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Decision making in human resources standard practices and change management innovation initiatives: the common destiny of being affected by biases

Received 30 November 2022
Revised 14 December 2022
22 December 2022
Accepted 27 December 2022

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Abstract

Purpose – This work aims to shed light on the cognitive biases that may have an influence on the strategic decision-making process, with a particular focus on those impacting both human resources (HR) standard activities within organizations and new innovative change management initiatives critical for them to survive.

Design/methodology/approach – This is a conceptual paper based on a literature review on cognitive biases and managerial decision-making. The conceptual approach is employed to outline how subjective cognitive barriers can undermine managerial decisions and, in particular, the objectivity of HR practices and change management initiatives.

Findings – The discussion emphasizes that cognitive biases are ever-present elements in the decision-making process of professionals, and they influence several areas of management including HR and change management.

Research limitations/implications – Limitations of the study concern the method adopted, as it is conceptual. The implications of the paper are relevant for supervisors and employees working in the HR and innovation/R&D departments in order to create awareness within the organizational contexts and limit the negative influence of these cognitive barriers during their daily activities.

Originality/value – The research contributes to the knowledge on HR management and decision-making process by combining literature findings with practical examples and tips suggesting how to avoid biases in the decision-making process regarding HR and change management.

Keywords Cognitive bias, Decision-making process, Strategic decision-making, Human resources management, Innovation, Change management

Paper type Conceptual paper

1. Introduction

In the last decades, numerous studies analyzed the various ways in which all human beings make decisions when individual resources are limited in terms of time, information and cognition (Daft, 1978; Secchi, 2010). Several studies in social sciences indicate that humans unconsciously make errors in many critical areas of management of various organizational contexts (Stelmakh *et al.*, 2019). As a result, many organizations are unaware of how much these cognitive barriers (Berthet, 2021) may affect the objectivity of certain areas of management, with the risk of jeopardizing the efficiency and value of the firm. With regard to the definition of “cognitive bias”, although several authors have defined their own classification, so that to single out one unique definition is difficult (Caverni *et al.*, 1990), they all describe biases as systematic errors in judgment and a deviation from the norm and rationality (Haselton and Buss, 2000). Having said that, there are some studies on biases and their influence in the decision making process at organizational level, however there are no sufficient works focusing on biases of human resources (HR) and change management choices, in the operational daily practice. In other words, the literature on cognitive biases and how these can influence decision making is very fragmented, focused on different aspects and employing different theories. Also, this stream seems to neglect the impact of several biases in

1450-2194
DOI 10.1108/EMJB-11-2022-0208

the specific context of HR and change management. As a consequence, the objective of this conceptual paper is to shed light on the cognitive biases that may have an influence on the strategic decision making process, with a particular focus on those impacting both HR standard activities within organizations and new innovative change management initiatives (Franklin, 2021). This review is narrowed down to the relevant literature regarding these cognitive limitations and, as also done in previous works that used the same approach (Mohammed, 2013), this work intends to establish a theoretical basis useful for researchers to further analyze the topic, while providing management with practical tips to reduce the negative consequences of biases. The value of this article stems from the insights on the biases affecting decision making (McFadden, 2022), considering two different areas of management jointly (HR and change management) and, above all, mixing findings in the literature with practical examples and tips as it has been barely done by previous studies. The ones mentioned are the gaps of knowledge in the literature that this work aims to cover, along with suggesting remedies as scarcely done. It is also important to highlight that is very important to understand these mechanisms in order to keep HR standard practices and change management innovation initiatives efficient and valid, and at the same time is important to establish standard policies which have the aim of limiting the negative effects of the biases on daily operations. In order to do so, in the first part, studies related to the "irrationality" of the decision-making are analyzed, particularly focusing on the contribution of Tversky and Kahneman (1974) who posed the foundations for the birth of the concept of "cognitive bias" and the development of subsequent theories on decisions under uncertainty. To date, several studies on these errors have listed and analyzed a hundred biases. However, in the following section, the focus will be on those cognitive limitations affecting the decision making process at the managerial level (Gregoire *et al.*, 2011). In the last part, given the main focus of this conceptual review, the role of cognitive biases in HR (McFadden, 2022) and change management decision-making processes (Leicht-Deobald *et al.*, 2022) is examined in order to have a clearer understanding of how biases can undermine the strategic-decision making process of these two areas of management (and remedies are suggested as well).

The work concludes discussing the various implications for theory and practice and outlining the main research limitations.

2. Cognitive bias and irrational decision making

The first important contribution that analyzed how people make decisions in contexts dominated by uncertainty was the expected utility theory of Von Neumann and Morgenstern (1947), according to which each individual in his decision making process is completely rational and objective. Subsequently, studies related to the decision making process have focused more on the "irrationality" of subjects while making decisions, and almost half a century ago, the psychologists Tversky and Kahneman (1974) posed the foundations for the development of subsequent theories on decisions under uncertainty. The contribution provided by these two psychologists was recognized so revolutionary that in 2002 Kahneman received, together with Vernon Smith, the Nobel Prize for Economics (with the merit of "*having integrated insights from psychological research into economic science, especially concerning human judgment and decision making under uncertainty*") [1]. In other words, although nowadays it is possible to count several contributions that focused on the main cognitive errors occurring during humans' decision making process, so that it is very difficult to consider one unique definition (Caverni *et al.*, 1990), the birth of the notion of bias, is due to Tversky and Kahneman (1974) and Kahneman and Tversky (1979) with their "Judgment under Uncertainty: Heuristics and Bias" and the "Prospect theory". These two authors, in alignment with previous Simon's findings and his concept of bounded rationality (1956), which sustain that people's decision making process is affected by several limitations (e.g. cultural limitations, temporal ones, etc.) and that, as a result, it would never be optimal but only the most satisfactory, laid the foundation of the modern theory of decision making and cognitive biases, demonstrating that all human beings systematically violate the principles of economic rationality. In particular, in their *prospect theory*, outcomes of the decision making process are expressed as positive or negative deviations from a neutral reference outcome, which serves as a cognitive reference point to which a value of zero is assigned. In other words, the decision maker needs a "perspective" with which to face the various dynamics of the choice and the variations from this point of reference can determine whether a given result is evaluated as a gain or as a loss. Furthermore, according to the authors, two phases can be identified in the individual decision making process: the first phase provides for the classification of the acts, results and contingencies, while the second concerns the actual evaluation of the various aspects by the subject, in order to make the decision that turns out to be the most optimal. In fact, it is essential that the decision maker carries out an analysis of the decision making problem in question, analytically framing the various aspects (Kahneman and Tversky, 1981). In this regard, the "*framing effect*" becomes important and according to this aspect, the context in which a person finds himself/herself making a decision has a decisive impact on the choice itself. This happens because an individual, depending on the way in which the problem is formulated, perceives the starting point differently and, consequently, the outcomes of his actions will be different. In other words, the framing effect (that has been deeply analyzed in the scientific literature) explains why individuals respond differently to a given issue or a particular topic based on how these are presented with the result that "*formulations that are differently worded (e.g. sentence structure, context of issue, open or closed questions, order of response alternatives, presence of middle categories, specific terminology such as gains or losses) may evoke entirely different associations, emotions, and reactions to a given topic*" (Mazutis and Eckardt, 2017). An example of this effect reported in Kahneman and Tversky study is the case of Asian disease, in which two different formulations of the same problem lead to two different decisions by the majority of individuals. Although subjective values differ between individuals, the two authors propose the value function as an "S" shaped graph, which is concave above the reference point when earnings are expected, and convex below it when losses are expected (Kahneman and Tversky, 1979). With reference to this value function, it can be added that if the reference point is determined in such a way that a given result is considered as a gain, then the decision maker will tend to make non-risky choices; on the contrary, if this point of reference highlights an outcome in terms of loss, then the decision maker will tend to take risky decisions. These findings have been fundamental to shed light on the main dynamics of individuals' decision making process and better understand why losses take on a greater value for the subjects than gains. In fact, this function is steeper for losses and less steep for gains and this is because the sorrow associated with losing a sum of money is generally greater than the pleasure associated with winning the same amount. This property (called "loss aversion") and the concept of heuristics (those cognitive procedures that allow individuals to make decisions according to the complexity of the situation and the limitations of its information storage and processing system), assume a fundamental role in understanding the decision making process. Indeed, according to Tversky and Kahneman (1974), people make their own decisions not using sophisticated rational processes, but using a limited number of heuristics, or mental shortcuts. The top three heuristics that people use to assess probabilities and to predict values, i.e. to make judgments under conditions of uncertainty (Tversky and Kahneman, 1974) are,

(1) *Representativeness:* heuristic that is usually used when an individual is asked to judge the probability that an object or event A belongs to group or process B. The result is that people tend to overestimate the probability that objects or individuals belong to a

particular category, taking into account only some characteristics and ignoring others.

(2) *Availability of instances or scenarios:* it is often used when subjects are asked to rate the frequency of a class or the plausibility of a particular development. This results in a tendency to attribute the probability of an event based on the speed and ease of what is recalled.

(3) *Adjustment from an anchor:* it is usually used by people when they need to make a numerical prediction and they already have a relevant value available for them as a starting point. In other words, the evaluation is influenced by a reference point that individuals arbitrarily establish and from that moment each evaluation is made on the basis of a deviation from that particular reference point.

As said, the contribution of Tversky and Kahneman was both revolutionary and fundamental for the development of the "Cognitive Bias" concept and, several subsequent studies have taken inspiration from their theory and expanded the scientific literature with further useful contributions (Enke *et al.*, 2021). Conlisk (1996) for example, in his work called "Why Bounded Rationality?", states that "all subjects, some more and some less: " *display intransitivity; misunderstand statistical independence; mistake random data for patterned data and vice versa; fail to appreciate law of large number effects; fail to recognize statistical dominance; make errors in updating probabilities on the basis of new information; understate the significance of given sample sizes; fail to understand covariation for even the simplest 2X2 contingency tables; make false inferences about causality; ignore relevant information; use irrelevant information (as in sunk cost fallacies); exaggerate the importance of vivid over pallid evidence; exaggerate the importance of fallible predictors; exaggerate the ex ante probability of a random event which has already occurred; display overconfidence in judgment relative to evidence; exaggerate confirming over disconfirming evidence relative to initial beliefs; give answers that are highly sensitive to logically irrelevant changes in questions; do redundant and ambiguous tests to confirm a hypothesis at the expense of decisive tests to disconfirm; make frequent errors in deductive reasoning tasks such as syllogisms; place higher value on an opportunity if an experimenter rigs it to be the "status quo" opportunity; fail to discount the future consistently; fail to adjust repeated choices to accommodate intertemporal connections; and more*". In other words, according to Conlisk (1996), people make a large number of mistakes in many areas.

Gigerenzer (2016) defines bias as a systematic deviation between the average judgment of a subject or group and the actual value or norm. Also the evolutionary psychologists Haselton and Buss (2000) studied the reasons that lead the human mind to commit systematic cognitive errors and they have therefore arrived at formulating the "Error Management Theory", arguing that in cases where the costs of the different types of errors are asymmetric with respect to the benefits, natural selection will create cognitive mechanisms such that the least harmful error will be maximized for the subject itself. Further studies from evolutionary psychology underline how, in the course of evolution, the cognitive system of human beings has adapted to the demands of the external environment by developing different reasoning and decision strategies among which there are the heuristics (Marshall *et al.*, 2013). These researchers explain how, thousands of years ago, quickly understanding whether another individual met in the woods belonged to the same tribe or not could have made the difference between life and death. In other words, a brain equipped with rapid detection capabilities and functional heuristics allowed our tribal ancestors to defend themselves against a group of invading outsiders (Marshall *et al.*, 2013).

In conclusion, there are so many contributions in the literature that have highlighted and continue to highlight the presence of cognitive biases as systematic errors of judgment in individuals (Berthet, 2021) and there is a growing interest in this topic (Haselton and Buss, 2000) both at a scientific and non-scientific level, for which there are now hundreds of biases and various classifications that are beyond the scope of this study. However, in the next sections will be analyzed in detail which are the biases that influence the strategic decision making process and, in particular, the choices and activities of HR management (Bresciani *et al.*, 2012; Liu *et al.*, 2021; Leicht-Deobald *et al.*, 2022) by HR professionals and change managers (this being the main objective of this study).

3. Biases influencing the managerial decision making process

As previously stated, cognitive biases are an ever-present element in the decision making process of people and they are also present in the strategic decision making process of managers (Das and Teng, 1999; Acciarini *et al.*, 2020). This is one of the main reasons why this area of study has become very relevant (Grégoire *et al.*, 2011) and the contributions of the scientific community on the influence of cognitive biases on the decision making process (McFadden, 2022), have multiplied in recent years. Biases have been used to try to explain various aspects related to managerial behavior and it can be stated that biases occur very frequently in the strategic decision making process as the decision makers themselves are often required to make decisions in complex situations and without having a comprehensive knowledge of all relevant elements and facts (Keh *et al.*, 2002). Furthermore, these biases can lead to systematic errors and negative outcomes, such as low chances of survival for new ventures or low financial returns (Cooper *et al.*, 1988; Hayward *et al.*, 2006). However, it is important to underline that such cognitive biases can also facilitate managerial decisions and therefore have a positive influence on them (Cristofaro *et al.*, 2021; Schade and Koellinger, 2007). For example, new managerial initiatives are typically created under highly uncertain and ambiguous conditions, in an environment where all relevant data is not yet available (Busenitz and Barney, 1997; Corbett and Hmieleski, 2007). In such contexts, cognitive biases can be an effective element in making the most appropriate decisions (Cristofaro *et al.*, 2021), as a more complete and cautious decision making process is not possible and the opportunity that one is trying to exploit in a particular moment will most likely vanish later when more complete data will be available. That said, most of the studies have focused on biases considered as systematic errors in the strategic decision making process that undermine its rationality and have a negative influence on it. One of the main contributions in this direction was for example the work of Das and Teng (1999), that, with their integrated perspective, highlighted the most salient relationships among the five main modalities of the strategic decision making process and four cognitive biases, confirming that the cognitive biases identified by them have the possibility of affecting all strategic decision making methods and processes. The four biases found by Das and Teng (1999) are the following:

(1) *Prior hypotheses and focusing on limited targets:* Managers' tendency of limiting themselves to the prior assumptions and hypotheses and giving excessive attention to limited objectives are biases mainly present in the initial phase of the strategic decision making process, (i.e. the phase in which the general situation in which a decision is being made is evaluated). If not taken into consideration, at the initial phase, these biases lead managers to a distorted perception of the environment and of the problem in question, which consequently compromises the subsequent phases of the decision making process.

(2) *Exposure to limited alternatives:* Rather than attempting to specify all relevant values and goals and consequently generate a set of alternative courses of action, decision makers prefer to expose themselves to limited options. This cognitive bias is

characteristic of the generation of alternatives phase of the strategic decision making process.

(3) *Insensitivity to outcome probabilities:* During their strategic decision making process, managers tend to be influenced more by the value of possible outcomes rather than by the magnitude of the probability of the manifestation of the results themselves. In fact, they are more likely to use a few key values to describe a given situation, rather than calculate or use standard probability-based statistics. As a result, decision makers tend not to use probability estimates as they see their problems as unique and therefore probability estimates and statistics of comparable events in the past are irrelevant to them. This bias is generally present in the phase in which alternatives are evaluated.

(4) *Illusion of manageability:* This bias occurs at the final stage of the decision making process, thus the one in which decisions are actually taken. Essentially, strategic decision makers estimate the probability of success of an outcome in a way which is excessively optimistic. This occurs because managers often do not accept the fact that a portion of risk is present in any decision making situation. On the contrary, they tend to overestimate the part of the risk that is controllable, as they believe that this risk can be marginalized by using their professional skills, thus leading managers to have an illusion of control and also believing in "post control decision" (ability to influence anything after the moment of choice, Shapira (1995)).

Das and Teng's contribution has not remained isolated and the following is an additional list of other biases influencing the strategic decision making process that have been found in the literature.

3.1 Status-quo bias

According to Weber *et al.* (2007), decision making can be defined as an automatic and unconscious generation of arguments for each choice alternative, which guides to the most balanced option in making a given decision. From this perspective, the option of choice considered first, or the status quo situation (Godefroid *et al.*, 2022), has a major advantage as the other options will be evaluated with reference to the first. As a result, this stage of evaluating options reinforces the status quo (unless people are explicitly prompted to consider arguments for change first) and since every change carries a degree of uncertainty and risk, the primary consideration of the current situation would be a risk-averse strategy that is often considered a justifiable caution in many business settings (Weber, 2017).

3.2 Hindsight bias

Cassar and Craig (2009) studied the application of hindsight bias in business and they found that entrepreneurs' and managers retrospective recollection of the firm's potential for success is systematically distorted (as often they recalibrate their expectation of success by around 20%).

3.3 Overconfidence bias

Entrepreneurs and managers tend to be overconfident, since they often treat their hypotheses as concrete facts (not as a possible and uncertain conditions) attributing higher probabilities to particular outcomes known to them (Busenitz and Barney, 1997) and, tending to largely ignore the competition and strengths of direct competitors (Moore and Cain, 2007). This is a very critical aspect and there are studies confirming that excessive trust and firm survival are negatively associated (Camerer and Lovallo, 1999).

3.4 Overoptimism bias

The over-optimism bias (Chadee *et al.*, 2021) can stimulate overconfidence in some managers, and this can generate a tendency to overestimate the good outcomes of events that are not within their control, risking as if they are under their control (Koellinger *et al.*, 2007). This phenomenon of progression of confidence toward a condition of excessive confidence is evident in the stock market, in the case in which a manager who has been successful in favorable economic conditions thinks that the success achieved is due solely to his/her ability, erroneously believing that the economy will continue to grow (overoptimism bias) taking also greater risks (and this can have negative consequences in terms of financial orientation since that one exposes oneself to new risks, Gudmundsson and Lechner, 2013). However, it is also important to underline how the optimism bias is positively associated with the propensity to delegate, a fundamental characteristic of the managerial profile and managerial success (Gudmundsson and Lechner, 2013).

3.5 Bias of the distrust

Distrust of others (Van Prooijen *et al.*, 2022) is negatively associated with one of the most important characteristics of managers that is the propensity to delegate, and this could obviously lead to negative consequences in management (Gudmundsson and Lechner, 2013). Also in the case of the bias of distrust it is important to remark that a distrustful entrepreneur is likely to better analyze available information focusing deeply into the details, and this can make them more capable than others of pursuing an opportunity. In other words, distrust of others is positively associated with orientation toward opportunities and also with financial orientation planning, making possible to reduce the perception of risk (Gudmundsson and Lechner, 2013).

To conclude, it is reasonable to infer that organizational decision makers vary in their cognitive tendencies and in particular that managers' biases can affect and influence the survival of the organizations they make part (Gudmundsson and Lechner, 2013) and the objectivity of operations in several areas (Stelmakh *et al.*, 2019). The following section will deeply analyze the impact of cognitive biases in two very critical areas of the organizational contexts: HR and change management.

4. Biases in human resources activities and change management initiatives

As seen in the previous section, the managerial decision making process is heavily influenced by biases. Several studies indicate that individuals in general and managers in particular display various biases in many critical areas (Stelmakh *et al.*, 2019; Gudmundsson and Lechner, 2013). These cognitive barriers affect HR management activities, practices and process as well (Korte, 2003) with these biases that are often present in the organizational contexts when HR professionals, hiring managers and direct supervisors are called to evaluate employees, their profile and their contribution and performance. Furthermore, the literature recently suggested that biases can influence also innovation and change management activities (Vernooij *et al.*, 2022). Innovation and change management has been defined as "*the process of continually renewing an organization's direction, structure, and capabilities to serve the ever-changing needs of external and internal customers*" (Moran and Brightman, 2001). According to Lauer (2010) "*there should be no doubt regarding the importance to any organization of its ability to identify where it needs to be in the future, and how to manage the changes required getting there*".

Table 1 shows a list of the biases that can affect HR activities and change management initiatives (Franklin, 2021), within the organizational contexts. These have been identified by

Table 1. Biases and suggested remedies

Bias and description	Suggested remedies
Affinity bias This bias refers to the tendency to favor individuals who have similar interests, backgrounds, beliefs, geographic background, etc. (Nalty, 2016). This bias can be present in all evaluations made in human resources practices (e.g. evaluation of performance, evaluation of a candidate during a recruitment process, etc.) and can undermine the efficiency of these activities. In other words, due to the affinity bias, evaluations that seem objective in reality can represent the affinity toward what evaluators feel is similar to them. More in particular, this is the case of people who tend to favor individuals who have attended the same school, who come from the same city, or who they know and like ending up to overestimating their own abilities	The negative influence of this bias can be avoided by ensuring that evaluations are made by a group characterized by internal diversity in terms of geographical provenience, gender, background, etc. In particular during recruitment processes, HR managers should ensure that certain characteristics of the candidates (as a surname which can clearly be referred to a particular geographical provenience) are not visible to evaluators
Status quo bias As already mentioned, status quo bias is the tendency of people to remain in the actual condition (Weber and Johnson, 2015; Samuelson and Zeckhauser, 1988) as every change is perceived as a loss or a too big risk to face. This bias has been deeply analyzed in the literature regarding change management in particular related to the concept of *resistance to change* that, as stated by Shirish and Batuekueno (2021), "are twin concepts that go hand in hand with any digital transformation or change management initiatives". This resistance to change and tendency to prefer the *status-quo* is very common in organizational contexts at any level and the actual situation is strongly considered by employees as the reference point to maintain, and any change from this reference point is considered as a loss. As a result, any possibility of future gain is ignored	Management should create awareness among change managers and innovation actors who need to take in consideration this resistance of change shown by most employees when they face a new initiative promoted. That said, it is very important for any project of change management, to carefully focus on communication campaigns in order to properly communicate to all stakeholders impacted by the change, the long term benefits achievable with the new initiatives
Pygmalion and golem effects People's performance is influenced by the expectations of those around them and, according to Babad *et al.* (1982), high expectations by the ones who are evaluating cause high performance of the people evaluated and the same happens for low expectations that cause low performance. The effects of these two biases can be relevant in the area of performance management as, if managers and supervisors will have high expectations from the supervisees, then these will work more and will act more accurately during their activities which will therefore turn out in a higher performance (and vice-versa)	Considering what mentioned regarding the consequences of these two biases, these effects must be considered in the design and the monitoring of performance assessment programs (and other initiatives) within the organizations, in order to develop a positive and objective culture of evaluation in which managers are empowered and aware of the risks of having a biased approach with supervisees

(*continued*)

Bias and description	Suggested remedies
Framing Effect As seen in the previous sections, people' decision making is often influenced by how the subject of the evaluation is presented (Kahneman and Tversky, 1981). In other words, the way how certain alternatives are presented to people can undermine their acceptance and evaluation of the positive outcome of these alternatives (regardless of the content of the alternatives). One example can be the introduction in a process of a digital tool to help business assistants (or employees doing some routinary and administrative work in general) in their activities. In this case, assistants and employees doing routinary works, can feel that their contribution is not adequately appreciated by managers and higher profiles, increasing the risk of resistance to change and reducing the adoption of the new technology	When introducing a new automation or digitalized process, the communication used during the change management initiative (and how the change is presented) become fundamental since business assistants could be worried of losing their job, because of the automation and digitalization. In this case, change managers and innovation departments need to carefully consider this bias present in people's behavior and pay attention at how the new initiative is presented and communicated to workers
Halo Effect The interest of researchers for the halo effect (and the influence of this bias in the decision making process) is not recent and in the scientific literature is possible to find contributions since the beginning of last century (Thorndike, 1920). In particular, researchers have strongly recognized and explained how the positive (or negative) evaluation of a single item can influence the evaluation of other items of that same person (Asch, 1946), and this tendency can also undermine different areas of human resources. For example, during the recruitment process and in the interview phase, applications submitted by candidates who already worked for previous brilliant organizations (or who is coming from a well-known university) may be more positively evaluated regardless of the match of the candidate's profile with the position required, preventing an objective evaluation (and *viceversa*). Similarly in the evaluation of performance, the halo effect can cause the manager to positively evaluate a separate single item, such as one big achievement obtained by the candidate during the year, or the fluidity of the communication between supervisor and supervisee (especially in case of a native speaker or if both the supervisor and the supervisee share the same native language) resulting in a non-objective evaluation with respect to the all performance (and *viceversa*)	The role of management is very important in this case and employees at all levels need to be aware of the influence of this bias which can undermine the objectivity and the validity of these important human resources processes and activities. Furthermore, a practical tip to ensure evaluations remain objective, is to equip supervisors (in case of performance evaluations) and interviewers (in case of a recruitment processes) with valid and structured lists of items to focus which clearly reflect the objects of the evaluation only. This structured and pre-designed lists are real and practical supports which can also be used to compare evaluations at different times, in order to further ensure consistency and objectivity among practices

(*continued*)

Table 1.

Table 1.

Bias and description	Suggested remedies
Gender bias, country and language bias	
Gender bias (Helmer *et al.*, 2017), country bias and language bias (Kowal *et al.*, 2022) refer to the same tendency to evaluate not objectively but on the basis of the gender, the specific geographical origin or the specific language of the subject/object of the evaluation. (during an interview, during the evaluation of performance or with regard to a change management initiative promoted by someone). More specifically regarding gender, there is a tendency to attribute specific skills to certain genders (e.g. men are fabulous chefs, women are better at playing volleyball than football, and when studying women have a higher aptitude for social disciplines rather than engineering ones). As a result, this bias can undermine the objectivity of an interview during the recruitment process of a candidate (Stelmakh *et al.*, 2019), can affect negatively the evaluation of performance and the career advancement of a resource, or also can reduce the acceptance of a change management initiative promoted by someone regardless the content. With regard to country and language, there is a tendency to more favorably evaluate the performance of someone who is a native speaker of a particular language and/or from a particular country. This can affect hiring managers and talent acquisition departments when they evaluate interviews of candidates coming from countries where English is the official national language. In these cases the interviews seem to be evaluated more positively, regardless of content, because of the native English proficiency used. It is important to highlight that the same happens for change management initiatives designed and developed by native speakers (or from change managers coming from a specific country or region)	The influence of these biases is largely recognized and one common practice in the organizations to avoid the negative effects of these, is, for example during recruitment activities, to create diversified interview panels and team of evaluators (in terms of gender, provenience, etc.) at all steps of the process (short-listing activities, interviews, etc.). This practice of creating a diversified workforce and heterogeneous teams is useful also for change management projects, since, if the change management initiative is designed, developed and promoted by a team heterogeneous, it most probably will take into account and reflect the diversity, the different needs and the various communication styles and profiles present in the organization (avoiding the risk of resistance and scarce adoption of new innovative and change initiatives)

(*continued*)

Table 1.

Bias and description	Suggested remedies
Confirmation bias and Adjustment bias from Anchoring heuristics Confirmation bias refers to tendency to consider only information and perspectives that reinforce one's pre-existing beliefs and reject information that conflicts with these (Newell and Pitman, 2010; Shome and Marx, 2009). With the adjustment bias instead, the evaluation on a particular topic is influenced by a reference point that individuals arbitrarily establish, and, from that moment, each evaluation is made on the basis of a deviation from that particular reference point (Slovic and Lichtenstein, 1971; Tversky and Kahneman, 1974). With regard to change management activities, these biases can undermine the acceptance of a new initiative in the case of people influenced by pre-existing practices (and pre-established reference points), that result with them who find difficult to be fully open to others' perspectives and initiatives in general (and they end up considering and accepting only the initiative that confirm their previously established opinions on specifics topics and activities)	To avoid the negative consequences of these biases, a very important tip for a change manager is to try to understand in advance which are pre-existing practices, reference points and beliefs of the employees (and engage with them from the beginning of the change management initiative). In other words, the success of any change initiative strongly depends on the manager's ability to engage all stakeholders from the beginning and carefully consider their point of view. This will allow to design and implement efficient communication campaigns which are properly targeted on audience (and will reduce resistance to change)
Blind spot This bias refers to the tendency to think that one is less affected by biases than others (Pruning *et al.*, 2002). This is, for example, the case of hiring managers and supervisors that deny the presence of biases during the selection of a candidate or the annual performance evaluation of a supervisee	An important tip for human resources management is to develop leadership skills training programmes that are focused on the importance of the biases during these HR processes. Main targets of these programmes should be the supervisors, and, it is also very important, to train them on debiasing practices to reduce the negative consequences that these cognitive limitations can have in their organizational context

Source(s): Personal elaboration

combining literature findings with interviews made by the researcher with HR professionals and change managers. Thus, the paper adopts a theory synthesis perspective (Jaakkola, 2020), supported by qualitative evidence, following Saunders and Townsend (2016) and Santoro *et al.* (2019).

In particular, it has been decided to collect data by interviewing 12 different HR officers (of different grades) and change managers from different international organizational contexts. The companies represent a variety of industries and production areas ranging from the pharmaceutical to the engineering sector, from food industry to the banking sector, from the profit to the non-profit area, etc. Participants were contacted individually and each of them was asked to participate in a research on the topic of cognitive biases. Furthermore, in accordance with the exploratory nature of the study, it was chosen to focus on a heterogeneous sample in terms of gender, age, level of leadership, production sector and company size (Bresciani *et al.*, 2016). The interviews had an approximate duration of 30–40 min and were divided into three parts. In the first part, the level of analysis focused on cognitive biases and the put in place of behaviors such as those reported in the literature. In particular, the participants were first introduced to the topic of biases and then were asked to produce examples encountered during their experience). The interview ended by asking the interviewees to propose solutions to limit the negative consequences of cognitive biases and, in particular, what were the remedies adopted on HR and change management practices in their activities. This classification, in addition to highlighting the importance of being aware of how these decision making errors occur, is also relevant for HR practitioners and change managers in order to avoid or reduce the negative influence of these biases in their daily activities thanks to the suggested remedies provided.

5. Implications and conclusions

This paper has tried to shed light on the cognitive biases that may have an influence on the strategic decision making process, with a particular focus on those impacting both HR standard activities within organizations and new innovative change management initiatives (Franklin, 2021; Katou, 2022). As the discussion emphasized, people's decision-making process is not always rational and research shows a wide individuals' tendency to make errors when judging a situation in many organizational contexts (Stelmakh *et al.*, 2019). The aftermath is that the strategic decision-making is deeply and negatively influenced by these deviations from rational thinking, and this is the reason why the interest of researchers toward these errors (commonly defined as *cognitive bias*) has rapidly grown, focusing their attention in different areas of management. In other words, biases prevent individuals from making rational choices in many areas within companies at different levels and, as seen, HR and innovation/R&D departments are not excluded.

All in all, this paper provides three implications. First, it adds to the literature on decision making by revealing the biases that can affect HR professionals, change managers and employees in general during their activities. Hence, the main contribution of this work toward theory development is in demonstrating that negative influence of cognitive bias and how these can be avoided promoting psychological awareness. Second, the paper provides specific remedies to the negative consequences of these biases. Future studies could confirm and better understand whether these remedies are actually effective or not. Third, the research contributes to the literature on HR management (Chaudhuri *et al.*, 2022; Kidron, 2022), shedding light on what can be defined the *blind area* of HR. In other words, it adds to the current body of knowledge by highlighting the importance of being aware of how the decision making errors occur and the damages that these can bring both at individual and at organizational level (Picone *et al.*, 2021). The mix of the literature findings complemented with interviews, show of how biases affect managerial decision making in these particular areas and this conceptual piece of research may be a useful contribution to researchers interested in the topic of decision making.

From a managerial perspective, the paper suggests human resource managers and change managers dealing with innovation, tips to avoid or reduce the negative influence of these biases in their daily activities. In other words, professionals and HR functions within organizations may use this article to be aware of the mechanisms that can undermine the managerial decision making and invest to promote organizational cultures that give greater prominence and raise awareness of the seriousness of the decision making processes issues. Hence, the results of the present study can have significant implications for the learning departments in the organizations as much can be done to limit the influence of cognitive biases on organizational behavior and activities. A study by Lilienfeld *et al.* (2009) found, in fact, that even just one training session, in the form of an educational computer game or an educational video, improved the subjects' ability to reduce their cognitive biases.

Finally, the paper has one main limitation, namely the conceptual nature of the study. As mentioned, the conceptual approach was supported by interviews conducted with managers. However, these are preliminary evidences that should be confirmed by quantitative studies.

Note

1. https://www.nobelprize.org/prizes/economic-sciences/2002/press-release/

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