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# THEORETICAL FOUNDATIONS OF DYNAMIC CAPABILITIES MEASUREMENT. A MULTI-LOGIC APPROACH

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## Introduction

The following paper adopts the lens of strategic management theory, which focuses on the organization (and the enterprise specifically) as a fundamental level of analysis, at the same time accepting the organizational diversity in terms of performance, value creation and value capture (Durand et al., 2017). Given a range of possible approaches we have opted for the resource-based view, which concentrates on strategically valuable resources

that can create the basis of competitive advantage. The overall objective of the paper is to overview the construct of dynamic capabilities, and to illustrate theoretically their conceptualizations, components and relationships with dependent variables.

The dynamic capability perspective focuses the attention towards conscious and skilful modification of the firm strategic potential through strategic change aimed

at reaching above-average performance. A recently carried out meta-analysis demonstrates that dynamic capabilities translate into higher overall firm performance (measured with financial effectiveness and competitive advantage), specific outcomes either in the domain or the processes (eg. purchase integration, higher product quality, better supply chain management), external environment-organization fit, enterprise survival, growth (measured by rentability or turnover), flexibility reflecting the ability to accumulate major changes, or innovativeness outcomes such as new products, patents, resource portfolio changes, organizational learning, etc. (Schilke et al., 2018).

Scholars who analyse dynamic capabilities associate this construct mainly with seeking opportunities, acquiring new resources or value creation processes (Augier, Teece, 2009). Some research provides more evidence on the relationship between dynamic capabilities and performance (Karna et al., 2016; Vogel, Guttel, 2013). This intriguing and promising perspective requires however scale development, that would embrace macroconstructs as tailored indicators of dynamic capabilities. The intent of this paper is seeking to fill this gap by identifying theoretical dimensions of dynamic capabilities and offering insights for their future operationalization and measurement.

A recently carried out content analysis of 300 publications on strategic management (Goldfarb, King, 2016) seems rather alarming, as it demonstrates that around 24%-40% of statistically significant, already published empirical research results cannot be replicated. This might suggest, that the observed relationships between researched variables are either coincidental, or in fact have low statistical meaning. The analysis suggests that positive relationships found once in a one-off study are treated as an evidence for theory testing. Therefore, it seems obvious that without numerous research replications it would be hard to demonstrate the strength or usefulness of popular and highly-recognized theories. It suggests that empirical results replication or relationship falsification is as valuable as creating new approaches, concepts or testing the existing theories in management (Bettis et al., 2016). Their value lies in the better understanding of important, emerging and still not explored phenomena, which helps in further theory development. At the same time, it is important to use scales and items that have been already used.

Naturally, using known operationalizations or existing scales is not always possible, well-grounded or justified. Usually, it may prove feasible in case of new construct conceptualization, which requires creating a new measurement method (DeVellis, 2012) or in case of forming a new measurement tool based on a few existing scales. The latter approach known as construct mixology boils down to building new constructs by combining older ones or parts of them (Newman et al., 2016). The advantage of construct mixology is strengthening the overall explanatory power by forming a meta-construct that encompasses a broader meaning.

Generally, construct building is a typical for management sciences, as they research phenomena that cannot be measured or observed directly. Therefore, attributes of

a given phenomenon, or relationships between variables can be identified only through theoretical concepts – academic ideas – (Schwab, 1980). Constructs represent features of whole organizations, teams or individuals. In case of dynamic capabilities, researchers are interested in specific characteristics of the firm. It is important to realize at this point, that a new, mixed construct does not reflect the new empirical knowledge. It only articulates a new configuration of the old empirical knowledge, which can be an element of scientific advance in itself, since it features new characteristics or influences new theoretical models<sup>1</sup>.

## A contemporary insight into the firm dynamic capabilities

Following the arguments of Grant and Verona (2016) we can state, that a significant difficulty in carrying out empirical research concerning identification and measurement of capabilities stems from the lack of conceptual precision. A recent critical review of 232 operationalizations of dynamic capabilities allowed to identify some implications for further research in this area (Laaksonen, Peltoniemi, 2018). Taking them into consideration, we based the logic of dynamic capabilities scale building on three assumptions.

First, we concluded that it is important to delineate between substantive capabilities and dynamic capabilities, keeping in mind that the latter indirectly shape organizational performance by changing the substantive capabilities. Second, we assumed that dynamic capabilities are a strategic variable, so they have to be analysed on the organizational level. Third, we accepted the fact that dynamic capabilities are a multidimensional construct, which should avoid arguments for each organization's specificity or dynamic capability universality. We hope, that these assumptions will help in a more theoretical precision in dynamic capabilities measurement, and specifically a more accurate assessment of the activities implemented by organizations that create their dynamic capabilities idiosyncratic profile.

Strategic management scholars frequently resort to the concept of dynamic capabilities, seeking to find the sources of firm prosperity, survival or decline (Pezeshkan et al., 2015). The concept of dynamic capabilities is linked with innovation, adaptability for change, creating change that is favourable for customers and unfavourable for competitors (Teece et al., 2016). This area of research evidently moved from conceptual works towards more structured empirical modelling and testing (Wilden, Gudergan, 2015). Dynamic capabilities positively influence the organizational performance, which is a relation mediated by substantive capabilities (Fainshmidt et al., 2016). Dynamic capabilities allow excelling the firm activities based on strategic insight through conscious creating, broadening and modifying the strategic potential (Teece et al., 1997). In particular, dynamic capabilities require new resources and substantive capabilities oriented towards building the company's future. They are also a significant mediator of the relationship between entrepreneurial orientation and organizational performance (Sciascia et al., 2014).



Understanding the nature of dynamic capabilities makes it possible to deepen the difference between dynamic and substantive capabilities. Substantive capabilities (also labelled as static or first-order capabilities (Collis, 1994), zero-order capabilities (Winter, 2003), or ordinary capabilities) constitute the current effectiveness of the enterprise. They need to be modified and oriented towards organization's significant activities in the future. In other words, substantive capabilities relate to proper task accomplishment, while dynamic capabilities relate to accomplishing proper tasks.

Dynamic capabilities are composed of marketing capabilities and R&D capabilities. Both types of capabilities create company foundations to serve new markets and use new technologies. On the other hand, substantive capabilities embrace customer service and technological capability focused on present customers or using a specific technology. Dynamic capabilities allow the company to survive in turbulent environment, at the same time stimulating development in a more stable environment. Prosperity in a volatile environment requires developing capability that makes it possible for companies to foresee the changing competition landscape, proper shaping of strategic potential, and skilful adaptation (Felin, Powell, 2016). Strong dynamic capabilities are a sound basis for flexibility and allow to strategically deal with uncertainty (Teece et al., 2016). The environment's influence on organizational outcomes that dynamic capabilities produce need not be homogenous. For example, Girod and Whittington (2017) conceptualized reorganization as dynamic capability that accepts two forms: restructurization and reconfiguration. Organizational restructuring understood as changing basic rules of organizational design (eg. increasing or decreasing the number of levels in the organizational structure) coexists with positive organizational effects in the financial dimension. Still, in a dynamic environment, results of organizational restructuring can be negative. Reconfiguration, understood as changing organization's units, without changing basic rules of organizational design (eg. merging, dividing or eliminating units) is negatively related to financial effectiveness. In this case however, the environmental dynamism transforms the negative effects of reconfiguration into positive outcomes. This perplexing finding leads to a conclusion, that both change strategies can be used in a skilful and deliberate manner depending on the environmental characteristics and the strategic intent the company undertakes (Helfat et al., 2007; Winter, 2003). Dynamic capabilities can also be exploited through some operative mechanisms such as product innovation, alliances, purchases or disinvestments – processes through which the strategic potential is being modified (Eisenhardt, Martin, 2000). Dynamic capabilities concentrate on organizational processes, or in other words, on goal-oriented activities used to create and capture value.

A recently carried out literature review distinguishes five categories of substantive capabilities and six categories of dynamic capabilities (Karna et al., 2016). Substantive capabilities embrace these competences that are essential

for organization's survival in the short term: (1) operations/processes, (2) product/service/quality, (3) resources/assets, (4) organizational structure, (5) relationships with customers/buyers. In turn, dynamic capabilities embrace these organization's activities that create a basis for its long-term development, namely: (1) R&D/innovation/technology, (2) strategic decision making/market research, (3) cooperation/alliances/networks/relations, (4) knowledge management, (5) intangible resources/reputation, as well as (6) strategic human resource management.

Helfat and Winter (2011), when summarizing various definitions of firm capabilities notice, that the company develops a capability, when it is able to accomplish certain activity in a deliberate, replicable, reliable manner and on at least satisfactory outcome. Looking through the lens of organizational routines one might say, that dynamic capabilities are related to changing routines that serve a given market niche. Recently, a relation that might seem unintuitive has been observed as an organizational phenomenon: with the higher marketing experience of founders of technology ventures, the number of opportunities recognized decreases (Gruber et al., 2013). The explanation of this relation might stem from the fact, that marketing knowledge has a rather local nature. On the other hand, the dynamic capability context demonstrated a different relationship between industry experience and market choice, with higher number of more varied opportunities being discovered with higher industry experience.

A key process in creating and shaping dynamic capabilities is organizational learning. A considerable attention is paid to processes of identifying, shaping, and exploiting opportunities, reconfiguring the strategic potential in relation to environment's dimensions such as dynamism, hostility and complexity. In other words, dynamic capabilities in its nature involve observing, reacting and changing. The environmental dimensions act not just as antecedents, but more as contingency factors here.

Dynamic capabilities, together with other organizational variables and the environmental elements shape the strategic profile of the firm and its performance. Looking at the overall configuration of the variables it is important to discuss the possibility of dynamic capabilities measurement. It is quite reasonable to notice, that there is no universal operationalization or scale for measuring the organizational dynamic capabilities. In the next section of this paper we will try to illustrate the problem of pursuing such measurement scales.

## In pursuit of organizational dynamic capabilities measurement

Scholars agree that entrepreneurship is a certain pattern of mutually-interconnected relationships and claim that entrepreneurial activity should not be viewed from a single-opportunity perspective, hence a multi-opportunity framework applies (Bakker, Shepherd, 2017). In this vein, we find the processual approach suitable for analysing the organizational or firm-related dynamic capabilities. Such perspective focuses attention on the dynamic

capabilities concept as developed by Teece (2007), which appears to be a sound theoretical framework for building the dynamic capabilities measurement tool. It distinguishes three pillars of the firm dynamic capabilities: (1) sensing the unknown future and capturing the value it creates in accordance with the strategic direction; identifying opportunities for creating and capturing new value together with critical overview of the environment concerning future developmental trends; (2) mobilizing the strategic potential for opportunity pursuit; following the most promising opportunities by decision making that assures fast and effective implementation of strategic initiatives; designing and implementing new business models, fulfilling the needs of internal and external stakeholders, entrepreneurial accomplishment of strategic goals; (3) transforming the whole company for assuring the co-evolution with its environment through resource orchestration based on fast elimination of strategically invaluable resources and building resource base indispensable for the company future; building partnerships with current and new stakeholders; buffering resistance to change.

In spite of some ongoing discussion on validity of this proposal, the concept developed by Teece (2007) is frequently used as a theoretical framework for researching dynamic capabilities in various veins: quantitative (Fitz-Koch, Nordqvist, 2017), qualitative (Najda-Janoszka, 2016), and theoretical (Helfat, Martin, 2015). Some of the variables described in this framework have also been used as a theoretical underpinning that served as a starting point for dynamic capabilities operationalization. Examples include identifying, pursuing and reconfiguring opportunities, (Wilden, Gudergan, 2015), linking opportunity recognition with learning, integrating and coordinating, treating reconfiguration as an element of regenerating capabilities (Makkonen et al., 2014). Danneels (2016) has offered dynamic capabilities measurement by developing a questionnaire that uses seven-grade Likert scale, where respondents assess the firm's activity in relation to its main competitors. This approach treats dynamic capability as an option that allows changing the resource base depending on the opportunities and requirements for their exploitation. According to Teece's triad (2007) one can conclude, that recognizing and pursuing opportunities is a certain antecedence of resource reconfiguration.

Our starting point for building the dynamic capabilities measurement concept is a new insight into entrepreneurial orientation assessment, that takes into consideration the elements of strategic posture and firm behaviour (Covin, Slevin, 1989). The offered scale can be extended by the operationalization of the concept of the opportunity pursuit (Wilden et al., 2013), as well as three items concerning opportunity recognition from the recently tested scale (Kuckertz et al., 2017).

It has long been reported in management sciences that difficulties appear in performance measurement (Richard et al., 2009). At the same time, it becomes evident that focusing on short-term financial outcomes or market aspects does not result in sustainable competitive advantage. Arguments indicate that more attention should be paid to value

creation, which marks a step from popular insights concentrated on value capture (Bowman, Ambrosini, 2000). Some scholars claim that the value creation construct is used improperly as in its core the value capture prevails (Lieberman et al., 2018). Keeping the value creation in mind, a closer look should be given to value creation components such as entrepreneurial opportunity recognition, entrepreneurial effectuation and stakeholder synergy.

Entrepreneurship is an important element of firm dynamic capabilities, as – through opportunity identification and pursuit – it becomes a key for accomplishing long-term goals such as survival, development, innovation, renewal, competitive advantage, wealth creation, or performance. Whenever it is the resource-based view, tacit knowledge management, actor-specific goals and values or organizational ambidexterity, each time the coexistence of opportunity discovery and exploitation is evident. At the same time, exploration and exploitation are significant dimensions of entrepreneurship which influences firm performance, shaped by capabilities and preferences of the management team.

To-date, opportunity recognition has been assessed empirically by the number of opportunities identified within the last five years. Opportunity exploitation has also been measured as a sum of new products, and services launched, new markets penetrated within last three years, as reported by the top manager (Barney et al., 2018). This can be extended with the entrepreneurial activity assessment, as offered in the scale measuring opportunity recognition and exploitation (Kuckertz et al., 2017).

The dominant opportunity perspective reflects the firm orientation on creating and exploiting entrepreneurial opportunities leading to above-average performance. In order to better understand the construct of entrepreneurship it is worth quoting the arguments of Eshima and Anderson (2017), who claim that companies are using entrepreneurial orientation to formulate their adaptive capability, ie. the ability to create and capture the potential value hidden in the new and uncertain opportunities. In this line of reasoning, opportunity recognition is not equivalent with opportunity exploitation: the former relates to value creation, while the latter is connected with capturing value.

Entrepreneurial opportunity pursuit requires shifting the managerial attention and necessary organizational resources from already exploited opportunities towards newly-recognized opportunities. From this point of view, opportunity recognition is not a conceptual component of entrepreneurial orientation, but a necessary condition for entrepreneurial orientation emergence. Entrepreneurship is both the antecedent of company growth, as well as its outcome, as company growth can result in entrepreneurial orientation stimulation (Eshima, Anderson, 2017). With its growth, the company acquires new resources and new knowledge about exploiting them. The new resource combinations increase firm's ability to recognize changes in market preferences (adaptive capability that unleashes new entrepreneurial opportunities for value creation). In order to capture the potential value, the company



needs to develop its entrepreneurial orientation (*ibid.*). Thus, opportunity recognition is a necessary condition for entrepreneurial orientation development, which acts as a mechanism of capturing value from new, and uncertain opportunities.

It is natural, that only few creative ideas are selected for further implementation as innovations (Litchfield et al., 2015). It has also been noted, that the predictors of organizational creativity may not influence the innovative processes in organizations (Zhou, Hoever, 2014). For these reasons it is necessary to delineate between creativity and innovativeness. When treating innovativeness as a component of the entrepreneurial orientation, it is safe to assume, that entrepreneurial orientation is a conceptually separate construct from organizational creativity understood as generating new, useful and valuable ideas. Furthermore, we can argue, that creative ideas are transformed into entrepreneurial opportunities, therefore opportunity recognition precedes entrepreneurial orientation.

Concentrating further on measuring dynamic capabilities, the tool developed by Jansen, Van Den Bosch and Volberda (2005), assessing the absorptive capacity in the socialization dimension can be used. Assuming that opportunity recognition is often accompanied by effectuation (Welter et al., 2016) we posit that this construct should also be taken into consideration. The literature offers some relationships between effectuation and entrepreneurial orientation (Mthanti, Urban, 2014), value creation (Alvarez et al., 2015), entrepreneurial opportunity recognition, or more broadly, with resource-based approach in strategic management (Kraaijenbrink et al., 2010). Seeking to operationalize value creation as a process of dynamic capabilities building, as well as taking into consideration the role of effectuation, it seems worth including this construct into the measurement scale. Effectuation relates to the choice of possible artifacts that can be created by means that rest under organization's control (Sarasvathy, 2001). Considering effectuation in the process of opportunity exploitation leads to a better understanding of the strategic process of value creation and capture (Arend et al., 2015). Effectuation measurement embraces four formative dimension: experimenting, affordable loss, flexibility and pre-commitments (Chandler et al., 2011). On the other hand, Werhahn, Mauer, Flatten and Brettel (2015), distinguished the following five dimensions of effectuation: (1) using available resources, (2) future co-creation with partners, (3) affordable loss as a main decision criteria, (4) focus on environmental conditions exploitation, such as discontinuity or surprises, (5) perceiving environment as controllable, thus possible to influence and shape.

In the process of opportunity creation, effectuation is often accompanied by bricolage, which can play a stand-alone role (Welter et al., 2016). In other words, opportunity creation, effectuation and bricolage describe the central role of entrepreneurial activity in value creation and capture. Bricolage reflects the value creation process by using combinations of available resources in relation to new problems and opportunities. It boils down to using re-

sources at hand for solving the existing problem in a new way or creating a new causation-effectuation relationship for unlocking a potential source of value. Novelty-based combinations of resources possessed can lead to entrepreneurial opportunity creation in places where the previous status-quo indicated no opportunity existence. Behavioural model of bricolage is therefore connected largely with creating value rather than using value. Bricolage measurement scale has been developed recently, offering one dimension described by 8 items (Senyard et al., 2014).

An important implication for strengthening dynamic capabilities of the enterprise is to consider open forms of organizing, which include external stakeholders (Felin, Powell, 2016). It seems inevitable, that entrepreneurs require feedback and other resources from various groups of stakeholders like customers, business partners, investors, etc. External stakeholders involvement is therefore an important aspect of opportunity creation, since entrepreneurs need resources often controlled by stakeholders and since acquiring these resources requires activities beyond the contract specificity.

The effectiveness of stakeholder orientation can be improved by introducing the stakeholder synergy approach, where a single strategic action can help exploit opportunities and create value for two or more key groups of stakeholders, keeping the value created so far (Tantalo, Priem, 2016). The final volume of the value created is made of the sum of all benefits assessed by the key stakeholders. Each stakeholder group can be described depending on their expectations. Different sources of utility are complex value drivers. In this sense, organizational performance is based on synergic provision of economic and social values for key stakeholders.

Paying attention to stakeholder synergy creation allows the organization to effectively compete for fully-involved, top-tier stakeholders. Undoubtedly, it may serve as a starting point for achieving relatively sustainable competitive advantage by the management team that serves as a link for customers, deliverers, shareholders, employees and other groups. This requires a certain mindset change among the strategic management team and shifting focus towards the utility functions embracing majority of stakeholders, as well as pursuing opportunities for increasing the stakeholder synergy.

Resource reconfiguration is a third element of the dynamic capabilities' triad. The concept of resource reconfiguration, also called resource orchestration, is a process during which managers accumulate, combine, and exploit resources to support current opportunities and to create future opportunities in order to reach competitive advantage. Resource orchestration plays a significant role in creating and developing organization's capabilities. It is the proper configuration of resources, capabilities and top management activities that eventually results in high level of firm performance.

To explain this further, reconfiguration is understood as the enterprise's dynamic capability which embraces tailoring resources to decisions about diversification, specialization or innovation (Karim, Capron, 2016). Maritan

(2001) explains resource orchestration through such behaviors as seeking resources and competences, their selection, investment, exploitation and reconfiguration. Hitt, Ireland, Sirmon and Trahms (2011) on the other hand understand resource orchestration as a key element of strategic entrepreneurship. According to Wilden, Devinney and Dowling (2016) resource reconfiguration concerns investing in new businesses, deploying the existing businesses, alliance creation, business model adaptation, or marketing programme changes. Karim and Capron (2016) introduce a broad definition of resource reconfiguration, which involves adding resources to the existing base, resource deployment, recombination or other use of the resources possessed.

Resource-based view critics argue that there is no explanation of the processes lying behind the relation between valuable resources possession and performance (Priem, Butler, 2001). At the same time, it seems evident that the way management team exploits resources is critical for organizational performance (Holcomb et al., 2009), since both cognitive tasks involving formulation of desired actions (generating ideas, planning, deciding) as well as behavioral tasks involving implementation of these ideas are involved. Assuming that resource possession does not create value for stakeholders itself, and the proper resource exploitation is required, Sirmon, Hitt and Ireland (2007) offered a resource management model involving three elements: firm resource portfolio structuring, resource bundling in order to build substantive capabilities, and leveraging – exploiting these capabilities to satisfy the stakeholder needs and expectations. These three resource management processes create a specific sequence of: resource structuring – resource bundling – capability exploiting, with each element of the chain being as effective as possible.

This theoretical concept of firm resource management was a starting point for us to posit that resource structuring, resource bundling and capability exploiting are three processes that should be operationalized as key components of dynamic capabilities. It is worth mentioning here, that an important element of resource structuring is structural recombination, which applies to changing boundaries of business units through adding or eliminating part of the firm activity (Karim, Capron, 2016). This element perhaps should not be considered in the resource management operationalization, since it would narrow the research scope to multi-business organizations.

Discussing the resource management operationalization seen from the dynamic capabilities perspective, it is important to tackle the strategic aspects of this process. Strategic management based on the possessed or controlled resources is an indispensable component of the entrepreneurial transformation. Following the idea of Karim and Capron (2016) we posit, that measuring resource management needs to be completed with assessing the organizational reconfiguration. To do so, it is worth to look at the scale developed by Karim (2006) which was empirically tested by Girod and Whittington (2017).

## New insights in dynamic capabilities measurement

Recently, a new approach to measuring organizational ambidexterity was offered, assuming that ambidexterity is a strategic choice seen from the perspective of organizational competitive dynamics. In this approach, organizational ambidexterity is understood as the ability to balance between exploration and exploitation that positively influences firm performance. Accordingly, a new construct has been created and labelled 'relative ambidexterity', reflecting the capability of exploration and exploitation in relation to a company typical for the reference group. A reference point is treated here as a strategic group involving these enterprises which can significantly influence the competitive position and performance. It can be the industry, a group of companies in the industry, or main competitors implementing a similar strategy to the analyzed company. The relative ambidexterity measurement concerns two formative dimensions: relative exploration and relative exploitation. Assessing the mixture of exploration and exploitation is carried through multiplication of both dimensions.

Birkinshaw, Zimmermann and Raisch (2016) have demonstrated that it is impossible to identify universal set of dynamic capabilities in the context of discontinuous change. It is possible though to identify four separate sets of capabilities tailored to a given adaptation method: structural separation, behavioral integration or sequential shift. Structural separation is based on the ability to link explorative and exploitative capabilities. The core of behavioral integration is to shape the context that facilitates reconciliation of firm conflicting activities. Finally, the ability of skillful reorientation from exploration to exploitation is the basis of sequential shift.

The new insights presented above open up a new and promising path for future research concerning both the specific sets of firm dynamic capabilities, as well as continuous reconfiguration as a key managerial task. Seeking further directions for operationalizing transformation as a dynamic capability, it is worth referring to recent insights on ambidexterity. Teece, Peteraf and Leith (2016) have identified theoretical relationships between dynamic capabilities and organizational ambidexterity. On one hand, opportunity sensing can be attributed to exploration, while opportunity pursuit can be linked with exploitation. Company transformation is therefore a specific meta-capacity within the scope of management team, consisting in shaping organizational ambidexterity: proper configuration of opportunity seizing and opportunity pursuit.

A recent empirical research confirmed three managerial drivers of organizational ambidexterity (Zimmermann et al., 2018): structural drivers (referring to the level of centralization and formalization), leadership drivers (referring to behavioral influence of the management team) and organizational context drivers (operational activity referring to tension, discipline, support and trust). The survey results have demonstrated that companies concentrating on one driver only achieve highest level of ambidexterity,

which decreases when two drivers are used, and reaches the lowest level with three drivers applied at the same time. The explanation of these outcomes refers to the fact, that specific forms of organizational ambidexterity involve different levels of analysis, are interrelated with various mechanisms and – rather than complementary – act as a cross-over. The presented results suggest that opportunity sensing, opportunity pursuit and transforming can act as substitutes, which however should be empirically tested.

To-date research highlights the need of further analysis of the dynamic capability creation and development. The role of best practices, organizational learning, experience gaining, and knowledge codification are given attention (Vogel, Guttel, 2013). These processes modifying the firm strategic potential are evidently not exhaustive and could be further extended. However, it makes a reasonably good starting point on the path of organizational dynamic capabilities conceptualization and operationalization. Dynamic capabilities measurement is naturally linked with performance measurement. Four decades of research in strategic management concerning outcomes still haven't brought straightforward and universally accepted definitions of the two dependent variables: organizational performance and competitive advantage (Makadok et al., 2018). Recently however, a new concept of economic gain has been offered, defined as the increase in total surplus between two time periods (Lieberman et al., 2018). Total surplus refers to the value created by the firm and involves value provided to all stakeholders. This logic requires extending performance measures and stretching beyond measures typically associated with shareholders (profit, ROA or Tobin's q index) as increasing their level at the expenses of other stakeholders. A second implication is to focus attention on the increase in total economic value between two periods of time. It dynamizes the performance measurement due to considering two time-spans and observing changes that result from innovations, advantages

taken, or other competitive processes applied. We may conclude, that the overall implication is to precisely define most significant outcomes of strategic management. Dependent variables choice and measurement is yet another challenge when researching organizational dynamic capabilities.

## Conclusions

The objective of this paper was to look – from a theoretical perspective – at the construct of dynamic capabilities and some of its conceptualizations, and to identify the relations among their key components. The identified set of processes, elements and variables of dynamic capabilities was a starting point for their operationalization. We embedded our reasoning in the concept of Teece (2007) and identified the following elements of dynamic capabilities: entrepreneurial orientation (referring to opportunity sensing), value creation (based on opportunity seizing or pursuit, effectuation, bricolage and stakeholder synergy) and resource reconfiguration as a core of dynamic capabilities. We do not intend to present the developed scale at the time being, as it requires testing. Our goal was to look at the processes, dimensions, elements and relations that dynamic capabilities encompass, in order to propose elements of the construct suitable for operationalization. We also indicated some theoretical elements worth operationalizing in the future, like organizational ambidexterity, or dynamic performance measurement. The framework is illustrated in Figure 1.

We think that the shortly presented logic may be applied to a more general category of dynamic capabilities. In this case, it would be interesting to introduce three new constructs: relative opportunity seeking, relative opportunity pursuit, and relative configuration. This extension of the so-far approach to dynamic capabilities could deepen the understanding of the context role.

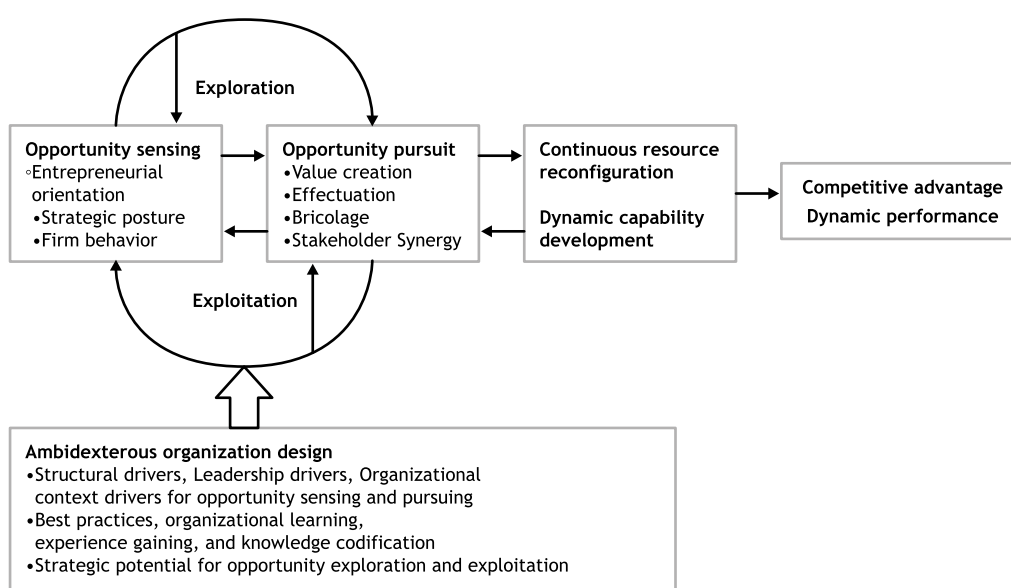


Figure 1. Dynamic capability conceptual framework  
Source: own proposition based on the literature review

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## Endnote

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## Teoretyczne podstawy pomiaru zdolności dynamicznych. Podejście multilogiczne

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### Streszczenie

Celem artykułu jest analiza konstrukcji zdolności dynamicznych i niektórych jej conceptualizacji, zidentyfikowanie relacji między kluczowymi elementami zdolności dynamicznych. Zidentyfikowany zestaw procesów, elementów i zmiennych związanych ze zdolnościami dynamicznymi jest punktem wyjścia do próby operacjonalizacji niektórych obszarów konstruktów. Logikę rozumowania oparto na koncepcji D. Teece (2007), która identyfikuje następujące elementy zdolności dynamicznych: orientację przedsiębiorczą (odnoszącą się do wyczuwania szans), tworzenie wartości (na podstawie wykorzystania szans lub ich realizacji, przekształcania, wykonywania oraz synergii interesariuszy), a także rekonfigurację zasobów jako rdzennych zdolności dynamicznych. Wskazano również pewne teoretyczne elementy, które warto w przyszłości poddać operacjonalizacji, takie jak oburęczność organizacyjną lub pomiar działalności w ujęciu dynamicznym (*dynamic performance*).

### Słowa kluczowe

zdolności dynamiczne, orientacja przedsiębiorcza, tworzenie wartości, rekonfiguracja zasobów

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