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CORPORATE FORESIGHT IN THE STRATEGY OF MULTINATIONALS

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CORPORATE FORESIGHT IN THE STRATEGY OF MULTINATIONALS²

The purpose of this paper is to explore corporate foresight as a new important instrument within strategic management system of multinational corporations (MNCs). The author directly connects the recent rise of corporate foresight with MNCs' growing need to fill the gaps of traditional corporate strategic management, struggling with the challenges of today's global turbulent business-environment (known as VUCA world characterized by unprecedented volatility, uncertainty, complexity and ambiguity). From this perspective corporate foresight is capable to provide a number of viable responses. They include significant expansion of the horizon of MNCs' long-term future vision, enhanced capabilities of business-environment scanning (identifying not only clearly visible trends but the so-called weak signals as well) and strengthening intra-firm communications in the course of strategy development process, thus contributing to the implementation capacity of multinational corporate team. Within analysis of actual corporate foresight practices of major multinationals special attention is attached to the common features of foresight organization (standard process phases, typical set of methods used) and peculiarities related mainly to different MNCs' sector-specific environment characteristics, including complexity and dynamics of change. The attempt is also made to disclose the actual impact of corporate foresight activities on the effectiveness of the key functions of MNCs' strategic management. The author draws the conclusion that corporate foresight is becoming a core element of the strategic management architecture of multinational business, striving to protect and strengthen its global market positioning in increasingly turbulent and unpredictable environment. For MNCs' top management, trying to find the right strategic course in radically changing competitive landscape, this powerful tool is increasingly playing the same role as GPS navigator for car drivers.

Keywords: multinational corporations, corporate strategic management, corporate foresight, turbulent global environment, strategic positioning in global markets.

JEL: F23, M16, L21, O33

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1. Introduction

Until recently the analysis of long-term market shifts rarely appeared on the top of priority agenda of major multinational corporations (MNCs)³ dominating practically in all key industries of the global economy. The most significant changes usually took a long time to realise, while their impact rarely spread beyond industry trends, gradually emerging within the global economic environment. Certainly, severe market upheavals did occasionally happen, leading to unexpected trend disruptions at the industry level, or even at the level of the world economy (e.g. the oil shocks of the 1970s). However, on the one hand, such scale of change was rather an exceptional phenomenon. On the other hand, and more importantly, according to conventional wisdom, those outstanding events were absolutely unpredictable – and that automatically placed them outside the scope of regular corporate forecasts prepared by management practitioners.

A totally different situation in this area has been emerging during the first decade of the 21st century, which heralded the beginning of a new era of turbulence. Widespread application of revolutionary technologies (first and foremost ICT), rapid acceleration of globalisation processes, increased interference of geopolitics in the global economic activities – the interconnection of all these factors resulted in a much more complex business environment, and in a qualitative transformation of the very nature of its inherent volatility. While in the past such volatility was essentially limited by relatively superficial and quite predictable (in terms of where they were headed) developments, today the radical nature of such changes, their ambiguous directions, and unprecedented speed, create a situation of total uncertainty – not only in terms of future markets' volume and segments, but even regarding their potential shape and general configuration. Even a new acronym has appeared in recent years in management literature – VUCA, describing the new business environment in terms of Volatility, Uncertainty, Complexity, and Ambiguity (see, for example, *Roland Berger*, 2013; *Bennett, Lemoine*, 2014; *Mack et al.*, 2016).

It should therefore come as no surprise that the first who experienced significant difficulties when doing business in VUCA environment were exactly MNCs, as global players simultaneously present in numerous geographies and diverse industrial markets. Under such conditions, conventional approaches to corporate strategy development, oriented towards relatively slow emergence of market changes, have been becoming increasingly ineffective. A new strategic management architecture has begun to shape, based on the so-called Corporate

³ In fact, there were some exceptions but very few. For example, one of the oil supermajors, *Shell*, and the giant conglomerate, *General Electric*, successfully implemented corporate systems of long-term scenario planning as far back as 1970-s.

Foresight as a key “uncertainty management” instrument for the new type of external business environment.

2. Conceptual framework and methodology

The issue of business environment’s uncertainty affecting strategic decision-making process has remained an overriding focus of the leading researchers in the area of corporate strategic management. In this case (as has already happened infrequently in management science) theory has followed practice striving to suggest a theoretical justification of approaches already discovered by practicing managers. The first signs of emerging academic interest to corporate strategic planning issues were noted in the 1950s, when many large US and European corporations started to establish special organizational units responsible for strategy development and monitoring its implementation. First full-fledged textbooks on strategic planning appeared only in 1965, covering both the process and basic tools for shaping corporate strategy (*Learned et al., 1965; Ansoff, 1965*). It is noteworthy that those works had already named achieving a clearer understanding of possible changes in the external environment and building capabilities to influence them, as a major strategic management goal – which, as it was argued even then, was increasingly hard to accomplish, given the growing complexity and volatility (*Ansoff, 1965*).

Further advances of theoretical thinking in the corporate strategy field led to emergence of two main strategic management schools, which have split exactly because they supported different approaches to dealing with the environment uncertainty issues. The so-called planning (or “designer”) school, which for a long time enjoyed unrivalled domination in the strategic management theory, proposed to deal with the environment uncertainty by applying systemic analysis and integrated planning. Representatives of this school, comprising probably the brightest strategic management classics (such as I. Ansoff, M. Porter and a number of others) stressed the need to carefully scan the observable trends, develop forecasts and strategic alternatives, logically assess the collected information, and integrate it into current operations of a firm (*Ansoff, 1979; Porter, 1980*). This approach of course recognised that existing forecasting methodologies (based mainly on extrapolation of observable trends) were imperfect and limited, but also believed they were the best available techniques for understanding the ever-changing business environment. One of the main conclusions emerging from the “planning” school’s logical constructs was the hypothesis about a high correlation between efficiency of applying strategic planning tools, and corporations’ competitiveness in increasingly uncertain world. In other words, in an increasingly uncertain business environment the firms, that are better organized to analyse and forecast the changing marketplace and other external conditions, should beat the competitors who failed to set up adequate mechanism of this kind. Though some

empirical studies (*Goll, Rasheed, 1997; Brews, Hunt, 1999; Dibrell et al., 2013*) did confirm this hypothesis, numerous other works have brought much more controversial results (*Pearce et al., 1987; Boyd, 1991*). This was one of the reasons the “planning” school came under increasing criticism in academic literature, primarily for the approaches it suggested to deal with the business environment uncertainty.

The so-called adaptive (or “learning”) strategic management school which has emerged on the wave of these criticisms completely rejected systemic planning in this area. One of the school’s most prominent representatives, H. Mintzberg, stated that successful strategies cannot be planned because planning by definition is based on existing mental models, and thus from the start tries to preserve the existing order, at the very best leaving only limited opportunities for some small (incremental) change (*Mintzberg, 1994a*). Criticising the planning school Mintzberg also noted that the main objective of strategic planning was designing one “best” strategy, and this can be accomplished only if the developers can sufficiently clearly foresee future parameters of the business environment. However, in a situation of growing instability such foresight seems to be practically impossible. Therefore, representatives of the adaptive school urged to abandon fruitless attempts to foresee future shifts, and instead concentrate on enhancing corporate potential for effective adaptation, i.e. abilities to react to actual changes as quickly and adequately as possible. In their opinion, the very concept of “strategic planning” is incorrect, and the firms should adopt “strategic thinking” as the basis for their strategic management activities. The latter concept aims at information synthesis (unlike strategic planning orientation towards analysis), and includes such components as intuition, creativity, and learning through acquiring experience. According to the “adaptive” school postulates, “strategic thinking” makes it possible for successful strategies “to appear at any time and at any place in the organisation, typically through messy processes of informal learning that must necessarily be carried out by people at various levels ...” (*Mintzberg, 1994 b, p. 108*).

The fierce debates between representatives of the “planning” and “adaptive” strategic management schools contributed to intensive development of various directions of thought in this field. On the one hand, carefully targeted criticism of the vulnerable aspects of the classic strategic planning theory gave a powerful impulse to numerous efforts to improve its methodological tools. On the other, many researchers started to work on integrating (combining) the most promising ideas of both schools on various theoretical platforms. Evidently they were not happy with fierce confrontation of these approaches, which in essence prompted firms to choose one of the alternative behaviour models: “either try harder to predict better (rational strategies advocated by the planning school), or move faster to adapt better (adaptive strategies espoused by the learning school)” (*Wiltbank et al., 2006, p. 983*).

One of the most popular research streams, which allowed two strategic management schools to come closer to each other, was the flexible planning concept. According to S. Kukalis, one of the first proponents of this concept, the ability to quickly modify strategic plans allows firms to take advantage of “unplanned opportunities” emerging due to changes in the business environment (*Kukalis, 1989*). Later works by other researchers also stressed the importance of “flexible planning” from the perspective of mitigating emerging external threats (*Barringer, Bluedorn, 1999*). Robert Grant introduced the concept of “planned emergence” which implied firms’ ability to combine a structured centralised strategic planning process with a degree of decentralisation in making decisions in a turbulent business environment (*Grant, 2003*). It is noteworthy that supporters of the “flexible planning” concept never doubted the need to maintain the corporate strategic planning system, but only suggested various ways to reduce its rigidity. Stressing the absolute necessity and unquestionable usefulness of such systems, and of plans developed within their framework, P. Brews and M. Hunt, for example, noted that “though these plans must be quite specific, at the same time they must also be flexible, especially in unstable environments. Having once prepared their plans, firms must be willing to adjust them and introduce changes as these plans were implemented. In certain cases it might even be necessary to abandon a plan altogether” (*Brews, Hunt, 1999, p. 906*).

Another research stream striving to combine approaches adopted by major strategic management schools was focused on the integration of scenario planning into strategic management architecture. The first attempts to introduce a scenario planning concept were made in the 1960s (i.e. approximately at the same time when the most advanced MNCs started to systematically apply this approach within their strategic planning activities) (see *Bradfield et al., 2005*). During the next 40 years theory and practice of scenario planning made a serious progress, both in terms of enriching methodologies and testing various tools in the course of their real-life application in corporate practices (*Bishop et al., 2007*). However, the ideas to use scenario planning as a platform for integrating “planning” and “adaptive” strategic management schools appeared only in the late 2000s. The proponents of these ideas pointed out at such important advantages of scenario planning (in terms of integrating both approaches) as considering several alternative options of the future business environment – and, accordingly, various alternative response strategies, systemic planning process, and an impressive set of various tools for designing and analysing strategic alternatives (*Wulf et al., 2010; Bodwell, Chrermack, 2010*).

Probably the most creative, in terms of overcoming conceptual controversies between major strategic management schools, is the concept of the so-called constructive control over environmental changes. The concept critically re-considered one of the fundamental theoretical

assumptions, common to both schools, and saying that business environment where firms operate is absolutely exogenous to them, and they cannot control it by definition. According to this approach it would be possible to create partially endogenous (controllable) business environment if firms could make deliberate efforts to apply specific market control tools. Accepting this key premise would “help to overcome this planning vs. learning dichotomy” (Wiltbank *et al.*, 2006, p. 987). It would be important to stress that the concept meant not so much establishing “constructive control” over existing business environment (by influencing its structural parameters or market institutional elements, such as distribution channels, quality standards, established business practices, etc.) but rather deliberate creation of new, controlled market “space” based on technological and business innovations (introduction of new business models). As mentioned by G. Hamel and C. K. Prahalad, “Too often strategy is seen as a positioning exercise in which options are tested by how they fit existing industry structure...The strategist’s goal is not to find a niche within the existing industry space but to create new space that is uniquely suited to the company’s own strengths – space that is off the map” (Hamel and Prahalad, 1989, p. 74).

A radically new stage in advancing theoretical thinking on “environmental uncertainty management” integrated into strategic decision-making is connected with the rise of corporate (or strategic) foresight school, which from the beginning of the current century clearly took the leading role in this field. The school’s theoretical grounds were laid as early as in the 1950s in the works by H. Kahn and his colleagues from the famous US Rand Corporation (Kahn, 1962), and in publications by G. Berger who, together with his followers, developed the French branch of this discipline called *La Prospective* (Berger *et al.*, 2008). Subsequently the corporate foresight theory went through a number of evolutionary phases⁴ and today seems to achieve pretty high maturity level, both in the development of conceptual core and sophistication of methodological tools.

Without going into details of the continuing professional debates on corporate foresight definitions⁵ it would be important to note that, in our opinion, this concept implies a coherent system of methods and organisational mechanisms which allow: (1) to efficiently identify and thoroughly analyse the factors affecting significant (to a firm), and in particular radical, changes in business environment in the medium- to long term, and (2) to plan responsive corporate actions agreed by key members of the top management (as a preventive reaction to expected

⁴ A thorough analysis of this evolution can be found in a recent paper by the group of authors headed by an established authority in the field, Rene Rohrbeck (Rohrbeck *et al.*, 2015).

⁵ Corporate foresight definition remains a subject of lively discussions among Western and Russian researchers (see, e.g., Slaughter, 1997, Rohrbeck, 2011; Rohrbeck *et al.*, 2015; Ruff, 2006; Ruff 2015; Vecchiato, Roveda, 2010; Sokolov, 2007; Tretyak, 2007).

changes), aimed at both preparing business organisation to such changes and creating favourable future external conditions.

From the perspective of strategic management theory it would be possible to conclude that corporate foresight absorbed a significant proportion of the most promising elements (in terms of the “environmental uncertainty management”) of the conceptual constructs which have emerged in the course of decades-long debates between the “planning” and “adapting” strategic management schools. Firstly, a major conceptual postulate of the corporate foresight is the thesis about variability of the future, which implies considering various strategic options to match probable significant changes in the business environment, and to prepare the corporation for very diverse future shifts.

Secondly, a characteristic feature of the corporate foresight concept is the full recognition that influencing future changes of business environment in order to produce desirable effects (i.e. exercising partial control) is both possible and necessary. This is one of the radical differences between foresight and conventional forecasting. As one of the founders of the Russian school of foresight studies, L. Gokhberg, has underlined: “Forecasting is about moving from the present to the future. Foresight, on the contrary, is about moving from the future to the present. The difference is really fundamental... The objective of a foresight study is not to guess the future but to build a “target” vision of the future on the basis of achieving consensus among decision-makers’ and leading experts’, and try to develop a prospective action plan to meet key challenges and accomplish relevant goals” (*cit. ex: Gorbatova, 2014*).

Thirdly, a specific feature of the approach to develop foresight toolkit is the combination of expert-based and so-called participative methods implying that the process of developing and evaluating strategic alternatives of the corporate future should involve not just the traditional narrow circle of the top executives of the firm but also a wide majority of its managers who are participating in decision-making in one way or another. Such approach not only results in a much more comprehensive analysis of these alternatives but creates a firm foundation for shared corporate understanding of potential strategic challenges and opportunities.

Numerous evident advantages of the corporate foresight concept led to rising expectations regarding its application in strategic management practices. Some researchers even started to argue that strategic foresight should fully replace the obsolete corporate strategic planning systems. As noted for example by highly acclaimed US strategic innovation expert, I. Mootee, “Traditional strategic planning models cannot produce strategy that can handle the complexity, discontinuities, rapid change, and structural constraints of strategic management systems ... We are entering a new era of strategy. Indeed, we went from strategic planning to

strategic management, and now we are transitioning again from strategic management to strategic foresight” (Mootee, 2016).

It should be mentioned, however, that the “sphere of influence” of corporate foresight covers albeit very important, but still quite limited segment of corporate strategic planning system, namely the one comprising the functions of scanning business environment, analysing collected information, and setting strategic priorities in the scope of the corporation’s pro-active (preventive) reaction to long-term challenges and opportunities. In other words, strategic foresight cannot “replace” strategic planning system, but rather it can significantly increase its effectiveness if applied as the important superstructure built over the base of this system.

The logic of the study presented in this paper implies three consecutive steps. The first is identifying typical problems in application of MNCs’ conventional strategic planning mechanism - the problems that have been significantly aggravated in the increasingly volatile global business environment. This is followed by defining possible solutions based on foresight techniques. The second step covers analysis of general and specific features of applying foresight methodology by MNCs operating in global industrial sectors characterised by different nature and pace of change. Finally, within the third step an attempt is made to define the main effects produced by a working corporate foresight system, first of all from the perspective of improvement of MNCs’ strategic management. In the final section the main conclusions of the study are summarised, together with the review of the new features that effective foresight functionality could add to global corporations’ strategic management systems.

3. Challenges of Strategic Planning in Turbulent Environment

While even in the end of the last century major MNCs, that have succeeded in capturing leadership positions across global industrial markets, could confidently look forward into quite a long-term future, today this confidence no longer exists. In demographic terms, one can safely assume that “life expectancy” of large corporations – members of the global business elite, became much shorter. This is particularly evident in the increasingly rapid changes in the list of the top-1,000 corporations regularly published by US *Fortune* magazine. Specifically, in 1973-1983 the rate of change of the *Fortune 1,000* ranking was only 35%; in 1983-1993 it increased to 45%, in 1993-2003 – to 60%, and in 2003-2013 – to more than 70% (Nicholls, 2013). Securing a large market share in a particular industry no longer gives viable guarantees of maintaining a leading position for any considerable period of time. Besides, the traditionally high correlation between corporations’ market shares and profit margins in many industries is becoming rather

insignificant.⁶ Finally, the borders of industries are getting increasingly vague, leaving the biggest players' top management practically no opportunity to identify clearly their rivals and even industrial sectors they are actually competing in.

All these changes create serious barriers to conventional approach in the area of corporate strategy development. After all, this approach, despite seeing the strategy as a way to respond to uncertainty of the changing environment, in essence is based on the assumption of a relatively stable and predictable world. Indeed, in most cases the main objective of corporate strategies traditionally consists in creating a sustainable (and usually by default static) competitive advantage through creative market positioning (achieving domination, or capturing some attractive market niche), or by acquiring resources and competencies needed to produce and market a unique product or service. Within conventional strategic management cycle, corporations periodically review their strategies, adjust (or define new) strategic directions for development, and put in place appropriate organisational structures basing on the analysis of current situation in certain industrial markets and their growth forecasts for some not very long perspective.

Adopting such an approach in VUCA business environment is becoming increasingly unproductive. Under conditions of radically new uncertainty, conventional competitive advantages based on the economies of scale and resource efficiency are obviously losing their long-term importance. Fuzzy borders between industries make even rough assessment of the company's current (and much less prospective) market position an increasingly difficult task. But most importantly, unpredictable changes of the external environment reduce the value of conventional forecasts (which used to be the starting platform for corporate strategies) to minimum, while the unusually high rate of such changes makes the five-year strategic planning cycle (routinely applied by most MNCs) meaningless. In such situations, corporate strategies not infrequently become obsolete even before they are formally approved, and employees (including management personnel) are losing confidence in the rationale behind strategy development procedures⁷.

Diving into VUCA business environment had seriously aggravated a whole host of problems inherent to conventional strategic planning systems of the largest MNCs. One of these issues relates to a quite short horizon of strategic planning, which (given the significant inertia common to large businesses) severely limits the possibilities for timely adjustment of the chosen

⁶ According to US economists, M. Reeves and M. Deimler, the percentage of companies falling out of the top three rankings in their industry between 1960-2008 increased seven-fold (from 2 to 14%), and the probability of a company with the largest market share also being the industry leader in terms of profit rate, reduced from 34% in 1950 to just 7% in 2007 (Reeves, Deimler, 2011).

⁷ One of the managers of a big US corporation, when asked to give some general assessment of strategic planning process in his firm, was very sincere to respond as follows: "Our planning process is like a primitive tribal ritual - there is a lot of dancing, waving of feathers and beating of drums. No one is exactly sure why we do it, but there is an almost mystical hope that something good will come out of it" (*cit. ex: Kaplan, Beinhocker, 2003*).

course (let alone making radical turns). As BCG experts have noted, “If a company’s strategy-development process is focused only on short-term imperatives, there’s a danger of myopia. A chance of missing a strategic turn because no one sees an important sign in the distance increases” (*Kachaner et al., 2008, p. 2*).

Another major issue, which significantly reduces effectiveness of strategic planning systems employed by today’s largest MNCs in the increasingly turbulent world, relates to their limited potential for identifying and effectively processing signals of changes in the environment. Such systems are traditionally designed to track only clearly visible trends (the so-called strong signals), recognizable only within a limited horizon. But they entirely miss weak signals which not infrequently can give some good idea (for decision-making purposes) of the changing parameters within the future competitive environment. Furthermore, such weak signals may be forerunners of strategic surprises (so-called jokers, according to foresight studies’ terminology), i.e. events with a low probability of occurrence but potentially capable to bring about large-scale radical changes in the industry (or even in the whole economy). In recent years, such events occur increasingly often, while corporations adopting conventional approach to strategic planning feel themselves increasingly disoriented. As noted by the prominent Italian researchers, R. Vecchiato and C. Roveda, “In the case of a discontinuous driver of change, thinking the future through the lens of the previous experience and strategic beliefs about the business environment and the business models that were successful in that environment may be considered as driving a car in proximity of a bend by just looking at the rear mirrors. By doing so managers will inevitably fail when it most matters, i. e. when the rules of competition are going to shift sharply” (*Vecchiato, Roveda, 2010, p. 1532*).

Closely connected with this serious issue is notoriously strong commitment of large corporations to their existing business models and related inability to adequately assess the strategic potential of new “disruptive” technologies. As shown in numerous recent studies, the strategic planning systems of most today’s multinationals, even those with advanced R&D organization, often appear unable to comprehend the so-called disruptive innovations, radically changing rules of the game in their industries through rapid replacing conventional business models by completely new ones (*Christensen, 1997; Kaplan, 2012*). The standard corporate procedures of screening innovation proposals, when making decisions on subsequent investments, usually reject the projects that do not fit in with their current business model, sometimes neglecting even very promising inventions. Clearly, such practices became, among other things, one of the main reasons for the recent bankruptcy of Kodak, the long-standing leader of global photo industry (ironically, it was one of the Kodak’s engineers who invented digital cameras, and it was exactly digital camera that in the end of the day ruined Kodak’s

traditional business model). In another eminent US multinational, Xerox, this approach also prevented introduction of a whole range of unique technical innovations (including the first personal computer) developed by its own engineers but implemented subsequently by other companies (see: *Bereznoy, 2015*).

Finally, there is one more long-standing problem, very typical for corporate strategic planning mechanism, which has been dramatically aggravated with multinationals' diving into VUCA business environment. That is the widening of the so-called communication gap in corporate strategy development process. This gap is primarily due to the traditionally low level of communications within corporate management (divided by hierarchic administrative barriers and bureaucratic walls between organizational units) in the course of strategy development. Quite common to many large corporations (and especially to MNCs with their globally distributed networks of production and sales subsidiaries), this lack of communications within strategic planning systems become particularly evident under the conditions of sharply increasing turbulence, when even the existing (very limited) communication channels can no longer cope with "digesting" contradictory data coming from internal stakeholders, and in effect block the multilateral dialogue on strategic development priorities. Meanwhile, it is exactly insufficient involvement of stakeholders from various MNC divisions in corporate strategy development, that appears to be a key factor leading to poor implementation of such strategies.⁸

The evident inability of conventional strategy planning systems to meet increased requirements of much more turbulent business environment forced many global corporations to actively seek new mechanisms and instruments that would help them to respond to accumulating challenges in this area. One of such instruments is corporate (or strategic) foresight, which has already occupied prominent positions in strategic management architecture of dozens of largest MNCs operating in a wide range of global industries.

First of all, foresight allows to significantly extend the strategic vision horizon. It would be important to realise that in this capacity corporate foresight does not possess any more advanced "anticipation" techniques, but rather suggests a radically different approach in this area. Unlike conventional forecasts, which strive to draw a picture of the future based on the visible trends of the present, the foresight methodology by default assumes variability of the future, and aims at providing proactive support for implementing the most desirable option out of all possible alternatives of the emerging economic order. In this regard a recent statement by a representative of the German car manufacturing MNC's top management seems to be very

⁸ A quite thorough review of several dozens of empirical studies on various factors influencing corporate strategy performance, prepared by a group of researchers at the Swiss-based Institute for Corporate Communication (Lugano), clearly revealed extremely high importance of establishing effective dialogue among different management levels and business units (including, in the case of MNCs, mandatory participation of international subsidiaries' managers) as an integral part of corporate strategy development process, to ensure subsequent successful implementation of such strategies (*Li et al., 2008*).

instructive: “At BMW we believe that the best way to predict the future is to create it” (*cit. ex: Tendulkar, 2016*).

The ability to extend strategic planning horizon is closely connected with another key corporate foresight characteristic: significantly enhanced opportunities for scanning signals coming from external environment. In addition to clearly visible trends (or strong signals) which are commonly monitored by conventional strategic planning systems, the corporate foresight mechanism for tracking and analysis is designed to identify weak signals, as well as strategic surprises (jokers), which could generate the final outcome of absolutely new quality. It is this new capability of corporate “radars”, much more sensitive to changes in the external environment, that allow to anticipate potential challenges and threats related to radical industry-specific shifts, disruptive technologies and innovative business models.

One of the most important distinctive features of corporate foresight methodology is also a set of clearly defined procedures for multi-phase discussions of the company’s strategic challenges and priorities within its management team, including managers of all levels and all organizational units responsible for making relevant decisions, and frequently also involving external experts and consultants that provide an independent view on prospective development trends in business environment. This approach largely eliminates the communication gap between major corporate stakeholders arising in the course of developing strategic vision, and ensures necessary consensus regarding a firm’s strategic goals and objectives – a key prerequisite for successfully mobilising corporate team to implement the formulated strategy.

Overall, corporate foresight adds new important elements to the conventional strategic management mechanism employed by major MNCs, capable of significantly increasing its effectiveness in an increasingly turbulent world. It serves as an important superstructure based on the established strategic management architecture and primarily aimed both at implementing powerful “early warning” system, capturing signals about forthcoming shifts in business environment, and at shaping effective and timely response that a company should initiate as a preventive measure to such changes.

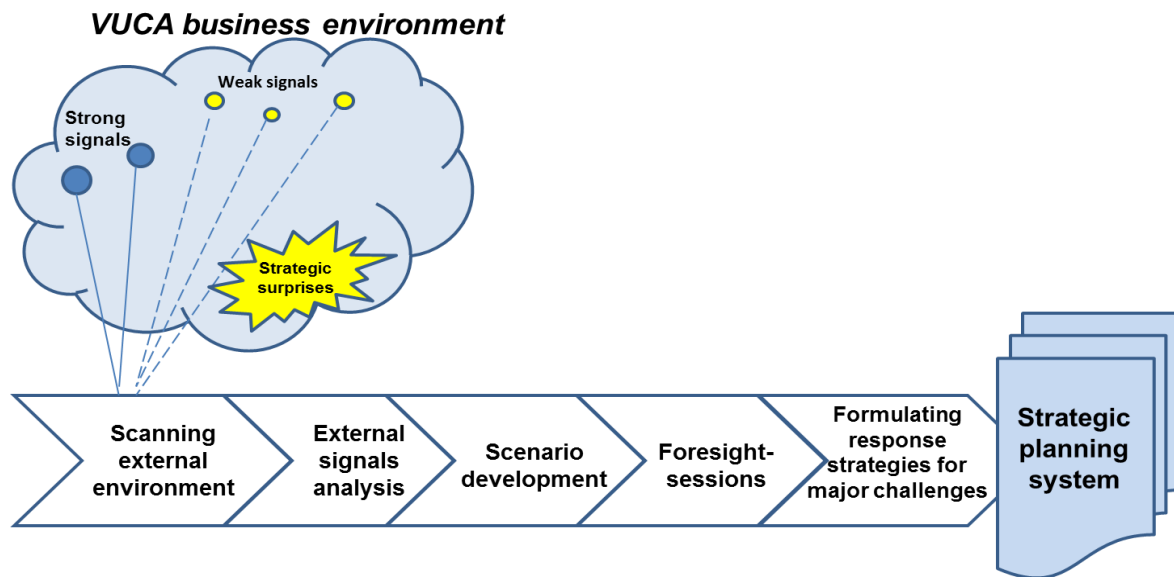
4. Characteristic features of corporate foresight mechanism applied by major multinationals

Given very sensitive information generated by corporate foresight studies, it is not surprising that the specifics of these activities and the details of how foresight outcomes are practically used by MNCs' management, remain largely unavailable to external observers. However, a few empirical studies have appeared in recent years, which allow to have a look into the "holy of holies" of these activities and to get some idea of their organization in a number of major MNCs operating in various sectors (industries) of the global economy. These studies reveal, on the one hand, quite similar basic characteristics of general organisation of corporate foresight activities, and on the other – a number of very specific features mainly determined by the nature of industrial sectors where individual MNCs operate and, not infrequently, by their corporate culture.

Similar features in corporate foresight organisation become evident, first and foremost, when foresight activities are institutionalized as a specific function (in various forms) responsible for this work at the corporate level. Other dimensions, showing a number of similarities, could be found in the general logic of corporate foresight process design (including the sequence of its main phases), and in the mix of key tools (methods) applied. If we turn to formal institutionalization of foresight activities, today already a good number of major MNCs have special organizational units responsible for leading this work (usually located in corporate headquarters), and their population is growing every year. The most recent large-scale survey of major European MNCs operating in various industries (conducted in 2014) revealed that out of 145 surveyed corporations 89% did have special corporate foresight function for at least one year, and 65% had such function for more than six years (*Danielson, 2014, p. 38*). Other empirical studies also disclose that separating corporate foresight function also became quite common in multinationals based in the US and Japan (see: *Nash, 2013; Yoda, 2013*).

As for corporate foresight process, in the vast majority of MNCs, which do have relevant experience, it was organised along a more or less common five-phase general scheme (see Figure 1).

Figure 1. High-level map of corporate foresight process:
Sequence of main phases



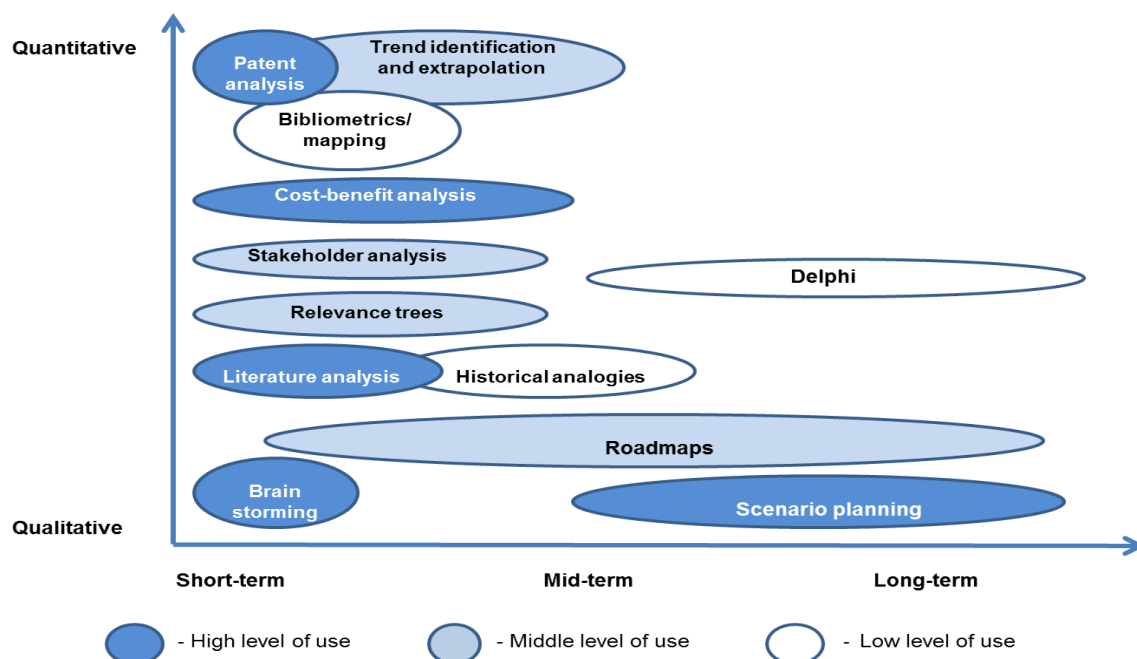
Source: based on (Peter et al., 2015, p. 59).

The first phase implies scanning external environment and creating databases of trends (strong signals) and weak signals. The second phase includes in-depth analysis of all identified signals, definition of possible radical shifts, potential threats and market opportunities that these shifts could bring about. The main focus of the third phase is the formulation of several long-term future development scenarios for external environment on the basis of collected data analysis and taking into account possible strategic surprises. The fourth phase involves a series of foresight sessions where managers of various levels discuss draft scenarios, adjust them in accordance with their vision, and ultimately agree on final versions. Finally, long-term strategic priorities are set during the last phase of the foresight process, together with specific milestones – to ensure the company’s adequate response to strategic challenges, and map the optimal course to secure the desired position in future markets.

MNCs foresight practices also indicate that the key prerequisite of the whole process success lies in ensuring efficient cooperation with the existing corporate strategic planning system. As the head of foresight studies group at Daimler AG, F. Ruff, has rightly noted, “Overall corporate foresight fulfils a mission to detect changes and signals that are outside the reach of standard corporate sensors and thus takes a *complimentary* role to existing strategy and innovation functions. But this complementary function also implies that a close alignment and collaboration with strategy and innovation departments is decisive role to create impact” (Ruff, 2015, pp. 39-40).

Though specific mix of foresight techniques applied by major MNCs often significantly varies, the basic (rather limited) toolset usually remains essentially the same. Out of the quite diverse range of foresight techniques applied by various public and private sector organisations (according to UNIDO estimates, there are more than 40 of such tools available)⁹, major MNCs use less than 15. As to techniques most actively used in corporate foresight projects, experts usually name no more than 5-6, including the following: scenarios, brainstorming, literature reviews, cost-benefit analysis, patent analysis. Such methods as trend identification and analysis, roadmaps, relevance trees, and stakeholder analysis are also quite popular in corporate foresight studies. Bibliometrics, historical analogy forecasting, and Delphi methods are applied less often (Figure 2).

Figure 2. Main methods used in corporate foresight practices



Source: *Rohrbeck, 2012, p. 17.*

Along with similarities, foresight mechanisms working in individual MNCs often have very specific characteristics. These specifics are primarily due to different major drivers of change affecting corresponding sectors of the global economy. Such differences become particularly evident if one compares foresight systems of MNCs operating in mature sectors (like mining and processing of natural resources), on the one hand, and in the so-called modern industries displaying very dynamic qualitative and quantitative shifts in market demand (e.g. telecom, consumer electronics), on the other. In the first case, corporate foresight mechanisms

⁹ See (UNIDO, 2005). More recent and fairly detailed description of specific foresight techniques can be also found in a number of works by Russian and Western researchers (see, e.g., *Miles et al. 2016*).

are usually designed to identify and find solutions for potential issues originating from the extraordinarily complex external environment, whose development is affected by numerous very diverse and hardly predictable factors. In the second case, the priority objective of corporate foresight is the quick development of adequate response to threats emerging in an extremely volatile external environment.¹⁰

Corporate foresight systems applied for many years by the oil supermajor, Shell, and global chemical giant, BASF, are specifically designed to help company management in dealing with challenges presented by the increasingly complex macro-environment. To that end, both corporations put in place very robust scenario-based multiple-level strategic management systems, where all main organisational units constantly receive information required for their constructive participation in strategy development at the corporate, business segment, and operational levels. Targeted efforts at all these corporate levels launch quite lengthy multi-step process dictated by the particularly complex external environment. Time horizons of scenarios developed by these companies usually exceed 15-20 years (a period comparable with the payoff period of capital investment projects in relevant industries), while analysis of main drivers of change covers as wide a range as possible, including not only economic and technological factors but also social, political (together with geopolitical), environmental, and people values-related factors (Table I).

¹⁰ Certainly, the above classification is conditional and does not imply that mature sectors (oil and gas or chemicals) do not occasionally experience very radical changes, or that factors affecting the so-called modern industries are not very complex in nature. However, comparative analysis makes the abovementioned differences between these groups of industries (sectors) very much tangible.

Table I. Specific features of MNCs' corporate foresight mechanisms:
Impact of external environment complexity and rate of change

Main areas of differences	Key characteristics of the industry external environment determining specifics of foresight mechanism	
	High complexity of business environment (e.g. oil & gas sector, chemical industry)	High dynamics of change in business environment (e.g. consumer electronics, telecom services)
Process organization	<ul style="list-style-type: none"> – Relatively long-term multi-level process, involving all main organizational units of the company 	<ul style="list-style-type: none"> – Flexible process with quite short overall duration, aimed at securing timely (proactive) company response to dynamic changes of external environment
Focus of methods and tools	<ul style="list-style-type: none"> – Methods and tools are focused on the analysis of main trends and interaction of numerous drivers of macroeconomic changes (intensive use of STEEPV-analysis) – Development of hierarchical system of complex development scenarios for long-, medium- and operative perspectives – Time horizon of scenario planning – more than 15-20 years 	<ul style="list-style-type: none"> – Methods and tools are focused on identification of limited number of factors driving radical changes, able to quickly transform competitive landscape of the industry – Wide use of technology roadmaps to establish links of forecasted technological shifts with emerging market opportunities for prospective company products – Time horizon of scenario planning and technology roadmaps – usually not more than 5-10 years
Integration of results in strategic decision-making	<ul style="list-style-type: none"> – Used primarily as the instrument to support strategic investment decision-making, including changes in portfolio of key assets, entering new foreign markets, financing of major capital projects etc. 	<ul style="list-style-type: none"> – Used primarily as the instrument to identify new market opportunities and to support implementation of serious organizational changes

Source: based on (Vecchiato, 2012; Rohrbeck and Thom, 2008).

MNCs operating in industrial sectors characterised by more volatile external environment adopt quite different corporate foresight systems. For example, foresight systems of Philips and Deutsche Telecom AG (the first is the leader of global home appliances and consumer electronics market, and the second - a leading European telecommunication services operator) demonstrated very high flexibility and rapid response rates. Their foresight mechanisms are designed primarily to identify drivers of radical changes capable of breaking the “rules of the game” and the industry competitive landscape in a very short period of time. All techniques and tools applied in such systems are primarily focused on defining potential effects of such changes on the company's market position, and the new market opportunities they may open. Another distinctive feature of such systems is combining the scenario-based approach with designing technology and product roadmaps, which could help to establish links of the identified potential technological shifts and related emerging market opportunities with specific prospective products the company could offer.¹¹ Accordingly, time horizons of scenarios and technology

¹¹ A good example in this respect is Deutsche Telecom AG (DTAG). As the authors of a special study of corporate foresight practices noted, “DTAG's strategic roadmaps system combines strategic vision provided by the scenario-based approach with benefits of planning provided by technology roadmaps” (Rohrbeck, Thom, 2008, p. 5).

roadmaps developed by corporate foresight systems of these companies usually do not exceed 5-10 years.

The actual competitive behaviour of MNCs operating in the global industries which in recent years have experienced the most radical changes (usually referred to as “disruptive”) also provide evidence of certain limitations of corporate foresight capabilities, especially when traditional industry borders are being quickly eroded by the so-called digital revolution spreading right in front of our eyes. The recent story of Nokia, the former global mobile phones market leader, which failed to maintain competitive positions in the radically changing industry, could serve here as illustrative case. Despite having one of the most advanced corporate foresight systems in Europe, this Finnish MNC made a number of serious strategic mistakes and in the mid-2000s clearly lost competitive war for leadership in the personal mobile communication devices market to US-based Apple.

Many experts believe that one of the main reasons of this strategic disaster was the company’s management inability to set appropriate objectives for their corporate foresight function, because they (managers) failed to comprehend the fundamental shift in the boundaries of their business. Indeed, digital revolution has led to convergence of a number of different markets, including those for mobile phones, photo cameras, sound recording devices and personal mini-computers. Against this background global sales of the iPhone, the new type of mobile device (which integrated the functionality of all the above-mentioned products), launched by Apple, very quickly reached a huge scale. However, Nokia stubbornly kept trying to promote its own obsolete technological platform, even despite the company’s rapidly falling global market share. As R. Vecchiato has stressed in his analysis of unsuccessful application of foresight methodology by the management of the Finnish giant, “in the case of discontinuous drivers of change – early predictions about the future components of the business are likely to become the source of inertia rather than adaptation. Under boundary uncertainty, decision-makers should emphasize thereby strategic flexibility and quick learning instead of planning and foresight... Decision-makers might then start using and relying on foresight techniques once boundary uncertainty has been solved...” (*Vecchiato, 2015, p. 268*).

5. The issues of corporate foresight effectiveness

Setting up a viable corporate foresight function involves significant financial costs, time spending and organizational efforts, needed for putting together professional team of highly skilled experts and arranging their smooth cooperation with other key company divisions. It is no surprise that only relatively large corporations could afford building such function. In this context, legitimate questions arise regarding the actual effect of corporate foresight on MNCs' strategic development, especially from the perspective of the improvement of their strategic management systems.

One of the most common approaches to answering such questions is to refer to the most significant (and sometimes vitally important) strategic decisions made by specific MNCs based on their foresight function analysis. Probably the most striking, and by now almost paradigmatic, example in this area relates to very rational strategic decisions made by Shell in the course of so-called oil shocks of the early 1970s. Unlike other oil and gas supermajors, Shell appeared to be ready for the four-fold increase of oil prices, just because it had a well-developed scenario describing such developments prepared by their in-house foresight team. Less well-known (though possibly no less important) were Shell scenarios which ensured the company's high readiness for the subsequent radical structural shifts in the global oil and gas industry caused by the collapse of the Soviet Union, and by the transfer of major global energy consumption centres (and thus the bulk of demand for hydrocarbons) from the West to the East, first of all to China and India. These particular scenarios served as a basis for a number of strategic investment decisions to enter long-term production projects, including huge *Sakhalin-2* (oriented towards Asian markets) which has already boasted more than \$10 billion in Shell investments.¹²

A number of examples of corporate foresight studies significantly affecting the strategic decision-making process were also noted at other major MNCs, including those operating in the so-called modern industries. For instance, Philips' recent decision to shift its strategic focus from consumer electronics to medical equipment was based on the conclusions made by the in-house corporate foresight team. Trend analysis, undertaken by this team, allowed the company to conclude that such global trends, as ageing of population and wide proliferation of healthy lifestyle values, should provide a firm ground for changing its strategic priorities in favour of health sector, while the ongoing commoditization processes (product standardisation accompanied by sharply decreasing profit margins) would inevitably result in the stagnation or decline of conventional consumer electronics industry. This vision of the future was adopted as a basis to mobilise the company to take a new strategic course.

¹² This is Shell's largest investment project in the company's 120-year long history.

At the same time, it is quite obvious that having even very serious corporate foresight capabilities is not a panacea against making big strategic errors. The evidence supporting this conclusion is provided not only by Nokia's much-publicised disaster in the global mobile phones market, but also by the preceding and largely similar failure of another corporate giant, Ericsson. This Swedish MNC, initially one of the top-five global mobile-phone market leaders, also failed to maintain competitive positions and finally was pushed out of the market in the end of 1990s.¹³ Though both of these firms had very qualified and experienced foresight teams, they failed to prevent their chief executives from making very expensive strategic mistakes.

On the other hand, a number of observers believe that the main reason had nothing to do with insufficient qualifications or experience of the corporate foresight experts, but rather was directly connected with irrelevant objectives set for them by company management. According to a former head of Shell scenario planning division, "Managers must look out for the right conditions for using predictive techniques like scenarios by weighing what these tools allow to learn about the future against what they require as their own input. If the key issues and challenges to be faced by the organization have not been properly defined yet, scenarios will lack focus, and executives will be involved in a blinding process which actually mislead them and reduce their understanding of the future" (*cit. ex: Vecchiato, 2015, p. 268*).

In any case, though such examples are undoubtedly interesting for identifying best practices, or on the contrary typical mistakes, in applying corporate foresight outcomes in strategic decision-making, they suggest too little to define key areas of such activities' impact on strategic processes in respective companies. From this perspective, it would be much more relevant to analyse the results of special MNCs' surveys, which allow to make certain conclusions regarding actual corporate foresight contribution into enhancing the specific functionality of their strategic management systems.

Thus, one of such surveys, undertaken among 77 large European multinationals, revealed that more than 3/4 of CEOs respondents were quite positive in their assessment of value added by corporate foresight to the performance of strategic management. More than 80% of these respondents agreed (fully or partially) that corporate foresight made tangible contribution to enhancing such strategic functionality as environment scanning (by gaining insights into changes of the environment and contributing to reduction of uncertainty regarding its future parameters); development and implementation of corporate strategy (by fostering internal conversation about overall corporate strategy, creating the ability to adopt alternative perspectives, supporting

¹³ As noted in Bloomberg special review, "With the \$7.2 billion sale of its mobile-phone business to Microsoft Corp., Nokia Oyj is following a path trodden by Ericsson AB of Sweden in abandoning handset manufacturing ... Nokia, struggling to regain relevance in smartphones after Apple Inc.'s iPhone was introduced in 2007, is getting out of the business almost a decade after Nordic rival Ericsson split off mobile phones into a separate venture with Sony Corp. (*Web, Baigorri, 2013*).

adjustment of the company in case of uncertainty); development and implementation of market entry strategies (by enhancing the understanding of target markets, identification of opportunities and threats for company products and technology portfolio); and influencing parameters of future environment (see Table II).

Table II. Assessing corporate foresight contribution to enhancing various functions of strategic management (based on the results of a survey of 77 European MNCs)

Functions of strategic management influenced by corporate foresight	Share of respondents reporting about perceived contribution of corporate foresight to improved effectiveness of strategic management functions:		
	Resounding Yes or partly positive	No	Don't know
Environment scanning <ul style="list-style-type: none"> Gaining insights into changes in the environment Contributing to a reduction of uncertainty (e.g. through identification of disruptions) 	<p>More than 95%</p> <p>More than 83%</p>		
Development and implementation of corporate strategy <ul style="list-style-type: none"> Fostering conversation about overall strategy of the company Creating the ability to adopt alternative perspectives Supporting adjustment of the company in case of uncertainty 	<p>More than 85%</p> <p>More than 84%</p> <p>More than 75%</p>		
Development and implementation of market entry strategies <ul style="list-style-type: none"> Enhancing the understanding of the market Identification of opportunities and threats for our product and technology portfolio 	<p>More than 92%</p> <p>More than 84%</p>		
Influencing parameters of future environment <ul style="list-style-type: none"> Shaping the future (e. g. through influencing other players such as politicians or other companies) 	<p>More than 81%</p>		

Source: based on: *Rohrbeck, Schwarz, 2013, pp. 1599-1603.*

A particularly revealing finding of this survey seems to be a high share of respondents who consider corporate foresight to be a powerful instrument of shaping future external conditions of their company's business. Indeed, the activities of corporate foresight divisions, especially in the case of major multinationals, are not usually limited to providing support for internal strategic decision-making processes. The external component of their work is clearly growing in importance, aiming at systematically "putting pressure" upon the minds of key stakeholders – those who in one way or another could influence the global business environment. One obvious channel to do it is through regular publication of global industry forecasts, future development scenarios of key technology areas and markets, etc. Since such studies are usually conducted by highly skilled experts, who use the most advanced

methodologies and have access to practically all existing data, and the results they obtain are published under the auspices of major players in relevant global industries, the influence of such publications is hard to overestimate. Thus, three largest Oil & Gas supermajors (ExxonMobil, Shell, and BP) annually publish their long-term forecasts of global energy industry development, whose influence is essentially on a par with the forecasts published by the leading multilateral organization in this industrial sector, the International Energy Agency.

Certainly, multinationals do not limit their influence activity to only massive dissemination of their corporate foresight studies. They allocate significant funds to their corporate experts who are delegated to “support” such publications by working with the target stakeholder audiences, including arrangement of various conferences, workshops and meetings with participation of public authorities, business partners, consulting firms, etc. It goes without saying that not all the findings of corporate foresight studies are made available to general public. Furthermore, these studies, designed to influence external target audience, by definition imply certain interpretation of their main conclusions in order to induce major stakeholders to accept the vision of the world (industry, market, etc.) that the sponsoring corporations would like them to have.¹⁴

Another quite effective channel to exert influence on the future parameters of rapidly developing global high-tech industries, that has been increasingly used by major MNCs, is their active participation in development of international foresight studies and sectoral technology roadmaps, usually sponsored by inter-governmental institutions or industrial associations. These multilateral engagements became a quite popular mechanism being used for coordination of efforts of national governments and multinational business in the area of indicative planning when there is a common interest in cultivating new industry sectors with significant potential of global economic impact. One of the first successful attempts to create such a mechanism was the development and continuous update of The International Technology Roadmap for Semiconductors (ITRS) on the basis of the Semiconductor Industry Association (SIA), that involved practically all global industry players отрасли, including Intel, IBM, Texas Instruments, Intersil, Rochester Electronics, Micron, Landsdale Semiconductor Inc. and others (see, for example, *Rosso, 2016*). More recent example of the powerful international sectoral future study is the interdisciplinary foresight project “The Bioeconomy to 2030” (undertaken in 2007-2008 under the auspices of OECD). The steering group, created to supervise this work,

¹⁴ It is quite indicative that one of the conclusions made in the special study of long-term energy forecasting practices in US reads as follows: «More often than we would like to believe, forecasts are unduly influenced by the particular perspective of the sponsoring institution, and perspectives alien to that organization are downplayed, misrepresented or ignored» (*Craig et al., 2002*).

included representatives of such global industry leaders as Organon, Ciba, Novo Nordisk, Novozymes, Evonik and others (*OECD, 2009, p. 18*).

Finally, it would be important to note one more, very significant effect of the creation of a working corporate foresight function in MNCs, which strictly speaking goes beyond the scope of a strategic management system. We mean actual transformation of the overall corporate culture, its radical shift to absorb the ongoing change as a new normal environment for the firm's operations. Indeed, by involving a wide range of managers in regular discussions on future challenges (threats and opportunities) engendered by changing business environment, and on possible responses to such challenges, the corporate foresight mechanism inevitably makes a very important contribution to building such competencies as adaptability, flexibility, and ability to quickly (or even preventively) transform itself (a specific competency which has recently got a special management term "agility"), i.e. exactly those organisational features that MNCs increasingly need as they are diving in VUCA business environment. As noted by Y. Salvatico, one of the founders of the foresight division at the largest US media MNC, Walt Disney, "The power of strategic foresight lies not primarily in its tools and methodologies but in its ability to alter minds and perspectives. With an integrated, holistic approach, firms can create a foresight competency that has the ability to truly alter their organizational culture" (*Salvatico, 2013*).

6. Concluding remarks

The fundamental reason for setting up corporate foresight function by major multinationals lies in their objective need to have an in-house "early warning" system, able to identify potential threats and emerging market opportunities. Large companies' inherent inability to recognise dangerous changes in the external environment was noted as early as in the 1970s by the classic of the strategic corporate management theory, I. Ansoff, who suggested to apply special tools to scan external weak signals (*Ansoff et al., 1976, p.69*). However, only at the beginning of the current century, with the arrival of the new era of turbulence, MNCs started to introduce corporate foresight on a really significant scale. Compared with conventional corporate strategic management mechanisms, the same systems equipped by effective foresight functionality acquire a number of crucially important new features: the time horizon of the future vision becomes significantly more extensive; the processes of scanning and analysis of external environment start to go at much broader, cross-industry and multidisciplinary, context; intensive ongoing intra-corporate dialogue on the future development scenarios is launched and maintained; significant opportunities appear for influencing the development of future business environment in a desired way. Finally, a new corporate culture is emerging, leading to increased

flexibility, adaptability, and transformative agility. Overall, it would be natural to conclude that foresight is becoming a key element of today's corporate strategic management architecture. In the toolset of MNCs' managers striving to identify landmarks for positioning in rapidly changing global markets, under the conditions of permanent shifts occurring in the competitive landscape, corporate foresight mechanism is increasingly playing the role of GPS navigator helping car drivers who are lost in the maze of streets in an unfamiliar city.

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