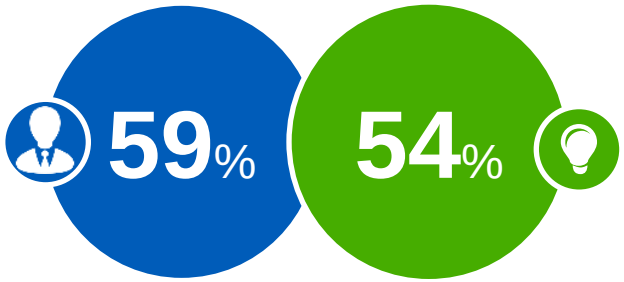


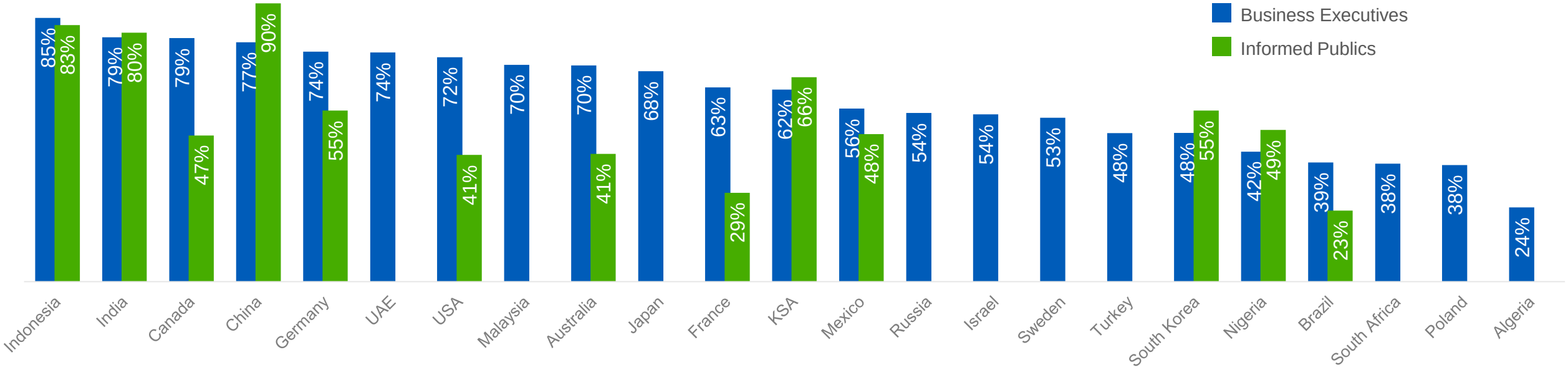
Q19. How much do you agree or disagree that the following types of ways of working might create a more productive work environment? [Agree + Strongly agree]
Base informed public: 1,346.

GE GLOBAL INNOVATION BAROMETER

Only a few countries feel their education system is ready to answer the future skills challenge

"The current education system is adapted to fulfill the private sectors' demand for new talent and skills"





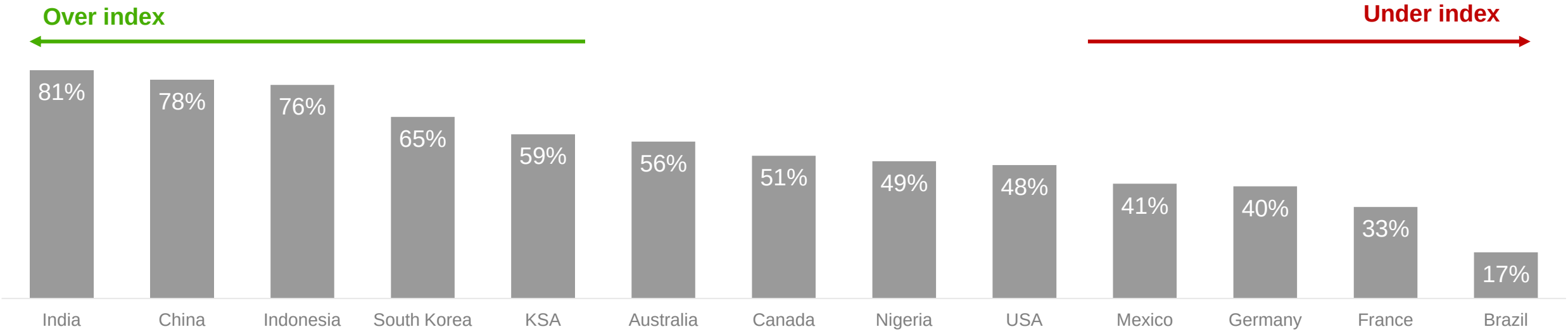
Q4. & Q14. How much do you agree or disagree with the following statements? Base business executives: 2,748. Base informed public: 1,346.

GE GLOBAL INNOVATION BAROMETER

The Informed Public in Asia are the most confident that their education systems are future-facing

"The current education system is preparing the next generation for **the jobs of tomorrow**"

53%

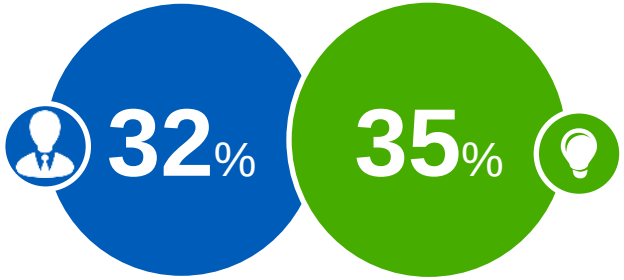


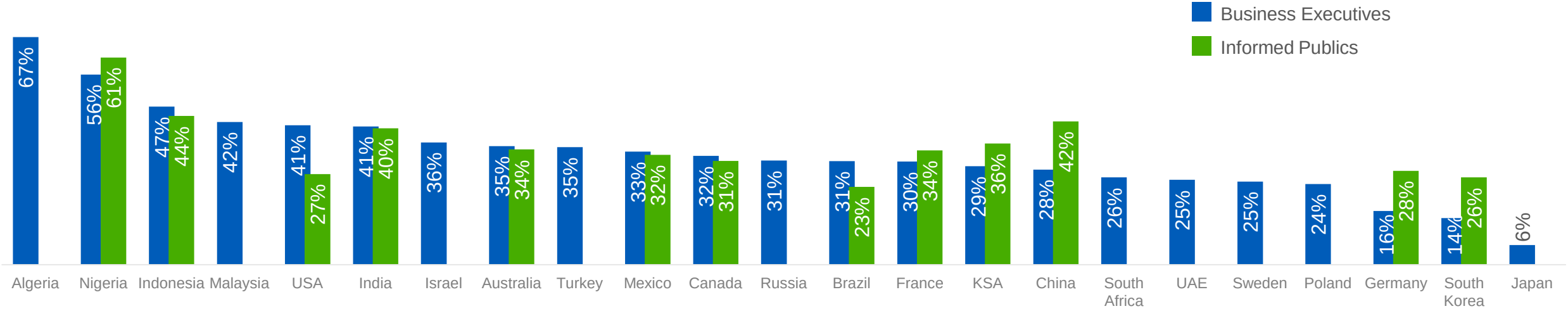
Q25. How much do you agree or disagree with the following statements? The current education system is preparing the next generation for the jobs of today? The current education system is preparing the next generation for the jobs of tomorrow

GE GLOBAL INNOVATION BAROMETER

Many emerging markets think businesses should play an active role in educating their employees for the digital revolution

"The DIGITAL REVOLUTION will increase BUSINESSES' RESPONSIBILITY to provide educational support to their employees so they ensure their skills are always up-to-date"





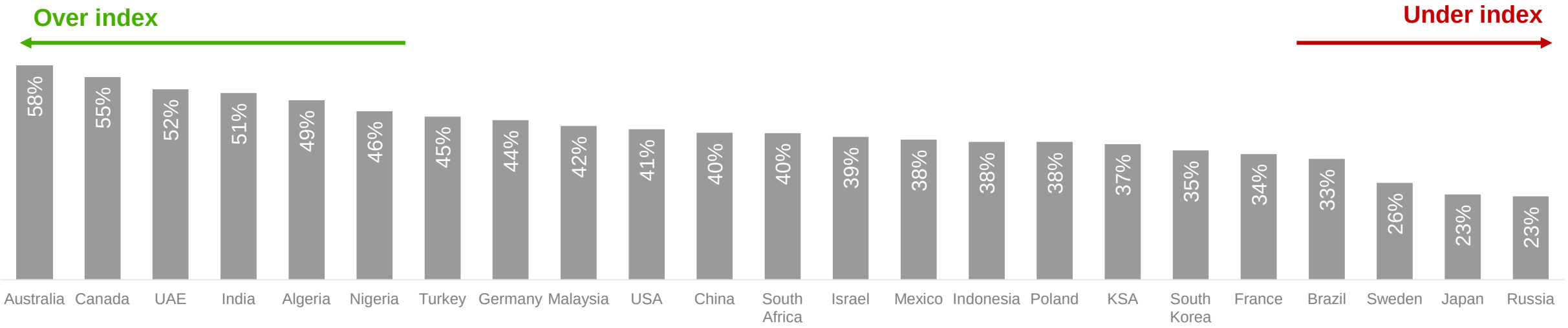
Q22. B. / Q23. B. There is currently a debate around the impact the digital revolution will have on employment. which, if any, of the following outcomes are the most likely to happen in your country? Base business executives: 2,748. Base informed public: 1,346.

GE GLOBAL INNOVATION BAROMETER

Businesses are seen to have a responsibility to skill their workers for a digital reality

"The private sector will have the responsibility to ADDRESS THE IMPACT OF TECHNOLOGY, and in particular to retool, re-skill and find new uses for the labor force"

40%



Q24. Which, if any, of the following outcomes are the most likely to happen in your country? Base business executives: 2,748

GE GLOBAL INNOVATION BAROMETER

MINDS AND MACHINES WORKING TOGETHER

Business Executives expect the digital revolution will make the workplace safer and create higher-value roles for workers. Few fear any negative impact on employment. Executives in the US, India, China or Germany anticipate a positive outcome in their country, while Japanese, French or Swedish executives are more skeptical.

Few fear a negative impact of the digital revolution on employment

Believe the digital revolution will have a negative impact on employment

17%

15%

What do you anticipate the **impact** of **automation** to be on jobs in your country?

22% Only 22% of Business Executives only see a negative impact

33% One third see a mix of positive and negative impact

33% One third only see a positive impact

"The digital revolution will have a positive impact on employment"

54%

61%

New types of jobs will be created:

48%

Workplace safety will increase:

43%

Business Executives

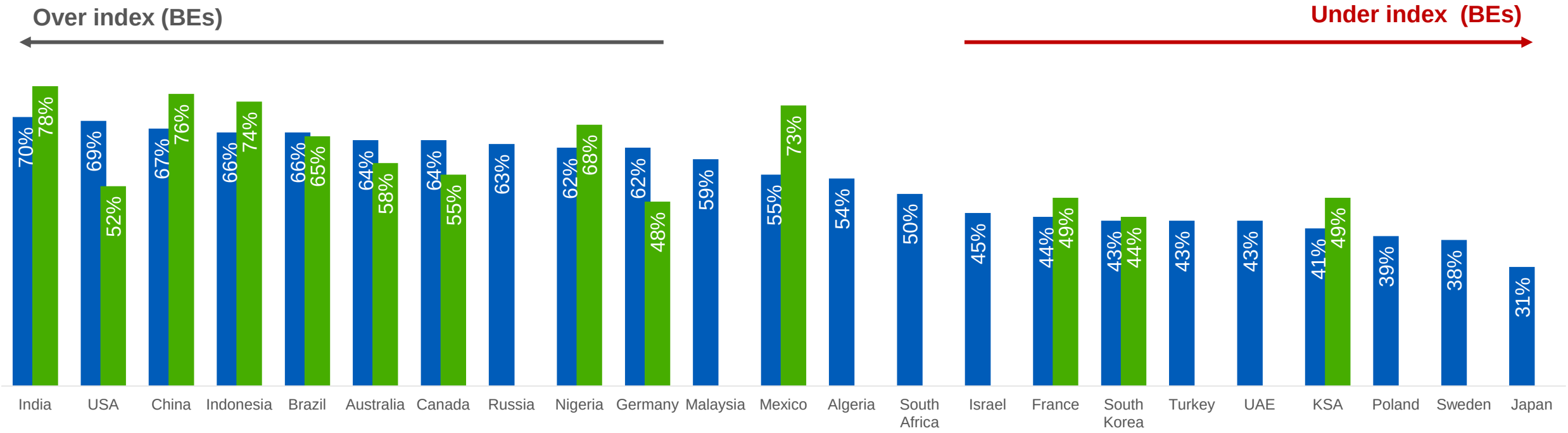
Informed Publics

Please see notes for question details

GE GLOBAL INNOVATION BAROMETER

Country perceptions of how the digital revolution will affect employment vary widely

"The DIGITAL REVOLUTION will have a POSITIVE IMPACT on employment"

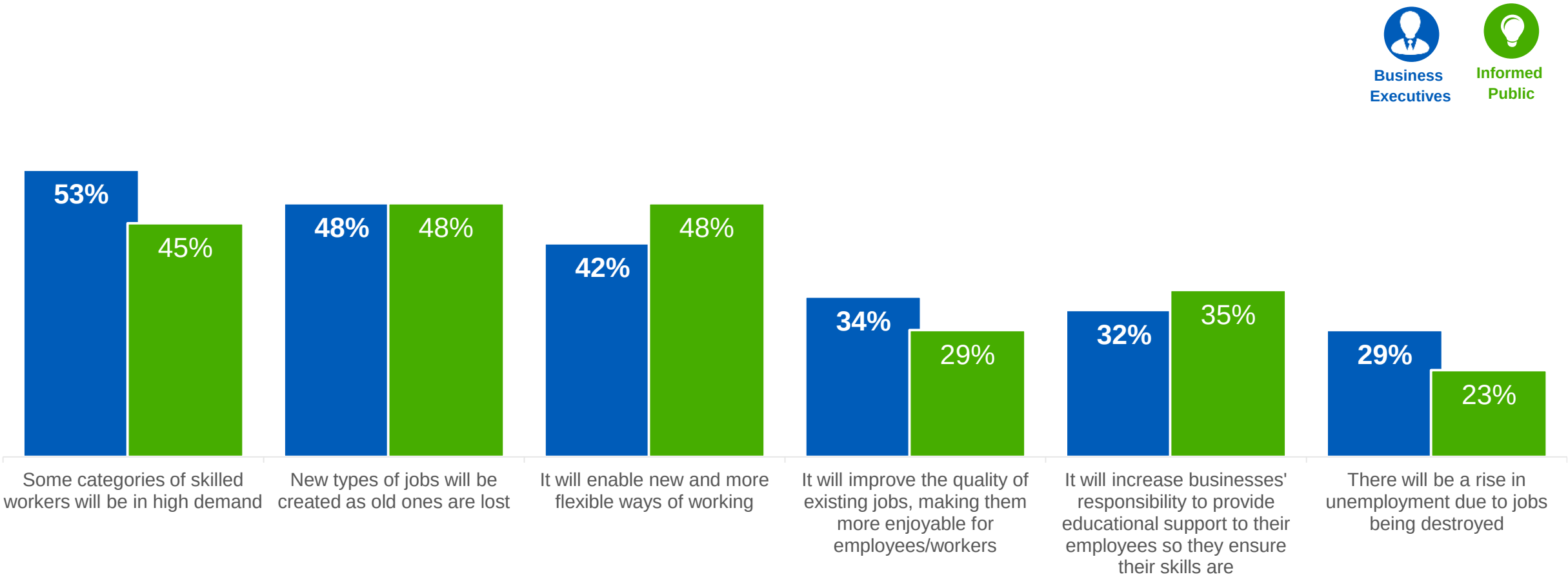


Q23. A. & Q22. There is currently a debate around the impact the digital revolution will have on employment. In your opinion, what will be the impact of the digital revolution? Net % positive. Base business executives: 2,748. Base informed public: 1,346.

GE GLOBAL INNOVATION BAROMETER

The digital revolution is expected to change the nature of work

Which are **the most likely outcomes** in your country?



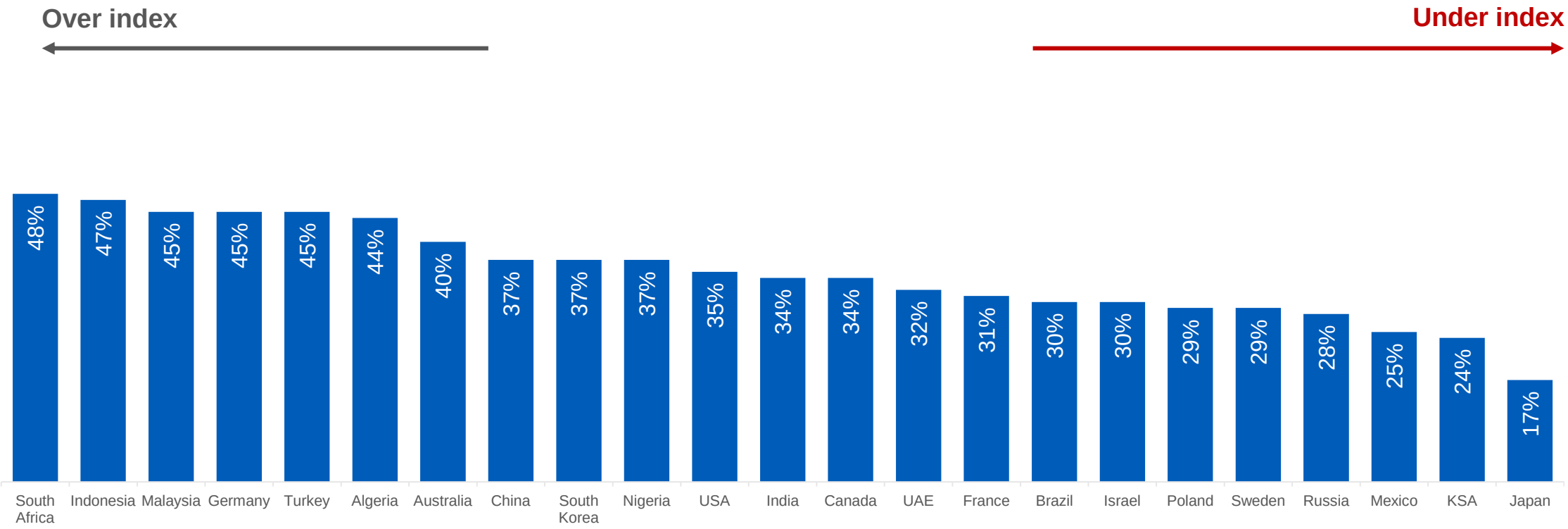
Q23B. Which, if any, of the following outcomes are the most likely to happen in your country / Q22B. Which, if any, of the following outcomes are the most likely to happen in your country. Base business executives: 2,748. Base informed public: 1,346.

GE GLOBAL INNOVATION BAROMETER

COUNTRY SPECIFICS: THE IMPACT OF AUTOMATION ON JOBS IN YOUR COUNTRY

There is some polarization concerning the potential displacement of tasks

Impact of automation on job roles: Drive a displacement of tasks in favor of machines

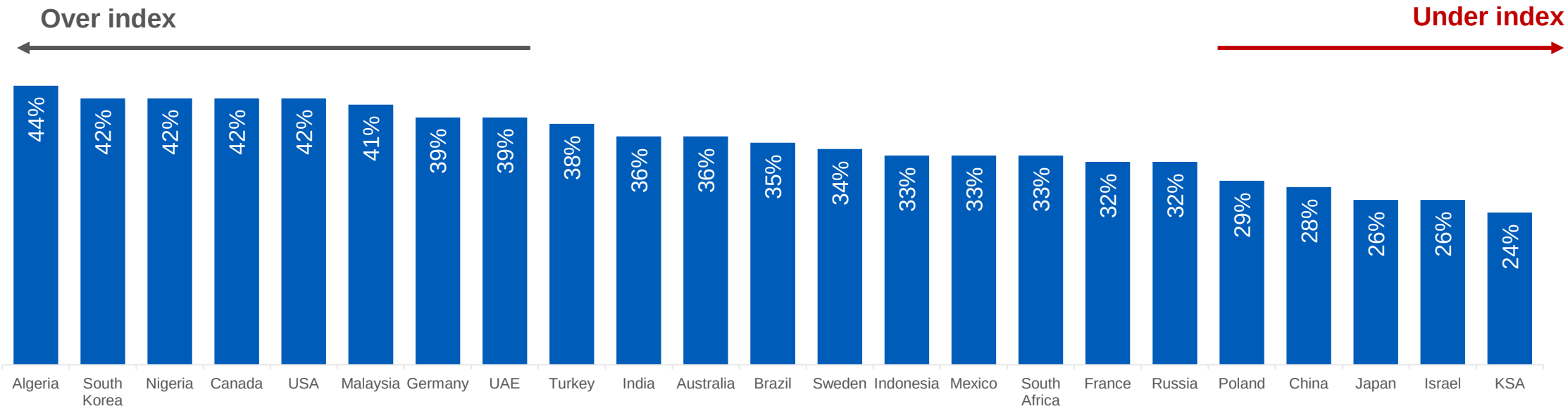


Q24. Which, if any, of the following outcomes are the most likely to happen in your country? Base business executives: 2,748.

GE GLOBAL INNOVATION BAROMETER

The potential negative impact for lower-skilled workers is not a concern for most Business Executives

Impact of automation on job roles: Limit job opportunities and/or drive wages down for individuals with lower skills

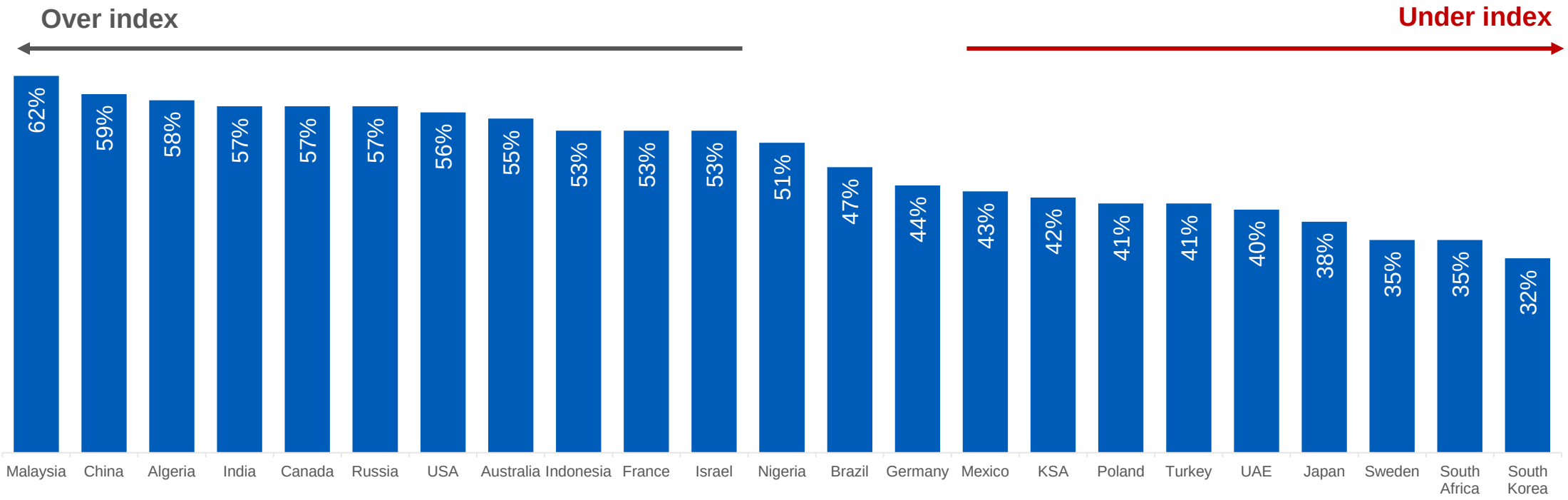


Q24. We would now like to ask you what you anticipate the impact of automation to be on jobs in your country? Which, if any, of the following outcomes are the most likely to happen in your country? Some can be positive some can be negative. Base business executives: 2,748.

GE GLOBAL INNOVATION BAROMETER

Most Business Executives see the opportunities automation can create

Impact of automation on job roles: Offer workers opportunities to assume new, potentially higher-value roles and responsibilities

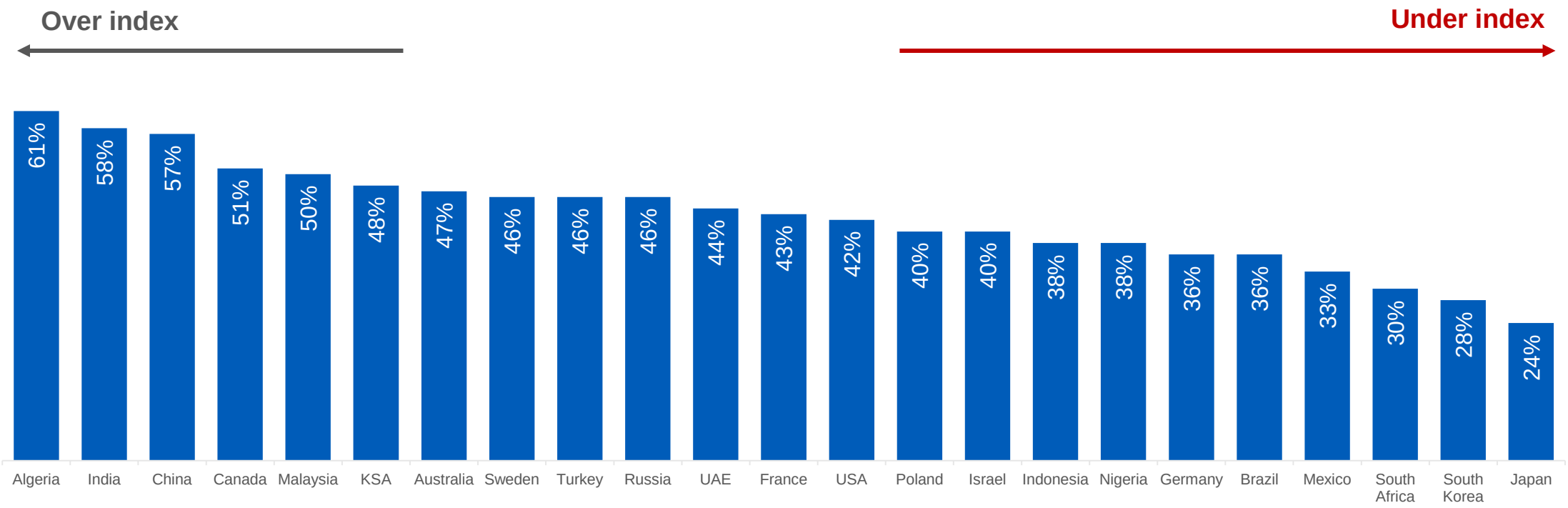


Q24. We would now like to ask you what you anticipate the impact of automation to be on jobs in your country? Which, if any, of the following outcomes are the most likely to happen in your country? Some can be positive some can be negative. Base business executives: 2,748.

GE GLOBAL INNOVATION BAROMETER

The perception of benefits such as workplace safety are more contrasted

Impact of automation on job roles: Increase workplace safety; Workers will be moved to supervisory roles where they no longer have to perform dangerous applications in hazardous settings



Q24. We would now like to ask you what you anticipate the impact of automation to be on jobs in your country? Which, if any, of the following outcomes are the most likely to happen in your country? Some can be positive some can be negative. Base business executives: 2,748.

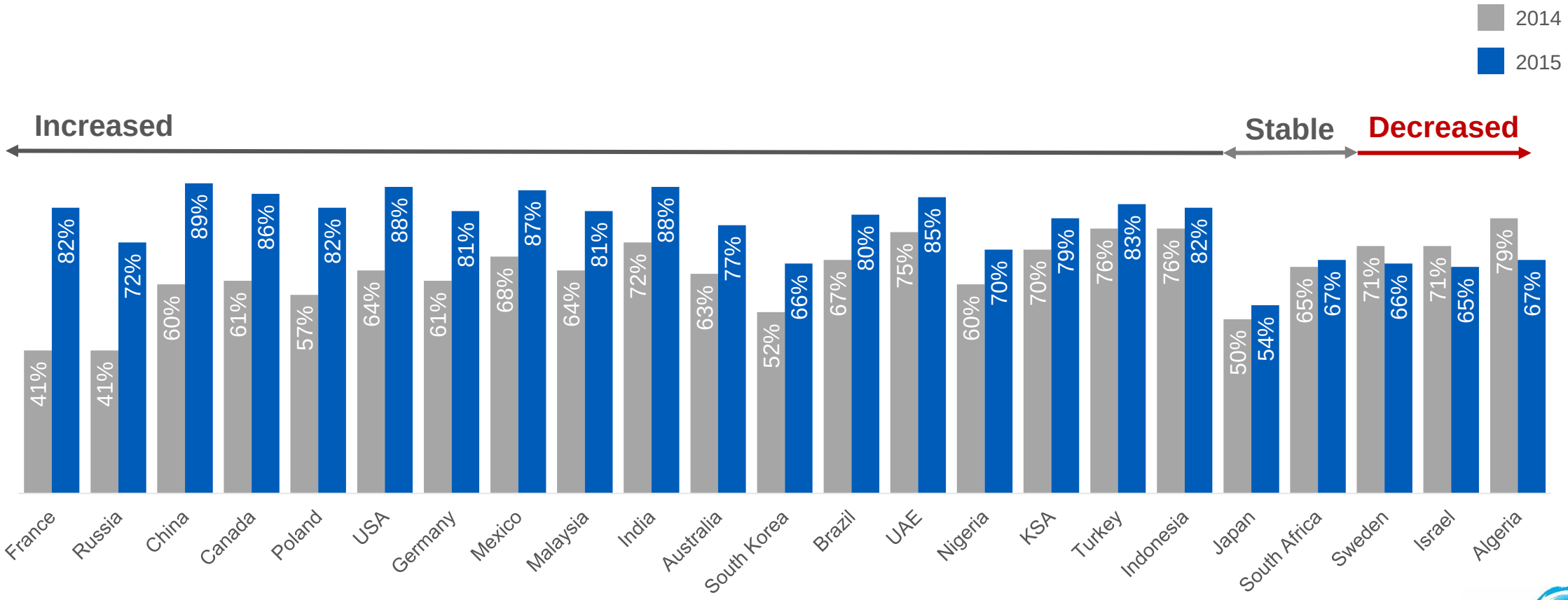
GE GLOBAL INNOVATION BAROMETER

THE ROI ON COLLABORATION IS INCREASING

Business Executives say revenue and profit generated by collaborative innovation activities have yielded an increase in financial results. They’re open to risk-sharing associated with innovation, including revenue streams or losses that could be generated through collaborative initiatives.

Collaboration has increased in most markets

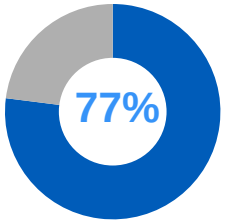
The revenue and profit generated by **collaborative innovation activities** has been growing over the last year



Q18A. Has the revenue and profit generated by collaborative innovation activities been growing over the last year? % Yes. Base business executives: 2,748

GE GLOBAL INNOVATION BAROMETER

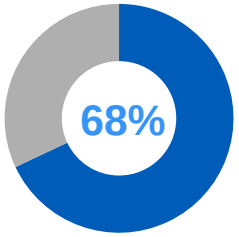
Revenue and profit generated by collaborative innovation activities have yielded an increase in financial results



The revenue and profit generated by collaborative innovation activities has been growing over the last year **64% (2014 DATA)**

This is even more the case for…

85% Those whose innovation strategies are steered towards breakthrough innovations



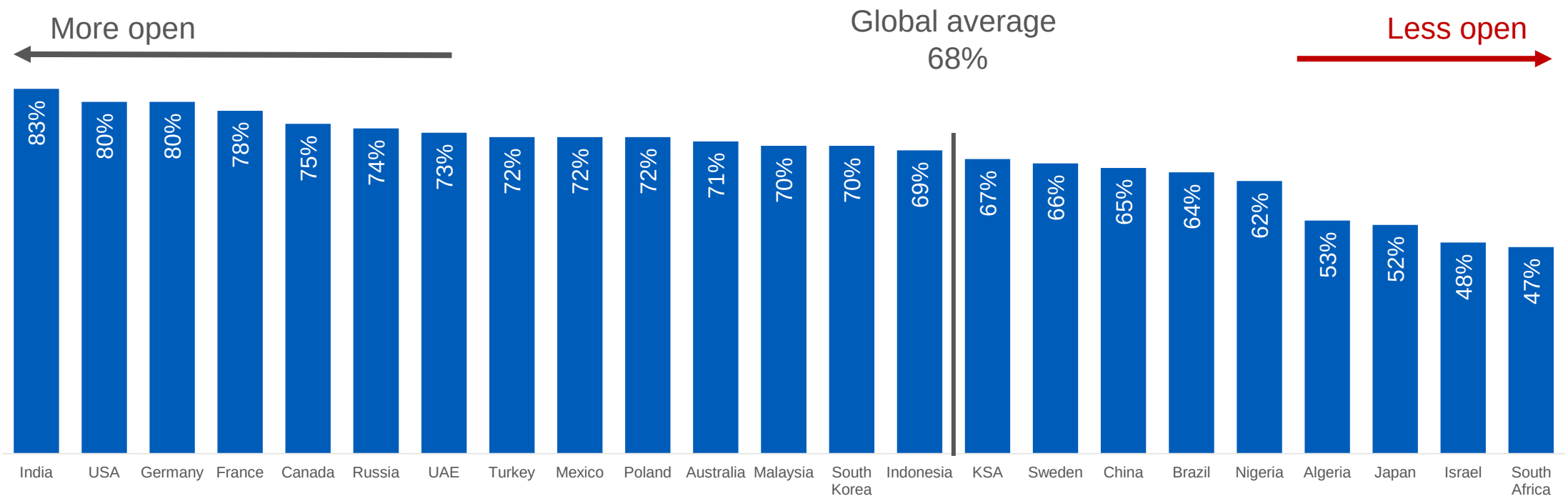
Say their firm is open to sharing the revenue stream or the revenue losses that could be generated through a collaborative innovation initiative

81% Those who find that to come up with radical and disruptive ideas is a challenge preventing their business' ability to innovate

Q18A. Has the revenue and profit generated by collaborative innovation activities been growing over the last year? % Yes. Base business executives: 2,748
Q18B. Is your firm open to sharing the revenue stream or the revenue losses that could be generated through a collaborative innovation initiative? % Yes. Base business executives: 2,748

Businesses in most markets are open to sharing the risks of collaboration

My firm is open to sharing the revenue streams or the revenue losses that could be generated through a collaborative innovation initiative



Q18B. Is your firm open to sharing the revenue stream or the revenue losses that could be generated through a collaborative innovation initiative? % Yes. Base business executives: 2,748

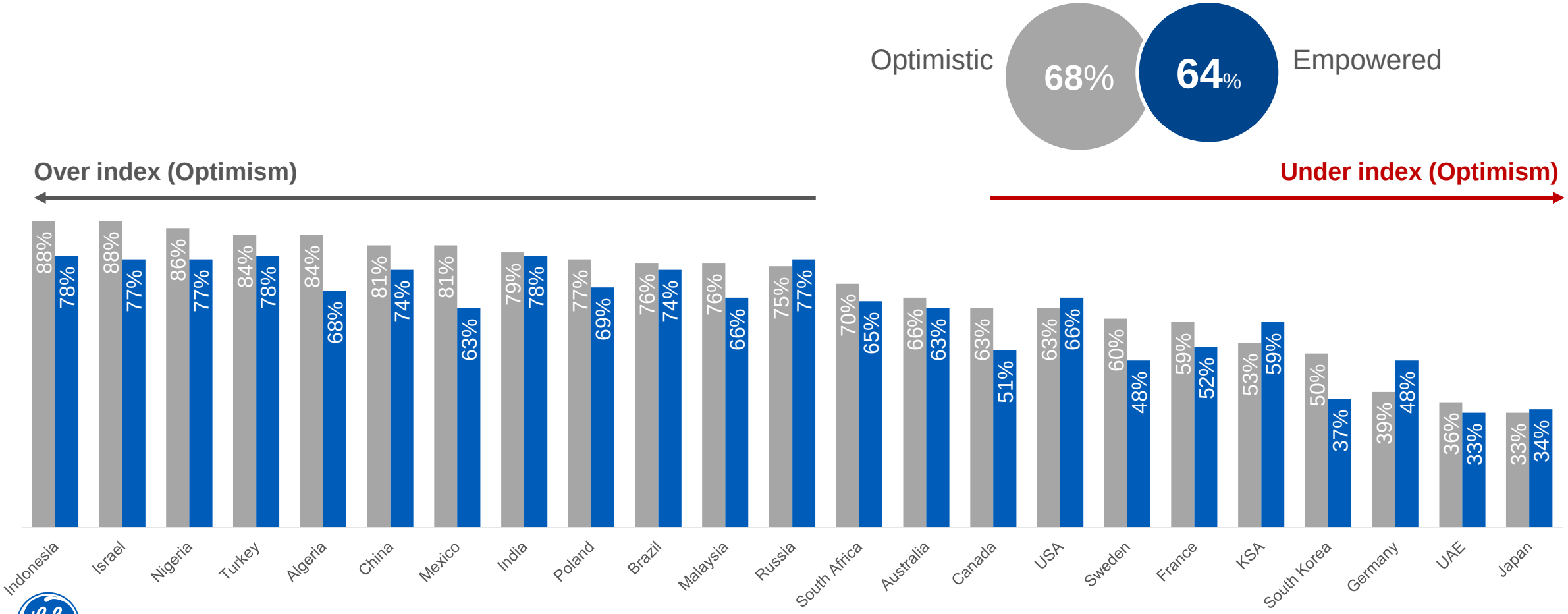
GE GLOBAL INNOVATION BAROMETER

EMERGING MARKETS FEARLESSLY EMBRACE INNOVATION

Business Executives from emerging markets are feeling more optimistic and more empowered by the 4th Industrial Revolution than their peers in developing economies. Asian markets are amongst the most excited and confident, emerging markets the most curious. Informed Citizens in developed markets are feeling the least in control.

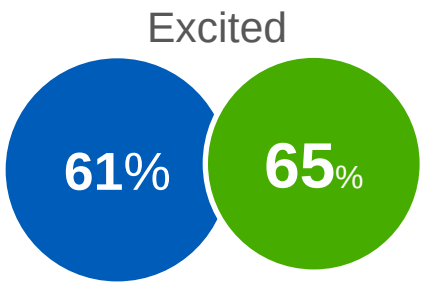
Fewer leaders in emerging markets are also reporting difficulty coming up with radical and disruptive ideas.

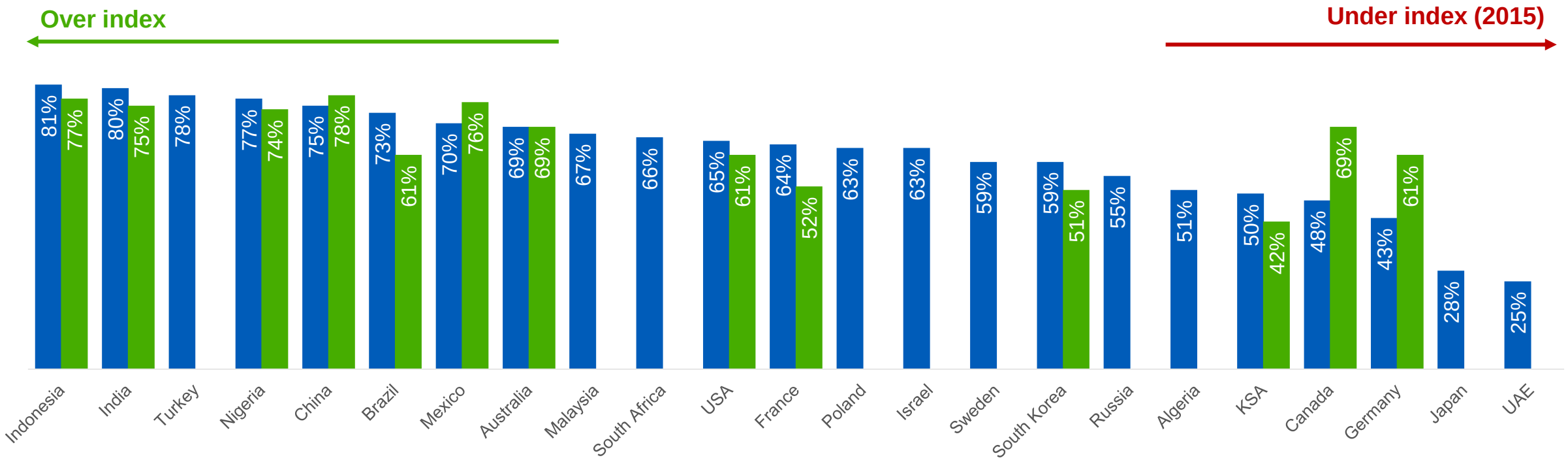
Business Executives from emerging markets feel more optimistic and more empowered by the 4th Industrial Revolution



Q25. How does the prospect of entering a fourth industrial revolution make you feel. Base business executives: 2,748

When it comes to entering a 4th Industrial Revolution, Asian and emerging markets feel more excited…

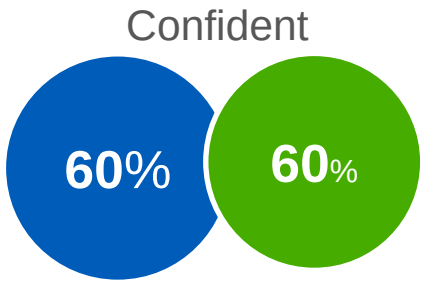


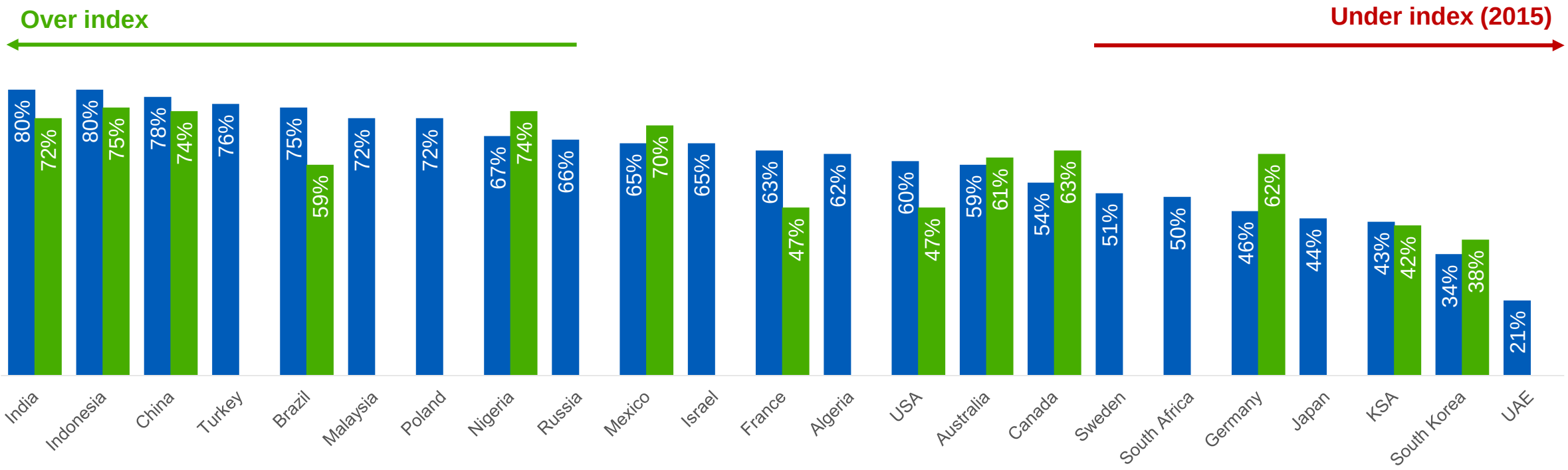


Q25. / Q23 How does the prospect of entering a fourth Industrial Revolution make you feel? Base business executives: 2,748. Base informed public: 1,346

GE GLOBAL INNOVATION BAROMETER

…and Asian markets also feel most confident

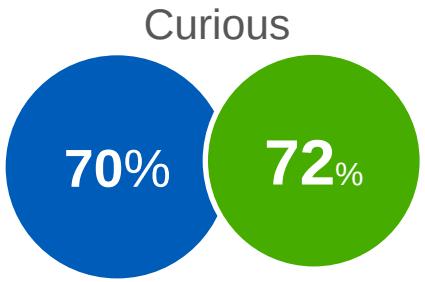


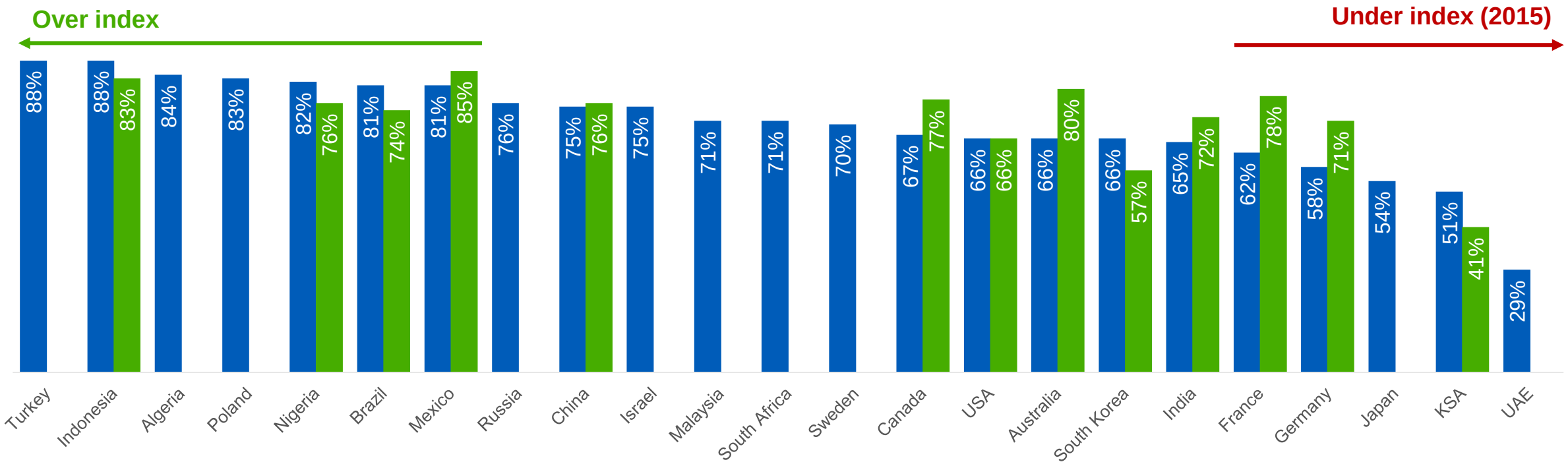


Q25. / Q23 How does the prospect of entering a fourth Industrial Revolution make you feel? Base business executives: 2,748. Base informed public: 1,346

GE GLOBAL INNOVATION BAROMETER

Emerging markets are especially curious about the 4th Industrial Revolution

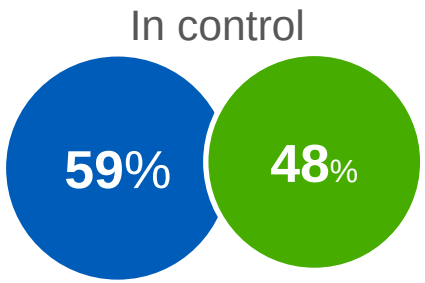


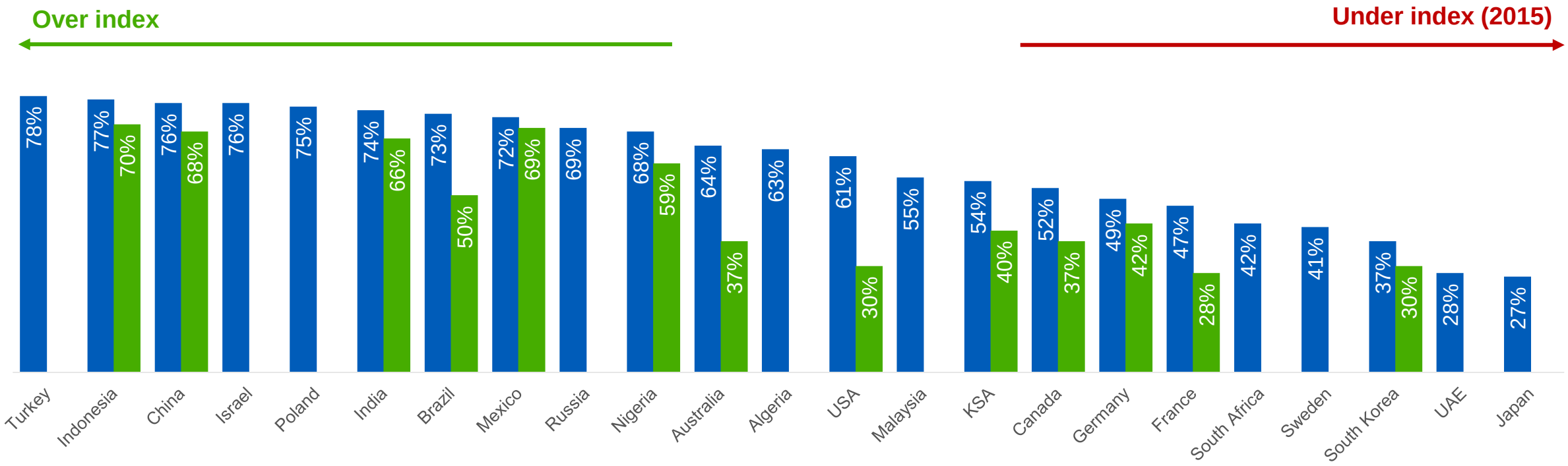


Q25. / Q23 How does the prospect of entering a fourth Industrial Revolution make you feel? Base business executives: 2,748. Base informed public: 1,346

GE GLOBAL INNOVATION BAROMETER

Informed Publics in developed markets feel the least in control



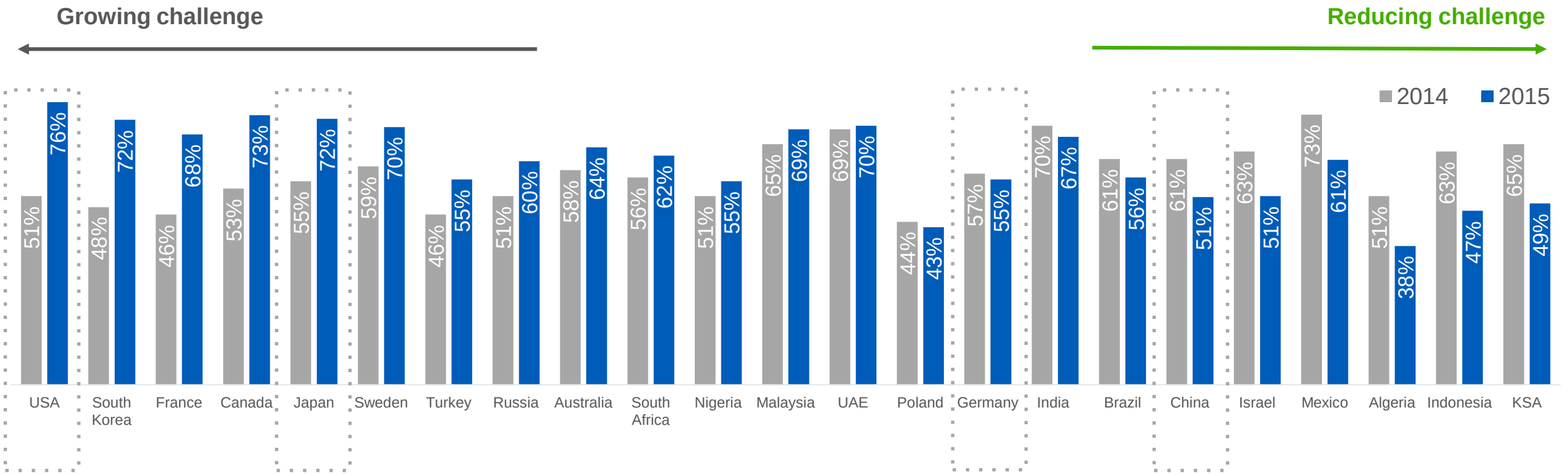


Q25. / Q23 How does the prospect of entering a fourth Industrial Revolution make you feel? Base business executives: 2,748. Base informed public: 1,346

GE GLOBAL INNOVATION BAROMETER

And we see being disruptive is a growing challenge for “Innovation champions”, with China an exception

The difficulty to come up with “radical and disruptive ideas”

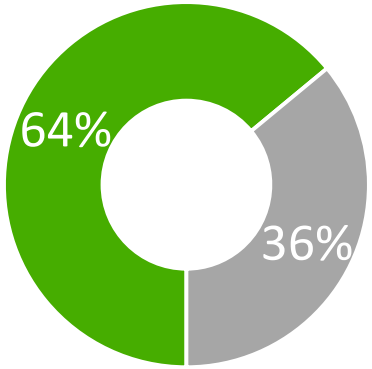


Q16. For each of the following challenges preventing businesses' ability to innovate efficiently, please say how far each of them applies to your company. The difficulty to come up with radical and disruptive ideas. Net % apply. Base business executives: 2,748.

GE GLOBAL INNOVATION BAROMETER

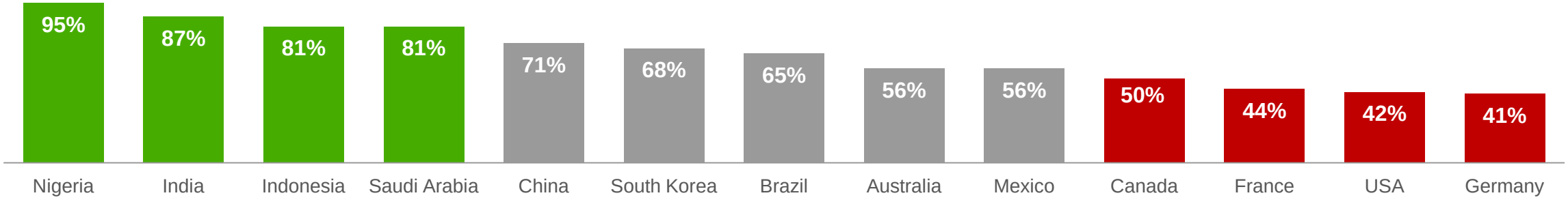
Emerging markets are more ready to give access to their personal data

I am willing to **allow access to the data I generate** if this will allow me to get a better service



I would rather protect my data and not get a perfect service

Market focus



Q18. Thinking as a consumer, please select which of the statements falls closer to your opinion. Base informed public: 1,346

GE GLOBAL INNOVATION BAROMETER

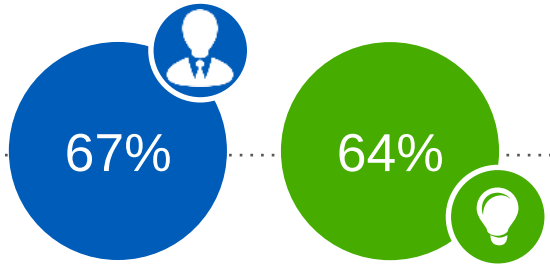
A CALL FOR GREATER GOVERNMENT SUPPORT

Executives and citizens alike call for public authorities to play a more supportive role in innovation. While few citizens (12%) believe their government is the top driver of innovation in their country, more (30%) think it should be. 57% say their country's regulations are not supportive of innovative companies, although emerging markets are more positive in their assessment. Most executives agree that data and privacy regulations are preventing more radical innovation by businesses.

64%

Of citizens are willing to share access to their data if it leads to better service.

Executives and citizens call for public authorities to play a more supportive role in innovation



Most believe the private sector is in the driver's seat of innovation

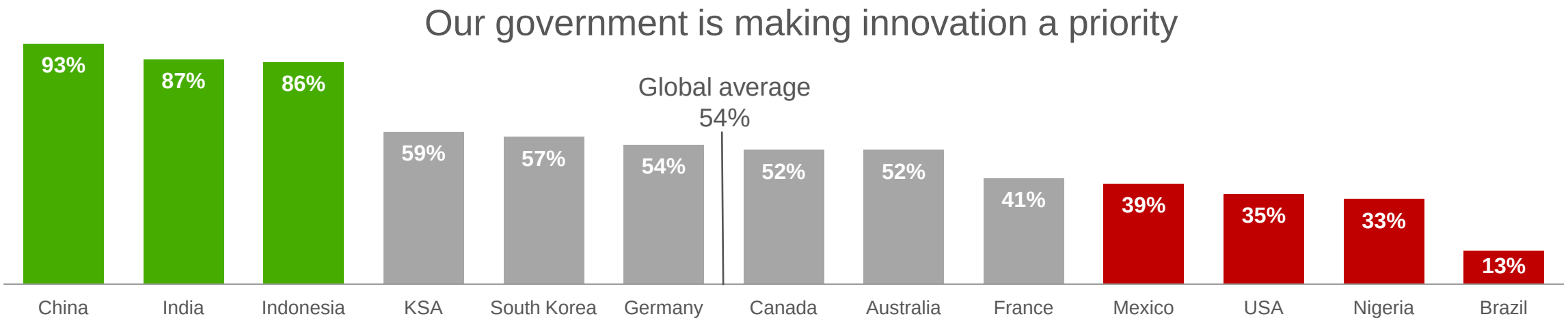
12% Few believe their government is driving innovation the most in their country

30% But more think it should be the driving force

Q5. Who do you think is driving innovation the most today in your country? Q6B. Whose responsibility it is to be driving innovation the most in your country?
Base informed public: 1,346

GE GLOBAL INNOVATION BAROMETER

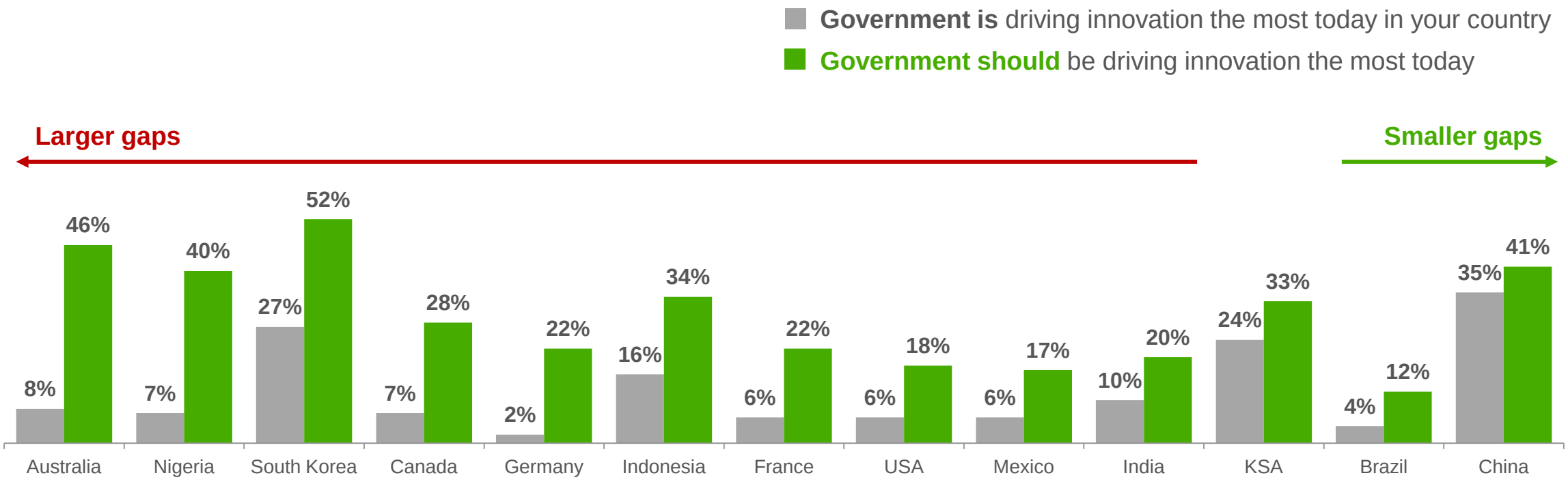
Expectations for governments to make innovation a strategic priority are unequally met



Q7. Thinking about government's role in innovation - How much do you agree or disagree with the following statements? Our government is making innovation a priority / Our government should focus less on driving innovation in our country [Net % agree]. Base Informed Public: 1,346

GE GLOBAL INNOVATION BAROMETER

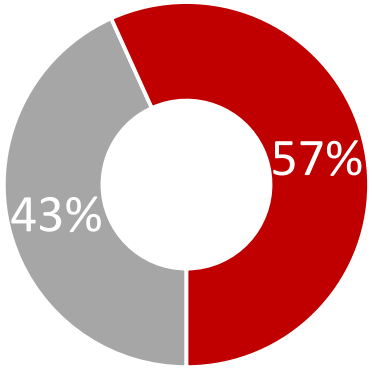
China is the only country where the government delivers in terms of driving innovation



Q5. Who do you think is driving innovation the most today in your country? Government. Q6B. Whose responsibility it is to be driving innovation the most in your country? Government. Base informed public: 1,346

Over half of citizens think current regulations are not supporting innovative companies

Regulations in my country today **are supportive** of innovative companies



Regulations in my country today **are not supportive** of innovative companies

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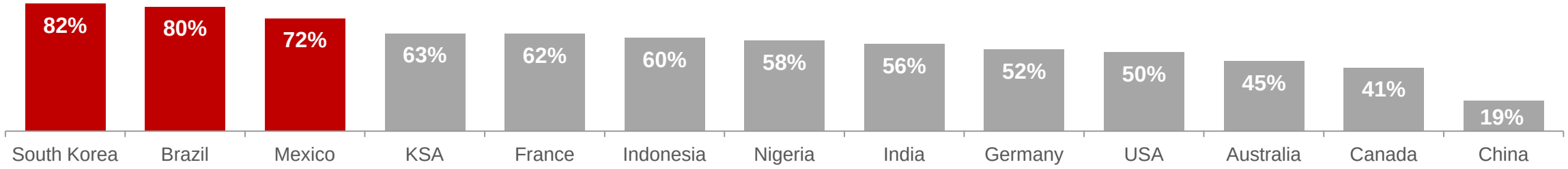


Q18. Thinking as a consumer, please select which of the statements falls closer to your opinion. Base informed public: 1,346.

GE GLOBAL INNOVATION BAROMETER

Data and privacy regulations are seen to prevent the adoption and launch of more radical innovation by businesses

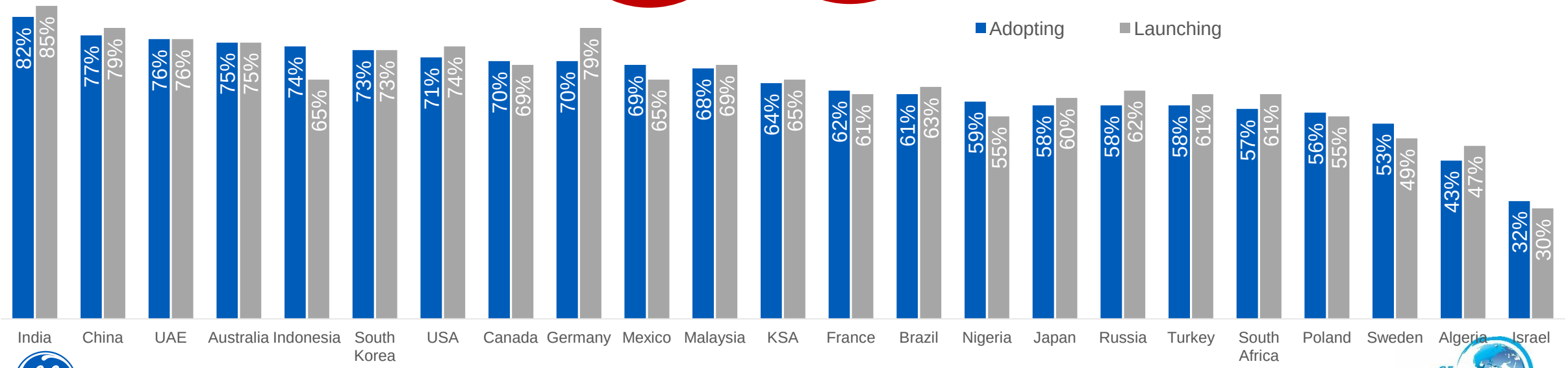
Business Executives agree

REGULATIONS AROUND PRIVACY and **DATA PROTECTION** are preventing businesses from **LAUNCHING** more radical / transformative innovations

64%

64%

REGULATIONS around **PRIVACY** and **DATA PROTECTION** are preventing businesses from **ADOPTING** more radical / transformative innovations

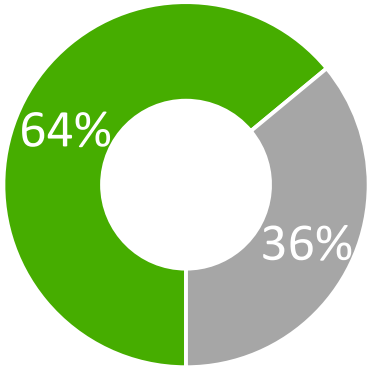


Q4.A & F How far do you agree or disagree with: Regulations around privacy and data protection are preventing businesses from launching more radical / transformative innovations. / Regulations around privacy and data protection are preventing businesses from adopting more radical / transformative innovations. Base business executives: 2,748.

GE GLOBAL INNOVATION BAROMETER

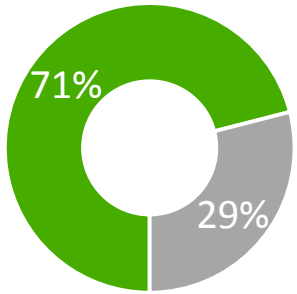
Citizens are ready to trust innovative businesses with their data IF this allows for better service

I am willing to **allow access to the data I generate** if this will allow me to get a better service

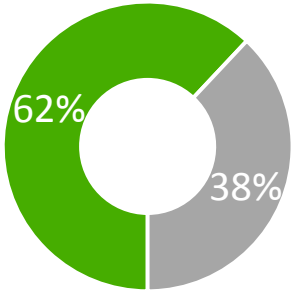


I would rather protect my data and not get a perfect service

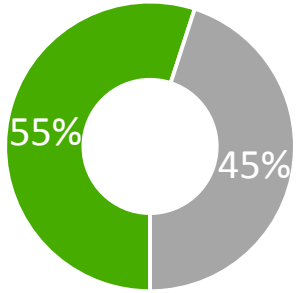
Age groups



25-34 year olds



35-45 year olds



46-65 year olds

Q18. Thinking as a consumer, please select which of the statements falls closer to your opinion. Base informed public: 1,346

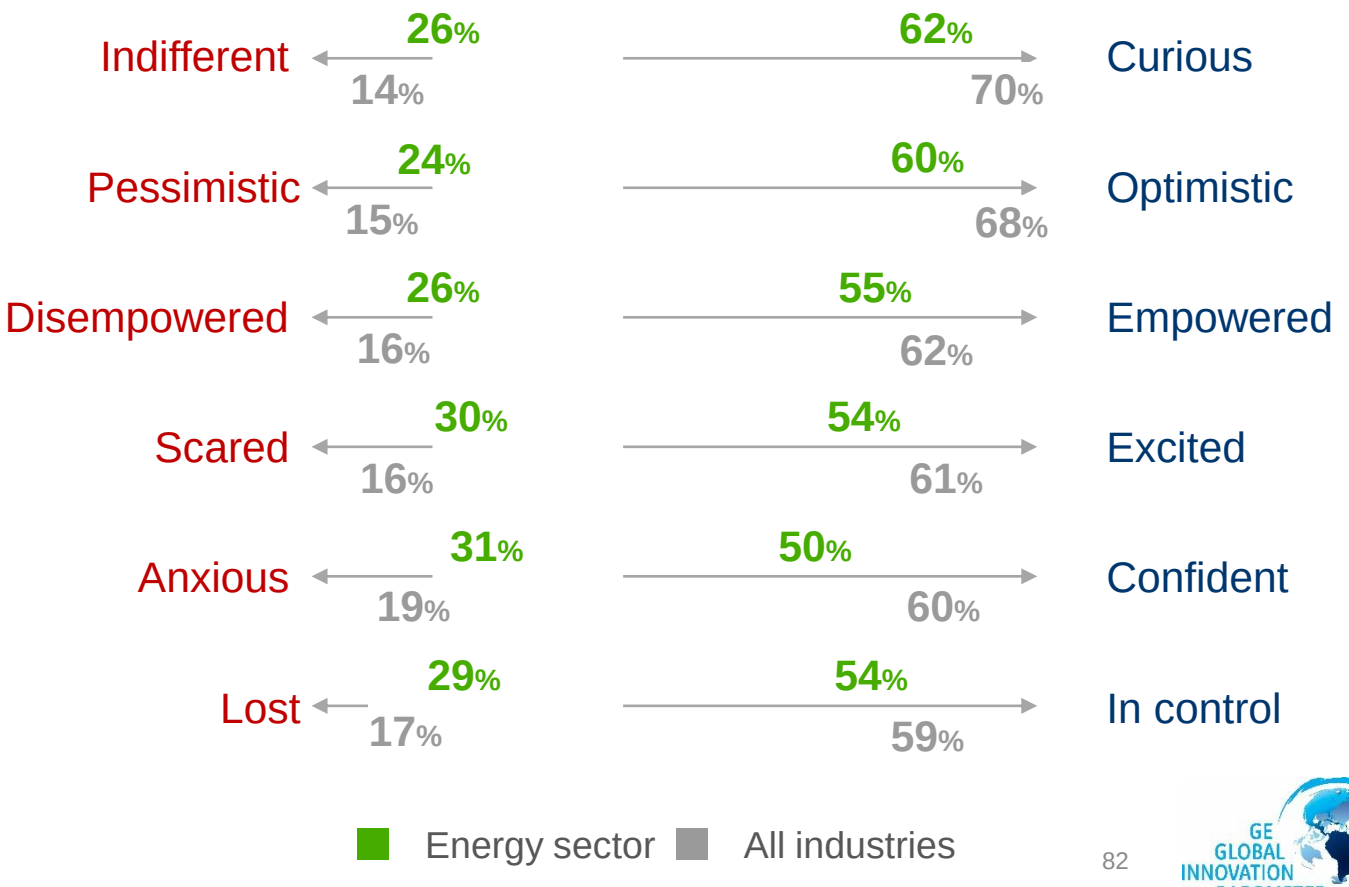
THE ENERGY SECTOR IS RIPE FOR DISRUPTION

Globally there is a belief that the energy market can still benefit greatly from new innovation approaches. However, energy companies are less positive about the prospect of the 4th Industrial Revolution.

The energy sector can benefit greatly from new innovation approaches

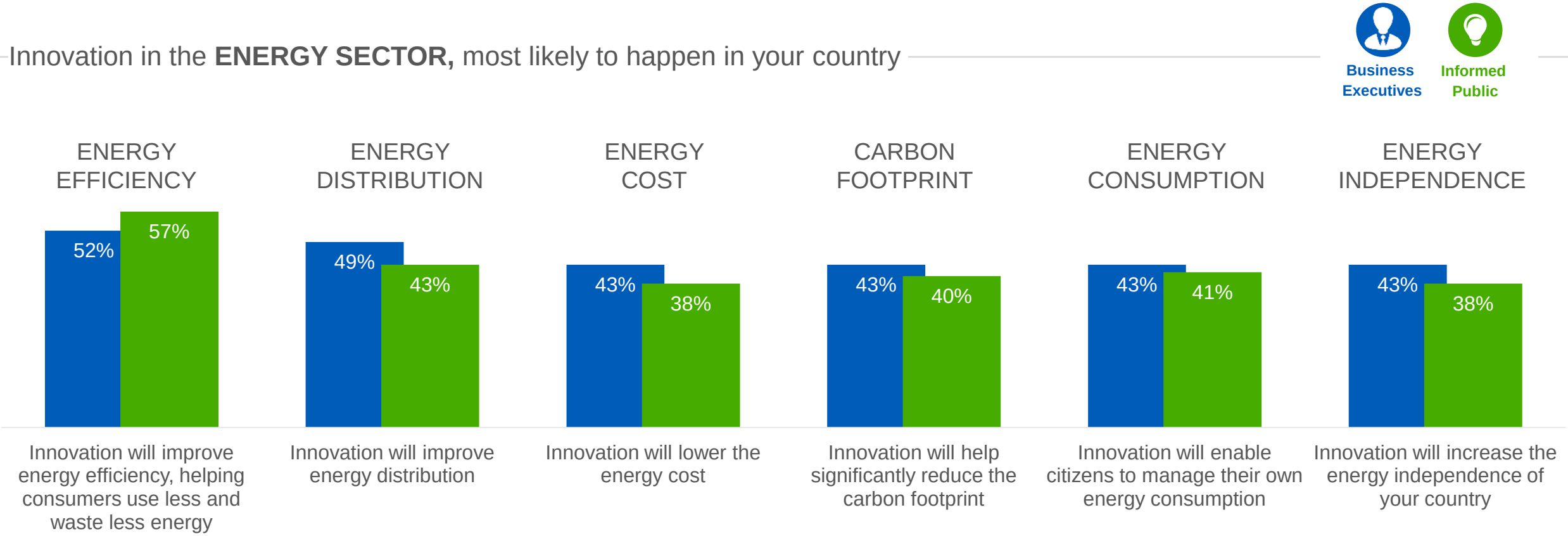
61% of citizens believe the energy industry would benefit the most from investment in new innovation approaches

How does the prospect of entering a 4th Industrial Revolution make you feel?



Innovation in the energy sector is thought to have a number of possible outcomes/benefits

Innovation in the **ENERGY SECTOR,** most likely to happen in your country

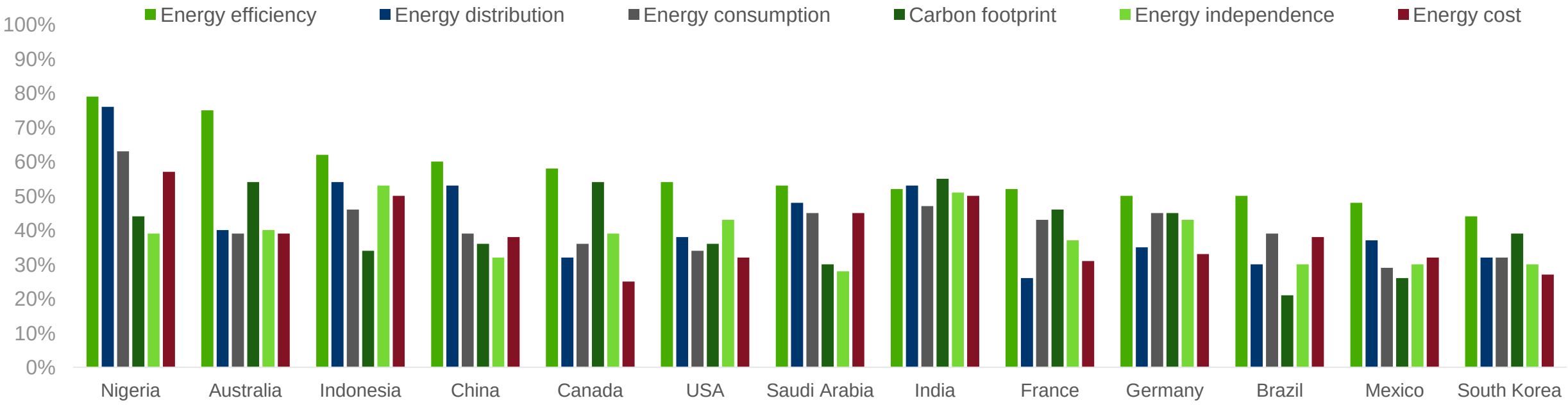


Q27 / Q24. Thinking now about innovation in the energy sector, which of the following outcomes is the most likely to happen in your country? Base business executives: 2,748. Base informed public: 1,346.

GE GLOBAL INNOVATION BAROMETER

The most likely outcomes vary by country

Informed Public

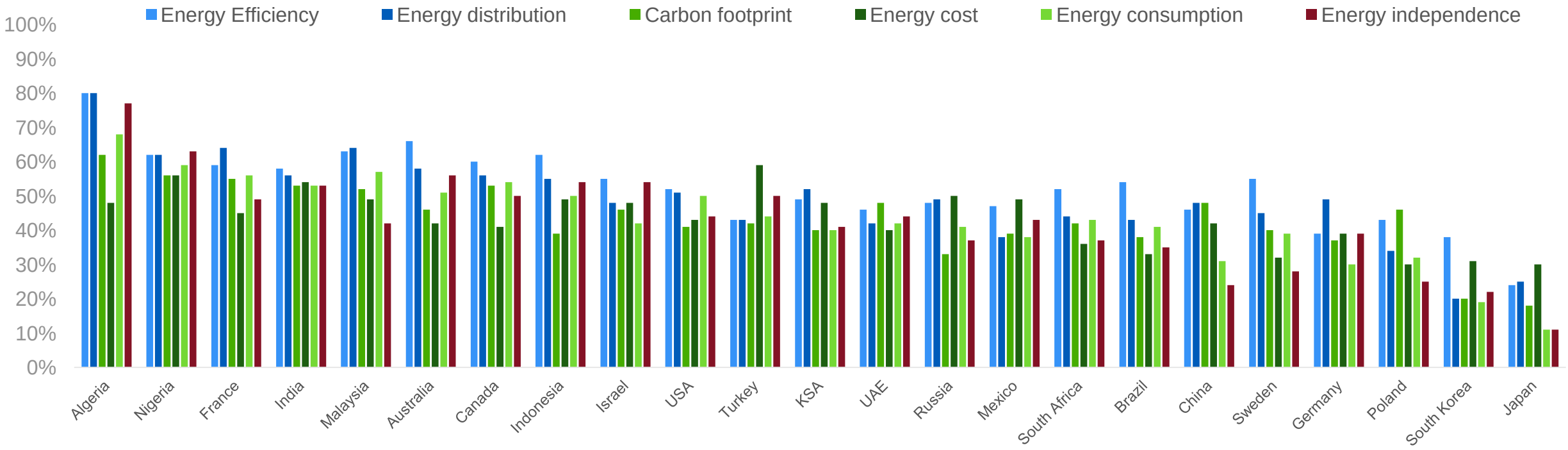


Q24. Thinking now about innovation in the energy sector, which of the following outcomes is the most likely to happen in your country?
Base Informed Public: 1,346

GE GLOBAL INNOVATION BAROMETER

The most likely outcomes vary by country

Business Executives

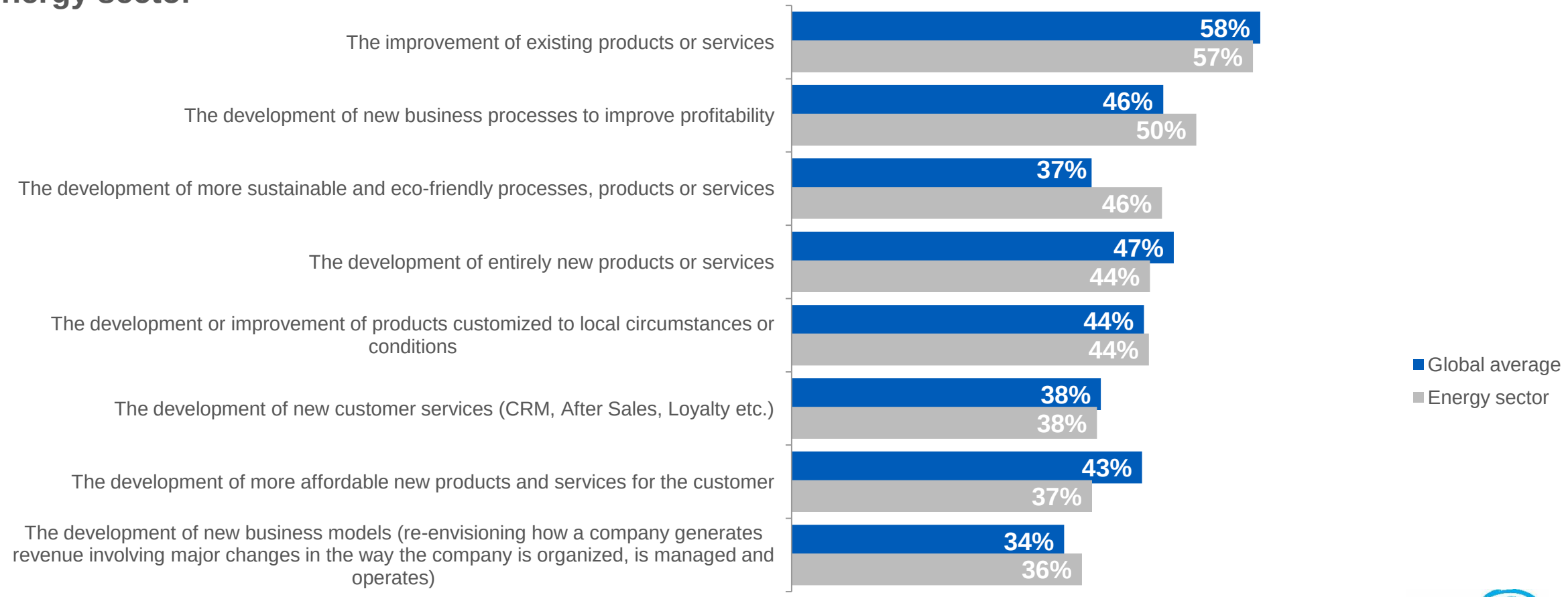


Q27. Thinking now about innovation in the energy sector, which of the following outcomes is the most likely to happen in your country? Base business executives: 2,748

GE GLOBAL INNOVATION BAROMETER

Energy companies have seen the biggest contribution from existing products/services over the past few years

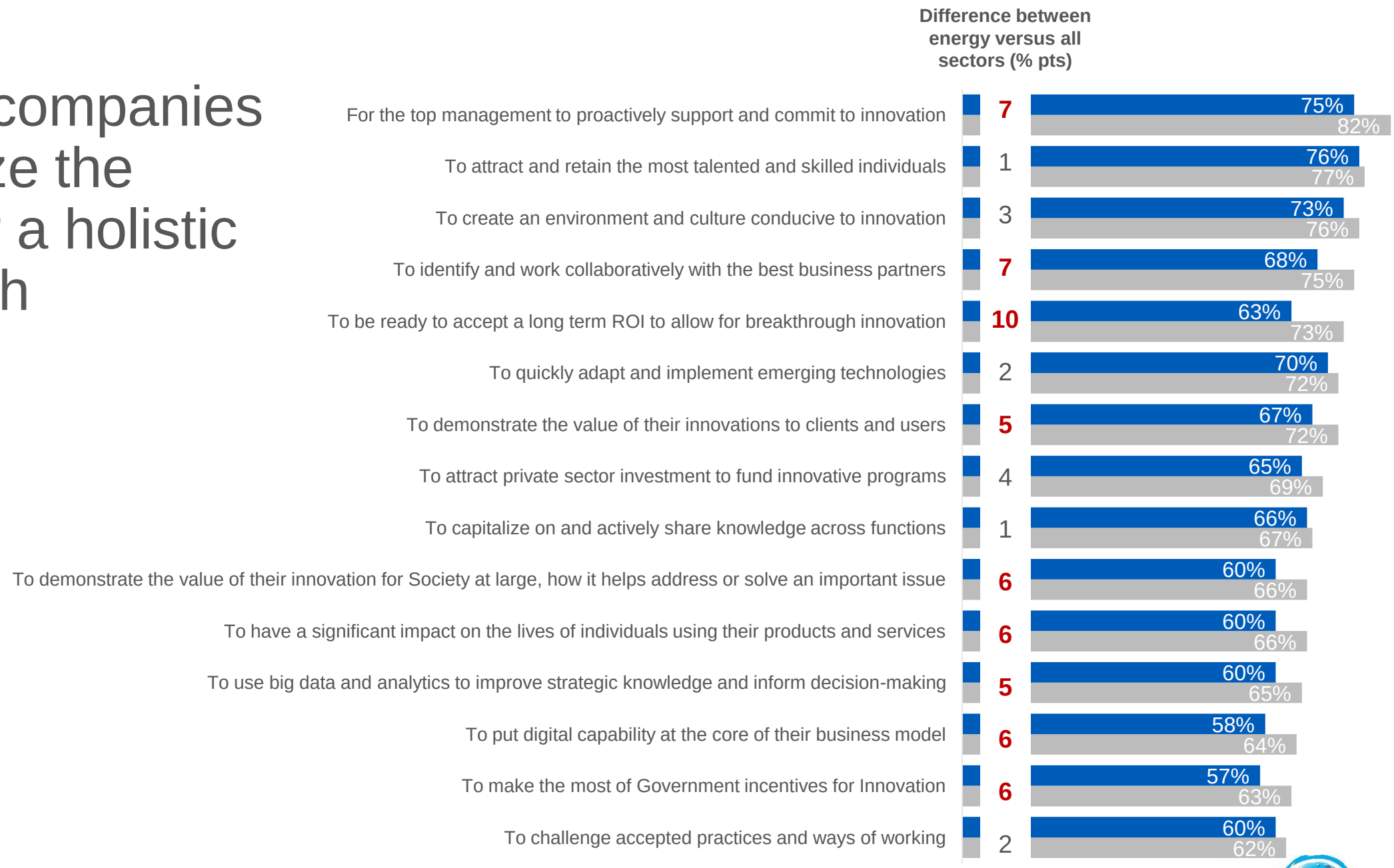
Types of innovations that have contributed the most to your company's performance in the past few years – **energy sector**



Q9. In the past few years, what kind of innovations has contributed the most to your company's performance? Base business executives: 2,748

GE GLOBAL INNOVATION BAROMETER

Energy companies recognize the need for a holistic approach



Q7. On a scale from 1 to 10, how important do you think the following elements are for a company to be able to innovate successfully? Net: Top 3

GE GLOBAL INNOVATION BAROMETER

For more information about the GE Global Innovation Barometer, contact or visit:

ANTOINE HARARY
Global Managing Director
Edelman Berland
Antoine.Harary@edelmanberland.com

MARY KATE NEVIN
Manager of Public Affairs
GE
Marykate.Nevin@ge.com

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Imagination at work