

DUCK TURNS INTO RABBIT: PARADIGM SHIFTS IN ECONOMICS – CHALLENGES FOR THE 21ST CENTURY MANAGER

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ABSTRACT

The essay aims to draw attention to the subject of changing paradigms in economics and management sciences. Conceptionally, paradigm shifts in social sciences differ from those in natural sciences; resulting in debates over fundamental claims and counterclaims they oppose to one single prevailing theory. Furthermore, economic paradigm shifts are driven by long waves or technological cycles. The 21st century management should be aware that paradigms will determine strategic choices but at the same time strategic choices are likely to create new paradigms and hence they will drive paradigm shifts. For the application of theory in practice, two frameworks of recent trends that are likely to promote paradigm shifts will be discussed. Moreover, new challenges such as the network economy, the role of culture and the empowerment of employees will be addressed as promising avenues for future research.

Keywords: paradigm shift, innovation, megatrends, business strategy, super cycles

INTRODUCTION

Nowadays organizations and their management are able to choose from many different schools of thoughts in order to decide about questions such as strategies, organisational structure, culture and leadership style. Some of these organizations are likely to follow traditional approaches such as Porter's market-based view, others may rather look for more innovative approaches such as agile management. All these decisions are based on factors such as the organization industry or sector, strength of competition, organizational culture or the managements' frame of references, their view of the world based on previous personal experiences as well as their understanding of future needs and developments. This essay aims to highlight some of the challenges for nowadays' management that are based on recent major changes in the world of economics. Therefore, the essay starts with a short definition of terms such as paradigm, paradigm shift and economic cycles before turning to highlight some of the trends or challenges discussed by several scholars and researchers. In conclusion, two frameworks are introduced that are likely to support the 21st century manager in their strategic decision-making by providing structured insights based on recent research studies.

PARADIGMS IN THE CONTEXT OF ECONOMICS

A paradigm can be explained as an existing worldview, or taken-for-granted assumptions (drawn from pattern of events) that influence our understanding of situations and

necessary decisions in the given context. Whereas in the natural sciences a single reigning paradigm is common, in social sciences a “tradition of claims, counterclaims, and debates over fundamentals” (Kuhn, 1972) do exist. Turning to the discipline of organizational theory, organizational culture and here especially the cultural web (Johnson, 2006) also draws on the importance of the paradigm for explaining the current situation and development needs of an organization. As shown in Figure 1, Johnson et al. (2006) put the paradigm at the center of factors influencing strategy formulation.

Figure 1

The role of the paradigm in strategy formulation



Source: Johnson et al. (2006)

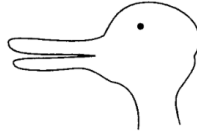
As shown in Figure 1, the paradigm is driven by external factors such as environmental forces leading to opportunities and threats but also by internal effects such as strategic capacities based on an organizations’ strengths and weaknesses. On the other hand, the paradigm itself has strong influence on the organizations’ strengths, weaknesses, opportunities and threats and hence its strategic choices, that again effecting organizational performance. In essence, paradigms are influenced by organizational development but at the same time influence the organizational development.

HOW DO PARADIGMS CHANGE?

The term “paradigm shift” was coined by the American physicist and philosopher Thomas Kuhn in 1962. In his definition, it addresses fundamental change in the basic concepts and experimental practices of a scientific discipline which can be seen as a “scientific revolution” (Kuhn, 1970). Following Kuhn’s (1970) definition, each of the paradigms yielded either new academic approaches to solve the key challenges or recommendations for the application of new methods. Kuhn (1970) draws on Wittgenstein’s famous optical illusion, shown in figure 2, to demonstrate how a paradigm shift causes us to interpret the same information in a completely different manner.

Figure 2

Wittgenstein's duck-rabbit



Source: *Wittgenstein* (1958, 166. p)

Wittgenstein (1958) explains why we can see the illustration as one thing (rabbit) or another (duck) because we interpret what we see and therefore see it as we interpret it. Turning to the disciplines of economics and management, economic, technological or environmental challenges can cause new interpretations of the business world as we saw it before. Taking up *Bakacsi's* (2017) thoughts of new business paradigms, the historical development of paradigms in management is summarized in *Table 1*.

Table 1

Five management paradigms

Paradigm	Key management challenge	Concept development	Key authors
System and order	How to make unskilled people efficient?	Classic management (from ca. 1910 onwards)	Taylor, Fayol, Weber
Satisfaction-performance	How to translate relationship motivation into organizational performance?	Human relations (from ca. 1930 onwards)	Mayo, Parker-Follet, Roethlisberger
Achieving problem solver	How to unleash the self-standing, still bounded-rational problem-solver?	Behavioral decision-making theory (from ca. 1950 onwards)	Barnard, Simon, Cyert, March, Jensen
Competition	Compete outside with competitive people	Institutional theory, Contingency theory (from ca. 1960 onwards)	Williamson, Burns-Stalker, Lawrence-Lorsch, Child, Kotter
Win-win (Empowerment)	How to explore & exploit network synergies	Learning organization (from ca. 1990 onwards)	Senge, Greiner, Prahalad, Porter, Schein, Simons

Source: Adapted from *Bakacsi* (2017, 47. p.)

WHEN ARE PARADIGM SHIFTS LIKELY TO HAPPEN?

As shown before, major changes in defining, interpreting and solving key management challenges are based on a changing understanding of taken-for-granted assumptions. However, these changes do not happen coincidentally. Research that started at the beginning of the 20th century yielded evidence that the world economy does experience cycle-like phenomena of alternating intervals between strong growth in certain sectors and intervals of slow growth. These cycles are called super-cycles, long waves or Kondratiev waves, named after the soviet economist Nikolai Kondratiev the researcher who brought these observations first to attention in 1925. These cycles are explained by different theories, most important for the context provided here in the essay is the technological innovation theory. The theory was put forward by *Joseph Schumpeter* in the 1930s when he hypothesized the existence of very long-run macroeconomic and price cycles, originally estimated to last about 50 years. The waves will arise from innovations that create new leading industrial or commercial sectors based on a technological revolution. The technological cycles can be labelled as follows:

- The Industrial Revolution (1771)
- The Age of Steam and Railways (1829)
- The Age of Steel and Heavy Engineering (1875)
- The Age of Oil, Electricity, the Automobile and Mass Production (1908)
- The Age of Information and Telecommunications (1971)
- The (hypothetical) post-informational technological revolution (2015)

Recent research (i.e. *Šmihula*, 2009) comes to conclude that each new cycle is shorter than its predecessor. Also, disrupting inventions nowadays spread much more quickly as they did 50 years ago. It took the radio broadcasters 38 years to reach 50 million users, TV only 13 years, the internet four years and Facebook two years (*Ovaskainen and Tinnilä*, 2013). Or we can take a look at *Ray Kurzweil's* Law of Accelerating Returns (2005), proposing in the next 100 years we will be experiencing 20,000 years of progress – at today's rate.

Although Kondratiev's cycle theory is not accepted broadly by academic economists (as they argue the theory sees pattern in statistical data that are not really there), it is still important for discussing management phenomena in an innovation-based, developmental and evolutionary sense of economics.

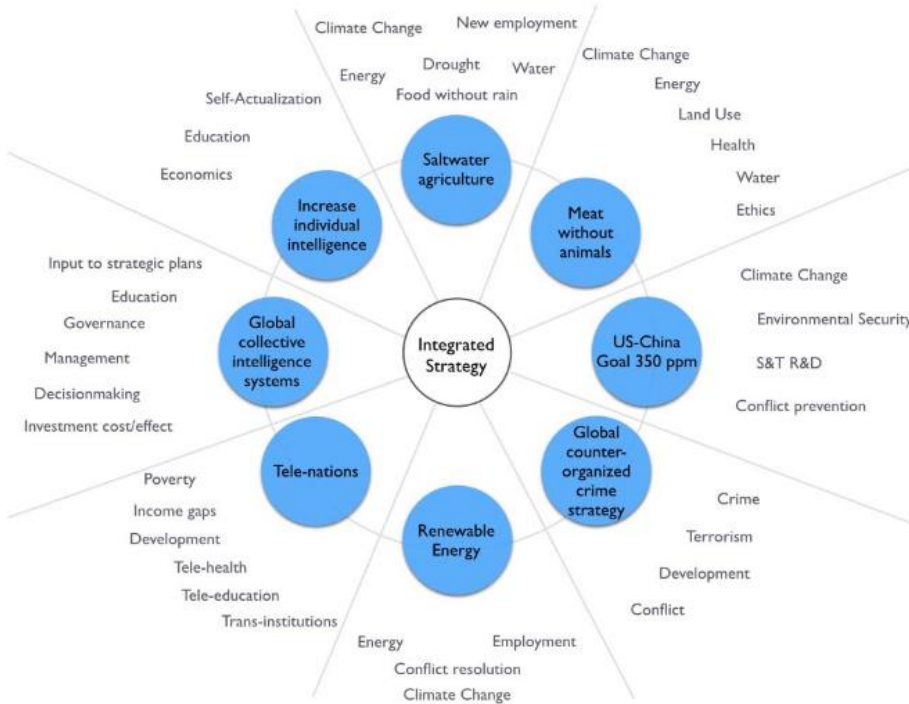
THE RECENT PARADIGM SHIFT IN MANAGEMENT

Economics is a social science; therefore, researchers are still on the lookout for a proposed “grand theory” and, in the meantime continue to provide usable frameworks explaining phenomena. Hence, we are facing several theories and predictions also in regard to paradigm shifts. To apply academic research in a practical sense, two different schools of thought, both are based on empirical research, will be introduced here. The first initiative, “The Millennium Project” is an independent non-profit think tank composed of scholars, researchers, decision-makers and business planners working together internationally in 56 nodes

worldwide. In its annual *State of the Future* report strategies to tackle the issues shown in *Figure 2* are researched.

Figure 2

The Millennium Project: Discussion of an Integrated Global Strategy.



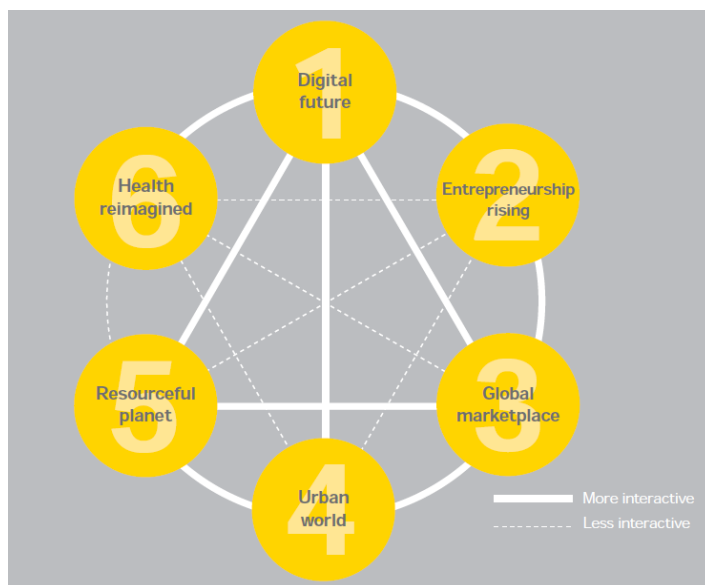
The latest report shows slow but steady improvement in general human welfare over the past two decades and also for the future decade but at the expense of the environment and with worsening intrastate violence, terrorism, corruption, organized crime, and economic inequality. Also in areas directly linked to management and economics, the report indicates little or no progress or even a worsening of the situation. For example, worldwide unemployment is projected to increase to 6.2% by 2025 (from 6.08% in 2015); R&D expenditures have slightly decreased from 2.02% of worldwide GDP in the last decade to 2.0% in 2015. Also, income inequality is further on the rise – in 2025 the share of the Top 10% is predicted to increase to 34.8% from 31.0% in 2015. These figures clearly state how the complexity of the 21st century brings new questions to today’s management and show where to concentrate to face these challenges.

Taking another angle to observe the paradigm shift, the concept of megatrends, as transformative global forces that have a huge impact on businesses, economies, industries, the global society and individuals, will be introduced here. Megatrends are often regarded as phenomena of a very wide nature, with no direct impact on

our daily life and are identified largely with support of worldwide input from many researchers, scholars and businesses. One of the most recent concepts in this area was introduced by EY in their report “Megatrends 2015 – Making sense of a world in motion.” (EY, 2015). *Figure 3* summarizes the identified factors and illustrates the single importance of each megatrend as well as the close relations between each other.

Figure 3

Megatrends 2015. Making sense of a world in motion



Source: EY, 2015

When talking about *Digital future*, the growing demand for anytime anywhere access to information technology is disrupting all areas of life across all industries and in all geographies. New opportunities arise for enterprises to take advantage of the “Internet of Things” to enter new markets or transform existing products. However, digitalization also represents significant challenges, i. e. new competition, changing customer behavior, increasing transparency, data privacy and cyber-security threats (EY, 2015). Especially Small and Medium Sized Enterprises (SMEs) as important economic drivers in most countries are hesitant to take advantage of digital disruption: a recent study carried out by PwC (PricewaterhouseCoopers) reveals that although 90% of German SMEs assess digitalization as the recent predominant topic, only 5% take action and look forward to start digitalization in their own business (PwC, 2017).

Increasing technology is also changing the ways we work. Enterprises and individuals who can seize the opportunities offered by digitalization can benefit hugely, whereas all other will be likely to lose much. Entrepreneurial activity is at

the core of economic growth by providing income and employment for themselves as well as others and create innovative products or services. The megatrend of *entrepreneurship rising* focuses on the growth of “high-impact” entrepreneurship that was once largely confined to mature markets and is now seen also as an important driver of economies in rapid-growth markets. Also, the face of entrepreneurship is changing: more entrepreneurs are of either young age and/or female and many of the start-ups are digital ones from the beginning. Both the public and the private sector play an important role in creating entrepreneurial ecosystems. They and the access to funding (which remains the primary obstacle for entrepreneurs) are the essential factors to promote entrepreneurial success (EY, 2015).

Globalization will remain an increasing force with some new features to deal with. One the one hand, the gap between “mature” and “rapid-growth” countries continues to shrink. Also, there are new “emerging nations” that will draw global attention. Asia is likely to surface as a major hub in rapid-growth markets where innovation will increasingly take place. On a global scale, workforce diversity will increase as a weapon to fight with in the “war for talent” to secure competitive advantage. Interdependences between the economies of the world through trade, investments and financial systems will drive the need for global policy coordination among nations. However, domestic interests will compete with global integration and lead to trade and currency protectionism, sanctions to achieve political aims and anti-globalization protests. Hence, we will experience the strengthening of nationalistic, religious and ethnic movements all over the world (EY, 2015).

As the number and the size of cities are growing across the world, the new megatrend of an *urban world* has to be addressed. Especially the rapid urbanization in emerging markets and continued urbanization in mature markets will result in an increasing amount of the world’s population to live in cities from 54% today to 66% in 2050. To secure the economic benefits of urbanization, effective planning and sustained investment in infrastructure is requested from policy-makers and the private sector (EY, 2015).

The global demand for natural renewable and non-renewable resources is driven by factors such as population growth, economic development and consumers. The megatrend *resourceful planet* addresses finiteness of the world’s supply of non-renewable resources by developing new technologies to access hard-to-reach and valuable oil, gas and strategic mineral reserves. At the same time, natural resources must be managed more effectively, protecting and restoring the planet is crucial for our future. Sustainable approaches are requested to balance economic growth and protection of natural resources (EY, 2015).

The necessity to *reimagine* our approach to *health* is based on the effects of demographic change, rising incomes in rapid-growth markets and an imminent life-style related to chronic-disease epidemic. Hence, health care systems are under increasing cost pressure. On the other hand, big data and new mobile health technologies are enablers for real-time information creation and analysis that lead to a fundamentally different approach: focusing on the management of health, with more focus on healthy behaviors prevention and real-time care instead of the traditional delivery of health care in terms of “sick care” (EY, 2015).

As shown above, megatrends are both offering opportunities and implying threats and hence are likely to drive paradigm shifts. Frameworks, such as the Millennium Project or EY's Megatrends, are particularly suitable for businesses and organizations that aim to observe these trends and to move along to ensure creativity and innovation. Organizations then are well prepared to develop key success factors and strengthen their competitive power.

However, scholars and researchers in academia also strive to shed some light on recent challenges and future paradigm shifts likely to happen next. For example, Professor *Gyula Bakacsi* recently presented his thoughts on several challenges for the 21st century managers at Kaposvár University, Kaposvár. Firstly, the development of a scale free network economy can be assessed as an attractive alternative for preferential attachment and offers an explicit value proposition for network members. However, network economy requests new management concepts to tackle the challenges of freedom and high independency of network members for the benefit of stability and safety of the whole network. Especially the power of networks such as globally super-connected companies should not be underestimated and more focus should be drawn to discuss opportunities and risks arising from such concentration of influence and power (*Bakacsi, 2017*).

The changing role of culture in world affairs presents another challenge. Increasing diversity holds opportunities and risks that have to be brought in balance by management. Also, cultural patterns are key variables for economic wealth and development as supported by the GLOBE research project. However, trust and cooperation within the immediate social environment as well as in an extended, broader social environment are necessary foundations for successful application and management has to face the changing requests in that context (*Bakacsi, 2017*).

Finally, *Bakacsi* (2017) proposed empowerment as the new emerging management paradigm. Nowadays, the economic environment asks for employees with competences such as “self-standing problem solving”. Employees like these are motivated by self-actualization, a win-win situation with value creation for the organization and empowerment for the employee will emerge. However, developing new leadership skills and applying innovative approaches to management such as agile management are essential elements of success for the current generation of management.

CONCLUSION

As shown in the essay, paradigm shifts make people see and interpret phenomena or data in a different light and hence come up with new ideas for solutions to existing as well as new challenges. Paradigm shifts in economics and management are linked to economic cycles that are fuelled by technological innovation. Each new cycle is shorter than its predecessor, due to technological progress and new technologies as decisive factors of any long-time economic development. Each paradigm shift brings new challenges to be tackled by management. Especially in the social sciences, paradigms tend to be brought to life rather as debates over

fundamentals than as a “grand theory”. Therefore, research often results in frameworks suitable to support the practical application of new methods or instruments. Even with regard to the new challenges of the 21st century, managers can draw from an extensive variety of concepts, recommendations or theories to develop organizational culture and strategies. Concepts such as the Millennium Project or EY’s Megatrends are exemplary but only provide a glimpse at the peak of the iceberg of approaches and recommendations discussed recently. For the academia, the discussion of paradigm shifts will be understood as a call for entering these promising avenues for further research.

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