

## The Creativity Era – a new paradigm for business

### *How creativity helps companies succeed in a new environment*

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The average lifespan of a company listed in the S&P 500 index of leading US companies has decreased from 67 years in the 1920s to just 15 years today<sup>1</sup> – and the rate of decrease is now higher than ever. Not only technology-based companies such as Dell, Nokia, and HP struggle with the need for reinvention, but also many large companies in more traditional sectors such as steel and manufacturing are facing what seems to be a brick wall in the search for growth and margins from their core business. In Arthur D. Little's 2011 survey of nearly 100 CTOs, the proportion of revenues from entirely new business areas was expected to double in the next decade compared to the previous ten years. Just being able to manage business intelligence is more complex than ever – IBM estimates that over 90% of the data in the world has been created in the last two years. Pressures such as increasing global competition, faster product lifecycles and more empowered, interconnected customers mean that companies need to change constantly just to stand still. All this places a huge premium on a company's ability to be constantly creative both in terms of products, services and business models, and in its ability to transform itself whilst maintaining stable business operations. In this article we explore the case for the emergence of a new era for business – the Creativity Era – and we suggest some critical success factors for companies to prosper in this new world.

The new economic environment combines hypercompetition, faster product lifecycles and more empowered consumers to change the rules of the game for companies wanting to succeed. To meet these challenges a new paradigm for business is emerging – the age where creativity wins. In this article the authors explore the success factors needed to thrive in the new Creativity Era.

### Why the Creativity Era?

An era may be defined as “a long and distinct period of history with a particular feature or characteristic.” Since the Industrial Revolution began we have seen a succession of such periods. Whilst there may be different ways to define them, we find it useful to



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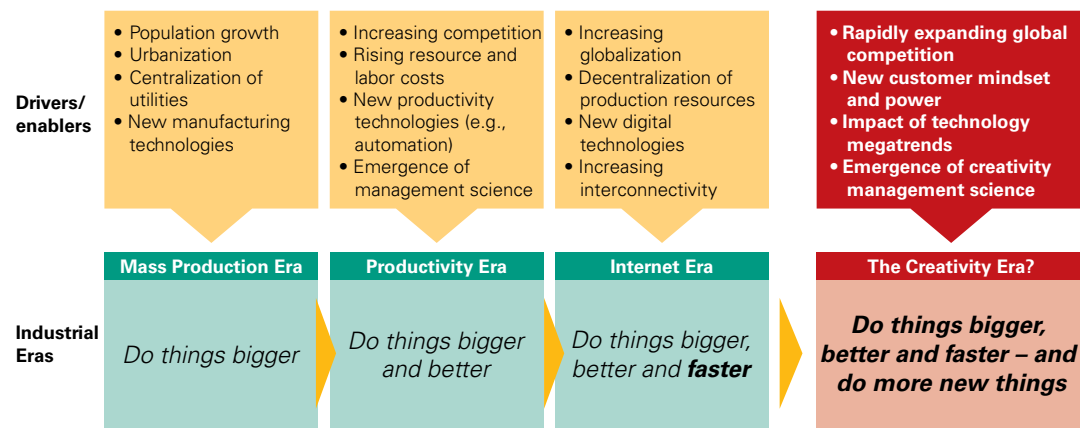


Table 1 From the industrial to a creative era

Source: Arthur D. Little analysis

recognize three main eras that bring us up to the current day: The Mass Production Era, the Productivity Era, and the Internet Era (see Table 1).

Each era was ushered in by a confluence of different factors. For example, the Mass Production Era was driven by demand from growing populations with new purchasing power, and enabled by the availability of new manufacturing technologies. The Productivity Era was motivated by increasing competition, enabled by new technologies such as automation, but also by the emergence of the “Science of Management”, with its plethora of tools and methodologies from Total Quality Management through to Business Process Reengineering. Companies that prospered in this era were those that could dominate the markets in which they competed by providing the best products with the greatest efficiency. The current Internet Era was enabled by new digital technologies and fueled by increasing globalization and the opportunities arising from better interconnectivity. Of course, we see the effects of this everywhere in the transformation of the way business is conducted, such as in terms of the customer interface, new business models, and globally networked organizational structures. The Internet Era has given birth to a new breed of global giants such as Google and Am-

azon, as well as coinciding with the most severe economic crisis in decades, the effects of which will remain with us for many years to come.

Looking forward there is a good case to be made for the emergence of a new era, also driven and enabled by a meeting of factors which are already significantly affecting businesses worldwide. We call this the Creativity Era, because it is this process – generating new and original ideas – that is now becoming the central imperative for companies if they are to achieve sustainable business success. We see four main factors driving the need for Creativity, in a dynamic self-reinforcing system (See Table 2).

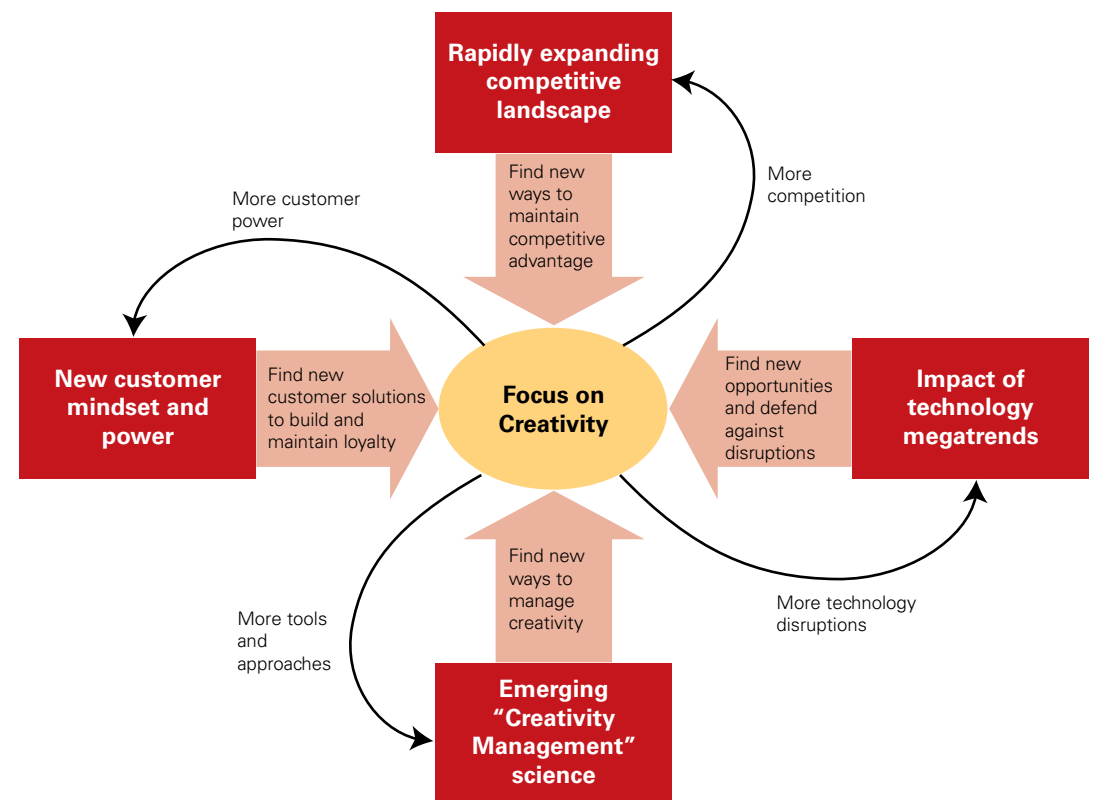


Table 2 Why companies should focus on creativity

Source: Arthur D. Little analysis

Looking at each of these factors:

- **Rapidly expanding competitive landscape:** First of all, we are only just at the beginning of a truly “flat world,” where competition is expanding at a pace that has never been seen before. The emergence of the BRICs and other developing economies is still continuing apace (notwithstanding some social development hurdles along the way). For example, in 2011 the Intellectual Property (IP) offices in China became the largest in the world with 24.6% of patents filed globally, and an average growth rate of 22% between 2008-2011. Multinationals from developing economies, for example, Tata Industries and Huawei, play an increasing role on the global stage.

In addition, there is increasing competition in Western economies from the growth of start-ups. It is now easier than ever before for start-ups to steal a march on established firms, for example, due to lower technological barriers (especially in digital sectors), easier access to funding as Western states try to rekindle their flagging economies, and the growth of stronger and better organized business and knowledge networks. In these fast-changing ecosystems it is sometimes the small companies that play a key role. For example, in the bioplastics industry, small technology-based startups have been able to stitch together entire new value chains (one supplies the bio-based raw materials; one converts it to intermediates, another then to monomers and others into materials and products). 11-year old renewable chemicals company Avantium in the Netherlands is looking to revolutionize the plastics world with bio-based bottles and other ‘green’ products and has partnered with an impressive list of much larger organizations who all share the same interest, ranging from consumer goods companies such as Danone and Coca Cola to chemical businesses like Teijin and Solvay/Rhodia.

- **New customer mindset and power:** In the B2C sectors a revolution has already taken place in customer power and expectations. As networking and social media tools have taken hold, customers have increasingly high expectations of the solutions

that companies provide. Their shared opinions now influence buying decisions as much as companies’ own efforts, and they are much more ready to switch brands to access the newest and best products and solutions. Customers have become part of the design process itself, and disruptions in segmentation and business model are more frequent than ever. One of the effects of this is a massive acceleration of product lifecycles and hugely-increased diffusion rates for technology: For example, it took 19 years for PCs to reach 50% of American homes in the 1980s and 1990s, but it only took 7 years for DVD and 6 years for MP3 players to reach the same milestone. A key enabler is the creation of ‘marketplaces’ such as Amazon and eBay and communities such as Mumsnet, where quality perception and price information is readily exchanged.

In the B2B world we are now starting to see similar trends emerging. Taking advantage of the expanding competitive landscape, business customers are now much more ready to change suppliers to find the best solutions. Business customers expect their suppliers not just to deliver a product or service, but to work creatively to provide solutions customized to their own changing needs. The growth of advanced partnership concepts, where the roles of supplier/customer/competitor start to blur, means that established business models are becoming more frequently disrupted. For example, we see different forms of car sharing schemes emerging and alliances between car manufacturers, cities, and electricity providers, e.g. the car2go concept in Austin, US, or the collaboration between Volvo Car Group and Vattenfall in electrification and charging infrastructure.

- **Impact of technology megatrends:** The pace of technological advance is increasing – for example, the number of patents filed in US courts has increased from 1,165 in 1995 to 3,977 in 2011, with an average annual growth rate of 20% between 2009-2011. This means that the pace of innovation that companies may have become accustomed to in the last decade will not be sufficient for the future. For example, a recent foresighting project by the IRI, a key association of industrial R&D leaders in the US,

predicts a future “with companies relying far more on speed to market than intellectual property protection in value creation”<sup>2</sup> Furthermore, there are many technology “megatrends” ongoing today which most observers believe will radically change the world still further in the next 10-15 years – such as mobile technologies, advanced materials, advanced robotics, distributed energy, 3D printing and many others. These will undoubtedly lead to major disruptions in many industries, just as has happened repeatedly in the past. It is therefore increasingly important for companies to stay informed about these key technologies as they develop, both to benefit from the opportunities they present and to avoid damage or even destruction at their hands.

- **Emerging “Creativity Management” science:** In the Productivity Era, one of the enablers for companies to respond to imperatives for greater efficiency and effectiveness was the emergence of practical management science tools and approaches that could be replicated with some confidence across the business. Similarly in the Creativity Era, one of the greatest challenges businesses face in responding to the need for radical change and reinvention is how to “manage collective creativity” in a systematic and controllable way. Whilst creativity tools and approaches have been around for many years, we are now just starting to see the emergence of new approaches to systematize these in a way that is practical and replicable. All over the world, academics and consultants are working hard to understand “Creativity Management,” just as they did 30 years ago with new product development (See Box).

All these factors together are creating a strong pressure for compa-

### Developing Creativity Management science approaches

Tools and methodologies for **idea creation (or “ideation”)** have been in existence for many decades. The most basic and well-known technique of brainstorming has been around since the mid-1950s and is credited to Alex Osborn, a director of the advertising agency BBDO. Many developments, enhancements and variants of this basic idea have been made over the decades by academics and consultants (including Arthur D. Little’s own Structured Idea Management™ methodology which has been used successfully with hundreds of companies).

Different academic teams have also explored solutions to create **conditions favorable to innovation & creativity** within organizations driven by their understanding of the most effective levers, for example, Lettice & Thomod, Mahmoud-Jouini, Charue-Duboc, Fourcade and Sandberg. Many academics contributed to theories and practices to increase collaboration inside companies and with their ecosystems (including Von Hippel (1986), Chesbrough (1999), Segrestin (2006), Bughin Chui and Johnson (2009), Grimaldi and Rogo (2009), Rohrbeck et al.).

From the 2000s, academics started proposing **holistic frameworks** combining mutually exclusive and collectively exhaustive practices to be implemented to boost innovation and creativity capabilities (including Rigby & Corbett in 2002, O’Connor in 2005 with an update in 2008, and Xu in 2007). In addition, academics started exploring alternatives to deploying such frameworks and transforming organizational capabilities (e.g., Braganza, Awazu and Souza in 2009). In the late 1990s and early 2000s, Clayton Christensen developed and explored the concept of disruptive innovation, recognizing that in most firms insufficient value was placed on the risks and opportunities of disruption of current business models.

Today we see that research efforts are intensifying all over the world with increasing funding from industry and private foundations. For instance, the Peter Pribilla Foundation supported more than 50 leading researchers and 20 research projects between 2009 and 2012. We have listed below some selected examples to provide a flavor of this activity:

- **Creativity mechanisms:** Hachtuel, Weil, Le Masson (Les Mines de Paris) have developed and validated a general theory, named “Concept-Knowledge,” to explain how creative formulations can emerge in a design process and includes an operational methodology. Their work is being applied experimentally in various organizations.

- **Knowledge sharing/business model:** Kathrin Moeslein (Erlangen University) has explored mechanisms that can foster or hinder knowledge sharing in innovation communities, e.g., the impact of cognitive mechanisms and affective states in the knowledge sharing process, and the role of social relations in that process. She has also published on creative business models and value creation.
- **Operational practices to boost innovation capabilities:** John Christiansen (Copenhagen Business School), analyzed different product development projects to identify the most efficient management practices to stimulate innovation.
- **Public environment for creativity:** Mats Lundqvist (Chalmers School of Entrepreneurship) has explored better ways to leverage university scientist competencies in ventures, education models to develop the entrepreneurship capacities of students and the use of Scenario Planning techniques to help authorities create favorable innovation environments in regional contexts.
- **Creativity/productivity linkage:** Dr Annabelle Gawer has developed the “Adaptive Replication Model”, structuring the way firms should manage the standardization and customization trade-off to leverage standard platforms. A US university consortium (NC State University, Bentley University, University of Texas @ Austin and Duke University) is working on “knowledge worker productivity”, looking to understand, capture and measure productivity along the innovation process.

In our recent Global Innovation Excellence Survey, drawing on responses from over 600 companies, we found that nearly 60% of companies were not satisfied with their innovation management efforts, and that only a small minority use a range of different idea creation methods. There is still much to be gained from further research in this area.

nies to make a step-change in the way they use creativity in order to:

- Develop new products, services and business models in core and adjacent areas to maintain profitable growth
- Respond to threats from rapidly expanding competition
- Deeply understand changing customer needs
- Benefit from new technological developments
- Avoid damage from technological disruptions
- Connect to customers, partners, influencers and experts quicker and better than competitors.

What’s more, the revolution has already begun. For example, the South Korean manufacturer Samsung invests heavily in R&D and in studying its markets and innovating inside them. Samsung has some 60,000 staff members with a widely diverse range of education and background, working in 34 research centers across the globe where they poll consumers, buy third-party research reports, and study trends and other sources of inspiration for ideas. Another example is Fujifilm who already in 1980s realized that photography would be going digital and started to develop in-house expertise in new businesses and applications. Its expertise in nanotechnology for placing chemicals onto film, for instance, was carried over to applying cosmetics to facial skin; experience with photosensitive materials helped it with fine chemicals and industrial materials. By having a long-term vision and investing in creativity, Fujifilm was able revitalize itself and prosper.

What’s more, as the leaders progress in creativity management, the need for excellent creativity just to keep up accelerates still further. We think that the need for creativity is setting the new paradigm for business in the coming years.

## Some key success factors for the Creativity Era

So what do companies need to do to respond to the challenges of the Creativity Era? Unfortunately, as is often the case, there is no simple formula, and there are some characteristic difficulties that companies face, for example:

- **Throwing the baby out with the bathwater:** Achieving a step change improvement in creativity should not mean relaxing management controls, taking on huge risks, or neglecting the core business. Creativity needs to be a partner to business control, not an alternative to it.



Illustration by Sylvia Neuner

- **Developing new capabilities:** Doing new things requires new capabilities which may not exist currently in the organization. This may relate to content-based knowledge and experience in new and unfamiliar business areas, but it may also relate to new types of capabilities within existing functions – for example, R&D staff may be strong technically, but weak in the people management skills which may be necessary for developing creative teams.
- **Changing the culture:** It goes without saying that responding effectively to the challenges of the Creativity Era requires effort to engender a culture that supports creativity – without this, all other initiatives are likely to be unsustainable. For large companies, especially in “traditional” sectors, fostering a creative culture can be very challenging in the face of both direct and implied incentives to focus on compliance and short-term performance.

To address these challenges the best performers adopt a holistic approach embracing strategy, processes, organization and governance, and culture. They deploy creativity excellence in both incremental and breakthrough innovation, pursuing both in parallel, and maintaining a focus on practical business implementation, not just front-end ideation. In overview, we see four areas which are critical for success:

### 1. Adopt greater strategic flexibility

In the Creativity Era it is no longer sufficient to define a single 10 year strategy in terms of products/services and markets. Because of expanding competition, technological disruptions and changing customer expectations, a strategy can become defunct almost as soon as it has been communicated. Leading companies are already adopting strategies based on scenario thinking that allow for a series of alternative strategies to be followed depending on how circumstances evolve. The idea of Transient Advantage suggested by Rita Gunther McGrath<sup>3</sup>, in which companies start a series of strategic initiatives exploiting many transient advantages at once, is highly relevant to this concept of strategic planning. Once the analysis has been done (and there is more data available for analysis

today than ever before), the strategy needs to be based on “broad themes” with the potential for experimentation.

A natural consequence of this is that companies need to get better at being able to change direction quickly, and to be prepared to disengage quickly from a stream of business activity which proves to be less attractive. A good example of this is CSM, a 3bn food company based in the Netherlands, which last year divested assets representing no less than 75% of its revenues to concentrate on bio-ingredients and bio-materials. It also sold its brand name and is now called Corbion.

Open, networked or collaborative innovation – leveraging innovation capabilities and assets that are outside the company’s own organization – is another key aspect of strategic flexibility as it greatly increases a company’s ability to access new capabilities. Although this has been established good practice in innovation management for many years, many companies still adopt an ad-hoc approach. In the Creativity Era companies need to define more comprehensive make/buy/collaborate strategies, considering carefully which areas to share and which to protect in order to avoid the risk of making a partner a future competitor.

## 2. Build responsive innovation management processes

Companies need to have the right innovation management processes in place to observe changing demands and emerging opportunities, and to manage creativity in advance of competitors. For example, our recent Global Innovation Excellence Survey revealed that the most creative and innovative companies tended to be especially strong in four elements which all relate to the need to be responsive and agile to changes:

- **Strong business intelligence:** maintaining strong and systematic business intelligence, especially attracting and using external sources of intelligence, such as lead users, suppliers, external technical experts, patents and crowd sourcing. This provides the essential early warning for opportunities and threats.

- **Active product/service portfolio review:** regularly reviewing and managing the product and service portfolio throughout the lifecycle, i.e., in product planning mode, in product development mode and in maintenance mode, with a clear “phase-in/phase-out” logic.
- **Regular technology reprioritization:** developing a detailed understanding of how different technologies in the portfolio contribute to corporate goals (both quantitatively and qualitatively), and regularly re-aligning and reprioritizing the technology investment portfolio to support changing corporate goals.
- **High speed/Low risk development cycles:** implementing approaches and tools to drive fast, de-risked product and service innovation, for example, gradual product rollouts to mitigate risks, rapid prototyping and simulation, and ever-increasing use of trials and experiments, beginning in the functional specification phase (test then design) with short iteration cycles and greater lead customer involvement.

## 3. Have the right structures and governance to manage creativity

Companies need to have the right organization and governance in place to manage creativity effectively. A basic prerequisite for this is to have a truly cross-functional approach. Our Global Innovation Excellence Survey revealed that the best innovators were strong in mobilizing the whole organization to develop ideas. Some key success factors in this area include:

- **Lead and govern from the top:** Creativity should be driven from the very top by the CEO, and governed by a dedicated cross-functional team of senior executives. Only in this way can creativity be effectively seen as a task of all functions across the company – as well as across the full network of partners and stakeholders outside the company.

- Establish dedicated resources to focus on long-term/break-through innovation: either stand-alone teams or else teams which draw on resources from other parts of the organization. Whilst these constructs are not without their problems (for example, maintaining linkages between breakthrough innovation teams and core business teams, and setting appropriate levels of authority), they are an effective vehicle to drive creativity in terms of new products/services/business models, whilst at the same time maintaining adequate focus on the core business. Establishing a way of participating in higher-risk and more speculative developments is also an effective way of maintaining a pipeline of new opportunities – for example, by setting up a corporate venturing or incubator function. This is certainly nothing new for very large, global corporations with deep pockets, but increasingly a broader range of companies are looking at these approaches as a way of ensuring a greater focus on new business opportunities.

**4. Engender a dynamic creativity capability**

Key to success is the ability to maintain momentum and keep innovation fresh, and this depends upon building a suitable corporate culture. Much has been written about how to bring about a culture of creativity and entrepreneurship (or “intrapreneurship<sup>4</sup>”), both by Arthur D. Little and many others. Culture change requires both attention to the “hard” aspects of systems and metrics, as well as the “soft” elements of leadership style, values, communication and behaviors. There are many approaches and tools that can all contribute to the development and maintenance of a creativity capability (refer to Table 3 for some examples).

Nearly all major companies use at least some of these tools and it is broadly accepted that a portfolio covering a range of different types tends to be most effective. For example, 3M is wellknown for its range of approaches, including its “bootlegging policy” (allowing employees to spend 15% of their worktime on creative projects), its Technical Achievement reward programs, and career incentives for technical staff. Nevertheless, the results reported by companies are mixed – what works well for some organiza-

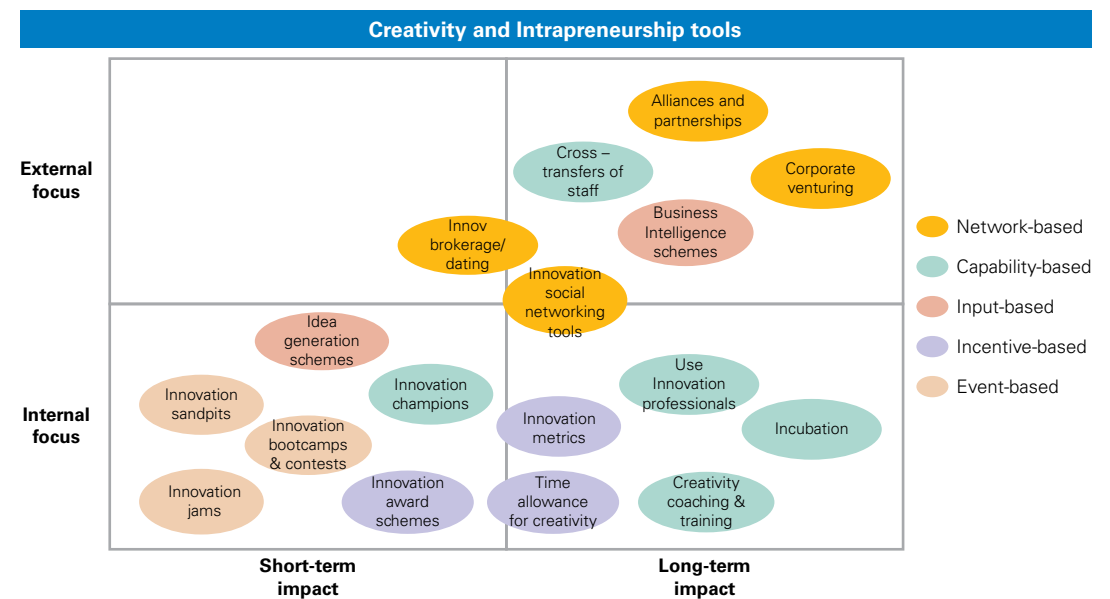


Table 3 Creativity: the tools of the game

Source: Arthur D. Little analysis

tions does not work well for others. And without the overarching strategy, governance and process, investment in these tools and approaches may not yield the expected results. Overall we are still some way from establishing a proven overall methodology that will “manage collective creativity” reliably and systematically.

**In conclusion**

Whilst the business world evolves and changes continuously, occasionally it seems like a watershed has been crossed. We see the birth of the Creativity Era, driven by expanding competition, new customer mindsets, technology megatrends and emerging management science, as being one of these points. Responding to the demands of the Creativity Era will require new skills and approaches across a broad range of areas in terms of strategy, process, organization, resources and culture. It will require companies to be much more flexible in terms of business outlook, more agile and responsive to changing circumstances, and also simultaneously



able to maintain tight management control of risks. In many cases, adapting to the Creativity Era will need nothing less than full-scale transformation. Companies that are able to understand and tackle the necessary changes fastest will be the ones that will become the future leaders.

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<sup>1</sup> Source: Professor Richard Foster, Yale University

<sup>2</sup> Industrial Research Association Phase 3 Scenario Report IRI2038, 2013

<sup>3</sup> Transient Advantage, Harvard Business Review June 2013

<sup>4</sup> Intrapreneurship: Acting like an entrepreneur within a large organization

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