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Behavioral economics and leadership: How to bridge the gap between intentions and behavior

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Behavioral Economics and Leadership

How to bridge the Gap between Intentions and Behavior

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JEL-Klassifikation:
D23 – Organizational Behavior
D91 – Role and Effects of Psychological, Emotional, Social, Cognitive Factors
M12 – Personnel Management

Abstract

The difference between existing intentions and actual behavior occurs in various forms, such as procrastination or companies not being able to implement planned changes, which may lead to competitive disadvantages in ever dynamic business environments. While current research is strongly focused on attitudes, motivation, and the formation of intentions, particularly with regards to ethical consumerism, this study aims to explain the specific discrepancy between intentions and behavior. Based on a review of social psychology, behavioral economics and management literature, the intention-behavior gap and the reasons for the failed translation are examined and room for improvement is outlined. The derived findings are then applied to the examination of the transformational and transactional leadership styles and existing management tools.

Within the framework of the model of behavioral formation, the intention-behavior gap can be defined as the discrepancy between an individual's willingness and effort to perform an action and the actual performance or omission of said action. Three types of barriers can be identified: cognitive, situational and environmental. Based on dual systems theories, this study finds that the intention-behavior gap occurs whenever the short-sighted, intuitive system dominates cognitive processing. The main causes for this are the effects of cognitive strain, ego depletion, decision fatigue and choice overload. This study determines the status quo bias, social norms and availability heuristic as the main biases of the intuitive system, which lead to a failure to implement intentions. The third section applies these insights to develop a model of behavioral patterns in employees – the Five-Employee Typology, which highlights the importance of adaptive leadership. Subsequently, this study suggests management activities based on behavioral economics to enhance existing tools, with a special focus on effective leadership as an instrument.

1 Introduction: Cheap Talk?

Not acting out intentions or following through on decisions is a common behavior. While there has been extensive research on attitudes, motivations and how humans form intentions, fewer attention has been paid to the difference people show between an existing goal and subsequent behavior – the intention-behavior gap. This can manifest in form of procrastination issues (Ariely, 2010), a company culture of talking instead of acting (Pfeffer/Sutton, 2000), consumers not buying according to their priorities (Carrington et al., 2010) or management recognizing the importance of tools and not implementing them (Eilers et al., 2019; Jorgensen et al., 2014). The focus and research on discrepancies in ethical consumerism has grown (Carrington et al., 2010; Karmasin/Kocher, 2019; Kollmuss/Agyeman, 2002). Yet the gap remains relatively undiscovered with regards to employees and management though it is a crucial aspect. The intention-behavior gap can lead to decreased performance, lower employee engagement and a failure of implementing changes. And changes are necessary as demonstrated by the increasing urgency of the climate crisis and most recently the impact of the Covid-19 pandemic (Adair, 2020).

A look at management trends shows that technology developments and an increasing competitiveness worldwide require companies to adapt (Jorgensen et al., 2014). Managers have to fulfil new and more roles at once and employee engagement and retainment have become pressing concerns (Adair, 2020; Eilers et al., 2019; Society for Human Resource Management, 2018). The spotlight has shifted away from simple job satisfaction (Ajzen, 2011) towards employee well-being, connection (Adair, 2020) and engagement (Popli/Rizvi, 2016). This includes understanding why employees do not follow through on plans or resist to change, which highlights the importance of understanding and managing the intention-behavior gap, for both superiors and followers. Leaders have proven to be one of the most effective means to improve company performance (Jensen et al., 2019) and briding the gap.

In recent years behavioral economics has become increasingly popular, influencing government policies and company marketing strategies (Baddeley, 2018). This field of research differentiates from classic economic theories by questioning the accuracy of the ‘homo economicus’ who is completely rational and has endless willpower (Beck, 2014). Instead, behavioral economics (BE) studies, mostly through laboratory or field experiments, how people show bias and use mental shortcuts. It transfers knowledge from disciplines such as psychology or social sciences (Kersting/Obst, 2016) and often examines why people do not act according to the (long term) intentions. Insights from behavioral economics help to understand the intention-behavior gap.

This report is divided into three separate sections which build upon each other: Section I focuses on a distinct definition of the intention-behavior gap (IBG), empirical evidence proving its existence and identifying the relevant barriers blocking the implementation. This is followed by insights from behavioral economics in section II. Trying to explain why and how the IBG occurs, this part makes use of dual systems theories, evidence on phenomena such as ego depletion and choice overload and biases like the status quo bias. Lastly, the insights from the first two sections will be applied to present management literature on leadership styles and tools. The goal of section III is to give managers a better understanding on how to bridge their own and their employees’ gap.

2 Theory: The Intention-Behavior Gap

The discrepancy between intention and behavior has various definitions and synonyms throughout literature (Table 2-1). At a closer look it is important to differentiate between the exact types of gaps described. Many are based on the context of ethical consumer behavior and examine the difference between attitudes and intentions and how the latter are formed. To phrase an exact definition of the intention-behavior gap in this report, a quick look at the core framework of ethical consumer behavior models is necessary (Carrington et al., 2010). The framework consists of the three main assumptions that beliefs dictate attitudes, which in return form intentions and those intentions then lead to behaviors. This shows two distinct possibilities for behavior gaps. The first is the discrepancy between attitude and intention, as analyzed by, among others, Carrington et al. (2010) and Kollmuss/Agyeman (2002). Secondly, the gap between the previously formed intention and actual behavior. This is the relevant consideration for the subsequent chapters. One form of this discrepancy can be procrastination as described by Ariely (2010, 139 ff.), when the intention for a behavior like e. g. dieting or working out, is formed, but given up for immediate gratification such as eating junk food.

To form a precise definition of the intention-behavior gap, the two elements need to be defined. Ajzen describes that “Intentions (…) capture the motivational factors that influence a behavior; they are indications of how hard people are willing to try, of how much an effort they are planning to exert, in order to perform the behavior.” (1991, 181). Essentially, he defines intentions as the willingness to perform an action and put effort in it. In this context behavior can broadly be outlined as performing or refraining from an action. Therefore, the intention-behavior gap can be defined as the discrepancy between an individual’s willingness and effort to perform an action and the actual performance or omission of said action.

In a study for Insight Austria Karmasin and Kocher (2019) identified four different types of what they call the “Mind Behavior Gap” in individuals. They define the gap as the difference between what an individual plans to do or should do according to the individual’s values versus the actual behavior in everyday life. As this description comes close to the definition of the intention-behavior gap, it can be assumed that the four types of behavior gaps also apply to it. Karmasin and Kocher differentiate between high and low value awareness and strong and weak behavior (2019). Firstly, the “no gap” type shows strong awareness of his values and corresponding strong behavior in acting according to his values, e. g. someone who decided to live a healthier life and acted out his plans. The second type is the “unaware do-gooder”, which is a less common occurrence than the other gap types. This individual has low value awareness but shows strong ethical or environmental behavior, like someone who has always preferred to cycle to work but has never thought about it being an environmentally friendly action. Most commonly, the intention-behavior gap occurs in patterns of the third and fourth type.

Table 2-1: Literature Synonyms and Definitions

How existing literature defines the intention-behavior gap and synonymous phenomenon

Synonym	Definition	Source
Attitude-behavior gap, word-deed gap	"There exists a gap between what consumers say they are going to do and what they actually do at the point of purchase."	Carrington et al., 2010, 141
Mind behavior gap	"The difference between 'what you want' and 'what you do' is the so-called 'Mind Behavior Gap'."	Karmasin/Kocher, 2018, 9
Intention-behavior gap	"Although some people may develop an intention to change their health behavior, they might not take any action. This discrepancy has been labelled the 'intention-behavior gap'."	Sniehotta et al., 2005, 143
Environmental values-behavior gap	"incompatibility between pro-environmental values and environmentally-supportive behavior"	Kennedy et al., 2009, 151
Attitude-behavior gap	"the gap between the possession of environmental knowledge and environmental awareness, and displaying pro-environmental behavior"	Kollmuss/Agyeman, 2002, 240
Value-action gap	"The difference between one's intentions and ability to act in line with them is referred to as the intention-behavior, attitude-behavior or value-action gap."	Tomkins et al., 2018, 214
Talking action gap	Describes the gap between the importance and implementation of management measures stated in company questionnaires.	Eilers et al., 2019, 33

Source: Own table

The "ignorant type" has low value awareness with corresponding weak behavior, which is often caused by a negative attitude towards what is considered the good behavior (Karmasin/Kocher, 2019) in combination with weak or non-existing values, e. g. caused by a low level of information. And lastly, the "willing slacker" who is characterized by high value awareness but weak behavior. This type shows the classic intention-behavior gap due to a lack in translation of the intention (in this case value) into behavior, e. g. an individual who plans to save up money for a vacation but ends up spending it on self-indulgent items such as sweets, drinks, or clothes (Karmasin/Kocher, 2019).

2.1 The Intention-Behavior Gap in Individuals and Companies

Different research approaches have focused on proving the intention-behavior gap in both individuals and companies, often with a renewed focus on ethical and pro-environmental behavior due to the surge of those topics worldwide.

Most studies focus on sustainable behavior in consumers and use measures such as self-reports and questionnaires, which always run the risk of social desirability bias. Nevertheless, a number of studies have found that individuals show an intention-behavior gap and are often aware of it. Kennedy et al. (2009) conducted a nationwide survey in Canada and reported that 72 % of the participants noted a discrepancy between their intentions and actions regarding pro-environmental behavior and environmentally supportive behavior. In a study conducted by Futerra in 2005 (as cited in Carrington et al., 2010) 30 % of the participants stated they planned on buying ethically but only 3 % were able to say they actually did. Furthermore, Karmasin and Kocher (2019) identified several appearances of the intention-behavior gap in their aforementioned study conducted in Austria. 67 % of the participants reported they considered saving energy in everyday life important but only 39 % stated actually acting on it. An example of procrastination they found was that 48 % of respondents viewed eating healthy as important, especially switching away from fat and sugar, in contrast to 15 % who mentioned having healthy eating habits (Karmasin/Kocher, 2019).

While having some evidence regarding the existence of the gap within individuals, the discrepancy in companies is more important for the research in this report. Published research reports have shown different manners of the intention-behavior gap. The German institute for employment research conducted a study regarding sustainability and questioned roughly 16,000 employees about the impact of ecological and social sustainability on their companies (Bellmann/Koch, 2019). Findings show the importance of sustainability grounded in the companies' values. Corresponding actions such as offering remote working opportunities and implementing standardized sustainability measures, depend partially on the size of the companies. Big companies as well as the youngest and oldest companies show the strongest application of sustainability concepts. Moreover, the results of the study reveal a gap between the stated intentions and the actual implementation. Roughly one third of the participants stated that sustainability was a key part of their company's philosophy but only approximately 13 % reported that they applied sustainability methods exceeding the government's requirements, while 66 % stated they did not use any measure at all (Bellmann/Koch, 2019).

Another executive report published by IBM examined change management in companies and incorporated 1,390 interviews with employees and executives in 48 countries and over 20 different industries, offering a relatively wide look into the management mechanisms (Jorgensen et al., 2014). The study shows discrepancies between the participants' statements and the systems within their companies on various levels. When asked about the expected trends for the next years, 88 % stated that the following five years would focus on technology, although 74 % reported that their organization is not prepared for an increasingly digital work environment (Jorgensen et al., 2014). Another question considered the most effective tools to change attitudes and behaviors in companies. 73 % of the respondents agreed that a compelling case for

change is the most important measure, which includes encouraging communication and dialogue on all organizational levels such as feedback channels and collaboration tools. However, 74 % noted that their organization only used top-down communication channels. A third example of the gap in change management was the financial aspect. 87 % of participants recognized that projects do not focus enough on change management, considering the IBM recommendation that 11 % of the budget are required for effective change. Yet, 54 % stated they allocated less than 5 % or none of their budget to change management, while 60 % granted more than 11 % of the financial budget to project management (Jorgensen et al., 2014).

A third study providing evidence of the intention-behavior gap was conducted by the Hays AG (Eilers et al., 2019). Their annual HR report examined the employment effect of digitalization and showed gaps in noting the importance versus the actual implementation of measures to support employability. Roughly 870 executives from different departments were questioned. Half of them agreed on the importance of lifelong education and training while only 38 % said they had support measures implemented. 44 % of the participants stated keeping a work-life balance was the second most important aspect to promote employability, however only 30 % reported having mechanisms in place, leaving a 14 %-points gap. The third measure with a significant gap was workplace health promotions, which 39 % found important yet only 32 % applied it in their organization (Eilers et al., 2019).

These three studies show evidence that the intention-behavior gap occurs not only in individual consumer behavior, but also within organizational systems. Both employees and executives on different levels report this discrepancy regarding different issues like sustainability, change management and employee development.

2.2 The Theory of Planned Behavior

After establishing that the intention-behavior gap can be found on individual and organizational levels, it is crucial to examine how intentions and more importantly the resulting behaviors form. Due to the recent focus on green economy, consumption, and the ethical consumer gap (Carrington et al., 2010), most behavioral models specifically look at how pro-environmental behavior is formed. To create a conclusive model as a base for behavioral economics insights and management tools, different theories are considered to filter out commonalities.

The basis for all modern behavioral models stems from the Theory of Planned Behavior (TPB) which was developed by Ajzen in 1991. This theory maintains an aspect of human rationality and was an add-on to the Theory of Reasoned Action (Fishbein/Ajzen, 1975, as cited in Ajzen, 1991). Ajzen considers the attitude towards the behavior, subjective norms and perceived behavioral control (PBC) as the key factors determining intention, which in return leads to behavior. Perceived behavioral control is assumed to have an additional influence on behavior due to the difference to actual behavioral control. However, Ajzen views intention and perceived behavioral control as the basic predictors of human behavior and does not consider further factors between intention and behavior. Intention and PBC are assumed to interact in the sense that an individual can have a lot of behavioral control but will only put in the amount of effort they intend to and vice versa (Ajzen, The Theory of Planned Behavior, 1991).

2.2.1 Theories behind Pro-Environmental Behavior

One of the models developed on basis of the Theory of Planned Behavior is the Model of Responsible Environmental Behavior by Hines et al. (1986, as cited in Kollmuss/Agyeman, 2002). Therein, personality factors, the knowledge of the issue, knowledge of possible action strategies and actual action skills are considered the determining variables for the intention to act, assumed to directly transfer to pro-environmental behavior. The only determinants considered to solely influence the behavior and potentially pose a barrier are situational factors.

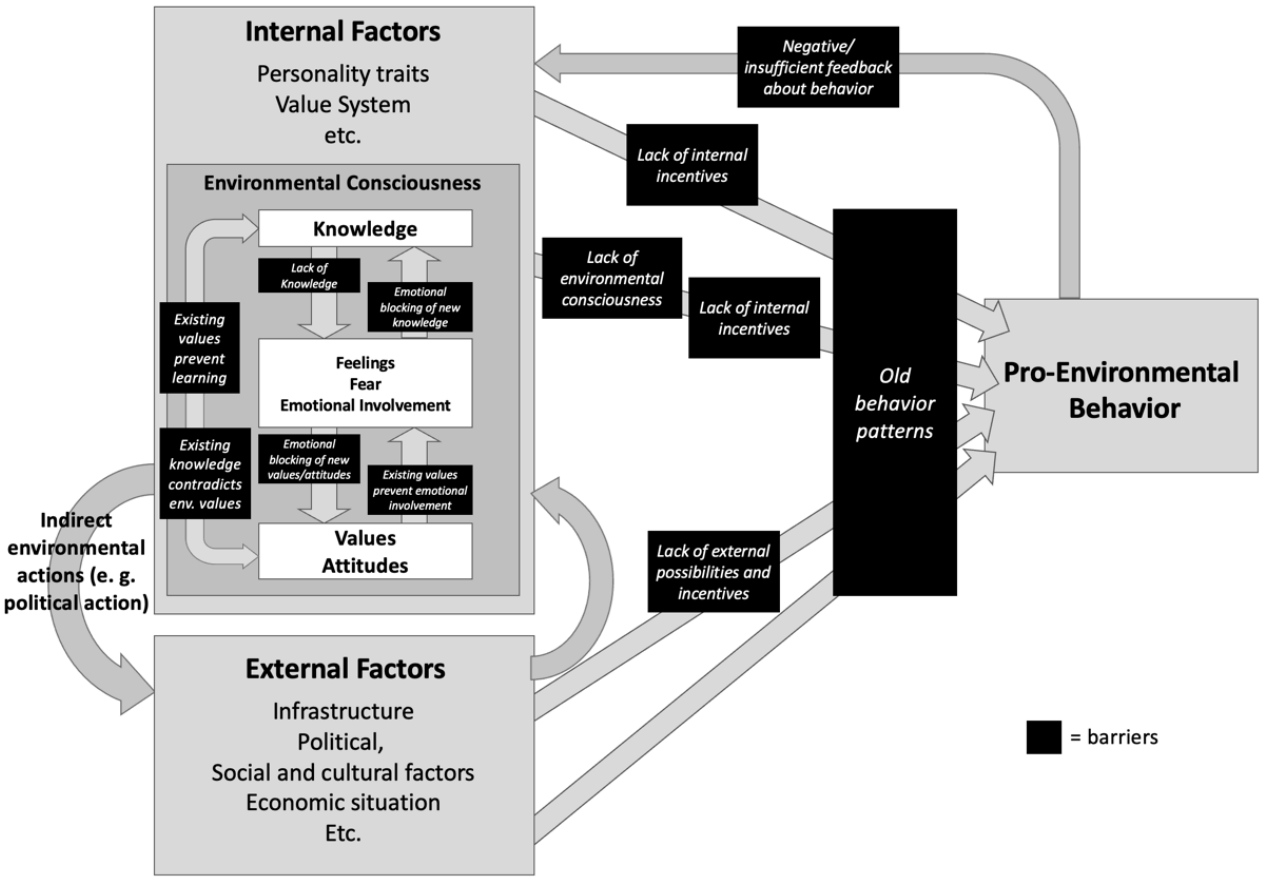
Similarly, Fietkau and Kessel developed the Model of Ecological Behavior (1981, as cited in Kollmuss/Agyeman, 2002) but did not consider the formation of intention as an additional step. The main five factors determining behavior are attitudes and values, possibilities to act ecologically, behavioral incentives, perceived feedback about the behavior or rather the perceived consequences. Environmental knowledge is assumed to only have an indirect effect on attitudes and values. Fietkau and Kessel propose that the intention-behavior gap takes place when one of the five factors is interrupted.

Kennedy et al. (2009) consider three different variables directly influencing environmental behavior: Individual level, household variables and societal variables. On an individual level this includes the person's basic values, environmental values (e. g. convictions that resources should be used conservatively) and a lack of knowledge or information. For the household variables, support, time, and money are the most important determinants and societal factors involve the perceived control and community environmental services (Kennedy at al., 2009). The assumption is that different components can pose more or less of a barrier depending on the strength of their influence on the individual.

Another approach was developed by Sniehotta et al. (2005) which divides behavior into two phases: the motivational and volitional phase. They assume that the underlying factors for the former are self-beliefs such as risk perceptions, outcome expectations and perceived self-efficacy. In their study these three factors proved to account for over two-thirds of the instances an intention-behavior gap was reported.

The most important model to combine the commonalities into one framework was established by Kollmuss and Agyeman in 2002. They divide the influencing factors for behavior into internal and external factors (Figure 2-1). The former includes personality traits, motivation, and value system but also environmental knowledge while the latter refers to existing infrastructures, the social and political situation and economic factors. Their model incorporates all the different aspects covered in the previously named theories by the division into two types of factors. Kollmuss and Agyeman then go on to name several different barriers that can stop the pro-environmental behavior, which will be discussed further in Chapter 2.3.

Figure 2-1: Model of Pro-Environmental Behavior



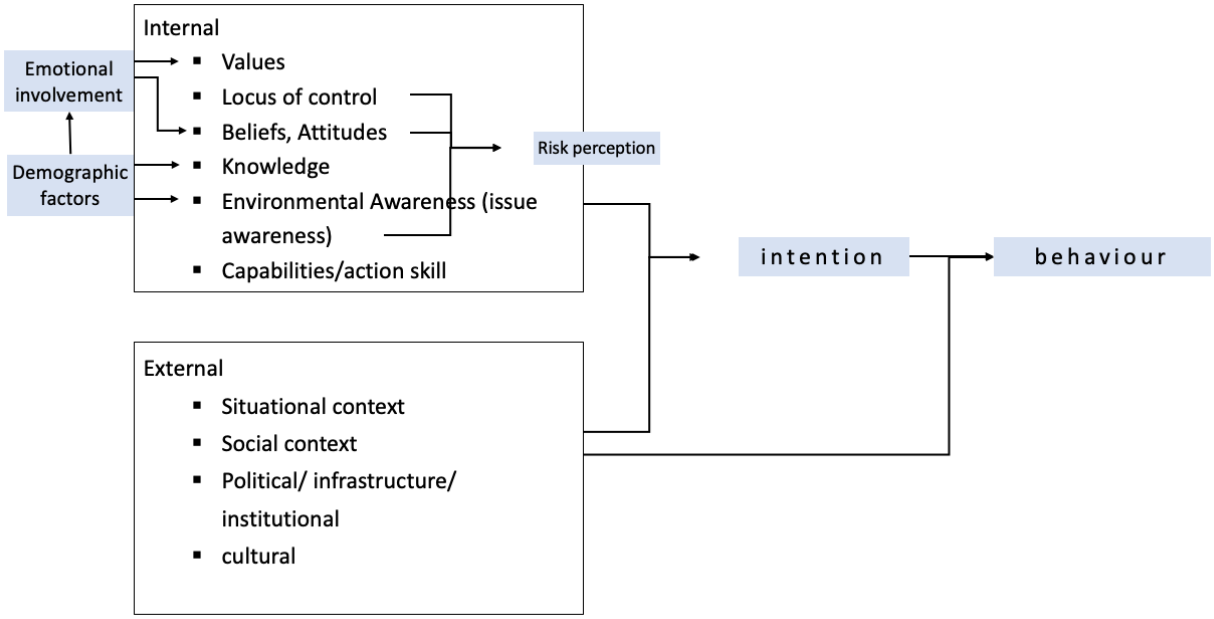
Quelle: replicated from Kollmuss/Agyeman, 2002, 257

2.2.2 Model of Habit and Behavioral Formation

Based on the variety of models explaining pro-environmental behaviors a more general model of how intentions and behaviors form can be created. An important part included in the newly built model is the middle step of intentions forming (Figure 2-2), which is largely unconsidered in most other theories. This is a crucial step because the discrepancy between the formed intention and actual behavior is examined in this report, but not particularly how intentions form. As Kollmuss and Agyeman's model best combines the different internal and external factors, the new model is an adaption of the Model of Pro-Environmental Behavior and adopts their general structure as depicted below.

The internal factors in the Model of Behavioral Formation include the individual's values, beliefs, attitudes, knowledge, issue awareness, emotional involvement (Kollmuss/Agyeman, 2002), risk perception (Sniehotta et al., 2005) and the person's capabilities and action skills (Hines et al., as cited in Kollmuss/Agyeman, 2002). Externally the situational, social, political/institutional and cultural contexts are considered. Both internal and external factors determine how the intention is formed. Additionally, external factors are assumed to have an influence during the translation from intention to behavior. With the general system of the intention-behavior^^ translation established, the following chapter will take a closer look into barriers causing a discrepancy.

Figure 2-2: Model of Behavioral Formation



Quelle: Own depiction, adapted from Kollmuss/Agyeman, 2002, 257

2.3 Barriers to the Intention-Behavior Translation

Literature review has shown many different attempts at offering explanations about why humans fail to act on their intentions. Rajecki names four main reasons for the gap (1982, as cited in Kollmuss/Agyeman, 2002): having the direct versus indirect experience, which influences the learning effect, normative influences, temporal differences, and the attitude-behavior measurement in science. The latter can lead to difficulties regarding the specificity of measurements. Blake divides the Barriers to Action into three different categories (1999, as cited in Kollmuss/Agyeman, 2002). Individuality and responsibility are based on the internal factors, e. g. laziness of a lack of self-efficacy. Practicality mainly relies on external factors such as social and institutional constraints, including a lack of money or time to act on one's intentions.

Kollmuss and Agyeman (2002) consider a range of barriers responsible for the behavior not taking place: negative or insufficient feedback about behavior, lack of internal incentives, lack of environmental consciousness, lack of external possibilities and incentives and old behavioral patterns. In their model barriers occur between the development of internal and external factors into behavior, but also within the internal factors, e. g. the lack of internal incentives. They consider old behavioral patterns, namely habits, to be one of the strongest barriers.

Considering an ethical consumer as the basis for behavioral intentions Carrington et al. (2010) state three main reasons for the intention-behavior gap: implementation intentions, actual versus perceived behavioral control and the situational context. Implementation intentions, also called implementation plans, are concrete plans on how to turn intentions into actions. According to Gollwitzer (1999) they are based on goal intentions and specifically define when, where

and how a behavioral response will lead to attaining the goal. There are two steps to forming an implementation intention: First the if-component, which identifies the situational cue, i. e. when and where. Secondly, the then-component, which specifies the desirable behavioral response. Implementation intentions directly link the anticipated situation to a goal-directed behavioral response (Gollwitzer, 1999). This is useful to form new habits and shield intentions from unwanted influences. However, they can become a barrier to the translation from intentions to behavior when the overall plan or one of its components is too weak. Factors such as distractedness, forgetfulness or acting on autopilot can lead to either the situational cue not being registered and therefore the desired action not being triggered. Or the cue is recognized but the linked response is not acted out. The strength of implementation intentions depends on the strength of the underlying goal intention, but also on the specificity of the plan and the strength of the commitment to it. Mentally rehearsing the plan can increase the strength as it can enable the individual to switch from conscious behavioral control to automatic behavior only guided by cues (Carrington et al., 2010; Gollwitzer, 1999).

The second reason for the intention-behavior gap is actual behavioral control, because in new situations one's perception of behavioral control often differs more than in familiar scenarios. Perceived behavioral control encompasses both controllability of the behavior and self-efficacy and the discrepancy to actual behavioral control can cause the translation to fail (Carrington et al., 2010).

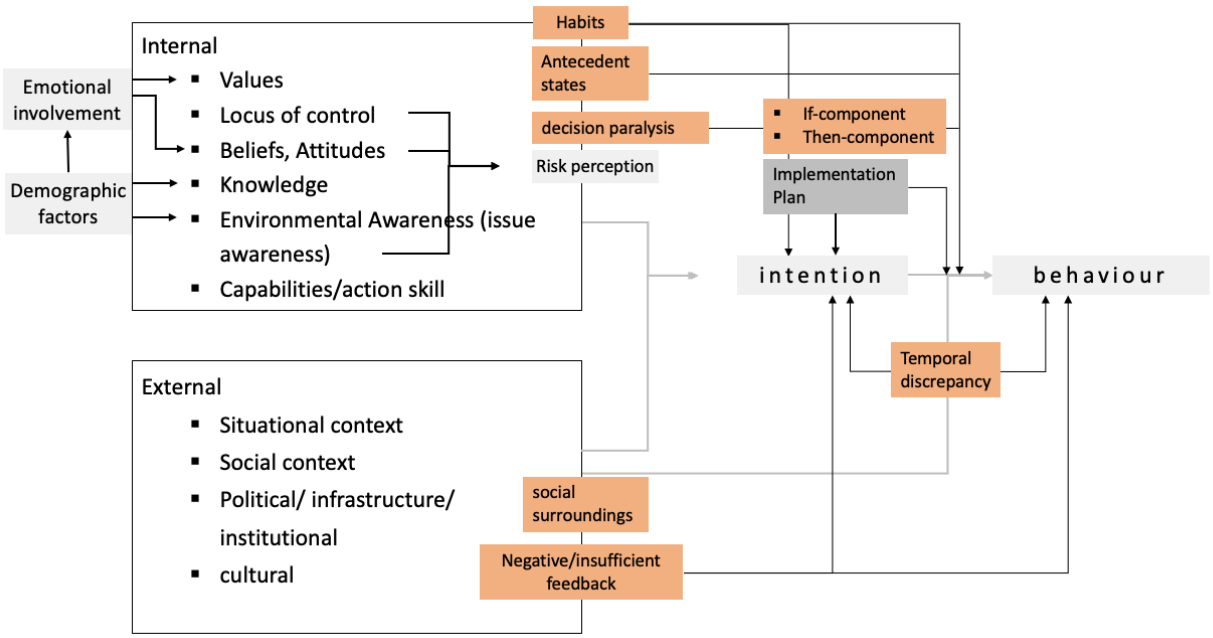
Thirdly, the situational context is an important factor as a direct determinant of intentions and influence on behavior (Carrington et al., 2010). Belk (1975) defined a Taxonomy of five variables which determine the situation. Firstly, the physical surroundings such as product placement in a supermarket. Followed by social surroundings, which include other people being present and possible interpersonal interactions as an influence. Then the temporal perspective, i. e. time restrictions an individual might have. The fourth factor is the task definition within the situation, namely the individual's purpose in the setting and lastly, and most importantly to the intention-behavior translation, antecedent states like momentary moods or constraints (Belk, 1975).
In an analysis of company behavior Carrigan (2017) identified several barriers why firms do not pursue ethical behavior. One of the reasons is the so-called corporate paralysis. In a company with competing stakeholder interests, behavior is not changed to avoid negative backlash from parties (Carrigan, 2017). From this a parallel can be drawn to the behavior of individuals. When one experiences competing internal factors, it can lead to a decision paralysis where the person prefers to not act at all or falls back onto familiar patterns.

In summary there are two main reasons for the intention-behavior translation failing. The internal and external factors can block the intention from forming sufficiently, meaning it cannot translate into behavior or overwrite existing behavioral intentions. Factors causing this barrier can be cognitive or emotional limitations. Because these keep the intention from developing in the first place, they can be disregarded. The main focus lies on the second reason: The intention is formed but the translation into behavior is blocked by a barrier. These factors are the most relevant, as they affect the intention when it is formed and interject before the actual behavior takes place (Figure 2-3). Thus, the most influential barriers are the following:

- Habits (Kollmuss/Agyeman, 2002)
- Antecedent states (Belk, 1975)
- Decision paralysis (Carrigan, 2017)
- If-component, then-component of implementation intentions (Carrington et al., 2010; Gollwitzer, 1999)
- Temporal discrepancy (Rajecki, 1982, as cited in Kollmuss/Agyeman, 2002)
- Social surroundings (Belk, 1975)
- Negative feedback (Kollmuss/Agyeman, 2002)

Figure 2-3: Intention Behavior Gap Barriers

The barriers relevant to the intention-behavior translation



Quelle: Own depiction, partially adapted from Kollmuss/Agyeman, 2002

3 Behavioral Economics: Dual Models, Biases, Heuristics and Barriers

Behavioral economics incorporates research from psychology, social sciences, and other directions, and can therefore provide crucial insights into the intention-behavior gap. The following chapters will examine a selection of heuristics and biases pertaining to the IBG with the aim of deriving several strategies to explain and overcome the identified barriers.

3.1 The Decision-Making Process

The time frame in which one decides can be divided into different steps. Many models describe more general stages, such as Halonen and Caldwell (2014): the four steps desire, strategy, choice and experience. In this framework the intention-behavior gap occurs within the third step of making a choice. However, it is useful to place it in a more detailed description of the process. Samson and Voyer (2012) identified six stages consumers standardly go through to make decisions:

1. Problem Recognition
2. (Internal and external) information search
3. Forming a consideration set
4. Evaluating the alternatives
5. The actual choice
6. Post-purchase evaluation

Within behavioral economics literature different theories and frameworks are aimed at the respective relevant stages. In this model the intention-behavior gap occurs between step four and five, before the behavior takes place. These two middle stages are also the main focus of the judgement and decision-making dual system theories (Samson/Voyer, 2012). Therefore, drawing upon some selected frameworks will provide important insights into when the intention-behavior gap occurs.

3.2 The Dual System Discrepancy

In psychology there are three types of general psychological theories, of which the third is relevant for this report. It deals with certain information-processing theories based on the assumption that psychological processes operate under different conditions – namely the dual-process models (Strack/Deutsch, 2015). Although the theories differ greatly in the way the two systems interact and function in each suggested theory, all share the same basic concept of one system that controls and coordinates the other. They agree on making a distinction between knowledge activation in the long-term memory and the further processing of activated information in other systems (Strack/Deutsch, 2015). Strack and Deutsch compared a number of different dual system theories all focusing on different aspects such as attitude, normative judgement or person perception. In the following frameworks focusing on behavior are considered the most relevant.

3.2.1 Selected Theories of Dual Systems

The following three models were chosen because their insights are relevant for this report. Moreover, they differ in explanatory approaches and are academically relevant.

The Hot/Cool-System, Metcalfe/Mischel (1999)

Based on a series of studies on the delay of gratification in young children by Mischel in 1996, Metcalfe and Mischel developed the framework of a hot and cold system connected through an associative structure (1999; Strack/Deutsch, 2015). It is built around the assumption of a neural network consisting of hot and cool nodes, which serves as a metaphor without a more detailed background in neuroscience.

Hot nodes, called “hot spots” by Metcalfe and Mischel (1999), make up the hot system. It is characterized as the emotional system responsible for immediate responses due to stimuli, learned associative cues and quick emotional processing. The nodes are directly connected to output response triggers controlling the motor response and have no interconnectivities, which means that input information cannot be passed from node to node within the system. This leads to fast, direct, and often emotional reactions to stimuli. In contrast the cold system is made up of cool nodes, which are placed in an intricately interconnected network, tying in with hot nodes at specific points (Metcalfe/Mischel, 1999). Input information can be cycled within the system, which enables thought complexity and spatiotemporal characteristics such as deliberation between stimulus input and response pattern. The cold system oversees monitoring and guiding the hot system but also the cognitive, rational experiences, and connecting incoming information to previous experiences. It can self-reflect and execute metacognition. Together the two systems provide the everyday combination of cognitive and emotional experiences.
Metcalfe and Mischel (1999) assume that all hot nodes have a corresponding cool node, while not all cool nodes are connected to hot spots. The cold system generally develops with age and is therefore more complex in adults than in children. When the systems receive input from a stimulus, activation spreads through the connected nodes and usually triggers both the hot and cold system. This interconnectedness enables individual self-control as the input can be cycled within the complex cold system to not trigger all hot nodes in full effect.

The extent to which nodes are activated can depend, among other factors, on priming and learning effects. Metcalfe and Mischel (1999) describe priming as the short-term effect of a node’s activation level being raised above the baseline, typically through previous activation by stimuli. It is a temporary effect that increases the likeliness of nodes being triggered by similar stimuli and when other nodes located closely are triggered – the spark of activation passes more easily onto primed nodes. The priming effect can contribute to learning, which is the long-term activation effect on nodes in both systems. Activation levels are raised chronically, e. g. when we learn our name which then always triggers cognitive processes easier than others. The subsets of learned information are different for every individual and imply that other subsets can also be learned or changed. In line with the assumption that the interconnectedness of the systems enables individuals to purposefully direct attention to the cold systems to engage in rational thoughts and refrain from irrational actions, Metcalfe and Mischel (1999) identified three

internal and external control strategies (Table 3-1). These are built on the hyporeport that the human default is to give in to temptation and intend to prevent that.

Table 3-1: Overview of Control Strategies

Strategy	Internal Application	External Application
Decrease the activation level of a hot node to refrain from impulsive action.	Attention Allocation	Physically hide/conceal the trigger
Shift activation to other, less relevant parts of the system.	Self-generate internal distraction	Have a distraction present
Change meaning of hot stimulus.	Self-generate cool image	Cool/cooler presentation

Source: Metcalfe/Mischel, 1999

The first strategy aims to decrease the salience of a trigger and therefore lower the activation levels as to not let it spread (far) into the hot system. Internally, this means allocating one's attention to something else while externally, one can physically hide or conceal the cue. In Mischel's 1996 experiments this strategy showed effectiveness: 75 % of the participating children were able to forego an immediate cookie and wait for a bigger reward (as cited in Metcalfe/Mischel, 1999). Another strategy is to rely on the connectedness of the systems and shift attention from the originally stimulated nodes to less relevant parts of the systems. Metcalfe and Mischel assume that activating several cool nodes or a different hot spot would be equally effective. The internal application is to think about something else, although this holds the risk of the taboo effect priming thoughts for the "forbidden" subject. Externally, one would focus on a physical distraction. The effectiveness of both internal and external control depends on how interesting and involving the distraction is. Lastly, a suggested control strategy is to change the meaning of the stimuli to only activate cool nodes or decrease the impact on the hot nodes. An individual can try and think about cool attributes of a stimuli and use mental transformations such as imagining the cookie to only be a picture of a cookie. The effectiveness of this can be increased with previous priming such as e. g. implementation intentions. Externally one would only have a cold representation of a stimuli which dims the impact on the hot system (Metcalfe/Mischel, 1999).

Both the internal and external applications of control strategies are relevant for the latter consideration of management behavior and tools. But the impact of stress levels on the systems can significantly influence their effectiveness. Based on the works of Jacobs and Nadel in 1985 and Metcalfe and Jacobs in 1998, Metcalfe and Mischel (1999) assume that stress affects both systems differently. Low stress levels can activate the cold system even further, which increases capabilities for complex thinking, planning, and remembering. But the more stress levels increase, the more dysfunctional the cold system becomes with the hot system eventually taking over cognitive processing. The more stressed an individual becomes, the less rational, reflected thoughts occur and instinctive, biased reactions increase.

Dual-Self Model of Impulse Control, Fudenberg/Levine (2006)

Developed from a more economic perspective, the dual-self model of impulse control suggests two combined subsystems driving the decision-making process. Fudenberg and Levine built the rough framework to account for biases such as risk aversion and intertemporal choice (Strack/Deutsch, 2015), which contributes insights to temporal discrepancy as an IBG barrier. They designed the model as a stage game of one short-sighted, impulsive short-term subsystem versus a patient long-term subsystem affecting a single self (Fudenberg/Levine, 2006). This was partially based on MRI studies conducted by McClure et al. in 2004 (as cited in Fudenberg/Levine, 2006). Findings revealed that impulsive behavior is associated with different brain areas than long-term planned behavior.

Fudenberg and Levine (2006) assume that the two subsystems share the same preferences but are distinct in their views of the future. The short-term self is completely myopic and only focuses on outcomes of the current stage, or situations in real-life. Contrarily, the long-term subsystem focuses on the needs of future short-run selves. In the stage game only, the short-term self can interact with the outside world and oversees assessing advantages versus disadvantages of choices and the actual behavior. The long-term system can exert control by influencing the short-term's utility function. For a compromise in benefits for both systems, the long-term self can execute self-control. In this, the dual-self model of impulse control differs from the hot/cold-systems model, where both systems can generate output (Metcalfe/Mischel, 1999).

One main characteristic of the short-term self as described by Fudenberg and Levine is that it is solely influenced by past experiences without any future-orientation, which can explain a majority of the IBG barriers. It is suggested though that the long-run self can teach the short-run self to attach positive weight to outcomes with desired long-term consequences. This comes at a cost of self-control, which means habits can be built with effort. The framework also suggests some effects of cognitive load, which are further examined in later chapters. When the long-run subsystem has simultaneous demands, the costs to perform self-control increase, implying that cognitive load heightens the likeliness to give in to immediate gratification (Fudenberg/Levine, 2006). The myopia of the short-run subsystem in the dual-self model of impulse control explains the IBG barrier temporal discrepancy. When time passes between the intention-behavior translation, short-run preferences might change as well as a fluctuating cost of self-control.

The Intuitive-Reflective Systems Framework

The most relevant dual systems model for the intention-behavior gap was developed by Kahneman and Frederick in 2002. The paper "Judgement under Uncertainty: Heuristics and Biases" published by Tversky and Kahneman in 1974 is one of the most cited articles in behavioral economics literature (among others: Behavioral Economics Guides 2014/2020; Laibson/List, 2015; Samson/Voyer, 2012; Samuelson/Zeckhauser, 1988) and served as the basis for the development of the intuitive-reflective systems framework (Kahneman/Frederick, 2002; Strack/Deutsch, 2015).

Kahneman and Frederick (2002) adopted the labels "System 1" and "System 2" from Stanovich and West (2000, as cited in Kahneman/Frederick, 2002) to define one system as a collection of

many ongoing processes. The two systems differ in speed, controllability, and type of input information. They describe System 1 to be the intuitive system, which is automatic, effortless, fast, and based on associations and skilled actions. It is always active while System 2 becomes activated when the cognitive operations become too complex for System 1 or its associations are not coherent. System 2, the reflective system, is controlled, effortful, slow, self-aware and follows procedure rules. Both systems can be active at the same time and interact. System 1 generates intuitive suggestions, which System 2 monitors, accepts or overrides. The more skilled one becomes in a task, the less it requires engagement of the reflective system, which is influenced by available time for deliberation, mood as well as intelligence level and priming factors.

Later Kahneman (2012) goes into greater detail regarding the roles of the two systems and their interactions. He describes a division of labor between the two to minimize necessary effort and maximize performance. This serves as the basis for System 1, which frequently associates and jumps to conclusions, often saving time and effort. Its network of associations is complex, and one stimulus can trigger multiple processes at once, leaving an opportunity for priming effects as shown in studies by Bargh et al. (1996, as cited in Kahneman, 2012), Mussweiler et al. (all three 2006, as cited in Kahneman, 2012).

System 1 can draw on two types of intuitions according to Kahneman: Those based on skill and expertise from previous experiences and those from heuristic shortcuts. It is only able to process pieces of information at once while tasks such as comparing objects on multiple attributes, deliberate decisions and conscious doubt are executed by System 2. Its mental activities require attention and effort, which Kahneman suggest are limited. This makes multitasking possible with small unengaging tasks but restrains System 2 to working on fewer tasks at once. The majority of time the reflective system is idle, following the “law of least effort” stating that the path requiring the least energy is always chosen. To avoid cognitive overload System 2 often divides tasks into multiple smaller ones which either require less attention or can be completed by System 1.

Considering engagement of System 2 is effortful and attention is limited, Kahneman assumes that System 1 gains more dominance in processing the busier System 2 becomes, increasing the probability to forego long-term goals and give in to temptation as shown by Vohs et al. (2008). Moreover, people are overconfident in their ability to act intuitively (Frederick, 2005, as cited in Kahneman, 2012) and in accordance with the law of least effort rarely question their System 1 suggestions. An increased influence of System 1 can be caused by engagement in another task, good moods, low depression scores, being a new knowledgeable novice in a field and feeling powerful (Kahneman, 2012). These factors all reduce the likeliness and capability of System 2 to intervene.

The assumptions of the intuitive-reflective systems framework grant first starting points to explain the different IBG barriers such as tiredness as an antecedent state reducing System 2 involvement and leading to habitual behavior that cannot be overridden.

3.2.2 Causes of Intuitive System Dominance

Following the analysis of three different dual systems theories specifying the roles and communication of two different systems, a closer examination of what happens when the reflective system (System 2, cold, long-term) is not able to override the intuitive system (System 1, hot, short-term), or in conflict with it, is necessary.

Cognitive Strain

The concept of cognitive ease was suggested by Kahneman (2012) and to my knowledge remains to be studied further. It describes two ends on a spectrum of System 2's engagement. Cognitive ease is the state of mind when there are no major news or challenges that require attention to be redirected to the reflective system. In this state it is idle, and System 1 dominates cognitive processing. Ease can be caused by repetition, easy understandability, the mentioned priming effects or being in a good mood. Its effects include a feeling of familiarity, truth, and effortlessness (Kahneman, 2012). Closely connected are the mere exposure effect and memory illusion, which illustrate examples of the intuitive system judging a stimulus as good or true dependent on previous encounters, effortlessness in integrating it into the existing world view or antecedent states like being happy.

On the opposite end of the spectrum is cognitive strain. Although it is an activator of the reflective system, it can also be the reason for System 2's overload. When experiencing strain, the reflective system is highly engaged, which leads to feelings of uncomfortableness and doubt. According to the law of least effort as suggested by Kahneman (2012) the two systems strive to maintain cognitive ease to avoid spending effort and attention. Stimuli that were encountered previously, primed, or fit easily into existing concepts are preferred to those causing cognitive strain, especially when the reflective system is already busy with other tasks. Cognitive strain can thus cause the intention-behaviour gap either through the impact of stress or simultaneous engagement on the system.

Ego Depletion

The impact of cognitive strain and dominance of the intuitive system is caused and increased by ego depletion. The phenomenon can be defined as a drained mental state after practicing self-control or similar tasks drawing on the same limited resource (Baumeister et al., 2007). It builds on the Strength Model of Self-Control, suggested first by Baumeister et al. in 1998 and further developed by Baumeister, Vohs and Tice (2007). They theorize that exerting self-control draws on a limited resource of mental energy, which, like a muscle, can become depleted. Self-control in this scenario is understood as the "capacity (to) alters one's own responses" (Baumeister et al., 2007, 351).

Based on that it can be assumed that every time the reflective system must override an action of the intuitive system (Kahneman, 2012), the resource of mental energy is diminished further. Kahneman describes ego depleting tasks as those that cause conflict between the two systems or situations when a natural tendency must be suppressed. These can be internal processes like managing one's emotions, overcoming unwanted impulses, or making deliberate choices, or

external processes such as responding kindly to rude behavior and self-presentation (Baumeister et al., 2007). Being physically fatigued can heighten the impact of ego depleting actions (Evans et al., 2016).

Consequent behavioral changes include unhealthy eating when dieting (Kahneman, 2012), an unwillingness to compromise or avoiding decisions (Baumeister et al., 2008) and poor physical endurance and slower processing (Vohs et al., 2008). In several experiments conducted by Vohs et al. (2008) in both laboratory and field environments, the set-ups made participants go through a mentally taxing task, which reduced subsequent self-control. This supports the hyporeport that both actions draw on the same limited resource. Moreover, the results showed that actually making a decision requires more effort than only deliberating options. Ego depletion effects can also occur after only some energy has been drained to preserve the rest for later activities (Baumeister et al., 2007).

A few measures have been suggested to both prevent and counteract the effects of ego depletion such as increasing glucose levels and cash incentives (Baumeister et al., 2008), implementation intentions (Webb/Sheeran, 2003), motivational rewards and good physical health (Evans et al., 2016), humor, positive emotions and following social goals (Baumeister et al., 2007).

Decision Fatigue

One of the most prominent repercussions of ego depletion is decision fatigue. Still an emerging, relatively new concept it is described as the “impaired ability to make decisions and control behaviors as a consequence of repeated acts of decision-making” (Pignatiello et al., 2020, p. 123). Because decision fatigue is viewed as a symptom of ego depletion, it can be caused by the same factors that were mentioned previously (Pignatiello et al., 2020; Vohs et al., 2008). Additionally, one’s self-construal, the degree to which one is focused on one’s own needs versus the feelings of others, can influence the susceptibility to decision fatigue. Interdependent self-construal has been connected to a decrease in job satisfaction as well as higher chances of burnout (Polman/Vohs, 2016).

Behavioral indicators of decision fatigue are avoidant, passive, less persistent or impulse actions and feeling emotions more strongly (Tierney, 2011), as well as deteriorating cognitive processing (Vohs et al., 2008) and heuristic decision-making (Pignatiello et al., 2020). The most popular shortcuts are either impulsivity to prevent resource depletion or decision avoidance (Tierney, 2011). Currently, concrete consequences related to the decision-making process lack empirical analysis, but Pignatiello et al. (2020) identified a number of possible effects: When fatigued, individuals might fail to recognise that a choice has to be made. If they do, they are not able to identify the desired outcome or all the available outcomes. Those that can be considered will be weighed disproportionally. Furthermore, feeling the burden of decision-making more strongly increases the likeliness of decision paralysis and decision regret. When trying to plan or execute an intention, decision fatigue will most likely disable the necessary cognitive functions, especially those required for long-term planning and overriding impulses (Pignatiello et al., 2020).

A study by Hirshleifer et al. (2019) investigated the effects of decision fatigue in a professional environment. It negatively influenced analysts in the capital market. The more forecasts they generated and the later in the day it was, the more biased their analyses became. Strategies to overcome and prevent the repercussions are similar to those battling ego depletions. In work environments, suggestions involve useful routines, making more important decisions earlier in the day, an increase in monitoring later in the day and small interventions to lift mood and motivation (Hirshleifer et al., 2019).

Choice Overload

Another cause of intuitive system dominance is choice overload. Although the concept shares similarities with ego depletion, it describes a different behavioral phenomenon. Choice overload occurs when "the complexity of the decision faced (…) exceeds the individual's cognitive resources" (Chernev et al., 2015, 335), caused by the complexity of a decision either due to a high number of alternatives or an uncertain or important outcome (Pfaff, 2013). Effects are decision regret, lower confidence in one's decision-making ability, choice deferral and reversal and a preference for easily justifiable options (Chernev et al., 2015). These can simultaneously be used as measurements of the degree of choice overload with an individual experience.

In a meta-analysis of 99 studies, Chernev et al. (2015) identified four main causes of choice overload. The two extrinsic factors are the difficulty of the task (heightened by time constraints, accountability and presentation format) and the complexity of the choice set, which increases without a present status quo or with the incomparableness of the options. Intrinsically, the level of preference uncertainty and the decision goal influence the impact of choice overload. The less specific the expertise without a previously identified goal, the stronger the effect (Chernev et al., 2015). These insights are crucial for work environments, as choice overload has been proven to negatively impact managers' health by increasing the risk for depression and burnout symptoms (Zeike et al., 2019).

Pfaff (2013) introduces three strategies to minimize the repercussion. Against the background of the intention-behavior gap with focus on how management can integrate the individual strategies, the social relief and social reduction strategies are less relevant. They aim to improve the individual's ability to handle challenging choices, such as exercises improving attention allocation, effectively using intuitions based on expertise and building useful habits.

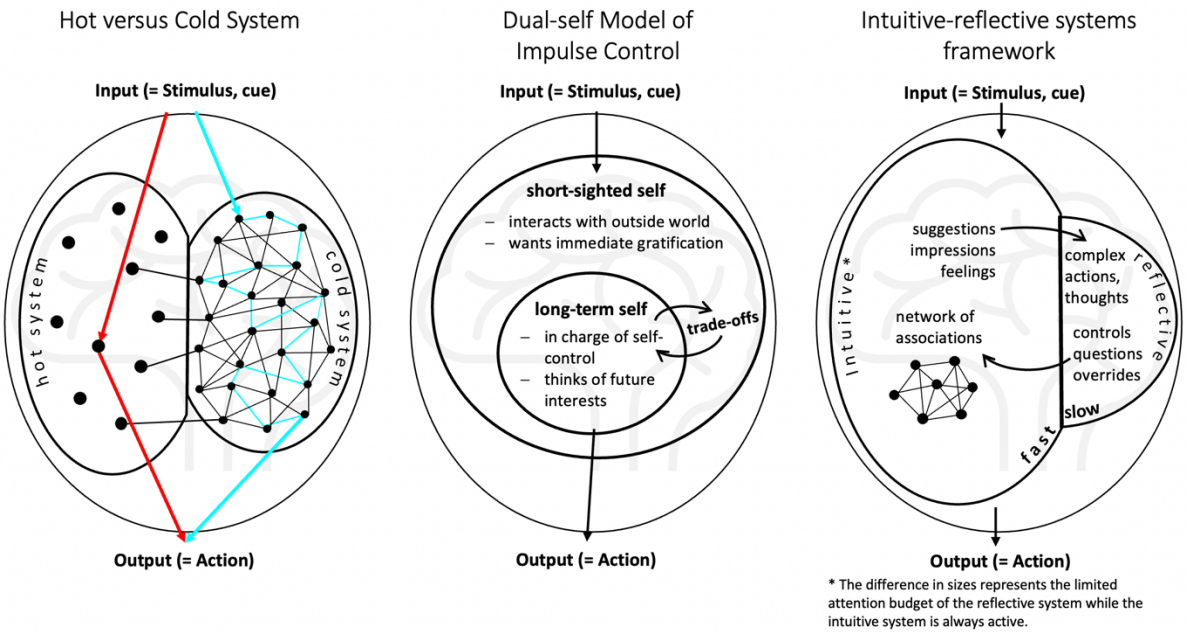
3.2.3 Insights from Dual System Theories

To apply the gained insights to management tools in Section three, it is essential to take a look at common criticisms of the dual system theories. Strack and Deutsch (2015) deliberated the most prominent critiques, who claim that cognitive processes are not distinct enough to divide them into two systems and on the other hand too complex to break them down into just two. The lack of specific empirical evidence is often criticized combined with the fact that most frameworks do not provide a sufficient basis for testable hypotheses. However, Strack and Deutsch applied Van Lange's "TAPAS" approach (2013, as cited in Strack/Deutsch, 2015) and found that duality models can provide useful academic insights as frameworks, especially to design interventions effective in specific situations.

Figure 3-1 shows a visual comparison of the three examined dual theories and highlights how the dual-self model of impulse control (Fudenberg/Levine, 2006) differs from the other two. In the following the framework of the intuitive system as the fast, intuitive one and the reflective system as the slow, deliberate one with a limited attention budget (Kahneman/Frederick, 2002; Kahneman, 2012) will be adapted as the main basis for the model of behavioral formation and further biases. The main takeaway from this analysis is the assumption that the intention-behavior gap occurs whenever the intuitive system dominates processing and decision-making due to the reflective system being overwhelmed. When this happens, the identified barriers block the translation from intention to behavior.

Figure 3-1: Comparison of the Dual-System Theories

Visual comparison of how each of the frameworks reacts to a stimulus



Quelle: Own depiction, based on Metcalfe/Mischel, 1999; Fudenberg/Levine, 2006; Kahneman/Frederick, 2002; Kahneman, 2012

Metcalfe and Mischel's Hot/Cold-System theory (1999) adds the important suggestion that the reflective system is capable of buffering the impact of cues on the intuitive system based on the interconnection and that previously activated nodes are prompted easier and faster. This emphasizes the effect of negative feedback and social surroundings, which both pose a form of node priming. Furthermore, the proposed impact of stress on the systems contributes to the dominance of the intuitive system because of ego depletion, cognitive strain, and choice overload. Despite the distinctiveness of Fudenberg and Levine's model (2006) the short-sightedness of the short-term subsystem can be applied to the intuitive system, which works off previous experiences, impressions, and associations (Kahneman, 2012). Although Kahneman views it capable to act somewhat future-oriented, the intuitive system can be assumed to act primarily short-term oriented in situations when its dominance in decision-making is prompted. It focuses on immediate gratification and causes the influence of habits and antecedent states.

The examined concepts of cognitive strain, ego depletion, decision fatigue and choice overload are both causes, and consequences of the reflective system being overwhelmed. These findings can help identify measures to prevent and reduce the dominance of the intuitive system.

3.3 Relevant Biases of the Intuitive System

Having established that the intention-behavior gap occurs when the reflective system is not involved in cognitive processing and decision-making, it is crucial to examine what type of mental shortcuts the intuitive system takes. The status quo bias is conceivably one the major biases. Social norms are the main basis for social surroundings as a situational IBG barrier, while the availability heuristic provides an example of the type of input the intuitive system prefers.

3.3.1 Status Quo Bias

The status quo bias can be described either as preferring something over offered alternatives solely because it is the current state (Nebel, 2015) or in the context of decision-making: the tendency to do nothing and maintain the results from a previous decision (Samuelson/Zeckhauser, 1988). Although the economic view on status quo preference is that it occurs irrationally, i. e. preferring the status quo just because it is the status quo, Nebel (2015) argues that there are some rational reasons to maintain the current state. These include transition costs, high decision uncertainty or cognitive limitations such as deliberation costs. However, most of these reasons should still be questioned as they lead to choosing the status quo disproportionally often. The irrational preference of the status quo is more common, often based on the assumption that things are better simply because they have existed longer, the effect of sunk costs and loss aversion or simply favoring the status quo because it is the current state (Nebel, 2015).

These conjectures are supported by Samuelson and Zeckhauser's studies (1988), in which they tested the status quo bias in experimental and field settings. This involved sequential decision-making tasks in different scenarios, e. g. investment or management decisions. Results showed evidence of status quo bias, especially when more options were presented for a choice. Field studies were conducted with the Harvard university health plan and retirement fund choices, both contributing to the proof of the bias. Samuelson and Zeckhauser determined three main parts to preferring the status quo: rational decision making as described later by Nebel (2015), cognitive misperceptions such as weighing potential losses heavier than potential gains (Kahneman, 2012) and psychological commitments like the drive for cognitive consistency. This relates to the two systems trying to avoid cognitive strain (Kahneman, 2012). Cognitive dissonance is caused when one has to maintain two conflicting viewpoints at the same time. It causes cognitive strain, leading people to make decisions that create a feeling of consistency (Samuelson/Zeckhauser, 1988). Another cause of status quo bias is described by the self-perception theory, which emphasizes the short-sightedness of the intuitive system suggested by Fudenberg and Levine (2006). It states that individuals look onto their own behavior from an outside perspective and only use past decisions to guide future ones, creating bias (Samuelson/Zeckhauser, 1988).

The results of the Samuelson and Zeckhauser experiments were replicated by Dean et al. (2017) based on a series of studies run at the Centre for Experimental Social Sciences at the New York University. The researchers found the status quo to have two main effects on decision-making: Its presence fixates the attention on the status quo option, even if it would not have been considered if it was not the current state. Secondly, it changes the preferences as the individual immediately rules out options posing a loss or regret compared to the status quo. Thus, each status quo creates a choice set based on the intersection of the attention and preference functions, immediately eliminating some alternatives (Dean et al., 2017). Moreover, Burmeister and Schade's studies with students, entrepreneurs and bankers (2007) show that more experience increases the impact of status quo bias, both due to increased knowledge and, in line with the self-perception theory, an increased influence of past decisions on present actions. It is important to keep in mind that, in the words of Blasch and Daminato, "the status-quo bias is not a decision-making error but a preference" (2020, 203) as there are rational reasons for entrepreneurs to maintain the current state, such as saving time and avoiding potential losses (Burmeister/Schade, 2007). Yet the effects of the status quo often lead to biased judgements.

3.3.2 Availability Heuristic

The intuitive system gives more attention to certain types of information in memory. In the context of ethical consumer behavior for example, the most influential factors are the salience and how long something has been an issue (Stott et al., 2020). For general behavior this can be illustrated by the availability heuristic. It was first introduced by Tversky and Kahneman (1974) as one of the three main strategies to reduce the complexity of assessments. The heuristic occurs when an individual judges the frequency or likeliness of an event dependent on the ease of examples coming to mind (Kahneman, 2012). Tversky and Kahneman stated that this is influenced by the retrievability of a memory, the basis of the search set and imaginability. Retrievability is closely connected to the fluency heuristic suggested by Hertwig et al. (2008). It describes that the more fluently a memory comes to mind, the more it is judged as familiar (Hertwig et al., 2008). This is further reinforced by a higher frequency of an event, individual importance or more recent occurrence (Tversky/Kahneman, 1974) and the more dramatic or personal it is (Kahneman, 2012). Imaginability is an important factor tying in with the associative coherence of the intuitive system. The likeliness of something is judged by how easy it is to make up a new example on the spot (Tversky/Kahneman, 1974).

Folkes (1988) performed a number of experiments to test the effects of the availability heuristic. Results showed that distinctiveness attracts more attention and influences the retrievability of a memory. Kahneman (2012) integrated the availability heuristic into the two systems framework and suggested that the intuitive system only judges how fluently and easily something is retrievable from memory, while it is the job of the reflective system to question and judge the actual content. Summarized, one can assume that those memories that are especially distinct, familiar, important or personally involving determine the individual's judgement when the intuitive system regulates cognitive processes.

3.3.3 Social Norms

Another influential factor is the social environment which strongly affects situational behavior, regardless of existing intentions. This can be demonstrated by the phenomenon of social boasting, when people overstate their own abilities or actions to better fit into their social surroundings (Stott et al., 2020). Hence, it seems reasonable to suggest social norms as a strong influence behind the intention-behavior gap barriers.

Social Norms were defined as the "rules and standards that are understood by members of a group and that guide and/or constrain social behavior without the force of laws" by Cialdini and Trost (1998, as cited in Melnyk et al., 2019, 4). This includes the expectations of others and the standards that develop from observations. Melnyk et al. (2019) differentiate and prove the difference in effectiveness between descriptive and injunctive norms. The latter are explicitly determined behaviors such as dress codes, while descriptive norms originate from others' behavior and set behavioral standards. They are assumed to operate through different psychological processes. In the context of the dual system model, the descriptive norms influence individuals directly through the intuitive system without much conscious awareness, while the injunctive norms are processed by the reflective system and influence behavior indirectly through the formed intentions (Melnyk et al., 2019). Through a meta-analysis of 297 studies, Melnyk et al. (2019) conclude that descriptive norms have a significantly stronger effect on behavior.

In addition, more specific sanctions and closeness to the source of the norm can determine the effectiveness. For managers, Melnyk et al. (2019) point out that descriptive norms are generally more effective. However, they are at risk of backfiring when there are no employees already behaving accordingly, the target group is older and less likely to respond to social norms, or people react with non-compliance, which could be copied by others.

A number of studies by Gneezy and Rustichini, Vohs, Meade and Goode and Heyman and Ariely (all cited in Ariely, 2010) showed evidence that social norms can increase motivation and willingness to put in effort. Companies gain more flexibility, input, participation and loyalty from their employees by building social relationships (Ariely, 2010), which has been a recent trend and is preferred by younger generations over market norms (Enste et al., 2020). For people with low intrinsic motivation, social norms are the strongest behavioral influences (Ferreira/van den Wijngaard, 2019), and their influence increases the more a person relies on their intuitive system (Fehr et al., 2017).

3.4 Applying BE Insights to the IBG Barriers

To sum up the insights from this section, the previously identified barrier can be matched to their respective main causes and biases (Table 3-2). Although all the examined factors have an impact on them, the focus is to point out the strongest ones to differentiate them from one another. Further biases and heuristics which have not been mentioned influence the IBG barriers but would go beyond the scope of this report. In order to describe the preference of the intuitive system for a certain type of input information, as exemplified by the availability heuristic, the phrase "availability" is used.

Table 3-2: Intention Behavior Gap Barriers, Causes and Biases

Identifying the main causes and biases behind the three types of IBG barriers

IBG Barrier	Main Causes	Major Bias
Cognitive (implementation intentions, habits)	■ Cognitive strain (engagement/stress) ■ Ego depletion	Status quo bias
Situational (antecedent states, temporal discrepancy, decision paralysis)	■ Cognitive strain (stress) ■ Choice overload ■ Decision fatigue	Availability
Environmental (social surroundings, negative feedback)	■ Choice overload ■ Cognitive strain (stress) ■ Ego depletion	Social norms

Source: own representation

Due to the (current) lack of empirical evidence linking specific barriers to biases, we categorize them for reduced complexity into cognitive, situational, and environmental barriers. The first type of barrier occurs when the reflective system becomes overwhelmed and cannot properly handle an influx, mainly caused by stress or engagement leading to cognitive strain or ego depletion. This describes failing implementation intentions and habits. In this scenario the intuitive system mainly relies on the status quo. Antecedent states, temporal discrepancy and decision paralysis are situational barriers because they occur directly previous or during the decision-making scenario. The intuitive system mainly falls back onto easily available information due to stress, choice overload or decision fatigue effects. As a third category environmental barriers include negative feedback or social surroundings. They can both take place during the situation or previous to it, like cognitive barriers. Choice overload, stress or ego depletion can facilitate their impact which depends on the effect of social norms on individuals.

With this improved understanding of the gap, its barriers and causes, the third section considers the effectiveness and possible improvements of leadership and management tools to bridge the intention-behavior gap in the workplace.

4 Bridging the Gap: Employee-oriented Leadership

The intention-behavior gap has been an issue in both individuals and companies for years and many tools and ideas for improved implementation are well-known and researched. Pfeffer and Sutton (2000) found several examples of bias in companies. Most prominently, organizations show status quo bias and inactivity as a result of the intention-behavior gap. The latter is often demonstrated by a focus on making decisions and planning instead of implementing action. Pfeffer and Sutton pointed out that indicators were a lack of follow-ups on meetings and decisions and an organizational culture where status is gained by sounding smart, talking a lot and criticizing instead of acting. The status quo bias is usually anchored deeply in the company's values. The stronger the identity of an organization, the higher the likeliness that new suggestions will be rejected as inconsistent and that past actions are used as a template for future ones. This is in line with the self-perception theory in individuals. Moreover, the concept of cognitive ease exerts influence on companies when they give in to the pressure of decisions continuously depending on previous ones and the desire to avoid ambiguity. These are all symptoms of the intention-behavior gap as described by Pfeffer and Sutton. They emphasize the importance of leadership and suggest steps to improve decision implementation, integrated into the management tools in the following chapters.

Management trends have emphasized the changing roles of employees and managers (Eilers et al., 2019) as well as the importance of employee engagement (Popli/Rizvi, 2016). Due to the effectiveness of leaders, particularly in dynamic environments (Jensen et al., 2019), the subsequent pages are dedicated to examining the most important aspects of leadership and management tools in relation to the intention-behavior gap.

4.1 Matching Leadership to Employees

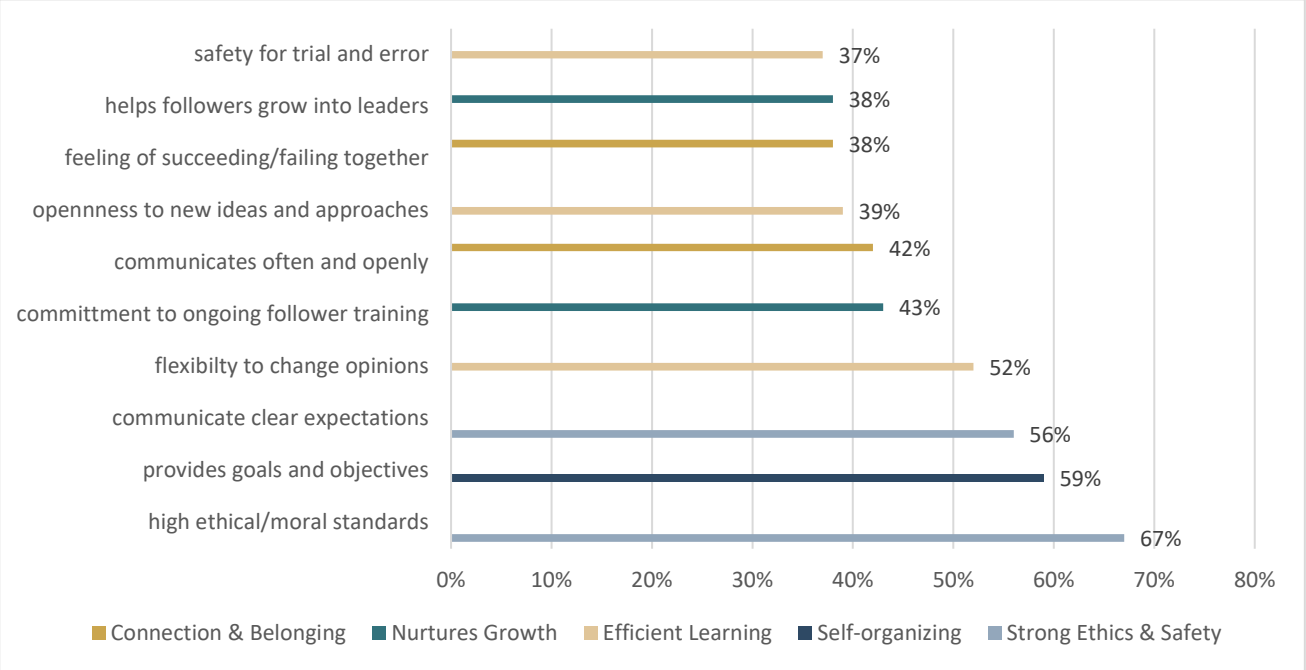
Literature differentiates between the labels manager and leader although they have become more fluent. Evidence shows that the sole focus on the five classic management functions identified by Henri Fayol is ineffective (Pistrui/Dimov, 2018; Watkins, 2012) and can go as far as causing opposition to change due to emotional resistance or lack of conviction (Gill, 2003). There have been several suggestions of how managers should develop. Most importantly, there is an agreement that they have to shift to leadership behavior. Pistrui and Dimov (2018) point out that classic management has worked well in stable surroundings but is out-of-date. Many of the suggested behavioral changes relate to aspects of transformational leadership. Therefore, it seems essential to take a look at this leadership style and its counterpart transactional leadership and empirical evidence of their effectiveness. This is especially important in regard to their influence on affective organizational commitment, which describes the connection of employees to the company and their willingness to work towards its goals (Pierro et al., 2013). It has been proven to positively affect employee effectiveness, well-being and lead to lower turnover rates (Lukowski, 2017; Malik et al., 2017; Meyer/Allen, 1991, Pierro et al., 2013). Pierro et al. (2013) go as far as deeming the increase of affective organizational commitment the primary function of leadership.

4.1.1 Leadership Styles

A review of leadership literature shows that the transformational and transactional styles have gained the most attention out of all styles and are included in all major empirical studies on leadership. The resulting typologies often differentiate styles on two dimensions, e. g. task and relationship behavior (Hersey et al., 1979) or task- and employee-orientation (Enste et al., 2020). A study conducted by Giles (2016) with approximately 200 global executives focused on identifying qualities of successful leaders. The resulting ten core competencies (Figure 4-1) include aspects of both transformational and transactional leadership. This shows that both styles are applied in the workplace, and it is important to consider both and not exclude one from this analysis.

Figure 4-1: Top Leadership Competencies

Results of a global leader survey (n = 195), ten competencies grouped into five themes



Source: Giles, 2016, hbr.org

Transformational Leadership

The transformational leadership style is the most established one in Western countries (Enste et al., 2020). Its most well-known characteristics are the four I's introduced by Avolio et al. (1991): individualized consideration, intellectual stimulation, inspirational motivation and idealized influence. They each influence a certain type of employee commitment. Idealized influence and inspirational motivation can both increase emotional commitment, either by appealing to employees' higher need for achievement and affiliation or through challenging tasks and conveying confidence in them. Intellectual stimulation enhances the cognitive commitment, while individualized consideration builds a personal relationship, which consolidates all variations of commitment in employee engagement (Shuck/Herd, 2012). The four I's emphasize the focus on relationship building in transformational leadership. A more recent approach by Jensen

et al. (2019) suggested that the core of the transformational style is prompting employees to go beyond their own self-interests on the behalf of organizational goals. They identified formulating a clear vision, sharing it with the followers executing it and sustaining the vision as the three main activities of transformational leadership.

Although the transformational style might be more time-consuming for leaders, there are several organizational benefits. Avolio et al. (1991) expected it would increase employee efforts and performance, establish innovation and creativity as norms and influence the followers through a cascading process, turning them transformational themselves. One of the first studies in 1996 (Lowe et al.) proved that transformational leadership increases the effectiveness of leaders as well as employee well-being and performance. Research on Indian executives showed that it can improve employee engagement and organizational effectiveness (Popli/Rizvi, 2016; Rukmani et al., 2010). A Pakistani analysis confirmed the positive influence of transformational leadership on job satisfaction and organizational commitment (Malik et al., 2017). Moreover, its indirect effects can positively affect companies. Pierro et al. (2013) conducted a field study on the connection of transformational leadership to soft power bases, which grant more freedom to accept or deny demands to the followers than harsh power bases. The study found evidence that transformational leadership increases employees' willingness to comply with soft power bases, which in turn increases their organizational commitment. Another analysis showed that the transformational style can increase the empowerment of followers, which too positively impacts organizational commitment (Avolio et al., 2004). However, the effectiveness of transformational leadership can be moderated by how much the respective leader identifies themselves with the organization (Deichmann/Stam, 2015). Avolio et al. (2004) state that it is most powerful applied in combination with transactional leadership.

Transactional Leadership

Transactional leadership used to be the most common style in the 1990s (Avolio et al., 1991), which shows how leadership has changed over the years. In contrast to the transformational style, it focuses on transactions between superiors and employees and can therefore be defined as the "use of contingent rewards and sanctions to make individual employees pursue their own self-interests while contributing to organizational goal attainment" (Jensen et al., 2019, 12). The aim is to provide incentives so that achieving the company's goals is in the followers' self-interest. Jensen et al. (2019) assume that this leads to an automatic alignment of employee and company interests. Avolio et al. (1991) and included goal clarification, specification of work activities and roles as well as communication skills in the necessary management behaviors. They argue that transactional aspects are essential in order to maintain the desired performance levels in the company.

Research on the effects of transactional leadership is rarer. A majority of studies highlights the effectiveness of transformational leadership, yet there are beneficial aspects of the transactional style. Lowe et al. (1996) found that it can increase leader effectiveness and that contingent rewards positively impacts the followers' perception of their superiors. Popli and Rizvi (2016) discovered a positive correlation to employee engagement, though lower in comparison to the transformational style. Yet they noted that transactional leadership is particularly

effective on younger employees in early stages of their career. Another study on the Pakistani banking sector provided evidence that it can increase motivation more than transformational leadership in some contexts (Chaudhry et al., 2012). Indirectly the transactional style can create an environment for improved organization-focused idea generation (Deichmann/Stam, 2015) and positively influence employee empowerment, which increases organizational commitment (Avolio et al., 2004). The more the followers are already emotionally attached to the company, the more effective the transactional style becomes (Deichmann/Stam, 2015).

Empirical evidence has underlined the positive effects of both leadership styles and shows they are most powerful in combination (Deichmann/Stam, 2015; Popli/Rizvi, 2016). This is in line with recent literature focusing on adapting the leadership style to employees and situational factors instead of confining it to one static style (Enste et al., 2020). Thus, aspects of transactional and transformational leadership can be equally appropriate for different followers.

4.1.2 Conceptualizing Employee Behavior

As previously mentioned, management has started to pay more attention to employee engagement (Adair, 2020; Popli/Rizvi, 2016), which can indicate effective leadership (Enste et al., 2020) and reduce absenteeism and turnover rates (Popli/Rizvi, 2016). Currently, engagement has peaked during the Covid-19 pandemic, but history has shown that it will be difficult to sustain afterwards (Adair, 2020). Due to its positive effects on organizational performance, it is important to maintain engagement, for instance through leadership styles adaptive to employees. Thus, a general typology of behavioral patterns in employees was developed based on existing classifications of follower characteristics.

Follower Characteristics

Behavior is versatile and there are many approaches to categorize followers. However, to keep within the scope of this report only the following selected theories were integrated in the development of the Five Employee Typology. An early model of followership was proposed by Kelley in 1988 and is still taught in universities today. He focused on two dimensions determining the effectiveness of employees: their degree of independent, critical thinking and how actively/passively they engaged. Furthermore, Kelley identified five main qualities which he considered essential for effective followership: successful self-management, commitment, competence, focus and courage. Thus, it can be assumed that effective leadership should focus on fostering these traits. Meyer and Allen (1991) examined the way people engage with their employers and were able to differentiate between three different types of commitment. These provide three distinct reasons as to why followers stay with their organization. Affective commitment describes a relationship based on emotional attachment and identification with the company. This leads employees to continue their job because they enjoy it. Alternatively, continuance commitment occurs when the individual recognizes the potential costs of resigning, which drives them to stay out of a need to due to salary and benefits. Lastly, normative commitment is based on a feeling of obligation to stay with the company. Employees rarely only form one type of commitment, but varying degrees on each.

A more recent study by Enste et al. (2020) considered the influence of the Locus of Control (LoC) on employee motivation and behavior. People with an internal LoC believe that they are in charge of their actions and future events, while those with an external LoC are convinced that luck, fate or more powerful people are responsible for what happens. The empirical study found a connection between an internal LoC and higher job satisfactions as well as better performance in independent tasks. Employees with an internal LoC had a higher belief in self-efficacy and were more open to changes and taking on responsibilities. Moreover, Enste et al. pointed out that they especially value relationship-based and trustful leadership styles.

The most influential model to classify employee behavior in this study is the GRIPS® typology. After recognizing a lack of positive behavioral models in behavioral economics, VOCATUS developed their classification of consumer decision strategies, based on a questionnaire spanning all five continents (Bauer/Wätjen, 2018). They condensed insights from behavioral economics into five consumer strategies, which focus strictly on purchasing decisions and are each seemingly irrational. Similarly, to how this report emphasizes the move to employee-based leadership, Bauer and Wätjen recommend the change away from marketing as a product-centered discipline. Because the GRIPS® typology is valid across cultures and its economic usefulness has been demonstrated (Bauer/Wätjen, 2018), parts of it can serve as a basis for the five-employee typology – the division into five distinct types and some of the inherent characteristics will be adopted.

The Five-Employee Typology

The aim of this typology is not to designate fixed roles to employees but to describe five potential behavioral patterns based on the analysis of follower characteristics and the GRIPS® typology (VOCATUS, as cited in Bauer/Wätjen, 2018). These patterns reflect manners in which the intention-behavior gap may manifest and can be used to provide tools to overcome the gap and make assumptions about the most effective leadership style for each type. Of course, other biases and heuristics than the ones mentioned influence decision-making and employee behavior, but their inclusion would go beyond the scope of this study.

The Five-Employee Typology suggests five patterns: the impulsive, planning, insecure, loyal and indifferent employee (Figure 4-2). Some of them share similarities but each represents a distinct behavior. Based on an analysis of behavioral science tools by Yoeli et al. (2017) and measures suggested by the BVA Nudge Unit (Mantashian et al., 2019), specific objectives and instruments can be matched to each type and later be connected to management tools. The pronouns he/she are used interchangeably to describe the types and do not reflect gender bias.

The **impulsive type** is an effective follower (Kelley, 1988), who thinks independently and engages actively. With an internal LoC his main reason to stay with the company is based on an affective commitment (Meyer/Allen, 1991). His characteristics include a strong focus on problem-solving and detail-orientation as well as high levels of motivation and concentration. The impulsive type is quick, creative, and easily activates his reflective system. Yet, he runs the risk of looking for quick fixes instead of long-term solutions and focusing strongly on immediate gains. This can lead to spur-of-the-moment behavior and an intention-behavior gap in the form

of the "Willing Slacker" (Karmasin/Kocher, 2019). Although he is aware of his gap, he lacks incentive and/or tools to overcome it.

Figure 4-2: The Five-Employee Typology (1/2)

Characteristics and workplace behaviors of each employee type

	the Impulsive Type	the Planning Type	the Insecure Type	the Loyal Type	the Indifferent Type
Main Characteristics	▪ Motivated ▪ Problem-solver ▪ Detail-focused ▪ Loses sight of "big picture" ▪ Easily engages reflective system ▪ Focus on immediate gains	▪ Expert knowledge ▪ Strategist planning for the long-run ▪ Vision-focused ▪ Risk of overlooking details ▪ Easily engages reflective system ▪ Status quo-oriented	▪ Adaptive to environment ▪ Risk averse ▪ Strong need for familiarity, safety ▪ Cautious ▪ Trouble handling complex decisions	▪ tendency to groupthink ▪ Strong status quo bias ▪ Does not question company values ▪ Dislikes change ▪ Unwilling to engage reflective system ▪ Loyal ▪ Emotional attachment	▪ Low engagement, job satisfaction ▪ Independent, critical thinking ▪ Strong focus on self-interests ▪ Follows path of least effort ▪ No emotional involvement
Workplace Behaviors	▪ Quick thinker ▪ Spur-of-the-moment behavior ▪ Many rough ideas	▪ Older, employed for several years ▪ Enjoys handling responsibility	▪ Quieter, especially in group settings ▪ Agrees to consensus ▪ Does not criticise openly	▪ Brings up past decisions, stories ▪ "we're doing it because we've always done it like this"	▪ Would never work overtime ▪ Can surprise with constructive criticisms, useful ideas
Most Effective Leadership Style	transactional	transactional	transformational	combination	Transformational
	Deduction of follower characteristics				
Followership Pattern (Kelley, 1988)	▪ Independent, critical thinking ▪ active	▪ Independent, critical thinking ▪ active	▪ Dependent, uncritical thinking ▪ passive	▪ Dependent, uncritical thinking ▪ active	▪ Independent, critical thinking ▪ Passive
Locus of Control	internal	internal	external	external	Internal
Commitment Type (Meyer & Allen, 1991)	Affective commitment (happy with organisation)	Affective commitment (happy with organisation)	Normative commitment (feels obligated to stay)	Affective commitment (emotional attachment)	Continuance commitment (needs salary/benefits)
Mind Behavior Gap (Karmasin & Kocher, 2019)	Willing Slacker			Ignorant Type	
Adoption from GRIPS® (VOCATUS, as cited in Bauer & Wätjen, 2018)	▪ Values short-term gains and disregards potential long-term losses	▪ Potential for loss aversion → increases status quo bias	/	▪ Status quo bias ▪ Prefers routines	▪ Seeks convenience, immediate gratification

Source: Own depiction

His main IBG barriers are cognitive or situational. When he forms implementation intentions, they are usually not specific enough to overwrite habits or impulses. The focus on the immediate makes the impulsive type susceptible to situational barriers such as antecedent states. In order to support him to become more effective, the main objectives are enablement and maintaining the high level of engagement (Figure 4-3). Necessary measures include feedback and reminders, obtaining specific commitments as well as reaching out during transitions and enabling social diffusion with colleagues. Though aspects of transformational leadership are required to uphold the emotional commitment, the impulsive benefits most from specific goals and role definitions, which highlight the importance of a long-term vision. These are related to transactional leadership.

Contrarily the **planning type** focuses on the long-term results of actions. She too is active, thinks independently, has an internal LoC and is affectively committed. Planning employees often have a high level of expert knowledge due to many years of working experience. In relation to the theory that increased experience reduces flexibility and increases status quo bias (Burmeister/Schade, 2007), she is on average older than the impulsive type. She likes handling

responsibility, easily immerses herself cognitively and will accept short-term losses if it means achieving long-term goals. Thus, she tends to lose sight of relevant details and weighs alternatives in reference to the status quo. She is a "Willing Slacker" (Karmasin/Kocher, 2019), who tends to forget the importance of executing even small actions. The planning type is a classic example of talk over action leading to the IBG (Pfeffer/Sutton, 2000). She is less affected by situational barriers, but even more so by cognitive ones. When e. g. ego depleted, she falls back onto the status quo bias.

Similarly, to the previous type, the objectives regarding the planning employee are enabling her in weighing short-term versus long-term actions and maintaining high engagement. Intuitive metrics and meaningful time frames for the tasks can help avoid "overthinking". Important activities involve minimizing constraints to make faster decisions, timely feedback and reminders and providing opportunities for social exchanges.

Figure 4-3: The Five-Employee Typology (2/2)

Summary of main employee biases and respective effective behavioral tools

	the Impulsive Type	the Planning Type	the Insecure Type	the Loyal Type	the Indifferent Type
Main Barrier	Cognitive/situational	Cognitive	Environmental	Environmental/situational	Situational
Main Bias	Availability	Status Quo	Social Norms	Status Quo	Availability, Cognitive Ease
Objectives	1. Enable 2. Maintain engagement	1. Enable 2. Maintain engagement	1. Encourage 2. Reduce complexity	1. Get attention 2. Reduce complexity	1. Get attention 2. Engage 3. Reduce complexity
Behavioral Tools	▪ Reach out during transitions ▪ Set meaningful time frames ▪ Reduce up-front costs of long-term investments ▪ Feedback + reminders ▪ Obtain commitment ▪ Facilitate social diffusion	▪ Reach out during transitions ▪ Intuitive metrics ▪ Feedback + reminders ▪ Obtain commitment ▪ Facilitate social diffusion ▪ Minimise constraints	▪ Provide recognition ▪ Communicate a norm ▪ intuitive metrics ▪ Easy access to information ▪ Preselect relevant options ▪ Support intuitive understanding ▪ Facilitate no-risk first step ▪ Provide motivating first impression	▪ Reach out during transitions ▪ Intuitive metrics ▪ Communicate a norm ▪ Multiple channels of communication ▪ Preselect relevant options ▪ Choose right messenger ▪ Highlight advantages of change	▪ Multiple channels of communication ▪ Increase observability of behaviour ▪ Reframe consequences meaningfully ▪ Feedback + reminders ▪ Obtain commitment ▪ Catch attention ▪ Choose right messenger ▪ Identify expectations
Most relevant management tool	Vision Statements	Performance Goals	Leading by Example	Communication	Vision Statements

Source: Own depiction, tools based on Yoeli et al., 2017; Mantashian et al., 2019

The insecure employee differs greatly from the aforementioned two, who both demonstrate self-confidence in their behaviors and decisions. He is a sheep based on Kelley's classification (1988), with low engagement and dependent thinking, but very adaptive to his surroundings. This type is the only one different from the equivalent GRIPS® type (Price Accepters; Bauer/Wätjen, 2018). His behavior is strongly coined by insecurity, high risk aversion and a strong need for safety. The insecure type prefers not acting at all over taking the wrong action and will go above and beyond to avoid uncertainty. Often, he stays with the company out of a feeling of obligation (Meyer/Allen, 1991), which makes transformational leadership especially important. In group settings he is quieter and agrees to the consensus. His strongest barriers are choice overload and environmental barriers because he depends on his social surroundings to adapt his own behavior. The main goals are to encourage the insecure employee and reduce

the complexity in his environment, to provide a sense of security and lower the risk of him being overwhelmed. Useful behavioral tools can be intuitive metrics and the preselection of relevant options in decision-making, as well as facilitating no-risk first steps in projects if possible. It is important to communicate a social norm of the desired behavior and continuously provide recognition and feedback to the insecure employee.

As the fourth type, the **loyal employee** exhibits the strongest status quo bias. This type embodies "Yes People" (Kelley, 1988), who are active but not independent. With an external LoC, she has a strong emotional attachment (Meyer/Allen, 1991) to the company. The loyal type dislikes changes, even small ones, and avoids engaging her reflective system when possible. She represents the status quo bias in the form of doing something, simply because it has always been done that way (Pfeffer/Sutton, 2000). Her intention-behavior gap falls under the "Ignorant Type" (Karmasin/Kocher, 2019). She is completely unaware of her failure to implement changes. Therefore, the main objectives are to redirect her attention as well as reduce complexity to make cognitive engagement easier. The strongest IBG barriers for the loyal employee are situational or environmental, especially the social norms. Hence, effective management means choosing the right messenger, using multiple modes of communication as well as establishing a social norm. Intuitive metrics and preselecting options can facilitate decision-making. These make up a combination of transactional and transformational leadership activities. It is equally important to set the focus on clear goals and necessary actions as well as upholding the emotional relationship. This makes communication one of the most influential management tools.

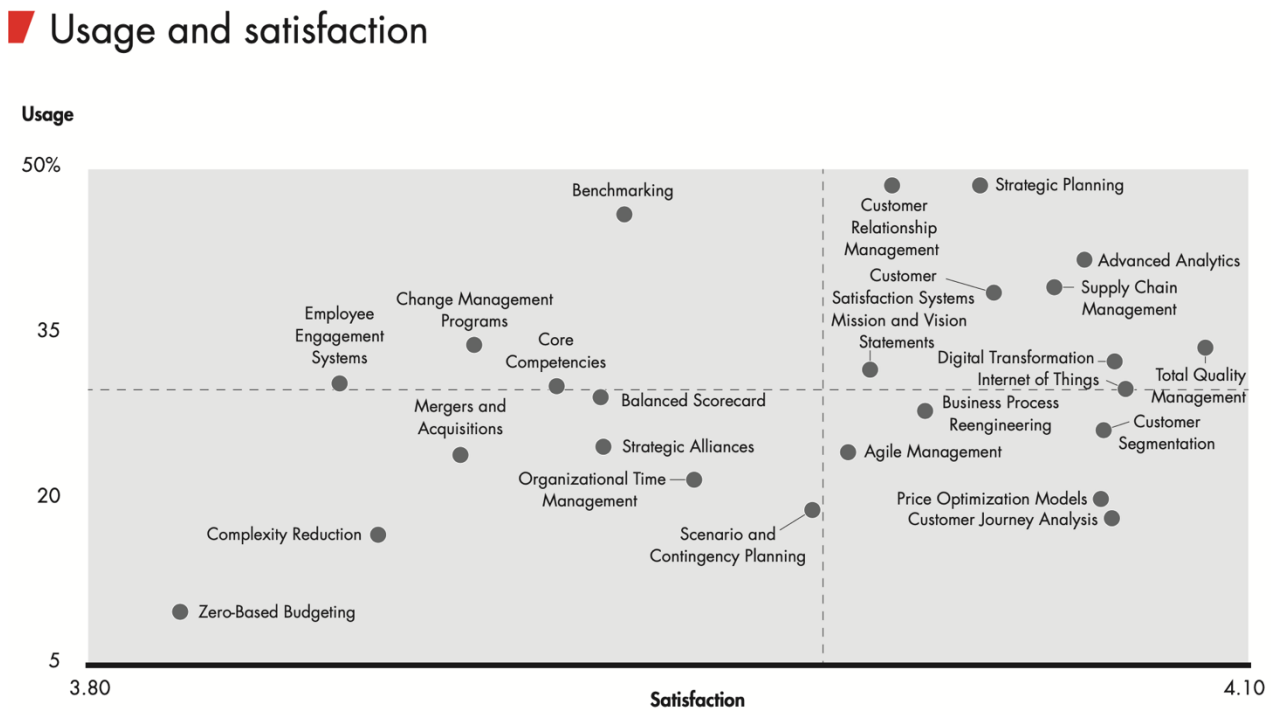
Lastly, the **indifferent employee** can be the hardest to engage effectively. He is an "Alienated Follower" (Kelley, 1988), who thinks independently yet is passive. This type seeks convenience, immediate gratification (Bauer/Wätjen, 2018) and his internal LoC increases his need for independence (Enste et al., 2020). Due to a relationship based on continuance commitment, he is not emotionally involved and primarily interested in his own needs. Guided by the concept of cognitive ease (Kahneman, 2012), he is unwilling to exert mental energy and follows the path of least resistance. Although uninvolved, this type of employee can contribute constructive criticisms and useful ideas when prompted. His most influential IBG barriers are situational. The indifferent type is easily ego depleted and decision paralysis can occur because he actively chooses to not engage cognitively. Therefore, getting his attention and engagement, as well as reducing complexity are the first management objectives. This requires multiple communication channels as well as choosing the right messenger and reframing consequences, so they matter to him. Aspects of transactional leadership such as reminders and obtaining a commitment, e. g. performance goals, can also be effective. However, transformational leadership is necessary to get him to go beyond his own self-interests. Sole transactional activities can get the indifferent type to turn further away from the company.

4.2 Management Tools

Four different kinds of management tools can be defined according to Bilodeau and Rigby (2007): rudimentary implements, specialty tools, blunt instruments and power tools. They vary on how much they are used and how satisfied managers usually are when applying them. It is important to consider that no tools is a universal remedy (Rigby, 2017). Management tools can only unfold their full effectiveness when they are applied in the long run (Rigby/Bilodeau, 2018).

Hereinafter five different instruments are examined: effective leadership, vision statements, performance goals, feedback and reducing complexity. Although leadership is often intangible in its definition, it can be taught, and its effectiveness measured. For that reason, it is seen as a management tool, in line with hyporeport IV. In a 2018 analysis Rigby and Bilodeau investigated the use of and the satisfaction with management tools for Bain/Company (Figure 4-4).

Figure 4-4: Usage and Satisfaction of Management Tools



Source: Rigby/Bilodeau, 2018, 5

Based on these numbers vision and mission statements can be considered power tools, which are used often and well implemented. Because effective leadership has not been considered a management tool, it is not reflected in the survey. Performance goals and feedback are parts of employee engagement systems (EES), which are blunt instruments. Although they are applied often, they need further development. Lastly, complexity reduction is typically in regard to organizational processes such as manufacturing, procurement or distribution (Rigby, 2017). Here, it is viewed as a third part of EES with influence on direct working environments. For each of the management tools, a more detailed account of suggested activities can be found in Appendix 1-6.

4.2.1 Effective Leadership

"Effective followers and effective leaders are often the same people playing different parts at different hours of the day." (Kelley, 1988, 6)

This statement reflects the importance of leading by example and leaders, who understand their own intention-behavior gap. Most leaders are simultaneously followers and vice-versa, which makes interactions between superiors and subordinates crucial for mutual learning. Based on this effective leadership is made up of two aspects: leading by example and communication.

Leading by Example

Although the phrasing leading by example is rarely used, management literature brings up the topic of role modelling. Jorgensen et al. (2014) developed a three-step model for successful organizational change management for IBM. The first stage they determine as the basis for further process is "leading on all levels", which involves role modelling, employee engagement and empowerment. These can be considered separate aspects of Leading by Example. Another example is the Society for Human Resource Management (SHRM), which stated that an organizational culture based on trust can only be achieved if leaders model reliability, honesty and competence (Dorsey/Mueller-Hanson, 2017). Gill's model of effective leadership (2003) supports this by classifying motivation and inspiration as a main dimension, largely based on perceived credibility. Lastly, Pfeffer and Sutton (2000) mention that building trust and getting rid of fear is effective against the intention-behavior gap and can be achieved through accountability of leaders.

In this context, leading by example can be defined as role modelling the desired characteristics and enabling the implementation of further actions. This includes recognizing and understanding one's own susceptibility to the intention-behavior gap and continuously trying to overcome it as well as accepting criticisms pointing it out. Leading by example involves a number of management activities, but the most important ones are continuously improving one's own skill set (especially digital skills), questioning the status quo (Snyder/Barnakova, 2020), communicating a norm (Melnyk et al., 2019; Yoeli et al., 2017) as well as identifying employee moods, habits and occurring life events. The latter is crucial to recognize moments when individuals are particularly susceptible to the IBG or which present opportunities to build new habits (Shotton, 2018). A well-known management technique that combines aspects of leading by example, communication and feedback is management-by-walking-around (MBWA). First developed by Hewlett-Packard in the 1970s (as cited in Serrat, 2017), it describes walking around and interacting with staff to build relationships, encourage and ultimately reinforce company values. Although it might seem like a good tool combining several aspects, it has to be applied with caution. MBWA has to entail active problem-solving to be effective. Otherwise, an increased focus on problems can negatively impact engagement (Tucker/Singer, 2015).

Management activities of leading by example target both cognitive and situational IBG barriers. This form of leadership influences what is perceived as the status quo and the available information in the intuitive system. Leaders can gage and influence factors such as ego depletion or cognitive strain to attenuate the impact of IBG barriers.

Communication

The second part of effective leadership is communication. A failure to communicate properly is one of the most common barriers in companies (Eilers et al., 2019). It is a factor integrated into the IBM model of managing organizational change (Jorgensen et al., 2014) and Gill's model of effective leadership (2003). Both frameworks underline the importance of frequent communication via different channels and in all directions. Pfeffer and Sutton (2000) view it as an essential measure to bridge the intention-behavior gap by using action-oriented language and encouragement.

An important aspect of communication are the different types of messengers. Martin and Marks (2019) identified two different types: hard versus soft. Hard messengers mainly rely on hard power bases, which restrict the follower's ability to deny demands (Pierro et al., 2013), due to the socio-economic position, dominance or attractiveness of the messenger. According to Martin and Marks soft messengers get through to recipients based on a connection and the human desire to form social bonds, using traits like warmth, vulnerability or charisma. In comparison hard messengers are quicker in getting people's attention, but messages from soft superiors are more likely to be accepted. For that reason, soft messengers are especially useful for the insecure and loyal employees.

Effective management activities of communication include empowering employees and providing recognition (Snyder/Barnakova, 2020), communicating often and openly (Giles, 2016) as well as using different communication channels (Yoeli et al., 2017), e. g. integrating MBWA as an additional measure. These activities have the biggest impact on environmental IBG barriers which rely on social norms, and a smaller mediating effect on situational barriers because leaders can influence availability of information.

4.2.2 Vision Statements

Vision statements are one of the most popular management tools and are applied above average by managers (Rigby/Bilodeau, 2018) and come as the first steps in many frameworks of effective leadership (Dorsey/Mueller-Hanson, 2017; Gill, 2003; Pfeffer/Sutton, 2000). Cementing the how, why, core values and principles is essential to build subsequent strategies (Pfeffer/Sutton, 2000). They are often combined with mission statements, which give a more detailed account of objectives and strategies (Rigby, 2017). An empirical study on visionary images has provided evidence that visions can increase motivation and align motives (Rawolle et al., 2017).

From the perspective of the intention-behavior gap, a specific vision is more important than the mission statement. The latter's aspects of goals and strategies are reflected in the performance goals in the subsequent chapter. Vision statements, however, provide a focal point, which can serve as a reference for judgements and influences the availability and retrievability of information, because the intuitive system is then primed for factors relating to the vision. There is a widespread agreement that visions need to be meaningful, clear, memorable and provide a rational for company actions (Dorsey/Mueller-Hanson, 2017; Gill, 2003; Jorgensen et al., 2014). Their effectiveness can be increased through distinctiveness (Shotton, 2018) as well as personal

connection (Rawolle et al., 2017) and intuitive understandability (Mantashian et al., 2019). For this reason, the most important activities in regard to vision statements are ensuring these essential characteristics and e. g. integrating intuitive metrics so a variety of people can comprehend the vision. They primarily influence cognitive and situational IBG barriers by impacting the status quo as a reference point. Vision statements can assist in ensuring that the goal remains the same even if the intuitive system is in charge.

4.2.3 Performance Goals

Next to leading by example, performance goals are the most important management instrument against the intention-behavior gap. They represent the business version of the implementation intentions developed by Gollwitzer (1999). If implemented correctly they can improve performance, motivation and employee retention (Rigby, 2017). From a behavioral economics perspective performance goals record and specify commitment, which can support behavioral changes and effectively bridge the gap (Ariely, 2010; Carrington et al., 2010; Gollwitzer, 1999; Mantashian et al., 2019). Jorgensen et al. (2014) integrate performance goals into their model of managing organizational change as the second step. Issues with performance goals are often that they are not specific (Mantashian et al., 2019) or challenging enough (Kahneman, 2012) or focus too much on the SMART approach (Dorsey/Mueller-Hanson, 2017).

Dorsey and Mueller-Hanson (2017) analyzed what factors make performance measurements successful and determined that expectations and goals need to be adapted to the respective job roles and require a degree of flexibility. Employees themselves should develop their goals within a given framework. They pointed out that SMART (specific, measurable, achievable, reasonable, time-bound) goals lack important characteristics and often lead to rigidity. Instead, Dorsey and Mueller-Hanson suggest the main characteristics should be personal importance, challenge, specificity and control. Thus, management activities with regards to performance goals should ensure their effectiveness. This includes obtaining the commitment in the first place (Yoeli et al., 2017), specifying personal responsibilities (Tucker/Singer, 2015) and identifying the necessary resources required to achieve the goals (Shuck/Herd, 2012). Leaders should subsequently supply those and support employees in goal setting by including intuitive metrics or meaningful time frames (Yoeli et al., 2017) where sensible, e. g. for the insecure or loyal employee.

Although performance goals are effective to mediate the impact of all IBG barriers, they are especially useful for cognitive obstacles. They support the success of implementation intentions and can help build habits. It is the leader's job to facilitate proper goal setting for the employees, which relates both to transformational and transactional leadership.

4.2.4 Feedback

Feedback is probably one of the oldest management tools and was already included in Kelley's early model of cultivating effective followers (1988). One big part of feedback is employee recognition which the SHRM considers an effective instrument to improve recruitment, retention, goal alignment and performance reviews. It includes almost any action by managers of peers to acknowledge employee work, success and achievement (Society for Human Resource

Management, 2018). Dorsey and Mueller-Hanson (2017) also included feedback in their model of successful performance management systems. They pointed out that its effectiveness depends on the messengers and how it is delivered. It should be a two-way dialogue and occur quickly after an event. Their checklist of effective feedback states that it needs to be behavior-focused, deal with controllable work factors and include specific examples (Dorsey/Mueller-Hanson, 2017). The more frequently feedback is given, the bigger its positive impact. Additionally, feedback can be applied as a positive reinforcement, which, if timed right, can mediate procrastination effects and help bridge the gap (Ariely, 2010).

Feedback activities involve small daily actions such as informal exchanges, e. g. by MBWA, formal feedback tools (Society for Human Resource Management, 2018), reminders (Yoeli et al., 2017) and follow-ups to meetings (Pfeffer/Sutton, 2000). These measures primarily impact environmental IBG barriers through social norms and their influence on cognitive ease and coherence.

4.2.5 Complexity Reduction in Work Environments

From the classic management perspective, complexity reduction is aimed at organizational structures like production, procurements, or distribution. However, in the context of the intention-behavior gap it can better be described as understanding the sources of complexity in employee work environments and simplifying the decision-making processes by clarifying roles and processes. Complexity and bureaucracy often pose a barrier to the intention-behavior implementation on company level (Eilers et al., 2019). An example of successful complexity reduction was observed by Ariely (2010). The Ford Motor Company had troubles getting their customers to bring their cars in for check-up due to the complicated schedule. Once they provided consolidated time frames, their service bays were used to capacity because consumers understood the process better. Similarly, Pfeffer and Sutton (2000) highlighted that a corporate culture coined by jargon, complicated languages and ideas often shows a strong intention-behavior gap. Leaders can improve the working environments of their employees by reducing the complexity, which leaves more room for the reflective system to exert energy on relevant work processes. This involves using a comprehensive language, promoting simple and logical ideas (Pfeffer/Sutton, 2000), which supports intuitive understanding, and preselecting relevant options for decisions as well as making information easy to access (Yoeli et al., 2017). Small measures like these can reduce the risk for choice overload.

Complexity reduction in the workplace mainly influences situational IBG barriers because it provides prevention measures against choice overload, ego depletion or cognitive strain. Although, it is not enough on its own to bridge the intention-behavior gap, it can reduce the impact of barriers and biases.

5 Conclusion

Following the previous analyses, it is important to point out that focusing on one simple leadership style is not useful due to the importance of adaptability and flexibility. Yet the transformational and transactional leadership styles as two ends of a spectrum can be effectively combined to respond to all five types of employees. To tie in with previous insights, each type can be connected to one most influential barrier and their fitting leadership styles as depicted previously in Figure 4-2 and Figure 4-3. Going one step further, Table 5-1 consolidates employee types, major barriers, biases, and most effective management tools.

Table 5-1: Summary of Insights underlying the Five-Employee Typology

Matching IBG barriers, BE biases and management tools to the respective employee type

Employee Type	IBG Barriers	BE Bias	Management Tools
Impulsive Employee	Situational/ cognitive	Status quo, availability	■ Leading by Example ■ Vision Statements
Planning Employee	Cognitive	Status quo	■ Performance Goals ■ Leading by Example
Insecure Employee	Environmental	Social norms	■ Communication ■ Feedback
Loyal Employee	Situational/ environmental	Availability, social norms	■ Leading by Example ■ Complexity Reduction
Indifferent Employee	Situational	availability	■ Vision Statements ■ Communication

Source: Own depiction

While each selected tool can impact the intention-behavior gap, they are distinctly influential on certain types of barriers and employees. Because situational barriers are very circumstantial and can occur spontaneously, their effect is best mediated by instruments improving the direct working environment, such as leading by example and complexity reduction. These can reduce the likeliness of the reflective system getting overwhelmed. Vision statements can be effective by implanting the desired future state in the intuitive system and making related information more easily available. Similarly, leading by example, performance goals and vision statements influence the cognitive barriers. Having a specific, achievable, detailed end goal is crucial to improve implementation intentions, which are substantial to break existing habits and build new ones (Carrington et al., 2010; Gollwitzer, 1999). For environmental barriers those management tools influencing the social surroundings are most useful: feedback and communication. They influence what is conceived as a social norm, can reinforce positive behavior and pick up on

insecurities and deviations from usual behavior. Consequently, the impulsive employee, who is especially susceptible to situational and cognitive barriers, can best be supported applying leading by example and vision statements. Because he has an internal Locus of Control and prefers independence, activities such as frequent communication and constant feedback are less valuable for him than for the insecure employee, who requires the feeling of social security. Equivalently, each type responds better to certain types of instruments depending on their most influential barriers.

Ultimately, this report points out the importance of recognizing and understanding the intention-behavior gap. Similarly, to how learning about biases can improve decision-making (Laibson/List, 2015), becoming aware of the most prominent barriers and situational triggers is the first step to creating different behavioral patterns. The second crucial step is then identifying situations in which the intuitive system takes over cognitive processing, i. e. determining when ego depletion effects ensure. Thus, the core insight of this report is that leading by example can be considered the most important management tool to overcome the intention-behavior gap. In practice, employees might show behavior which combines two types of the five-employee framework. Because leading by example can be effective against all three types of IBG barriers, it can be effective with all kinds of followers. Moreover, it is indispensable for leaders to bridge their own gap before requiring their employees to do the same.

This report has provided a more comprehensive theoretical foundation regarding the intention-behavior gap, its causes and impact on employees and leadership. Apart from suggestions for leadership practices, it constitutes a foundation for further empirical research which should extend beyond interviewing managers. In the area of behavioral economics, more conclusive investigation of the accuracy of ego depletion effects and dual system theories is required. But more importantly, the previous chapters highlight the importance of analyzing and improving management practices with a focus on the intention-behavior gap, such as research the effectiveness of existing instruments and empirical testing of the five-employee typology. Additionally, analysis of the gap itself can contribute to a better understanding of leadership, which can go beyond its influence on company performance and include societal issues such as measures against the climate crisis and current Covid-19 pandemic.

Zusammenfassung

Die Diskrepanz zwischen Einstellung und Verhalten ist weitverbreitet. Dazu zählen die Prokrastination, also das ständige Aufschieben von unliebsamen Aufgaben aber auch die Tatsache, dass Unternehmen zwar viele Changeprozesse anstoßen, diese aber nur selten auch konsequent umsetzen. Dies kann für Unternehmen zu gravierenden Wettbewerbsnachteilen führen. Die aktuelle Forschung rund um die Einstellungs-Verhaltenslücke betrachtet vor allem den ethischen Konsum. Hier werden stattdessen die Auswirkungen des „Intention/Mind-Behavior Gap“ in Unternehmen analysiert und Lösungsansätze für Führungsstile und Managementtools vorgestellt. Zunächst werden die wesentlichen Barrieren, die kognitiv, situationsbedingt oder umweltbedingt sein können, identifiziert. Duale System-Theorien zeigen, dass die Dominanz des intuitive Systems zum Verharren im Status Quo führen und Einstellung und Verhalten auseinanderfallen. Gründe dafür sind kognitive Überlastung, mangelnde Selbstkontrolle, Entscheidungsmüdigkeit und Informationsüberlastung und zu viel Auswahl. Auf Basis der Fünf-Mitarbeiter Typologie werden Wege skizziert, wie mit adaptiver, mitarbeiterorientierter Führung der Mind-Behavior-Gap überbrückt werden kann. Voraussetzung dafür sind unter anderem reflektierte Führungskräfte, die eine Vorbildfunktion übernehmen.

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Appendix

Detailed Account of Management Activities for the respective Management Tools

Appendix 1: Effective Leadership – Leading by Example

Activity	Source
■ Improve your own skill set ■ Focus on shifting mindset and culture within yourself ■ Awareness of the short lifespan of skills – re-training required ■ Question the status quo	Snyder/Barnakova, 2020
■ Assign specific responsibilities to each employee	Tucker/Singer, 2015
■ Show moral, ethical standards ■ Provide safety for trial and error ■ Be flexible, able to change opinions ■ Openness to new ideas and approaches	Giles, 2016
■ Increase observability of behavior ■ Communicate a norm by acting like it (descriptive norm)	Yoeli et al., 2017
■ Give a motivating first impression ■ Identify employee expectations ■ Enable social diffusion	Mantashian et al., 2019
■ Offer training and opportunities for change, but be strict with those refusing to adapt ■ Exclude fear as a management mechanism	Pfeffer/Sutton, 2000
■ Identify employee moods, existing habits and occurring life events	Shotton, 2018
■ Management by walking around → build relationships, demonstrate company value	Serrat 2017

Appendix 2: Effective Leadership – Communication

Activity	Source
■ MBWA	Serrat, 2017
■ Empower and provide recognition	Snyder/Barnakova, 2020
■ Communicate often and openly ■ Create feeling of togetherness, failing and succeeding together	Giles, 2016
■ Encourage dialogue on all levels	Jorgensen et al., 2014
■ Reach out during transitions ■ Use multiple modes of communication ■ Reframe consequences meaningfully	Yoeli et al., 2017
■ Check up during/after life events ■ State something as popular – use social proof phenomenon	Shotton, 2018
■ Communicate commitment ■ Choose right messenger, right time ■ Use recognition as a reward	Mantashian et al., 2020
■ Use action-oriented language ■ Focus on simplicity of language and complexity	Pfeffer/Sutton, 2000

Appendix 3: Vision Statements

Activity	Source
■ Create vision for smaller branches and teams ■ Keep in line with organizational vision	Rigby, 2017
■ Use intuitive metrics ■ Set meaningful time frames	Yoeli et al., 2017
■ Create vivid picture	Rawolle et al., 2017
■ Make it understandable, memorable, quotable ■ Vision as a basis for further strategy	Gill, 2003
■ Distinctiveness increases memorability	Shotton, 2018

Appendix 4: Performance Goals

Activity	Source
■ Move away from focus on SMART goals ■ Tailor performance goals to job roles (clearly identify job roles) ■ Characteristics: importance, challenge, specificity, control	Dorsey/Mueller-Hanson, 2017
■ Clearly specify responsibilities (positively impacts performance)	Tucker/Singer, 2015
■ Clearly communicate expectations ■ Provide goals and objectives	Giles, 2016
■ Intuitive metrics ■ Meaningful time frames ■ Obtain commitment	Yoeli et al., 2017
■ Specificity of commitment	Mantashian et al., 2019
■ Identify required resources for goals and provide them	Shuck/Herd, 2012

Appendix 5: Feedback

Activity	Source
■ Timely feedback and reminders ■ Provide recognition	Yoeli et al., 2017
■ Follow up on meetings and discussions	Pfeffer/Sutton, 2000
Characteristics of good feedback ■ Focus on behavior, not characteristics ■ Focus on controllable aspects ■ Use specific examples ■ Quick and regular feedback ■ Accuracy and fairness ■ Positives outweigh the negatives	Dorsey/Mueller-Hanson, 2017
■ Daily informal exchanges ■ Formal feedback tools ■ Proper timing	Society for Human Resource Management, 2018

Appendix 6: Reducing Complexity

Activity	Source
■ Promote using simpler, understandable language ■ Do not support gaining status through using jargon	Pfeffer/Sutton, 2000
■ Make information easy to access ■ Preselect relevant options ■ Set (proper) default	Yoeli et al., 2017
■ Enable intuitive understanding ■ Minimize constraints	Mantashian et al., 2019

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