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BEHAVIOURAL ECONOMICS OR BEHAVIOURAL STRATEGIES: WHAT CAME FIRST? IN SEARCH OF BEHAVIOURAL STRATEGIES BACKGROUND

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Abstract

Background. The paper content concerns the impact of behavioural economics' phenomena on the 'behavioural strategies' construct. The intention of the behavioural strategy concept is to explain how particular managerial behaviour arises in organisations as well as how and through which mechanisms it affects organisational strategies. In turn, behavioural economics (new and old) has been presented as the amalgamation of economics and psychology (cognitive, social, and economic) as well as from the perspective of bounded rationality.

Research aims. The aim of the paper is to reconcile behavioural economics issues and a behavioural strategy concept, especially under environmental uncertainty. It has been realised answering three research questions: (1) What are the commonalities between the behavioural strategy concept and behavioural economics?, (2) What is the behavioural economics influence on the behavioural strategy concept?, and (3) What are the potential linkages between particular behavioural economics phenomena and managerial behaviour under uncertainty?

Methodology. Extensive literature and research studies review.

Key findings. The most general key finding of the theoretical framework assuming to reconcile behavioural economics issues and a behavioural strategy concept, especially under environmental uncertainty, is that the behavioural economics phenomena constitute the antecedents of behavioural strategies that influence managerial decisions under uncertain conditions – particular implications and propositions have been revealed. Moreover, it has been concluded that it is worth incorporating those antecedents in behavioural strategies research to help develop that emerging field.

Keywords: behavioural strategy, behavioural economics, micro-foundations.

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INTRODUCTION

Seeking the sources of organisational competitive advantage and examining enterprises from any kind of perspective relies on either intraorganisational aspects or exogenous ones as well as is dependent upon the tension degree that occurs due to considering which of those factors are most crucial for an organisation (e.g. Guerras-Martin et al., 2014). On the one hand, exogenous factors most frequently involve the issues connected with operating in an organisational environment, e.g. environmental scanning for seeking opportunities and avoiding threats (e.g. Babatunde & Adebisi, 2012; Ommani, 2011), more or less incrementally adapting to changes in the environment (e.g. Barreto, 2010; Venkatraman, 1989; Weick, 1987) or even proactively creating the environment (e.g. Qiu, 2008) as well as deploying an interorganisational relationship paradigm (e.g. Borgatti & Foster, 2003; Brass et al., 2004; Gulati et al., 2000). On the other hand, endogenous issues deal with intraorganisational determinants, encompassing the organisational conditions for individuals in organisations.

One of the interior phenomena in strategic management, involving environmental uncertain conditions in terms of individuals' judgments under certainty, is a behavioural strategy concept that "merges cognitive and social psychology with strategic management theory and practice. Behavioural strategy aims to bring realistic assumptions about human cognition, emotions, and social behaviour to the strategic management of organisations and, thereby, to enrich the strategy theory, empirical research, and real-world practice" (Powell et al, 2011, p. 1371).

The paper premises call for raising the questions of the behavioural strategy's background. Hence, the motivation of preparing the paper has been the endeavour to systematise a behavioural strategy phenomenon in terms of its antecedents in a plausible way owing to very limited and fragmented treatment of that issue in the literature studies.

As a behavioural strategy seems to live at the crossroads of behavioural economics including the constructs borrowed from cognitive, social, and economic psychology, the aim of the paper is to reconcile behavioural economics issues and a behavioural strategy concept, especially under environmental uncertainty. It has been realised answering three research questions: (1) What are the commonalities between the behavioural strategy concept and behavioural economics?,

(2) What is the behavioural economics influence on the behavioural strategy concept?, and (3) What are potential linkages between particular behavioural economics phenomena and managerial behaviour under uncertainty? The method that has been used is an extensive literature and research studies review. The paper is a conceptual one and the inferring is deductive – *a priori* considerations seem to be admissible since scientific progress depends not only on empirical research, yet also on the organising scaffold of a theoretical system.

The paper is organised six-fold. The first section treats about the fundamental premises of a behavioural strategy concept. Secondly, the preface of behavioural economics and its implications for the behavioural strategy concept have been presented. The third section involves the premises of new and old behavioural economics as well as implications for the behavioural strategy concept. Behavioural economics as the amalgamation of economics and psychology and implications for the behavioural strategy concept have been highlighted in the fourth section. The next section stresses behavioural economics from a bounded rationality perspective as well as implications for the behavioural strategy concept. The sixth section encompasses a preliminary proposal of a heuristic conceptual framework concerning managerial behaviour (behavioural strategies) and behavioural economics phenomena. Finally, some conclusions, especially key findings and their importance to the field described as well as some limitations and research directions have been alleged.

A BEHAVIOURAL STRATEGY CONCEPT – FUNDAMENTAL PREMISES

A behavioural strategy concept encompasses various levels of analysis such as individual, top management team, and macro (organisational) levels. The intention of the behavioural strategy concept is to explain how particular forms of CEO or top management teams' behaviour arise in and amongst organisations as well as how and through which mechanisms it affects organisational strategies. Simultaneously, that concept is the proposal of a micro-foundation in strategic management bridging the micro- and macro level of analysing given phenomena (e.g. Felin & Foss, 2005, 2006; Foss, 2010b; Greve, 2013; Piórkowska, 2014). Indeed, there is a linkage between behavioural phenomena at

a micro- level (an individual managerial perspective) and a macro- level (an organisational perspective), especially regarding the Coleman's (1990) concept.

The fundamental premises of the behavioural strategy concept, directly stemming from cognitive and social psychology as well as from the behavioural theory of the firm, are intertwined and are around such issues like managerial characteristics in terms of cognition, emotions, feelings, social behaviour, attitudes, managerial goal setting, rationality, bounded rationality, and others. They have been synthetically presented in Table 1.

Table 1. Behavioral strategy – fundamental premises

Author	Selected definitions and assumptions
Powell et al. (2011, p. 1371)	It merges cognitive and social psychology with strategic management theory and practice. Behavioural strategy aims to bring realistic assumptions about human cognition, emotions, and social behaviour to the strategic management of organisations and, thereby, to enrich strategy theory, empirical research, and real-world practice.
Elster (1982); Ostrom (1997)	Linking individual psychology with organisations' strategies as well as explaining psychological and social mechanisms of influencing mental processes on organisations.
Powell et al. (2011)	The fourth pillar of strategic management theory (besides a monopolistic rent, Penrose's approach, and Schumpeterian rent) in the context of various behaviour of enterprises as well as a call for explaining the psychological or social mechanisms by which mental processes affect organisations.
Powell & Posner (1980)	A behavioural strategy as the change strategy addressing feelings and emotional reactions in a minimally structured environment, with considerable involvement of others in decisions about the change effort.
Latham et al. (1981); Mitchell & Wood (1994)	Behavioural strategies in terms of managerial goal setting in which managerial appraisals may be based on quantifiable outcomes or more social outcomes such as subordinate satisfaction or political influence.
Miles & Snow (1978); Thomas & Ramaswamy (1994)	Behavioural strategies with regard to the alignment of managerial characteristics and strategies' hallmarks. Organisations that align the characteristics of top managers with the requirements of their strategies will perform significantly better than others that do not achieve such alignment.
Cyert & March (1963); Gavetti (2012); March & Simon (1958); Simon (1947)	A behavioural strategy in terms of a behavioural theory of the firm (e.g. bounded rationality, organisational search, standard operating procedures).

Table 1. cont.

Author	Selected definitions and assumptions
Ajzen (1991, 2002); Fishbein & Ajzen (1975); Lewin (1951); Meier et al. (2003)	A behavioural strategy from the perspective of goal directed behaviour and the theory of planned behaviour (including attitude toward the behaviour, subjective norm, perceived behavioural control, intention, and behaviour), especially in a context of uncertainty.
Gavetti (2012); Gavetti & Levinthal (2000); Levinthal (2011, p. 1520)	Behavioural strategies in accordance with small world representations – to act in a deductive, intentionally rational manner in a complex world inevitably requires the explicit or implicit creation of a small world representation.
Gavetti (2012)	A behavioural strategy in terms of the opportunity box encompassing three dimensions: rationality bounds, plasticity bounds, shaping ability bounds.
Powell et al. (2011, p. 1372)	Three paradigms of behavioural strategy that ought to be integrated: reductionist (firms' decisions are made by top executives, entrepreneurs, and top management teams; decisions are subject to cognitive biases), pluralist (firms consist of subgroups with conflicting goals and perspectives; firms resolve strategy problems via conflict resolution and intergroup bargaining, contextualist (firms and environments are socially constructed; firms are ideological; decisions and actions are decoupled; actions are emergent, externally influenced).
Greve (2013)	Behavioural strategies act as mechanisms for modifying organisational actions. They may pose a boundary to which extent the micro-foundation of strategic behaviour can be made. Types of behavioural strategies: momentum strategies (repeating behaviour without examining consequences), feedback strategies (continuing and extending current actions when they are connected with unsuccessful outcomes), inferential strategies (the information is not a direct success or failure signal; they are built on interpreting events related to other organisations as relevant to the focal organisation's actions), and anticipatory strategies (involve prediction of others' actions and the choice responding optimally to that action).
Piórkowska (2014)	A behavioural strategy constitutes an attitude/behaviour of a manager at a given management level in the context of making strategic decisions influencing the process of formulating and implementing a strategy. A behavioural strategy could constitute a strategy of an enterprise described in the same language (psycho-sociological) as attitudes and behaviour of managers. A behavioural strategy might reveal the following managerial attitudes: conformity vs. non-/anti-conformity, individualism vs. collectivism, proactivity vs. reactivity.

Source: own study.

The conceptualisations cited merge different scientific fields involving behavioural economics. Nonetheless, the following questions arise: (1) What are the commonalities between the behavioural strategy concept and behavioural economics?, (2) What is the behavioural economics influence on the behavioural strategy concept?, and (3) What are potential linkages between particular behavioural economics phenomena and managerial behaviour under uncertainty?

BEHAVIOURAL ECONOMICS – PREFACE AND IMPLICATIONS FOR THE BEHAVIOURAL STRATEGY CONCEPT

In general, a key premise in the conceptual studies on behavioural economics is the conviction that increasing the realism of the psychology underlying an economic analysis will improve the field of economics on its own terms – generating theoretical insights, making better predictions of field phenomena, and suggesting a better policy. This conviction does not imply a wholesale rejection of the neoclassical approach to economics based on utility maximisation, equilibrium, and efficiency (Camerer et al., 2004, p. 1). Behavioural economists examine the effects of social, cognitive, and emotional factors on the economic decisions of individuals and institutions, and the consequences of those decisions. The field draws substantially on psychological principles to suggest the means of motivating individuals and groups to change their behaviour. The perspectives of the standard economic theory apply rationalist thinking to decision-making, which assumes that individuals make decisions that optimise benefits and minimise costs (Gittelsohn & Lee, 2013; Just & Payne, 2009; Sobal & Bisogni, 2009). Obviously, behavioural economics is the study of how people make decisions (Rubinson, 2010) and about individuals' predictions of their own future feelings and behaviour (Loewenstein et al., 2003) as well as about arbitrary coherence (Ariely, 2009). Rubinson (2010) hypothesises that people frequently subconsciously rank-order choices and take the first alternative starting at the top of their mental list that is good enough – a choice that simply meets their criteria. Theories in behavioural economics have generally retained the basic architecture of the rational model, adding assumptions about the cognitive limitations designed to account for specific anomalies

(Kahneman, 2003, p. 1469) perceived differentially depending on particular scholars.

Behavioural economics differs from the traditional one (classical and neoclassical) since it does not assume the logic of human rationality (based on *homo economicus*) and does not mainly focus on mathematical and statistical models and methods to explain economic behaviour/choices in the scope of e.g. allocating resources. Mullainathan and Thaler (2000) identified three differences between behavioural economics and the mainstream. First, under bounded rationality conditions, humans face limited cognitive abilities that constrain their problem-solving abilities. Second, bounded willpower illustrates that people sometimes make choices that are not in their long-term interest. Finally, bounded self-interest shows that humans are frequently willing to sacrifice their own interests to help others. Devlin and Jacobs (2013) suggest recognising the differences between behavioural economics and the neoclassical one from the following perspectives: rationality, competitiveness, game theory, and price theory.

Trying to link behavioural economics preface to the concept of behavioural strategy, the following implications have been formulated:

Implication 1. *The effects of social, cognitive, and emotional factors on economic dimensions constituting the behavioural economics fundamental premises as well as cognitive limitations of the rational model lead to the following assumptions for the behavioural strategy concept:*

Implication 1a. *Managers subconsciously rank-order choices (mental list of choices) and face limited cognitive abilities that constrain their problem-solving skills;*

Implication 1b. *There are cognitive aspects of motivating managers to change their behaviour and make decisions;*

Implication 1c. *Managerial predictions and arbitrary coherence are getting great salience in the decision-making process.*

NEW AND OLD BEHAVIOURAL ECONOMICS – PREMISES AND IMPLICATIONS FOR THE BEHAVIOURAL STRATEGY CONCEPT

There is a division of old behavioural economics and new behavioural one in the literature. H.A. Simon played the prominent role in establishing old behavioural economics and the other pioneers were e.g. R. Cyert and

J. March. They together with H.A. Simon constituted the first group of contributors to old behavioural economics and they were focused on bounded rationality, satisficing, and simulations in-firm's behaviour. While Nelson and Winter (1982) subsequently extended these insights in their evolutionary approach, their rationality is connoted by tacit and automatic capabilities, and this shows the limits of the conscious, intentional mind. All this emphasises a different perspective: they mainly analysed tacit and unintentional rationality, whereas Simon's aim was to define the limits of intentional rationality (Fiori, 2011, p. 599). The second group of contributors to old behavioural economics includes G. Katona interested in attitude research and psychological economics (as for consumer behaviour and macroeconomic issues). The third group (P.W.S. Andrews, D.M. Lamberton, H. Malmgren, J. Marschak, G.B. Richardson, and G.L.S. Shackle) focused on case studies, uncertainty, and coordination. Some of other researchers (like N. Kay, B. Loasby, R. Shaw, J. Sutton, A. Tylecote, and P. Earl) highlighted eclecticism and integration (see Sent, 2004). Old behavioural approaches began with empirical evidence about the shape and content of the utility function. Starting from the perspective of expected utility maximisation and Bayesian probability judgments, D. Kahneman, A. Tversky, and their followers evaluated the cognitive character of conformity or deviation from these benchmarks (Sent, 2004, p. 743). The contributions of D. Kahneman and A. Tversky may be divided into three areas: heuristics and biases (Kahneman, 2003; Kahneman & Tversky, 1973; Kahneman et al., 1982), framing effects and their implications for rational-agent.

Aiming at linking old behavioural economics premises to the concept of behavioural strategy, the following implications have been formulated:

Implication 2. *The basic premises of old behavioural economics such as bounded rationality, satisficing, uncertainty conditions, cognitive character of conformity from particular benchmarks, and case studies lead to the following assumptions for the behavioural strategy concept:*

Implication 2a. *Managers reveal particular attitudes/behaviour in a cognitively sophisticated way;*

Implication 2b. *Conformity-non/anti-conformity are one of the attitudes influenced by cognitive processes;*

Implication 2c. *Examining behavioural strategies might incorporate a qualitative methodological approach.*

In turn, the representatives of the so-called new behavioural economics that rose in the 1990s are, amongst others, A. Shleifer (awarded the John Bates Clark medal of the American Economic Association), M. Rabin (won the MacArthur Foundation's 'genius' award and John Bates Clark medal, with the American Economic Association), G. Akerlof (with M. Spence and J. Stiglitz shared the Nobel Prize), D. Kahneman (with V. Smith Nobel Prize), R. Thaler, R.P. Gwinn, S. Mullainathan (awarded a MacArthur Fellowship), A. Tversky, C. Camerer, L. Babcock, C. Eckel, D. Laibson, T. Odean, G. Loewenstein, B. Fischoff, P. Slovic, D. Laibson and R. Zeckhauser (see Sent, 2004), R. Schiller (with E. Fama, L.P. Hansen received the 2013 Nobel Memorial Prize in Economic Sciences). New behavioural economics relies strongly on experiments as experimental control is exceptionally helpful for distinguishing behavioural explanations from standard ones as well as it uses field data, field experiments, computer simulation, or brain scans (Sent, 2004, p. 748) – indeed, it is also said that neuroeconomics, assuming the role of brain (frontal and parietal areas) and the limbic and paralimbic systems, constitutes the branch of behavioural economics. The evidence, both behavioural (Bargh, 1997) and neurophysiological (e.g. LeDoux, 2000), is consistent with the idea that the assessment of whether objects are good (and should be approached) or bad (should be avoided) is carried out quickly and efficiently by specialised neural circuitry (Kahneman, 2003, p. 1463). Moreover, the predictions of prospect theory have received support from neurobiological research based on functional magnetic resonance imaging. This technique has been used by De Martino and colleagues, who maintain that the framing effect is associated with amygdala activity and suggest that the emotional system has a core role in mediating decision biases. The experiment they conducted supports the hypothesis of two neural systems that perform diverse functions, but are also robustly correlated (De Martino et al., 2006, p. 687). There are many reasons to analyse neuroeconomics in terms of behavioural economics and behavioural strategies.

Dow (2013, p. 31) regards that new behavioural economics introduced psychology into economics on the realist grounds that there was evidence of behaviour which deviated from what had been assumed in the standard mainstream theory.

Aiming at linking new behavioural economics premises to the concept of behavioural strategy, the following implication has been formulated:

Implication 3. *The basic premises of new behavioural economics such as introducing psychology into economics on the realist grounds, experiments, field data usage, brain scans, etc. lead to the following assumption for the behavioural strategy concept: examining behavioural strategies might incorporate psychological and neuroeconomic methodology.*

BEHAVIOURAL ECONOMICS – AMALGAMATION OF ECONOMICS AND PSYCHOLOGY AND IMPLICATIONS FOR THE BEHAVIOURAL STRATEGY CONCEPT

Behavioural economics is the field connecting economics and psychology, especially cognitive, social and economic one. In researching the causes of irrational behaviour, cognitive psychologists have identified heuristics, or mental shortcuts that people use frequently unconsciously to make choices in complex situations and deal with uncertainty (e.g. Artinger et al., 2015; Devlin & Jacobs, 2013). Cognitive psychology delineates the role of subconscious emotions in decision-making (e.g. Damasio, 1996; Hodgkinson & Wright, 2002), proves the role of emotions and decision processes that people are not cognitively conscious of. Individual cognition includes emotions, feelings, memory, intuition, and other drives. Cognitive psychologists using experiments, and later some empirical work, have documented systemic deviations from rational choice and identified biases that account for those deviations (Devlin & Jacobs, 2013, p. 1019). The metaphor of the brain as an information-processing device is frequently used in cognitive psychology. Cognitive psychologists have made efforts to formulate a cohesive theory that accounts for the most significant biases that distort decision-making. The most successful result is prospect theory (see Kahneman & Tversky, 1979), which is the principal model that cognitive psychologists use to explain real-world choice. The prospect theory is purely descriptive (it seeks only to explain, not to predict, real-world behaviour). Behavioural economists determine the reference point exogenously after observing the behaviour rather than before. As a result, prospect theory looks backward, rather than forward, and thus does not permit adherents to predict conduct in the way (Devlin

& Jacobs, 2013, p. 1023). It is a descriptive theory of decision-making under risk that stresses the influence of a status quo and reference points on tastes and choices; it is concerned with short-term outcomes, and the value function presumably reflects an anticipation of the valence and intensity of the emotions that will be experienced at moments of transition from one state to another. Thus, within representative agent models in prospect theory, for instance, the scope is given for unconventional preferences such as loss aversion (Dow, 2013, p. 34, cf. Kahneman & Tversky, 1979; Kahneman, 2003, p. 1457). Additionally, the prospect theory affirms that the perception of utility depends not on states of wealth or welfare but on changes (gains and losses) relative to a neutral reference point. As well as it is an attempt to articulate some of the principles of perception and judgment that limit the rationality of choice (Tversky & Kahneman, 1987). Due to the cognitive psychologists' points of view, behavioural economics is more appropriate than conventional expected-utility theory, which fails to account for the fact that it is not net wealth that determines individual utility, yet outcomes judged by a reference point (Devlin & Jacobs, 2013, p. 1021). According to social psychology's influence on behavioural economics, it is worth stressing the research in the field of loss aversion that shows that losses are experienced twice as negatively as gains are positively experienced, even when the absolute amounts are nearly identical. All those mentioned aspects are also around economic psychology that endeavours to analyse the economic behaviour of individuals in the context of psychological personality theories, emotions, and motivation.

As the consequence of combining cognitive, social, and economic psychology impact, there are two main streams of behavioural economics being nearly independent disciplines, yet the border between them is unstable. The one of the streams has been developed on the basis of behaviour science (behavioural analysis) and linked the methodology of psychological research on behaviour with the theory in the scope of economics. However, another approach focuses mainly on analysing the deviation (anomalies) from rational behaviour that is included into the assumptions of economic theories (see Camerer et al., 2004; Kahneman & Tversky, 2000; Thaler, 1992). Moreover, there are even some attempts to link quantitative phenomena with qualitative ones, for instance Fuster, Laibson, and Mendel (2010) propose a model with what they refer to as natural expectations, which is a weighted average

between intuitive and rational expectations. Behavioural economics increases the explanatory power of economics by providing it with more realistic psychological foundations (Camerer & Loewenstein, 2004, p. 3). Additionally, the input of psychology into behavioural economics is also connected with specifying unconventional preferences to which rational choice is applied, for instance such preferences as loss aversion (Kahneman & Tversky, 1979) and frame choices (framing effects and their implications for rational-agent models). As for Thaler and Sunstein (2008), there is no neutral way to frame choices.

To explain the observed deviations from strict rationality, behavioural economists appeal to a wide variety of psychological biases that undoubtedly possess considerable explanatory power in elucidating *ex post* why particular units failed to behave rationally. The efficient, even if not exhaustive, list of behavioural biases both protecting and harming competition in terms of the restraints (predatory pricing, refusal to deal, tying, and bundling) is presented in the work of Devlin and Jacobs (2013, p. 1024). Consequently, the methodology of experimentally analysing behaviour (see the works of V. Smith) constitutes the base for the research in the field of behavioural economics (Rabbin, 1998). However, it should be mentioned that there is the interrelationship between experimental economics and behavioural one, yet not all experimental economics feeds into behavioural economics (Dow, 2013, p. 32) in terms of methodological issues (experiments are not reflecting evidence of actual behaviour in the different framework of reality) and the Duhem-Quine problem (as for that it is impossible to test a scientific hypothesis in isolation since an empirical test of the hypothesis requires one or more auxiliary assumptions or auxiliary hypotheses – background assumptions). Behavioural economics is also helpful in analysing habit formation (what is salient in terms of managerial behaviour). Habits are response dispositions that are activated automatically by the context cues that co-occurred with responses during past performance (Neal et al., 2006). Referring to the behavioural economics premises, habit formation may arise from the endowment effect (identified by Thaler (1992)) – a result from cognitive psychology experiments in which individuals' possession of goods is shown to increase their valuation of them (Driscoll & Holden, 2014; cf. Loewenstein & Adler, 1995).

Endeavouring to link the behavioural economics in terms of the concept of behavioural strategy, the following implications have been formulated:

Implication 4. *The basic effects of the amalgamation of economics and psychology such as (a) heuristics and mental shortcuts, (b) subconscious emotions as well as memory and intuition in decision-making, (c) biases distorting decision-making, (d) linking quantitative phenomena and qualitative ones, using experiments and interrelationships between experimental economics and the behavioural one; (e) prospect theory (descriptive, to explain, not to predict), (f) economic behaviour of individuals in the context of psychological personality theories, emotions and motivation lead to the following assumptions for the behavioural strategy concept:*

Implication 4a. *Managers unconsciously make decisions in complex situations;*

Implication 4b. *Specific principles of perception and judgment limit the managerial rationality of choice;*

Implication 4c. *Managerial unconventional preferences to which limited rationality is applied influence their biases;*

Implication 4d. *Biases and frame choices have impact on creating managerial attitudes / behaviour;*

Implication 4e. *Descriptive analysis of behavioural strategies as well as linking quantitative phenomena and qualitative ones are suggested.*

BEHAVIOURAL ECONOMICS – BOUNDED RATIONALITY PERSPECTIVE AND IMPLICATIONS FOR THE BEHAVIOURAL STRATEGY CONCEPT

Undoubtedly, a bounded rationality notion, as the appropriate cognitive assumption for describing not only economic organisations, have influenced the character of behavioural economics. Nevertheless, the understanding of bounded rationality relies on the perspective used by a particular scholar. The most salient incorporation of bounded rationality into behavioural economics field is dealt with in the work and research of such representatives as: H.A. Simon, R. Cyert, G. Gigerenzer, O.E. Williamson, D. Kahnemann, and A. Tversky.

H.A. Simon's contributions to the so-called cognitive revolution, which sought to undermine the dominance of behaviourism in psychology and resurrected the concept of mind and focus on internal psychological processes, are very salient (Sent, 2003). Individuals use simple heuristics (Simon's (1955) concept of 'bounded rationality') to

make decisions that are 'good enough' rather than trading off every possible consideration (Simon, 1955, 1979; Gigerenzer et al., 1999). H.A. Simon distinguished two types of bounded rationality: cognitive and ecological one where the latter emphasises that minds are adapted to real world environment. This perspective of ecological rationality was developed by Gigerenzer and Selten (2002) and the notion of 'adaptive toolbox' was considered – heuristics are fast and frugal and the authors exploited the environmental structure in order to make adaptive decisions. Additionally, G. Gigerenzer and his collaborators mentioned two types of heuristics: satisficing as well as fast frugal. Consequently, the success of a course of action depends on adaptation between the structure of heuristics and the structure of the environment. G. Gigerenzer's individuals adopt adaptive heuristics that enable them to make 'accurate inferences'. Hence, intentional rationality (in Simon's sense) is weak, while ecological rationality is strong (Fiori, 2011, p. 606). These heuristics are grouped into four main classes: 'ignorance-based decision-making' (ignorance is specifically identified as an essential), 'one-reason decision making' (it relies on a single cue to make a decision), 'elimination heuristics' (based on little information), and 'satisficing heuristics for sequential search' (closely connected to H.A. Simon's approach). As for Simonian cognitive limits are not advantageous, in contrary to ecological rationality perspective, which highlights some beneficial consequences of occurring cognitive limits (Todd & Gigerenzer, 2003, p. 161). Simon (1957, p. 199) maintained that the first consequence of the principle of bounded rationality is that the intended rationality of an actor requires her/him/it to construct a simplified model of the real situation in order to deal with it. According to Fiori (2011, p. 592), it is possible to maintain that an intentional state is not necessarily conscious, and that an adaptive mind can exhibit an intentional attitude towards an object or a state of the world without consciousness. Moreover, bounded rationality is instrumental in nature and deals with intendedly rational behaviour (limited rationality). Hence, the focus is on deliberate, conscious, intentional, but limited rationality (Fiori 2011, p. 594).

According to March (1978), he even maintains the ambiguity of preferences (preferences are ambiguous and inconsistent) – what is different from the Simonian approach. March and Simon (1958) emphasise that when actors (individuals or organisations) receive an external input or stimulus, they react either by replicating past

behaviour (habits), if they do not encounter unforeseen situations, or by following new courses of action in order to solve new and unexpected situations. Moreover, individuals exhibit prosocial behaviour that does not have an economic rationale (Rubinson, 2010) – similarly to an evolutionary approach where the concept of altruism is broadly investigated.

Transaction cost economics assumes that actors are boundedly rational, however, the bounded rationality assumption in transaction cost economics only incorporates processing limitations, ignoring perceptual challenges and biases. O.E. Williamson – the student of H.A. Simon and R. Cyert awarded with the Nobel Prize in 2009 – perceives bounded rationality in terms of transaction costs and efficient firm boundaries. He regards that economising on bounded rationality is the predominant concern for many problems of economic organisation (Williamson, 1993, p. 97) and he also notes that "economising on bounded rationality takes two forms. One concerns decision processes and the other involves governance structures. The use of heuristic problem-solving… is a decision process response" (Williamson, 1985, p. 46). Bounded rationality, according to Williamson's view, manifests itself in terms of incompleteness (Williamson, 1993, p. 103). Williamson sought to link the idea of interest conflict with the idea of information limitations and saw organisational forms as implicit or explicit solutions to the problems of decision and control created by opportunism and bounded rationality. Opportunism refers to the fact that there is conflict of interest within, as well as between, organisations, and that participants in an organisation will lie, cheat, and steal in their own self-interest if they can. Bounded rationality makes complete contracting infeasible because not everything can be known and there are limits to the capabilities of decision makers for dealing with information and anticipating the future. However, O.E. Williamson was reluctant to accept the notion of satisficing, primarily because he thought it would denote irrational behaviour. At the same time, H.A. Simon himself considered satisficing to be a direct implication of bounded rationality. Perhaps somewhat surprisingly, Simon (1987) himself did include new institutional economics in his survey of behavioural economics (Sent, 2004, p. 740–741).

Agents employ heuristics in order to cope with cognitive limitations (see Tversky & Kahneman, 1974) – yet heuristics, on the one hand, leads to systematic errors; on the other hand what is consistent with

G. Grigerenzer's approach, simple heuristics leads to reasonable decisions and accurate inferences. The authors paid attention into cognitive biases that stem from the reliance on judgemental heuristics and they described three heuristics employed to evaluate probabilities and to predict values as well as biases to which those heuristics lead. The first heuristic is called the representativeness one – probabilities are evaluated by the degree to which A is a representative of B. The representativeness heuristic is also included in a broader class of prototype heuristics, which share a common psychological mechanism of the representation of categories by their prototypes and a remarkably consistent pattern of biases (Kahneman, 2003, p. 1463). The second (availability heuristic) helps assess the frequency of a class or the probability of an event by the ease with which instances or occurrences can be brought to mind. The availability heuristic leads (due to the authors) to the following biases: i) biases due to the retrievability of instances, ii) biases due to the effectiveness of a search set, and iii) biases of imaginability. The last Tversky and Kahnemann's heuristic is connected with adjustment and anchoring – people make estimates by starting from an initial value that is adjusted to yield the final answer. This heuristic leads to the biases in the evaluating conjunctive and disjunctive events. In accordance with the problem of assessing the probability, as for the authors, statistical principles are not learned from every day experience as the relevant instances are not coded appropriately. "The central characteristic of agents is not that they reason poorly, but that they often act intuitively and the behaviour of these agents is not guided by what they are able to compute, but what they happen to see at a given moment" (Kahneman, 2003, p. 1469). Consequently, the lack of an appropriate code explains why individuals usually do not detect the biases in their assessing the probability (Tversky & Kahnemann, 1974, p. 1130). Tversky and Kahneman (1987, p. 88–89) recognise that the results of their analysis are consistent with the conception of bounded rationality originally presented by H. Simon. Nevertheless, Simonian agents are problem-solvers and they adopt deliberate strategies (heuristics) to solve problems. Yet, as for the approach of D. Kahneman and A. Tversky, it has been pointed out that deliberate choice heuristics differ substantially from the judgmental heuristics of 'heuristics and biases' research program, which are largely based on impressions that occur automatically and independently of any explicit judgmental goal (Frederick, 2002,

p. 549). Kahneman and Frederick (2002) revisited the early studies of judgment heuristics, and proposed a formulation in which reducing complex tasks to simpler operations is achieved by an operation of attribute substitution. As for the emotions, Kahneman (2003) stresses the concept of 'affect heuristic' to show the pervasive role of emotions in guiding judgments and decisions. According to Slovic et al. (2002), affect and emotional arousal influence preferences, which do not require cognitive appraisal and generate responses that occur rapidly and automatically as well as they can be explained in evolutionary terms.

The limitations to knowledge which underpin the core concepts of both bounded rationality and uncertainty are incorporated into an open-system understanding of social systems. Rather than being calculative optimisers, agents cope by adopting heuristics, adopting conventional knowledge, following conventional behaviour in practices and routines (which are not necessarily sensible), and satisficing (Dow, 2013, p. 36). Due to Kahneman (2003, p. 1451), intuition (and perception) as well as reasoning have their own specific characteristics. The operations of intuition (perception) are fast, automatic, effortless, associative, and often emotionally charged; they are also governed by habits, and are therefore difficult to control or modify. The operations of reasoning are slower, serial, effortful, and deliberately controlled; they are also relatively flexible and potentially rule-governed. Intuition and perception generate non-voluntary impressions of the attributes of objects of perception and thought. In contrast, judgments are always explicit and intentional as well as reasoning is involved in all judgments, whether they originate in impressions or in deliberate reasoning (Kahnemann, 2003, p. 1452).

Summarising, intentional bounded rationality and intuition can be considered as the extreme poles of rational behaviour, in that they are respectively conscious and unconscious activities of the decision-maker, whose explanation is based on the same fundamental information processing mechanism (Fiori, 2011, p. 594). The Simonian approach included intuition, emotion, and perception as coherent parts of the information processing system, while in the new theories these elements constitute a non-symbolic dimension. Moreover, the post-Simonian scholars emphasise the role of unconscious/intuitive mechanisms more than conscious/intentional ones, whereas the latter view was essentially highlighted by H.A. Simon. Additionally, computational limits in processing information and agents' limits of information have

a lower interest in comparison with the original version of H.A. Simon (Fiori, 2011, p. 608). Foss (2010a), being interested in the linkages between bounded rationality and organisational economics, propose to incorporate bounded rationality into the organisational economics model in the following ways: a) to consider the massive body of largely psychology-based research science on biases to human cognition and judgment, b) to identify the regularities in how human decision-making systematically differs from the Savage model, c) to treat these deviations as sources of transaction costs, and d) to examine the implications for comparative contracting and the choice of governance structures.

Attempting to link the behavioural economics in terms of the bounded rationality perspective to the concept of behavioural strategy, the following implications have been formulated:

Implication 5. *The basic effects of perceiving behavioural economics from the bounded rationality perspectives such as (a) internal psychological processes, (b) cognitive and ecological bounded rationality, (c) satisfying vs. fast frugal heuristics, (d) focus on deliberate, conscious, intentional, yet limited rationality, (e) ambiguity and inconsistency of preferences, (f) opportunism vs. prosocial features (transactional costs perspective), (g) heuristics leading cognitive biases, and (h) affect heuristic role lead to the following assumptions for the behavioural strategy concept:*

Implication 5a. *Managerial mental constructs simplify models of reality;*

Implication 5b. *A managerial adaptive mind might exhibit an intentional attitude without consciousness – managers adapt heuristics and follow conventional behaviour in practices and routines (habit formation rules and their impact on behavioural strategies) – managers might react by replicating past behaviour (habits, routines) or by following new courses of action;*

Implication 5c. *Fast and frugal heuristics make managers exploit the environment to make adaptive decisions what influences proactive vs. indifferent attitudes;*

Implication 5d. *Making decisions and infeasible contracting are affected by both prosocial behaviour tendencies (e.g. collectivism) and opportunistic or individualistic tendencies;*

Implication 5e. *Managers often act intuitively as well as emotions play a pivotal role in guiding judgment and decisions (they influence preferences).*

MANAGERIAL BEHAVIOUR AND BEHAVIOURAL ECONOMICS PHENOMENA: A HEURISTIC CONCEPTUAL FRAMEWORK (A PRELIMINARY PROPOSAL)

The commonalities within behavioural economics and behavioural strategies as well as resultative implications have been underpinned in the previous section.

Nonetheless, more advantages might be achieved by analysing behavioural economics and the behavioural strategy construct if the former implications were approved and the following assumption was accepted: behavioural strategies are directly or indirectly associated with the behavioural economics' phenomena.

Trying to pose those considerations more specifically, it would be useful to take into account (a) Gavetti's (2012) opportunity box encompassing three dimensions: rationality bounds, plasticity bounds, and shaping ability bounds, (b) Greve's (2013) behavioural types: momentum strategies, feedback strategies, inferential strategies, and anticipatory strategies, (c) Piórkowska's (2014) typology of behavioural strategies in terms of the following managerial attitudes: conformity vs. non-/anti-conformity, individualism vs. collectivism, proactivity vs. reactivity, and (d) behavioural economics constructs such as cognition and mental processes, emotions, intuition, (sub)consciousness, habits, heuristics (with biases and frame choices). Moreover, since behavioural strategies involve the conditions of environmental uncertainty it is proposed to consider the environmental dynamism and complexity constructs.

As humans face limited cognitive abilities that constrain their problem-solving abilities (Mullainathan & Thaler, 2000), cognition and mental processes influence individual rationality degree. Moreover, rationality is connoted by mental capabilities and this shows the limits of the conscious, intentional mind (Nelson & Winter, 1982) what determines the degree of both plasticity and shaping ability bounds. Not only do mental and cognitive processes as well as (sub)consciousness determine the rationality, plasticity, and shaping abilities, yet also the phenomena strictly linked with cognition like intuition and emotions. Actions driven by intuition are fast, automatic, effortless, associative,

often emotionally charged as well as governed by habits (Kahneman, 2003). Since intentional bounded rationality and intuition can be considered as the extreme poles of rational behaviour (Fiori, 2011), intuitive mechanisms supported and/or hindered by other cognitive processes define the degree of bounded rationality, plasticity and shaping abilities.

Consequently the following proposition has been formulated:

Proposition 1. *Cognitive and mental processes, (sub)consciousness, intuition, and emotions as behavioural economics phenomena are associated with the degree of bounded rationality, plasticity, and shaping ability bounds.*

In turn, those Gavetti's dimensions and their degree are expected to determine managerial tendencies to repeat behaviour without examining consequences, continue and extend current actions when they are connected with unsuccessful outcomes, interpret events related to other organisations as relevant to the focal organisation's actions, predict others' actions what respectively refers to the following behavioural strategies: momentum, feedback, inferential, and anticipatory strategies within the meaning acc. to Greve (2013).

Consequently the following proposition has been formulated:

Proposition 2. *Bounded rationality, plasticity, and shaping ability bounds determine the degree of realising momentum, feedback, inferential, and anticipatory strategies. Specifying, they might mediate the relationships between behavioural economics' categories like cognitive and mental processes (and strictly related intuition, emotions, and (sub) consciousness) and the behavioural strategies: momentum, feedback, inferential, and anticipatory ones.*

However, cognitive and mental processes are supported or hindered by heuristics and habits, which are acquired via experience-dependent plasticity, tend to involve an ordered, structured action sequence that is prone to being elicited by a particular context or stimulus, and can comprise cognitive and motor expressions of routine (Graybiel, 2008; Piórkowska, 2017), therefore, the rationality, plasticity and shaping ability bounds and their associations with Greve's strategies are influenced by managerial habits and heuristics (with biases and frame choices).

Consequently, the following proposition has been formulated:

Proposition 3. *Managerial habits and heuristics (with biases and frame choices) might moderate the relationship between the opportunity*

box dimensions (bounded rationality, plasticity, and shape ability bounds) and the following behavioural strategies: momentum, feedback, inferential, and anticipatory ones.

Nonetheless, behavioural strategies could also be considered in terms of particular managerial attitudes (Piórkowska, 2014) also enabling coping with uncertain environmental conditions. As it has been mentioned in the former implications that managers reveal particular attitudes/behaviour in a cognitively sophisticated way; conformity-non/anti-conformity are one of the attitudes influenced by cognitive processes; biases and frame choices have impact on creating managerial attitudes/behaviour; fast and frugal heuristics make managers exploit environment to make adaptive decisions what influences proactive *vs*. indifferent attitudes; making decisions and infeasible contracting affected are affected by both prosocial behaviour tendencies (e.g. collectivism) and opportunistic or individualistic tendencies; the following propositions have been formulated:

Proposition 4. *Bounded rationality, plasticity, and shaping ability bounds determine the degree of realising the following behavioural strategies: conformity vs. non-/anti-conformity, individualism vs. collectivism, proactivity vs. reactivity. Specifying, they might mediate the relationships between behavioural economics' categories like cognitive and mental processes (and strictly related intuition, emotions, and (sub)consciousness) and the behavioural strategies aforementioned.*

Proposition 5. *Managerial habits and heuristics (with biases and frame choices) might moderate the relationship between the opportunity box dimensions (bounded rationality, plasticity, and shape ability bounds) and the following behavioural strategies: conformity vs. non-/anti-conformity, individualism vs. collectivism, proactivity vs. reactivity.*

Managerial decision-making under environmental uncertainty requires incorporating into the research framework the constructs of environmental dynamism and complexity (with their multi-dimensional nature, especially in terms of heterogeneity-homogeneity and concentration-dispersion) (Cannon & John, 2007; Dess & Beard, 1984). Many research results confirm the role of environmental dynamism and environmental complexity in examining the relationships between, amongst others, strategy and performance (e.g. McArthur & Nystrom, 1991), environmental dynamism and entrepreneurial orientation (e.g. Ruiz-Ortega et al., 2013), environmental dynamism and strategic flexibility (e.g. Cingöz & Akdogan, 2013), the relationship between

entrepreneur leadership behaviour and new venture performance (e.g. Ensley et al., 2006), environmental dynamism and firm structure, strategy, and performance (e.g. Miles et al., 2000), or environmental complexity and the evolution of cognition (e.g. Godfrey-Smith, 2001). Hence, it has been assumed that environmental dynamism and environmental complexity have impact on the behavioural strategies' nature and intensity.

Consequently, the following proposition has been formulated:

Proposition 6. *Environmental dynamism and environmental complexity might moderate the relationship between bounded rationality, plasticity, shaping ability bounds and behavioural strategies: momentum, feedback, inferential, and anticipatory strategies as well as conformity vs. non-/anti-conformity, individualism vs. collectivism, proactivity vs. reactivity.*

The propositions, in the form of a sophisticated conceptual framework, have been presented in Figure 1. It shows potential variables: a dependent one (a behavioural strategy under uncertain environmental conditions), independent ones (cognition and mental processes, emotions, intuition, and (sub)consciousness), moderators (biases and frame choices resulting from heuristics, habits – all being affected by ambiguous and inconsistent preferences and environmental dynamism and complexity) as well as relationships amongst them that could be helpful in developing a research model and potential hypotheses as the next step of examining the behavioural strategy concept.

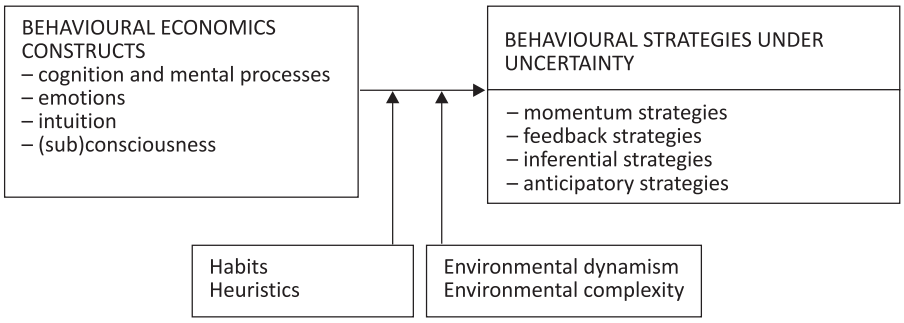

Figure 1. The sophisticated research framework as the premise for examining behavioural strategies from the behavioural economics perspective

Source: own study.

CONCLUSION AND DISCUSSION

The paper results respond to the following research questions having been assumed: 1) What are the commonalities between the behavioural strategy concept and behavioural economics?, (2) What is the behavioural economics influence on the behavioural strategy concept?, and (3) What are the potential linkages between particular behavioural economics phenomena and managerial behaviour under uncertainty? Consequently, the paper content attains the aim to reconcile behavioural economics issues and a behavioural strategy concept, especially under environmental uncertainty. Specifying, the implications for considering the behavioural strategy concept in the context of behavioural economics have been developed as well as a conceptual framework in the realm of the relationships between the behavioural economics' constructs and the following behavioural strategies: momentum, feedback, inferential, and anticipatory strategies as well as conformity vs. non-/anti-conformity, individualism vs. collectivism, proactivity vs. reactivity.

Nonetheless, while even Williamson (1998, p. 12) argues that taking into consideration the relevant psychological literature will improve the understanding of the organisation as the tool for utilising varying cognitive and behavioural propensities to the best advantage, taking into account the antecedents of the behavioural strategy in the field of behavioural economics has appeared to be more complex than it was previously *prima facie* envisaged.

It might be concluded that behavioural economics phenomena and constructs can improve the behavioural strategies analysis by making more accurate predictions. Additionally, it is supposed that the insights from behavioural economics will lead to important progress in the understanding of behavioural strategies. The contribution of the behavioural literature lies in its explanation of why individual decision-making can systemically depart from utility maximisation and this contribution may significantly benefit certain areas (Devlin & Jacobs, 2013, p. 1057). The evidence provided by cognitive psychologists and behavioural economists strongly documents the existence of a number of important deviations from the economic man assumption (Driscoll & Holden, 2014). Incorporating such behavioural assumptions into the behavioural strategies field has the potential to offer better

micro-foundations both in strategic management and behavioural economics. Nevertheless, up to now behavioural economics contribution is descriptive and has not developed predictive models in the field of behavioural strategies. Moreover, there are also opponents of the behavioural economists' approach. For instance, Berg & Gigerenzer (2010) criticise new behavioural economics for retaining the standard framework and highlighting the consequent partial commitments to empirical realism. Obviously, cognitive limitations are an important feature of behavioural economics explanations for behaviour which appears to be other-regarding even in a methodologically-individualistic framework. Yet, in fact much of behavioural economics retains the individual rationality framework (Dow, 2013, p. 34). Although behavioural economics protects the hard core rationality principle, it seems that it still becomes without its own coherent theoretical foundation (Cohen & Dickens, 2002).

The most salient (general) key findings of the paper are as follows: (1) The behavioural economics phenomena by those managers are affected like cognition and mental processes, intuition, (sub)consciousness, framing, anchoring, status quo, optimism, pessimism, self-control, emotions, reciprocity, fairness, identity, procrastination, choice architecture, etc. constitute the indirect antecedents of behavioural strategies; (2) The behavioural economics phenomena influence behavioural strategies within the mediating effects of bounded rationality, plasticity, and shape ability bounds. (3) The theoretical framework presented gives the premises for setting a research framework, in which potential independent variables might be: cognition and mental processes, emotions, intuition, (sub)consciousness, potential moderators: habits and heuristics (with biases and frame choices) as well as environmental dynamism and complexity as well as a potential dependent variable: behavioural strategies as the adaptive responses to uncertain environment; (4) The behavioural economics methodology gives the methodological directions for researching behavioural strategies in terms of combining quantitative methods and qualitative ones and could be partially incorporated into examining behavioural strategies. Concluding, it is still worth considering behavioural economics and incorporating it in behavioural strategies research. The research directions are proposed to be referred to set proper methodological tools and consequently answer the following future research questions (through empirical research): a) Is there a relationship between behavioural

economics' phenomena and managerial adaptive processes? b) Are there, if applicable – how strong and how structured, the relationships between behavioural economics' phenomena and particular selected behavioural strategies separately?, c) What is an exact role of habits and heuristics in adaptive processes and for the relationships between behavioural economics' constructs and behavioural strategies?, (d) What is an exact role of environmental dynamism and environmental complexity in examining behavioural strategies from the perspective of the behavioural economics' constructs?

Nevertheless, there are limitations of combining behavioural economics and behavioural strategies since it is difficult to distinguish between behavioural and more 'rational' explanations. Second, the correct specification of plausible behavioural features is not frequently known. Third, there is a risk that behavioural features in simple models might in fact capture inertia in data that in reality reflects other mechanisms (see Driscoll & Holden, 2014). Finally, there is a problem in attempting to incorporate models of irrational behaviour into general deductivist framework, however, researching behavioural strategies in the context of, *inter alia*, behavioural economics might contribute to the development of the emerging field in strategic management called – a behavioural strategy.

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EKONOMIA BEHAWIORALNA I STRATEGIE BEHAWIORALNE. W POSZUKIWANIU GENEZY KONCEPCJI STRATEGII BEHAWIORALNYCH

Abstrakt

Tło badań. Rozważania zawarte w artykule dotyczą wpływu ekonomii behawioralnej na konstrukt „strategie behawioralne". Główną intencją koncepcji strategii behawioralnych jest wyjaśnianie, w jaki sposób (poprzez jakie mechanizmy) zachowania menedżerów konstytuują zjawiska na poziomie organizacyjnym – zwłaszcza w odniesieniu do strategii organizacji. Z kolei ekonomia behawioralna (nowa i stara) zakorzeniona jest w osiągnięciach badawczych zarówno ekonomii, jak i psychologii (kognitywnej, społecznej i ekonomicznej).

Cel badań. Celem artykułu jest próba uspójnienia kategorii będących przedmiotem rozważań ekonomii behawioralnej i koncepcji „strategie behawioralne" w warunkach niepewności kontekstu (otoczenia). Cel został zrealizowany poprzez odpowiedź na następujące pytania badawcze: (1) Jakie są cechy wspólne ekonomii behawioralnej i strategii behawioralnych? (2) Jaki jest wpływ ekonomii behawioralnej na koncepcję strategii behawioralnych? (3) Jakie są potencjalne powiązania pomiędzy konkretnymi zjawiskami ekonomii behawioralnej i zachowaniami menedżerskimi w warunkach niepewności?

Metodologia. Ekstensywny przegląd literatury.

Kluczowe wnioski. Kluczowym wnioskiem wynikającym z podjętych rozważań nad ekonomią behawioralną i koncepcją strategii behawioralnych jest konstatacja, iż zjawiska będące domeną ekonomii behawioralnej konstytuują menedżerskie decyzje w warunkach niepewności – sformułowano konkretne implikacje i propozycje badawcze w tym obszarze.

Słowa kluczowe: strategia behawioralna, ekonomia behawioralna, mikrofundamenty.