

Master Thesis

Radboud University



**The influence of personality traits on individual
ambidexterity**

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Abstract

Where organizational ambidexterity has been recognized as a well-established construct within management literature, it is the individual level, that has gained growing attention among researchers in the past decade. Within individual ambidexterity research however, which concerns the ability of individuals to switch between the exploitation of existing assets and knowledge and the exploration of new opportunities, a call for a better understanding of the concept and its antecedents is existent. This study aimed to determine whether openness to experience and conscientiousness, which are antecedents to the construct originating from the Big Five personality traits, are related to individual ambidexterity. Furthermore, the moderating role of job autonomy was examined. By finding these effects, it could contribute to strategic management as the development of understanding individual ambidexterity benefits strategic outcomes.

The effects were tested by conducting a regression analysis through SPSS. Data was gathered at a Dutch transportation organization, where 36 nonmanagerial and middle management employees participated in the research. The analysis found no statistically significant results for the hypothesized effects. Future research could rerun the conceptualized model to a larger sample size, since that limited the statistical significance and explanatory power of this research.

Keywords – Individual ambidexterity; Exploration; Exploitation; Big Five personality traits; Conscientiousness; Openness to experience; Job autonomy.

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Introduction

Innovation, defined as “the multi-stage process whereby organizations transform ideas into new, improved products, services or processes, in order to advance, compete and differentiate themselves successfully in their marketplace” (Baregheh, Rowley & Sambrook, 2009, p. 1334), is vital for the long-term survival of organizations. Changing markets and the ever-increasing pace within organizations lead to organizations facing a constant pressure of exploiting existing competencies and exploring new ones (Vera & Crossan, 2004; Junni, Sarala, Taras & Tarba, 2013; Anderson, Potočnik, & Zhou, 2014). As organizations seek to adapt to environmental changes, they explore new ideas and processes to develop new products and services for emerging markets (Danneels, 2002). Organizations are likely to fail in the face of change if they lack effort towards exploration (March, 1991). Simultaneously, these organizations need stability to leverage competences and exploit already existing products and services (Danneels, 2002). When not sufficiently exploiting existing assets, organizations give up on efficiency, control and stability (March, 1991). So, in order to ensure its current viability and, at the same time, devote enough energy to exploration to ensure its future viability, organizations need to find balance in sufficiently engaging in both exploitation and exploration (March, 1991; He & Wong, 2004). The ability to engage in this paradoxical duality of innovation is what is known as organizational ambidexterity (Tushman & O’Reilly, 1996). While ambidexterity research has mainly focused on the organizational level, other research directions have emerged, such as the individual level known as individual ambidexterity, defined as “the individual-level cognitive ability to flexibly adapt within a dynamic context by appropriately shifting between exploration and exploitation” (Good & Michel, 2013, p. 437).

Although ambidexterity research has been conducted for multiple decades, there is a growing consent among researchers that the concept of individual ambidexterity is less developed than it should be. Moreover, there is too little known about what antecedents could

cause individual ambidexterity (Andriopoulos & Lewis, 2009; Good & Michel, 2013; Laureiro-Martínez, Brusoni & Zollo, 2010; Schnellbacher, Heidenreich & Wald, 2019; Tuncdogan, Van Den Bosch & Volberda, 2015). In the context of this research, it is important to mention the findings of Bonesso, Gerli and Scalopan (2014), which declare that studies in the field of ambidexterity adopting the firm level of analysis assume homogeneity at the individual level. These studies therefore neglect how organizational members might influence the firm's ability to pursue balance between exploration and exploitation. The authors highlight the relevance of an individual's characteristics to individual ambidexterity as they are related. This defect in ambidexterity research has led to researchers delving into different levels of analysis, like the individual (e.g. Good & Michel, 2013) or contextual level (Gibson & Birkinshaw, 2004). Since the call for more research on the concept of individual ambidexterity has been insistent for more than a decade (Raisch & Birkinshaw, 2008; Mom, Van den Bosch & Volberda, 2009; Raisch, Birkinshaw, Probst & Tushman, 2009; Lavie, Stettner & Tushman, 2010), and still is (Rosing & Zacher, 2017; Tempelaar & Rosenkranz, 2019), this study will mainly focus on this form of ambidexterity.

According to Mu, Van Riel and Schouteten (2020), various studies have shown that ambidexterity at the individual level not only benefits individual performance (Mom, Fourné & Jansen, 2015), but also functions as an important source of organizational ambidexterity, making it an essential basis for organizational success (Birkinshaw & Gibson, 2005; Good & Michel, 2013). Driven by their findings, Mu et al. (2020) therefore suggest that personal characteristics may affect individual ambidexterity, which is why further investigating its personal antecedents is thus crucial to the conceptualization of individual ambidexterity. The ability of individuals to be ambidextrous is also proven to be beneficial for an organization's long term survival, according to Gibson & Birkinshaw (2004). Additionally, in Keller & Weibler (2014), the importance of defining how personality traits are reflected in ambidextrous

behaviour is being emphasized. Furthermore, Schnellbacher et al. (2019) suggests that companies reach the full potential of organizational ambidexterity with the help of individual ambidexterity. This indicates the relevance of individual ambidexterity for organizations. For managers to establish the right working environment for employees for their ambidexterity to reach full potential, it first has to be examined how personality traits influence one's individual ambidexterity. If reaching individual ambidexterity was no two-way street, then scholars would have been able to provide for a practical way to reach individual ambidexterity.

Research has denoted the influence personal traits can have on innovativeness (Agarwal & Prasad, 1998). However, to date there is limited understanding of how individuals deal with the conflicting demands of exploration and exploitation, and how they contribute to organizational ambidexterity (Birkinshaw & Gupta, 2013; Keller & Weibler, 2015). Besides, it remains specifically unclear why some individuals engage more in exploitation and exploration activities. In order to answer that question, it is required to further delve into the role of employees' personal traits (Gupta, Smith & Shalley, 2006; Raisch et al., 2009), because explorative and exploitative activities are based on decisions, which in turn are determined by personal traits (LePine, Colquitt & Erez, 2000). Raisch et al. (2009) also calls for further looking into the role personal characteristics could have to individual ambidexterity, which is supported by Park and Kim (2021), who state that personality traits serve as the basis to explain individuals' various behaviors.

Given that there is room for expanding the research fields of the preceding variables, this research develops and tests hypotheses on the influence that personality traits have on individual ambidexterity. This will be conducted at the operational level of the firms, indicating a focus on nonmanagerial and middle management employees. In this way, the study aims at determining whether there is a relation (and if so, what) between employees' personality traits and their ambidextrous behaviour. This calls for finding the individual relations that the traits

have with both exploration and exploitation. In compliance with the call of Raisch et al. (2009) to further delve into the personal characteristics that could lead to individual ambidexterity, a selection of two personality traits have been made: “openness to experience” and “conscientiousness”, which were chosen as they have been linked to individual learning behaviors of exploration and exploitation before (Keller & Weibler, 2015). As these authors found openness to experience to be positively related to individual ambidexterity of managers, it would be interesting to determine whether this also counts for nonmanagerial and middle management employees. These personality traits proceed from Barrick and Mount’s (1991) “Big Five” personality traits.

Additionally, this study will examine the moderating role of job autonomy within the relation of personality traits and individual ambidexterity. Within this research, job autonomy is perceived as the amount of freedom and discretion an individual has in carrying out assigned tasks (Hackman & Oldman, 1976). Job autonomy is related to ambidexterity, as individuals need to make their own judgements and have their freedom in dividing their time between explorative and exploitative activities, as well as on how to integrate these activities (Wang & Rafiq, 2014). Moreover, we shed light on Barrick and Mount (1993), as they found that conscientiousness was significantly related to job performance. This relation was positively moderated for managers in jobs that were high in autonomy when compared to those in low autonomy jobs. It would therefore be interesting to examine whether this also counts for its relation with individual ambidexterity.

This study is a contribution to strategic management research, because it could develop our understanding of what impact different personality traits have on strategic outcomes. The achievement of individual ambidexterity for an employee has proven to create positive performance effects for individuals (Mom et al., 2015), the organizational unit in which the employee is employed in (Gibson & Birkinshaw, 2004; Schnellbacher & Heidenreich, 2020;

Walrave, Romme, van Oorschot & Langerak, 2017), and the organization as a whole (Birkinshaw & Gibson, 2005; Cao, Gedajlovic & Zhang, 2009; Good & Michel, 2013; Schnellbacher et al., 2019). The study contributes to the research field of ambidexterity in multiple ways. Firstly, the concept of ambidexterity is being further explored, which is not just focussed at the individual level, but specifically on employees working on operational level or in middle management. Secondly, we contribute to the research field of ambidexterity by indicating how different personality traits have impact on the two paradoxical dimensions of individual ambidexterity, as it could bring us closer to understanding how ambidextrous behaviour of nonmanagerial and middle management employees can be achieved. This would be a reaction on the call for further investigation into the antecedents of individual ambidexterity (Mu et al., 2020). Subsequently, the research will contribute to a manager's understanding if they should make an effort to liberate or limit the emergence of these personality traits in their employees, as it would advance employees' ambidextrous behaviour. Therefore, the research question of this study is: how do openness to experience and conscientiousness influence individual ambidexterity among employees?

Theoretical Framework

Individual Ambidexterity

The construct of organizational ambidexterity has attracted the growing attention of organizational theorists through recent decades (Cao et al., 2009; Mu et al., 2020). Global and dynamic environments have increased the need for organizations to be ambidextrous, as it is conducive to outperform competition in the long run (Dolz, Iborra & Safón, 2019; March, 1991). This has caused for its conceptualization to be known for its predominant ambiguity (e.g., Cao et al., 2009; Simsek, Heavy, Veiga & Souder, 2009). What is agreed upon within the research field however, is the importance of the concept for organizations. Ambidexterity has

been established as an important antecedent of organizational innovation and organizational performance (Cao et al., 2009; Gibson & Birkinshaw, 2004; He & Wong, 2004; Junni et al., 2013; Mu et al., 2020; Raisch & Birkinshaw, 2008). Furthermore, the most prominent, overarching definition for ambidexterity at the organizational level is the ability of organizations to simultaneously undertake the two contradictory activities of exploring new capabilities and exploiting existing competences (e.g., Petro, Ojiako, Williams & Marshall, 2019). This balancing process is an effort to satisfy existing customers, while still aiming to be future-oriented, and spot potential changes in customer bases or emerging markets (Caniëls & Veld, 2016). According to Tushman and O'Reilly (1996), when linking it to innovation, organizational ambidexterity is the ability to pursue both incremental and discontinuous innovation and change simultaneously, which results from hosting multiple contradictory structures, cultures and processes within the same organization.

Ambidexterity research originates from the organizational level (Mu et al., 2020). However, various studies advocating for research at other levels have emerged (Raisch et al., 2009), such as ambidexterity within the same organizational unit (Simsek et al., 2009), which contributes to the ambiguity that lies within the concept. Another extension to ambidexterity research is the focus on the individual level. Within this study, individual ambidexterity is being defined as “the individual-level cognitive ability to flexibly adapt within a dynamic context by appropriately shifting between exploration and exploitation” (Good & Michel, 2013, p. 437). Due to the focus on other levels of ambidexterity, research on individual ambidexterity is still at its infancy (Rosing and Zacher, 2017; Duan et al., 2020). Nevertheless, previous mentioned studies have proven that individual ambidexterity is a relevant concept for organizations.

In order to further develop understanding of the ambiguity of the concept, which is ought necessary as countless different perceptions of the concept exist, insights of the different types of individual ambidexterity that researchers use are provided to define the concept. To

establish that, the typology of Mu et al. (2020) is used, providing an overview of the different relationships recognized by previous studies. The authors recognized four different views on the relationship between the exploration or exploitation of individuals within the field of research. Firstly, the temporal dimension was identified, reflecting whether the conceptualization of individual ambidexterity is the simultaneous pursuit of both exploration and exploitation, or the rapid switching between them (Mu et al., 2020). Secondly, two other relationships between exploration and exploitation have been considered, which Cao et al. (2009) calls the balanced dimension and the combined dimension. According to Mu et al. (2020), most studies consider one or two of the four different types. As the usage of Good and Michel's (2013) definition of individual ambidexterity already suggests, it is chosen within this research to follow the rapid switching approach. Other proponents of this approach are Bledow, Frese, Anderson, Erez and Farr (2009) and Kaupilla and Tempelaar (2016). Bledow et al. (2009) describes individual ambidexterity as "the capability of individuals to perform contradictory activities and switch between different mindsets and action sets (p. 322). Kaupilla and Tempelaar (2016) proposes that individual ambidexterity is the behavioral capacity, rather than a psychological trait, to engage in and alternate between opposing task elements. This approach is also supported by Mom et al. (2009) and Simsek (2009), descending from Duncan's (1976) ideas that exploitation and exploration are opposing practices based on different and incompatible capabilities.

Additional to the temporal dimension of sequence, this study also supports the balanced approach. Within this approach, it is believed that exploitation and exploration can both be maintained at high levels despite the need to balance them (Farjoun, 2010; Lubatkin, Simsek, Ling & Veiga, 2006). This approach is preferred above the combined approach, which focusses on the combined extent to which subjects engage in exploitative or explorative activities (Cao et al., 2009). Although a perfect balance of the activities seems unfeasible, it is assumed that a

certain balance between the contradictory activities is necessary.

Concluding, it is agreed upon within this study with the line of research which believes in the combined and sequential approaches. However, the switching between exploitative and explorative behaviors leads to a paradox (Löwik, Rietberg & Visser, 2016). The authors argue, by using an example of R&D engineers, that most individuals work in a routine manner for efficiency and quality reasons. These so-called ambidextrous routines require individuals to be flexible to show behavioral complexity on the one hand, which is the ability to take on multiple roles and to perform these roles differently (Carmeli & Halevi, 2009), while stable patterns of action for efficiency and quality reasons are needed on the other hand (Gilbert, 2005).

The following paragraphs examine the concepts of individual exploration and exploitation independently. According to Schnellbacher and Heidenreich (2020), it is a focal point of the overarching concept to utilize both exploration and exploitation at the individual level to foster knowledge accumulation and enhance performance (Mom, van den Bosch & Volberda, 2007). Within this respect, Mom et al. (2015) and Schultz, Schreyoegg and von Reitzenstein (2013) highlight the importance of investigating the effects of the two individual activities to boost long term performance on different company levels.

Individual Exploration

Exploration in general is the searching for, discovering, creating, and experimenting with new opportunities, like the development of new businesses, products or services (Mu et al., 2020). Explorative activities will focus on emergent markets and radical innovation. Other researchers have focused on the nonmanagerial level of individual ambidexterity, rather than the managerial level or even the organizational level. Rosing and Zacher (2017) defines individual exploration as “the behaviors related to experimentation, searching for alternative ways to accomplish a task, and learning from errors” (p. 351). Löwik et al. (2016) suggested that explorative activities involve the search for new market opportunities and product development that require the

development of new knowledge and skills. This is in line with Jansen, George, Van den Bosch and Volberda (2008), which stated that behaviors like gaining broader knowledge and advancing new opportunities describe individual exploration. In essence, the review of past literature shows consensus when defining individual exploration.

Firms should be cautious for not relying solely on exploration. It might generate potential benefits, but it may also be the cause for less efficiency for the organization as it is constantly renewing its knowledge, without fully utilizing it (Bonesso et al., 2014; Levinthal & March, 1993). Löwik, et al. (2016) suggests that exploratory activities entail the search for new market opportunities and product developments, requiring new knowledge and skills.

Individual Exploitation

Exploitation at the organizational level is mostly known as the innovation that focuses on existing customers and incremental innovation (Benner & Tushman, 2001). These authors found that reduction of variability and maximization of efficiency and control are critical success factors to exploitation. When not sufficiently exploiting existing products and services, organizations give up on efficiency, control and stability (March, 1991). Contrastingly, once an organization just focusses on exploitative learning, it will give certainty in the short term, but creates risks concerning the long term as its knowledge base becomes obsolete (Bonesso et al., 2014), indicating the emergence of a success trap (Levinthal & March, 1993).

Rosing and Zacher (2017) describes individual exploitation as “relying on previous experience, putting things into action, and incrementally improving well-learned actions” (p.696). It is about doing things as they always have been done, relying on existing rules and routines. Benner and Tushman (2001) perceives exploitative behavior like refinement of existing assets and knowledge. Löwik, et al. (2016) suggests that exploitative activities concern routine-like processes, such as achieving short term goals and serving existing customers, which are executed based on experience and current knowledge. Another study (Mom et al., 2007)

described exploitative behavior of managers as the selection, implementation, improvement and refinement of existing certainties. This managerial approach does not deviate significantly from Rosing and Zacher's (2017) description of ambidexterity of nonmanagerial employees, as they perceive it as "behaviors related to experimentation, searching for alternative ways to accomplish a task, and learning from errors" (p.696). What also applied to exploration, previous studies do agree on defining this concept.

Combining and switching between individual exploration and exploitation

Although profound research has been conducted on the concept of ambidexterity, it is still uncertain how ambidexterity can be practically conceptualized by balancing or switching between explorative and exploitative activities in certain ways. These problems originate from the idea that resources are scarce, and that exploration and exploitation compete for these scarce resources (Dougherty & Hardy, 1996; March, 1991). Intangible resources such as time and knowledge are limited, which therefore limits an individual's ability to develop sufficient competence in both exploration and exploitation (Gupta et al., 2006; Keller & Weibler, 2014). Cao et al. (2009) argue that trade-offs need to be managed when resources are scarce in order to benefit from both activities. Additional to the idea of resource scarcity, the lack of practically understanding individual ambidexterity comes from the matter that exploration and exploitation are opposing practices based on different and incompatible capabilities (Duncan, 1976). Individual therefore are assumed to need to switch between these different tasks (Kauppila & Tempelaar, 2016). This means that in order for individuals to be ambidextrous, they need to engage in paradoxical practices. Under the conditions of resource scarcity and time pressure, individuals make their own judgements about how to divide their time and resources between the conflicting demands of exploration and exploitation (Mu et al., 2020). This is essential as they must respond to the changing requirements they face, by switching between different tasks and mindsets.

In an attempt to develop our understanding of how individual ambidexterity can be achieved, Papachroni and Heracleous (2020) provides for three paradoxical practices. These practices involve a fluid and dynamic approach to temporal balancing and integrating the pursuit of both exploration and exploitation, which means the practices focus on more than just the linear processing of tasks and routines. Instead, they move toward a layered, multidimensional temporal organizational process (Papachroni & Heracleous, 2020). The first paradoxical practice entails engaging in hybrid tasks that accomplish dual types of outcomes. The idea that ambidexterity entails the capacity to switch between opposing tasks of exploration and exploitation in a single work role assumes individuals' engagement in two separate types of tasks that aim for two different types of outcomes. However, this paradoxical perspective suggests that individuals are not bound by this contradiction, and argues that hybrid tasks, which are tasks that accomplish dual types of outcomes (Papachroni & Heracleous, 2020), challenge that contradiction. Hybrid tasks see exploration and exploitation as intertwined, being part of a broader holistic process. That being said, individual ambidexterity can be seen as the ability to manage hybrid tasks, meaning that such practices should be adopted more widely.

The second paradoxical practice concerns carrying out tasks in a way that cumulatively capitalizes on previous efforts. What is meant with this practice is that tasks need to be put together in a way that one task contributes to the performance of a subsequent task via learning from the process (Papachroni & Heracleous, 2020). For example, when teaching a certain course based on already possessed knowledge, new ideas could emerge from discussions held with students, leading to course redesign or further research on a certain topic.

Lastly, adopting a mindset of seeking ways to accomplish task synergies between exploration and exploitation is the third paradoxical practice. Where contradictions between exploration and exploitation are assumed, seeking synergies between the two activities can be perceived as a paradoxical cognitive practice that seeks to go beyond the assumed

contradictions (Papachroni & Heracleous, 2020). Exploration and exploitation need to be closely integrated for synergies to emerge (Bledow et al., 2009), which means that individuals should engage in high levels of both activities within the same time frame (Rosing & Zacher, 2017).

Another study that contributed to understanding how explorative and exploitative activities can be combined for ambidexterity reasons is the article of Löwik et al. (2016). Research was conducted on ambidextrous routines, being defined as repetitive, recognizable patterns of interdependent actions, involving both explorative and exploitative learning, and are performed by multiple actors. Routines are considered the building blocks of dynamic capabilities, which in turn determine a firm's competitive advantage (Eisenhardt & Martin, 2000). As previously mentioned, the authors call for the implementation of ambidextrous routines, that are required to be both flexible, for behavioural complexity purposes (Carmeli & Halevi, 2009), and stable when looking at actions for efficiency and quality reasons (Gilbert, 2005). The routines will enable individual employees to switch easily between explorative and exploitative activities if these requirements are being met (Löwik et al., 2016).

Personality Traits and Individual Ambidexterity

The two personality traits of openness to experience and conscientiousness were selected from the Big Five personality traits. This five-factor model is a widely accepted construct that acts as a latitude and longitude for personality research, as it harmonises and integrates previously disconnected findings on personality (Gurven, von Rueden, Massenkoff, Kaplan & Hero Vie, 2013; Matzler, Renzl, Müller, Herting & Mooradian, 2007). It is one of the most popular and most influential constructs to delve into one's personality, which validates its usability for this research (Vassend & Skrandal, 2011; Widiger & Trull, 1997).

Openness to Experience

Traits associated with openness to experience include: “being imaginative, cultured, curious, original, broad-minded, intelligent, and artistically sensitive” (Barrick & Mount, 1991). According to the same authors openness to experience assesses individuals’ readiness to participate in learning experiences. This denotes a connection to explorative activity. This is confirmed by Kaufman et al. (2014), which characterizes openness to experience as a dimension of personality that reflects the tendency toward cognitive exploration. This means that those who score high on the concept engage more in new experiences, which is explained by their desire to be broad-minded. Additionally, those scoring high tend to be more cognitively flexible (Digman, 1990). When this is compared to the definition of individual ambidexterity by Good and Michel (2013), which is used in this study, it can be noted that cognitive flexibility is required in order to appropriately shift between exploration and exploitation activities. With this given, the following hypothesis has been set to predict the relationship between openness to experience and individual ambidexterity:

Hypothesis 1 (H1): Openness to experience has a positive effect on individual ambidexterity

Conscientiousness

When looking for a dictionary definition, we find that conscientiousness is being illustrated as “controlled by or according to one’s inner sense of what is right; principled” (Random House Unabridged Dictionary, 2022). When providing for an academic business-related description of the term, we find Barrick and Mount (1991), who state that conscientiousness assesses personal characteristics such as persistent, planful, careful, responsible and hardworking. The authors perceive these characteristics to be important attributes for accomplishing work task in all sorts of jobs. Unity exists considering the definition of the concept. For example, Rossberger

(2014) perceives conscientiousness of individuals as the extent to which planning is valued, quality of persistence is possessed, and how oriented they are on achievement. Whereas individuals scoring low on conscientiousness are less responsible and careful, they appear better at coping, meaning they have lower stress levels (Costa & McCrae, 1992). However, individuals scoring less at conscientiousness tend to be careless, unorganized and easy-going (Barrick & Mount, 1991). Scoring high on conscientiousness therefore means a high level of self-discipline, responsibility and reliability, the authors argue. According to George and Zhou (2001), individuals have “a strong sense of purpose and will; are dependable, reliable, and self-controlled; work hard to achieve their goals; obey rules and conform to norms; desire to achieve; and are responsible and scrupulous” (George & Zhou, 2001, p. 515). Together, these individuals share a certain need for being organised and to achieve both individual and team goals (van Vianen & De Dreu, 2001).

Literature study shows that researchers are divided when considering the relationship of conscientiousness with innovativeness of individuals. While being achievement-oriented, being organised and favouring planning could discourage innovative behaviours (Ali, 2019). On the contrary, the qualities of being competent, persistent and self-disciplined are perceived to be vital for creating successful innovations (McCrae & Terracciano, 2005). To make it an even more ambiguous relationship, several studies find different significant outcomes (e.g. Buchanan, 1998; Kirton & De Ciantis, 1986).

In this study however, it is expected of conscientiousness to be positively related to individual ambidexterity. Bledow et al. (2009) and Kaupilla and Tempelaar (2016) found conscientiousness to be an important trait for ambidextrous behaviour at the individual level. In their findings, Kaupilla and Tempelaar (2016) suggest that employees with a high sense of general self-efficacy, which is an individual’s tendency to view themselves capable of meeting task demands across a variety of situations (Chen, Gully & Eden, 2001), tend to be more

ambidextrous than other employees, as they are less hesitant to take on broader work goals and accept the challenge of pursuing both explorative and exploitative activities simultaneously. These employees are convinced they possess the skills and capacities required change situations, reach the most difficult goals and perform over time effectively. This can be compared to the strong sense of goal and task achievement that employees scoring high on conscientiousness have, according to Barrick and Mount (1991) and George and Zhou (2001). Moreover, self-efficacy and conscientiousness are found to be positively related. With that being said, the following hypothesis is being proposed:

Hypothesis 2 (H2): Conscientiousness has a positive effect on individual ambidexterity.

Job Autonomy

Job autonomy is recognized as one of the five core job dimensions of Hackman and Oldham's (1974) highly appreciated Job Characteristics Model. According to these authors, autonomy can be described as the degree of which the job provides essential autonomy or freedom, independence and freedom of action. According to Al-Haraisa (2021), job autonomy has positive impact on organizational ambidexterity, but does not describe whether this is also the case for individual ambidexterity. A study that did investigate that specific relation is the article of Bidmon and Boe-Lillegraven (2019). In their study, the authors found it remarkable that certain studies, like Tempelaar and Rosenkranz (2019), which all followed bottom-up approaches to individual ambidexterity, assumed that respondents had the autonomy to decide how to divide their time between explorative and exploitative activities. Bidmon and Boe-Lillegraven (2019) states however that autonomy can not be taken for granted when measuring individual ambidexterity. They provide for top-bottom scripts, which include instructions for employees on how to switch between explorative and exploitative activities to enable ambidexterity. These scripts come at the expense of the employees' autonomy, as they see their

freedom decrease, but seem to lead to an increase of individual ambidexterity as it eventually enhances the switching procedure. Therefore, it is suggested that less autonomy reinforces the ability of individual ambidexterity.

Whether autonomy positively influences the relationships of openness to experience and conscientiousness with individual ambidexterity is questionable. The study of Bidmon and Boe-Lillegraven (2019) can be used in examining the relationship of openness to experience and individual ambidexterity. Being imaginative and broad-minded, which is the case when scoring high on this construct, could indicate that freedom in reaching individual ambidexterity is desired. However, when taking the scripts of Bidmon and Boe-Lillegraven (2019) into consideration, those intelligent employees open to new experiences will potentially be less willing to follow up these scripts as their tendency to be broad-minded and explorative makes them fail to appreciate conforming to the scripts. Additionally, when looking at the relationship between conscientiousness and individual ambidexterity, Barrick and Mount (1993) argued that conscientiousness has a stronger relationship with task performance for individuals that perceived high autonomy in their jobs than for those who experienced less autonomy. This also indicates that a higher degree of autonomy improves the relationship between the two constructs. This therefore leads to the following hypotheses:

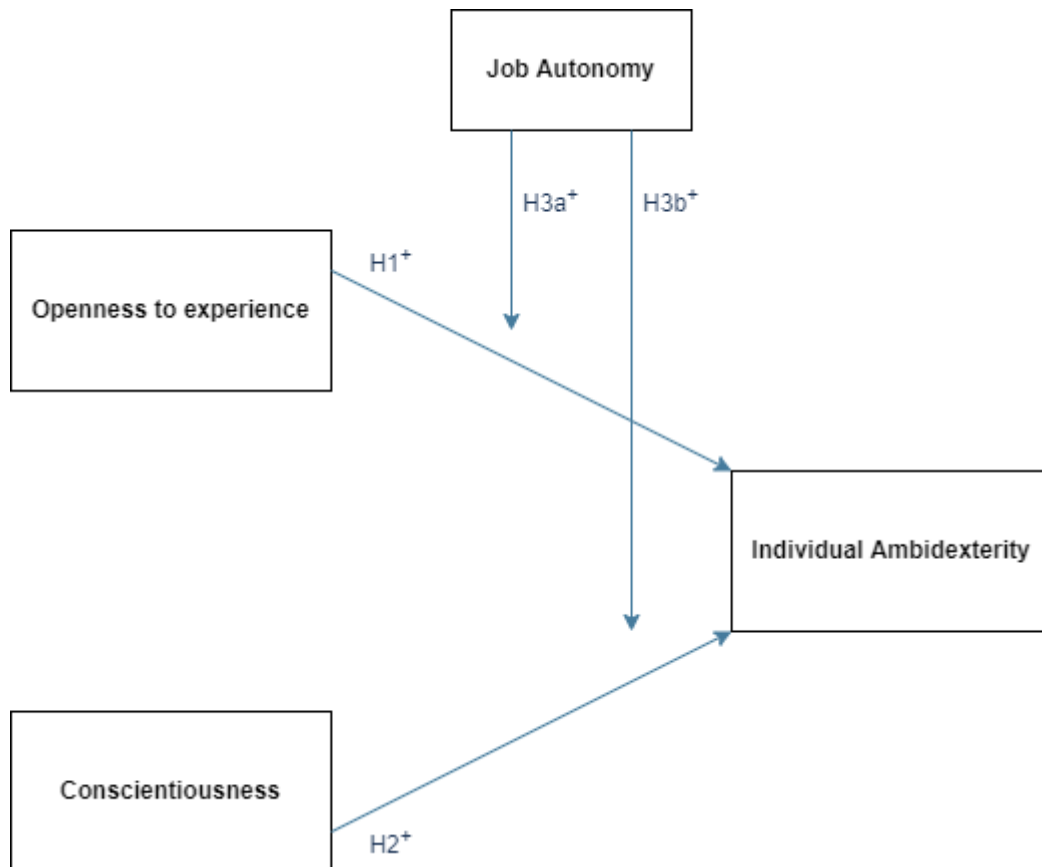
Hypothesis 3a (H3a): The extent to which an employee's job is autonomous will have a positive influence on the relationship between openness to experience and individual ambidexterity.

Hypothesis 3b (H3b): The extent to which an employee's job is autonomous will have a positive influence on the relationship between conscientiousness and individual ambidexterity.

Conceptual Model

Figure 1

Conceptual model of the key variables, its relationships and belonging hypotheses



Method

Research Setting

In order to collect data to test the hypotheses, a questionnaire will be administered to a sample audience. The data collection will be done at a Dutch transportation company with an estimated 150 employees. All participants will be nonmanagerial and middle management employees of the company. An important notion is that the majority of its nonmanagerial employees will be excluded from the sample since these employees are truck drivers, a job where innovative behaviour is considered to be rare. The opposite applies for the logistics sector as a whole, as this sector is affected by every innovation in business through its important place in the

functioning of global trade (Bayhan & Korkmaz, 2021). This makes the logistics sector experience innovation intensely, which is why the transporting company suits this study. Moreover, the company is a small-medium enterprise (SME), which becomes more vulnerable in a rapidly changing market because of limited resources. It is crucial for the survival of SMEs to simultaneously maintain existing performance within a certain industry while being innovative and adaptive as well, which refers to ambidexterity (Mu et al., 2020). According to these authors it is challenging for such companies, and especially for their individuals, to manage both exploration and exploitation activities successfully, which is why the chosen transporting company suits our research as well.

The sample that will be chosen consists of middle management employees and nonmanagerial employees that do not operate as truck drivers. A total of 39 participants have therefore been invited to take part in the study. This sample size is considered appropriate in accordance to Blazevic (2021), because 39 participants for the four variables meets the minimum ratio of five participants to one variable in regression analysis (which will be elaborated on in the upcoming chapter), as well as the minimum sample size of 30 for regression analysis. This sample size will resultingly lead to the use of the non-probability sampling method, as our sample is not randomly taken from a larger population. Instead, all nonmanagerial and middle management employees considered suitable for the research will be requested to participate, except for the employees that are hired to wash the trucks.

Research Design

A quantitative research method is used for explaining the relationship between personality traits and individual ambidexterity, measured at the individual level. A quantitative research method explains these variables by the collection of numerical data that are analysed using statistical procedures (Cresswell, 2008). By following the quantitative approach, extant ambidexterity literature is being followed (Rosing & Zacher, 2017). The aim of this type of research method

is a numeric or statistical approach to research design. The research is conducted independently from the researcher, making it a deductive research method (Williams, 2007).

Data has been collected through a questionnaire which has been shared with the participants (see appendix A). This questionnaire was created based on scientific research that was done (which will be introduced below), and will be distributed and processed through Qualtrics. To conduct the analysis within this research, statistical program Statistical Package for the Social Sciences (SPSS) will be used. Given the importance of the respondents' full attention and cooperation, a questionnaire was created which took an approximate of five minutes to fill in. As the company and its employees are all Dutch, the questionnaire was made in Dutch as well, meaning that all measurements used have been translated as well. Although participation is voluntary, it was attempted to maximize participation of all invited employees. The questionnaire was opened for 12 days, which would be two working weeks. This cross-sectional collection of data (Creswell, 2008) suits the time frame of the research and allows the researcher to compare the collected data without accounting for external, time-bound factors influencing the results. A reminder was sent at the start of the second week, as well as in the last 48 hours, to those who had not yet filled in the questionnaire. The survey was closed after the deadline passed, and gladly, 37 of the 39 invited employees managed to fill in the questionnaire. The response rate was therefore very high. Out of the 37 sent questionnaires, one was handed in completely empty, which means a total of 36 respondents were identified. After performing a missing data analysis, only a few cases were found. For every item, the missing data was below 10 percent of the total response, which means that the missing data can be ignored as it is also perceived to be randomly distributed (Hair, Black, Babin & Anderson, 2019). The results will only be used in the interest of this research, which was also communicated with the participants to provide full transparency.

Measurements

Personality Traits

For both variables Openness to experience and Conscientiousness, the mini-IPIP scale of Donnellan, Oswald, Baird and Lucas (2006) will be used. The scale is a short form of the International Personality Item Pool – Five Factor Measure of Goldberg (IPIP-FFM) (1999). Donnellan et al. (2006) highly values Goldberg’s measure, but noticed that creating their own short version would be valuable as well given the brief time participants can have for their cooperation. A publicly available shortened version of the IPIP-FFM would be valuable, as the original is already used frequently in personality research. Within the mini-IPIP scale, there are four items per personality trait, meaning a total of eight items for this study. Participants answer the different items according to how it fits with their personality, assessed through a five-point Likert scale (1 = *strongly disagree*, 5 = *strongly agree*). An item example belonging to Openness to experience is: “Am not interested in abstract ideas” (Donnellan et al., 2006, p. 203). For the factor Conscientiousness, as an exemplary item would be: “Get chores done right away” (Donnellan et al., 2006, p. 203). The measure of these two factors can be found in Appendix B.

When looking into the variance per factor, it was found that iterations had to be made for one of the two constructs. Openness to experience showed no reasons for removing items. For Conscientiousness, the item “Get chores done right away” (Conscientiousness_1) (Donnellan et al., 2006, p. 203) was deleted since its communality to the factor was .03, meaning that its variance is barely explained by the variable Conscientiousness. Deletion was carried through as .03 does not meet the required communality value of .20 (Field, 2018). After deletion of this item, improvements became visible. The Kaiser-Meyer-Olkin (KMO) Test, which tests the sampling adequacy, slightly rose from .70 to .71. Moreover, Bartlett’s Test of Sphericity, concerning the significance of the correlation between variables (Field, 2018), remained

significant at .00 as required. The deletion of the item made no important changes for these tests, but it did for the explanation of the total variance of Conscientiousness. Before deletion, a variance of 55.24% was explained by the four items, while a variance of 60% is targeted. By excluding the item, the total explained variance increased to 73.06%, with an Eigenvalue of 2.19, indicating sufficient variance to the factor.

When determining reliability of variables, the reliability coefficient Cronbach's Alpha is often used. Cronbach's alphas of .07 for Openness to experience and .70 for Conscientiousness were found. Cronbach's Alpha is known as a reliability coefficient, where values of .70 and above are considered reliable (Field, 2018). The alpha of Conscientiousness has an acceptable value, but the alpha of Openness to experience, seemingly able to be declared by a sampling error, has not. It was increased to .62 after the item "Have a vivid imagination" (Openness_1) (Donnellan et al., 2006, p. 203) was deleted, as shown in Table 1. The Cronbach's Alpha of .62 could not be further increased by other iterations, so no further items were removed. The alpha value of .62 is below the desired value of .70 for Cronbach's Alpha (Field, 2018), but it is still perceived reliable and therefore acceptable for further use in the research (Ursachi, Horodnic & Zait, 2015).

Table 1

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Openness_1	8,94	3,311	-,480	,618
Openness_2	9,25	1,107	,363	-1,101 ^a
Openness_3	9,17	1,800	,217	-,419 ^a
Openness_4	9,47	1,571	,085	-,315 ^a

Note. a. = The value is negative due to a negative average covariance among items.

It is expected to be caused by an inadequate sample size (N = 35)

Individual Ambidexterity

Individual ambidexterity will be measured using the construct of Mom et al. (2009). Mom et al. provided for a 14-item scale. These items are divided into two sections, which are exploration and exploitation. The items were measured on a seven-point Likert scale concerning the extent to which a manager engaged in exploration or exploitation activities (1 = *to a very small extent*, 7 = *to a very large extent*). The original scale can be found in Appendix C. It is not perceived to be an issue that these items were originally meant for managers, as other studies have preceded when examining nonmanagerial employees (Rosing and Zacher, 2017). An example of an Exploration item that will be used is: “To what extent did you, last year, engage in work related activities that can be characterized as follows: Activities requiring you to learn new skills or knowledge” (Exploration_8) (Mom et al., 2009, p. 820). One of the exploitation activities that will be used is: “To what extent did you, last year, engaged in work related activities that can be characterized as follows: Activities which you carry out as if it were routine” (Exploitation_1) (Mom et al., 2009, p. 820).

Exploration and Exploitation form two different factors because of their different measures. In discovering the variance of this factor, several iterations were made. The 14 items resulted into Bartlett’s Test being significant at .00, and KMO’s Test being .60, meaning that the sample adequately represents the population within this factor, as well as the correlation between the items being significant. However, the item “Activities primarily focused on achieving short-term goals” (Exploitation_5) (Mom et al., 2009, p. 820) was removed due to its communality being insufficient ($.11 < .20$). After running the analysis again, KMO’s Test rose to .65, but another item had to be deleted due to its communality score of .16. The corresponding item is “Activities which serve existing (internal) customers with existing services/products” (Exploitation_3) (Mom et al., 2009, p. 820). After a second rerun, KMO’s again increased, now up to .73, and all items had sufficient communalities of $>.2$. Furthermore, both factors have

Eigenvalues greater than 1 (4.86 for Exploration, 2.16 for Exploitation). All items loaded appropriately on their factors as they all loaded $>.4$ (Hair, Anderson, Tatham & Black, 1998). Within these factor loadings, no cross-loadings were found, which means that all primary loadings were at least twice as large as their loading on the other factor (Hair et al., 1998). All findings regarding factor loadings can be found in Table 2.

When analyzing the reliability of the variables, we find that Exploration has a Cronbach's Alpha of .90, which is an excellent score on reliability. There is no need to remove any item, since any deletion slightly lowers the alpha value. For Exploitation, we find a Cronbach's Alpha of .73, which is sufficient as well. Again, there is no improvement of the alpha value if an item is deleted.

Table 2

*Pattern Matrix for Exploration and
Exploitation*

	Factor	
	1	2
Exploration_1	,930	,033
Exploration_2	,780	-,177
Exploration_3	,833	-,047
Exploration_4	,780	,161
Exploration_5	,707	,138
Exploration_6	,669	,007
Exploration_7	,717	-,244
Exploitation_1	-,038	,830
Exploitation_2	-,417	,484
Exploitation_4	-,139	,530
Exploitation_6	,036	,745
Exploitation_7	,204	,743

Note. This table demonstrates the factor loadings of all Exploration and Exploitation items.

Job Autonomy

As a moderator to the relationship between the personality traits and individual ambidexterity, the variable job autonomy was included. As a measurement for job autonomy, the research will use the framework presented by Langfred (2005), which is a slight adjustment of Breugh's (1985) construct of autonomy. This measurement of job autonomy, which refers to Langfred's "individual autonomy" (2005), consists of nine items. All items will be measured by a nine-point Likert scale, determining whether the participants agree with the proposed statements (1 = *very strongly disagree*, 9 = *very strongly agree*). After checking on factor loadings for Job autonomy, it was found that the following item had to be deleted: "I can influence how I am evaluated, so I can emphasize some aspects of what I do and play down others" (Autonomy_9) (Langfred, 2005, p. 527), as its communality of .13 is below the preferred value of .20. After this iteration, the analysis was rerun, and no insufficient communalities were found. KMO's Test increased up to .88. One factor, explaining 59.35% of total variance, had an excellent Eigenvalue of 4.75. Moreover, all factor loadings were $>.4$, which lead to the completion of analysing this factor. In determining its reliability, a Cronbach's Alpha of .90 was determined, indicating great reliability of the construct. An exemplary item that will be used in the questionnaire is: "I am able to decide for myself what my objectives are" (Autonomy_7) (Langfred, 2005, p. 527). The measurement of this variable can be found in Appendix D.

Control Variables

Control variables are a special type of independent variables that are measured because these variables could potentially influence the dependent variable (Creswell, 2008). It is therefore of great importance to include control variables that could potentially have impact on our results.

Within this study, a number of demographic variables will be included. These include Gender (nominally scaled, 1 = male, 2 = female, other 3 = other), Age (scaled on ratio, 15 – 85 years), and Education, which will be based on the highest level of education achieved within the Dutch education system (nominally scaled, 1 = no education, 2 = primary school, 3 = lower vocational education (e.g. VMBO), 4 = secondary vocational education (e.g. MBO), 5 = higher vocational education (e.g. HBO), 6 = university (e.g. WO Bachelor)). Finally, Job tenure will also be added as a control variable, determining the amount of years the participants work at the case company (scaled on ratio, 0 – 70 years), as well as Job position (nominally scaled, 1 = administration, 2 = middle management, 3 = assembly , 4= planning), which accounts for the department the participants work for. These are variables that were proven to be relevant for our study by previous research. According to Roberts and Del Vecchio (2000), trait consistency increases with age. Gender was included as studies on innovation often use gender as a control variable, which also calls for education (Rosing & Zacher, 2017). The demographic variable Gender is considered to be important for the research, even though no significant gender differences have been found for the variables Openness to experience and Conscientiousness (Weisberg, DeYoung & Hirsh, 2011). Education has been linked to individual ambidexterity because it cognitive flexibility improves through education (Papadakis, Lioukas & Chambers, 1998). Job tenure would also be able to have impact, as Mom et al. (2009) argues that managers' experience influence their ambidexterity, due to their increased ability to interpret and deal with a larger diversity of ambiguous cues as experience increases.

Analytical Approach

This study constitutes the analysis of a dependence relationship. The aim of the study can be found in determining whether (and if so, to what extent) a relationship exists between the study's dependent variable and its independent variables. When applied to this research, it is considered to be the appropriate technique since the relation between Openness to experience

and Conscientiousness with Individual ambidexterity, and moderated by Job autonomy, will be determined. This will be executed with the use of multiple regression analysis. This is a statistical technique that is used to analyze the relationship between a single dependent variable and several independent variables (Hair et al., 2019). Hereby, the independent variables are each measured by the regression procedures to ensure maximal prediction from the set of independent variables. The purpose of multiple regression therefore is applicable to this study, as its dependent variable is metric, which also applies to its independent variables.

It was intended to conduct a factor analysis before the regression analysis, with the purpose of determining the correlation between the variables involved in this research. Unfortunately, the inadequate sample size of 35 employees caused for the factor analysis to be impracticable. The sampling error caused for the division of all items into six factors the least, even though it was determined to have five factors a priori. Although determining variance between factors is unachievable, the variance per factor has been considered.

Research Ethics

Before the research will be conducted, there are already limitations expected to arise. Firstly, due to the limited amount of time available for the research, it might occur that the collected data and/or its analysis give suboptimal outcomes, which could have been improved with a greater time span for the research. Second, although the logistics sector is proven to be suitable for ambidexterity research, it is questionable whether the case company fully complies with the demands and expectations set. Although involvement of every participant is highly appreciated, the research might be too dependent on the small margin that is left for missing values to those who decide not to participate. Lastly, it is questionable how the generalizability of the research will be limited by the circumstances of this conduct. As an example, it is known that the transporting sector is dominated by male workers over female colleagues, which is partially determined by truck drivers. However, it will remain unknown whether the nonmanagerial

male/female division of employees (truck drivers excluded) in the case company is a representation of the sector as a whole. Additionally, the generalizability of the results will also be impacted by the non-probability of the sample (Babbie, 1990).

The participants in this study are employees of the same company. Participation is only optional by filling in the online questionnaire. This will ensure their anonymity, which is expected to be highly appreciated. This could be reinforced given familiar relations the researcher has with the case company. This however is not seen as a limitation, as it is well-known that the researcher has not had any personal involvement with the company, which will assumingly take away the doubts of those that question the researcher's integrity. The anonymity has other advantages as well, since it increases the ability of participants to be fully honest in answering the questionnaire (Jannink, 2017). It is aimed to provide full transparency to participants by including the research and data collection goals on the front page of the questionnaire. It has to be made clear that withdrawal from the questionnaire is up to themselves and available at any time, but it should also be repeatedly shared that cooperation is highly appreciated. If participants are interested in how the research unfolds, then it is possible to send an email after filling in the questionnaire, so that results could be shared afterwards. It has to be taken into account however that this does mean that their anonymity will disappear.

If participants have doubts about certain aspects of the questionnaire, they should feel free to contact the researcher. What is important in this scenario is that the researcher will not influence the participant's answers afterwards. This also means that, before participants fill in or have filled in their questionnaire, any communication with potential participants will be avoided as it would impact the reliability of the research. Lastly, it could occur that potential participants communicate with other colleagues that do not belong to the potential participants, such as the truck drivers of the case company. Although it might seem unfair to exclude them

from research even though they are interested in participating, this will still be executed for the interest of the research.

Results

Data preparation (recoding variables)

Within regression analysis, it is obliged to work with metrically scaled variables (Hair et al., 2019). Since this did not apply to all of the control variables yet (Gender, Education and Job position were all scaled nominally), dummy variables were therefore created for these variables. Dummy variables are dichotomous variables that represent one category of a categorical independent variable (Hair et al., 2021). All categories of the three nominally scaled variables were formed into dichotomous dummy variables. As no solid argument was found regarding which variable to appoint as a reference category, it was chosen to appoint the highest numbered items as reference category per variable. This means that the following items have become reference categories for their corresponding variables: male (for gender), middle management (for job position) and secondary vocational education (for education). More recoding was necessary after creating the dummy variables. In their measurement, Donnellan et al. (2006) used several reverse scored items. These items were therefore recoded as well.

Correlation Analysis

A correlation analysis has been executed to test the correlations between the study's dependent variable, independent variables and control variables. This implies identifying the means, standard deviations and correlations between the following variables: Individual ambidexterity, conscientiousness, openness to experience, autonomy, gender, age, education, job position and finally, job tenure. For the dependent and independent variables, the exclusion of items is taken into consideration. In determining correlation between variables, we use Pearson's correlation coefficient (Field, 2018). Table 3 gives the correlation between this study's variables, as well

as its means and standard deviations. Within Pearson's correlation coefficient, it can be concluded that values closer to 1 or -1 define stronger relationships between the two corresponding variables. Within this study, correlations are considered weak when below .3, medium between .3 and .49, and strong when correlation exceeds .5.

For hypothesis 1, we find no significant correlation in the relationship between Individual ambidexterity and Openness to experience, with correlation being determined at -.091. hypothesis 2 also lacks significance, with correlation recognized at -.153. When looking at hypotheses 3a and 3b, no significant correlations are found for the moderating variable Job autonomy with Individual ambidexterity (Pearson's $R = .125$), Openness to experience (Pearson's $R = .037$), and Conscientiousness (Pearson's $R = -.205$). Concludingly, this means no significant correlations are found between this study's dependent and independent variables at the .05 level.

However, we do find significant correlations when including control variables in the examining of correlation between variables. In total, nine significant correlations were found, with four being significant at the .01 level. For Individual ambidexterity, medium correlations are found with Gender (Pearson's $R = .367$, $p < .05$), Education (Pearson's $R = .493$, $p < .01$) and Job tenure (Pearson's $R = .347$, $p < .05$). Job autonomy correlates on a medium level with Age (Pearson's $R = .361$, $p < .05$), and on a strong level with Job tenure (Pearson's $R = .534$, $p < .01$). For Gender, a medium correlation was identified with Job position (Pearson's $R = -.419$, $p < .01$). Looking at Age, a medium correlation was found with Education (Pearson's $R = -.327$, $p < .05$), as well as a strong correlation with Job tenure (Pearson's $R = .831$, $p < .01$). The final significant correlation was found between Education and Job position (Pearson's $R = -.361$, $p < .05$).

Table 3*Correlations coefficients and descriptives table*

	M.	SD	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. Individual Ambidexterity	4.62	0.48	1	-	-	-	-	-	-	-	-
2. Conscientiousness	3.51	0.70	-.153	1	-	-	-	-	-	-	-
3. Openness to Experience	2.98	0.61	-.091	-.201	1	-	-	-	-	-	-
4. Autonomy	6.16	0.85	.125	-.205	.037	1	-	-	-	-	-
5. Gender	1.14	0.35	-.367	-.063	-.077	.034	1	-	-	-	-
6. Age	40.19	9.80	.199	.111	.235	.361	-.058	1	-	-	-
7. Education	4.23	0.94	.493	-.137	-.139	-.171	-.101	-.327	1	-	-
8. Job Position	2.69	1.06	-.082	-.130	.065	-.098	-.419	.096	-.361	1	-
9. Job Tenure	13.11	11.56	.347	-.027	.171	.534	-.145	.831	-.230	.117	1

Note. Bold printed correlations are significant at the .05 level (one-tailed). Bold printed and underlined correlations are significant at the .01 level (one-tailed). All variables are named differently in the table than in SPSS for clarity purposes.

Also, other descriptive statistics are used in order to check for linearity of each variable. This is done by determining the skewness and kurtosis of variables. Skewness recognizes acceptable values between -3 and 3. For kurtosis imply values between -10 and 10 as desired values. As demonstrated in Table 4, it shows that all variables score sufficiently on skewness and kurtosis measures. All skewness scores are close to 1, which indicate small tailed distributions to either the left or right side, except for Gender. Gender scores relatively high (skewness = 2.18), indicating a right-skewed distribution of the variable. This is no surprise, given that 86.1% (N = 31) of participants is male, whereas only 13.9 (N = 5) is female. Gender is again the most remarkable when looking at kurtosis (kurtosis = 2.91), but still meet the value requirements of the measure.

Table 4*Skewness and kurtosis per variable*

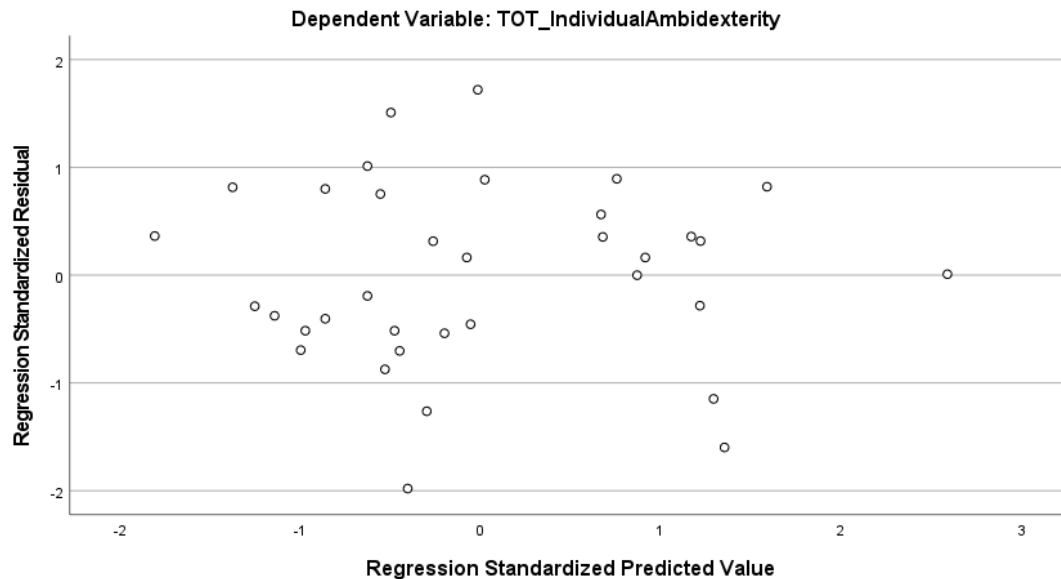
	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
Individual	36	,123	,393	-,987	,768
Ambidexterity					
Conscientiousness	36	-,304	,393	-,173	,768
Openness to Experience	36	,207	,393	-,667	,768
Autonomy	36	-,154	,393	,092	,768
Control - Gender	36	2,180	,393	2,913	,768
Control - Age_1	36	,350	,393	,249	,768
Control - Education	35	,406	,398	-,588	,778
Control - Job position	36	-,091	,393	-1,265	,768
Control - Job tenure_1	36	,849	,393	,503	,768

Regression Analysis

Before conducting the regression analysis, it is fundamental to check whether the sample meets the assumptions of this type of analysis. These will therefore be considered beforehand by examining whether the variate of this research conforms to the assumptions of regression analysis. The first assumption regards linearity of the phenomenon, which stands for the relationship between the dependent and independent variables. This can be checked by assessing its residual plot (skewness and kurtosis are not accepted as bivariate relationships are considered). As seen in the plot below (see Figure 1), no patterns are found between residuals, indicating that no linearity is present. The second assumption assessed concerns constant variance of the error term. The presence of unequal variances, also known as heteroscedasticity (Hair et al., 2019) should be avoided, because constant variance is desired. Looking at the residuals in Figure 1, they seem to experience an unbiased distribution, with no certain heteroscedasticity being identified. The assumptions is therefore met.

Figure 1

Scatterplot between all metric independent variables and Individual ambidexterity



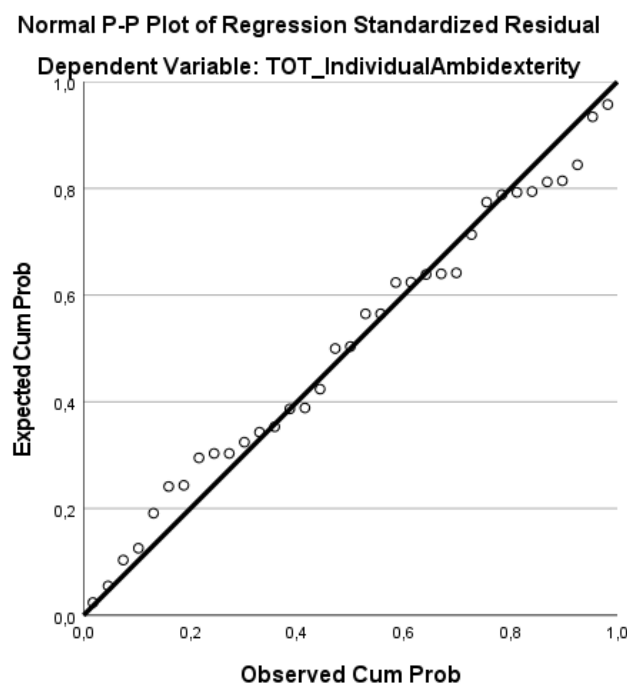
Note. TOT_IndividualAmbidexterity was the name used in SPSS for our dependent variable Individual Ambidexterity.

The third assumption that will be assessed concerns the normality of the error term distribution. A normal probability plot, which examines whether the sample is distributed normally, is used to review this assumption. It is known that this assumption is hard to meet in smaller samples (Hair et al., 2019). However, the plot shows (see Figure 2) that the residual line closely follows the normal distribution line. This indicates that this assumption is met as well. The fourth assumption that will be investigated checks the independence of the error term. Meeting this assumption would confirm that residuals are independent. This was tested through the execution of a Durbin-Watson test. After conducting this test, a value of 1.25 was found. Since this statistic has a range from 0 to 4, with a value of 2 indicating independence of error terms, it is considered that this assumption is also met. Finally, a check for multicollinearity was conducted as well, being the final assumption for this regression analysis. This refers to the correlation that an independent variable has with a set of other independent variables (Hair et al., 2019), which could have impact on the regression. In order to determine multicollinearity, a review on

Tolerance or Variance Inflation Factor (VIF) was executed. The suggested cut-off for the value of Tolerance is .10 (Hair et al., 2019), whereas VIF is accepted below a value of 10. VIF has a starting value of 1, and the more it increases, the more correlation potentially exists between the independent variables. All variables scored VIF-values lower than 10, as well as Tolerance-values higher than .1, which is accepted in the assumption, except for Job position (VIF = 10.78, Tolerance = .09). Although this means the assumption is not met, no further action will be taken. As suggested by Hair et al. (2019), taking no further action is acceptable, as long as a lowered predictive ability is acknowledged.

Figure 2

Normal P-P Plot of regression standardized residual



Note. TOT_IndividualAmbidexterity was the name used in SPSS for our dependent variable Individual Ambidexterity.

After examining the assumptions of regression analysis, this study's hypotheses were tested through regression analysis. To do so, we first take a look at the total variance of individual

ambidexterity explained, and analyze the variance of the model as a whole. Afterwards, we discuss the effects that were found of included variables on individual ambidexterity. This includes the analysis of the relationship between openness to experience and individual ambidexterity (H1) at first. Secondly, the relation between conscientiousness and individual ambidexterity (H2) was studied. Subsequently, an examination of the influence of job autonomy on the aforementioned relationships was made (H3a and H3b).

A total of three models were run in the regression analysis. A summary of the analysis of these models can be found in Table 5. The first model consists of just the control variables, which are the metric variables age and job tenure, and all dummy variables of gender, education and job position (except for each reference category). The second model includes the independent variables openness to experience, conscientiousness and job autonomy. The third model consists of the interaction terms (openness to experience * job autonomy; conscientiousness * job autonomy). Since a multiple regression analysis was conducted, there is a focus on the values of the adjusted R square of every model. The adjusted R square takes into account the number of independent variables involved in a multiple regression analysis in explaining the variance of the dependent variable within the model. Where R square will always increase when new independent variables are added, it implies differently for the adjusted R square as these added variables may have a relatively low explanatory power (Hair et al., 2019). This occurrence was identified within this regression analysis, as Table 7 shows that adjusted R square decreases after the independent variables and interactions are added in model 2 and 3 (Adjusted R²: .408 in model 1; .387 in model 2; .343 in model 3). This indicates that the control variables together have explanatory power of 40.8% on the variance of individual ambidexterity. After the addition of three independent variables in model 2, this explanatory power decreased slightly down to 38.7%. This decrease of 2.1% is being followed by another decrease, as model 3 lowers the explanatory power down to 34.3%, indicating a change of -

4.4%. The value of 34.3% corresponds to the total variance of individual ambidexterity explained by the variables included in this study. The total difference between model 1 and 3 is $R^2\Delta = -6.5\%$, which shows that the independent variables indeed have little explanatory power. However, as visible in the table, it could also be explained by the low amount of degrees of freedom (df), which are in turn caused by the small sample size. Nevertheless, the decline in explanatory power for the total variance of individual ambidexterity cannot be determined with certainty, since no significance was found in F change for model 2 and 3. With that being said, it would still be possible for the decline to occur once significance is found, but as long that is not identified, it would still be possible to conduct a similar analysis where the independent variable improve the explanatory power of the total variance of individual ambidexterity.

Table 5

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,752	,565	,408	,37294	,565	3,606	9	25	,005
2	,777	,604	,387	,37949	,039	,715	3	22	,554
3	,783	,613	,343	,39304	,010	,255	2	20	,778

Note. The models consist of (dummy) variables, which was mentioned earlier in the chapter.

After determining the explanatory power of the total variance of this study's dependent variable, we analyze the variance in the model with ANOVA (see Table 6), which comes down to testing the significance of the models. The degrees of freedom demonstrate the amount of explanatory variables (for model 1: regression df = 9), as well as the amount of observations subtracted by this amount of explanatory variables and by 1 (for model 2: residual df = 25). Again, three models were identified, which are similar to those established before. As apparent

in Table 6, given the corresponding degrees of freedom, we find all models being significant ($\alpha < .05$). This confirms the significance of the study's explanatory variables.

Table 6
Analysis of Variance (ANOVA)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4,514	9	,502	3,606	,005
	Residual	3,477	25	,139		
	Total	7,992	34			
2	Regression	4,823	12	,402	2,791	,018
	Residual	3,168	22	,144		
	Total	7,992	34			
3	Regression	4,902	14	,350	2,266	,046
	Residual	3,090	20	,154		
	Total	7,992	34			

Note. The models consist of (dummy) variables, which was mentioned earlier in the chapter.

Moving on, given the significance of the explanatory variables, it is fundamental to determine the effects (and its significance) that these variables have on the dependent variable, individual ambidexterity. This was executed with use of the coefficients table (see Table 7). In multiple regression, the regression coefficient (determined in the column titled "B") indicates the average increase of dependent variable individual ambidexterity that the corresponding explanatory variable has, whereas all other explanatory variables remain the same. This means that, when taking Control_Age_1 in model 1 as an example, that when someone's age increases by 1, then his/her individual ambidexterity increases with .01, with 4.223 as a starting point. So, for an employee that just turned 50 years old, an individual ambidexterity predicted value of $4.223 + (.01 * 50) = 4.723$ is found. However, propositions made with correlation coefficients are dependent connected to significance too. Unfortunately, as apparent in Table 7, there is not a single significant coefficient found. This suggests that predictions made within this research will be unsubstantiated when determining how certain participants score on

individual ambidexterity in comparison to others. It was attempted to achieve significance by changing the reference categories in the dichotomous dummy variables, but effects turned out insignificant again. The findings are further explained by the confidence intervals all having a negative lower bound (confidence interval range = 95%). This means that, within the 95% confidence, there is a possibility for every variable that a rerun of the analysis finds no correlation in the data. These findings comply with the lack of significance found in examining the different relationships that the independent variables have with individual ambidexterity (Table 3). It means that the inclusion of control variables made no meaningful difference for the main relations in terms of significance.

Even though the insignificance of the findings is being acknowledged, an examination on the findings regarding the effects between the independent variables and individual ambidexterity is executed. For hypothesis 1, regarding the expectation of openness to experience having a positive effect on individual ambidexterity, a contradictory effect was found ($B = -.150$, $p = .26$). If the effect would have been significant, it would have meant that the hypothesis would not have been supported, since a negative effect of conscientiousness on individual ambidexterity was found. The same goes for hypothesis 2, since a negative effect of conscientiousness on individual ambidexterity was found ($B = -.135$, $p = .24$). the hypothesis would not have been supported if the effect would have been significant. When determining the interaction effects of job autonomy, we find disparate results. An interaction between openness to experience and job autonomy was barely found ($B = .01$, $p = .95$). Conscientiousness was found to negatively interact with job autonomy ($B = -.103$, $p = .484$), indicating that hypothesis 3b would not have been supported if the findings turned out significant. This means that no statistical significance was found in determining the effects between the independent and dependent variables. Moreover, the effects contradict with the

hypothesized effects. In addition, no statistical significant effects were found between individual ambidexterity and the control variables.

Table 7

Coefficients Table

Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients Beta		
1	(Constant)	4,223	,500		8,451	,000
	D_Gend_Female	-,295	,287	-,216	-1,029	,313
	Control - Age_1	,010	,015	,191	,622	,539
	D_Educ_Low	-,334	,472	-,294	-,709	,485
	D_Educ_High	,113	,315	,100	,360	,722
	D_Educ_Uni	,554	,347	,369	1,596	,123
	D_JobPos_Adm	-,236	,420	-,173	-,561	,580
	D_JobPos_Asm	-,083	,573	-,070	-,145	,886
	D_JobPos_Plan	-,179	,302	-,173	-,591	,560
	Control - Job tenure_1	,012	,013	,295	,981	,336
2	(Constant)	5,375	1,073		5,011	,000
	D_Gend_Female	-,278	,298	-,204	-,932	,361
	Control - Age_1	,012	,016	,247	,773	,448
	D_Educ_Low	-,158	,495	-,139	-,319	,753
	D_Educ_High	,114	,328	,100	,348	,731
	D_Educ_Uni	,440	,377	,293	1,168	,255
	D_JobPos_Adm	-,326	,473	-,239	-,689	,498
	D_JobPos_Asm	-,234	,601	-,196	-,390	,701
	D_JobPos_Plan	-,296	,325	-,288	-,912	,372
	Control - Job tenure_1	,011	,014	,265	,778	,445
	TOT_Openness	-,150	,129	-,186	-1,156	,260
	TOT_Conscientiousness	-,135	,112	-,199	-1,205	,241
	TOT_Autonomy	-,045	,102	-,081	-,444	,661
3	(Constant)	3,237	3,851		,841	,410
	D_Gend_Female	-,344	,329	-,252	-1,047	,308
	Control - Age_1	,015	,017	,304	,885	,387
	D_Educ_Low	-,198	,523	-,174	-,378	,710
	D_Educ_High	,084	,343	,074	,244	,810
	D_Educ_Uni	,382	,399	,254	,956	,351
	D_JobPos_Adm	-,252	,510	-,185	-,495	,626
	D_JobPos_Asm	-,178	,637	-,149	-,280	,782
	D_JobPos_Plan	-,260	,344	-,253	-,757	,458
	Control - Job tenure_1	,010	,015	,243	,686	,501
	TOT_Openness	-,194	,794	-,241	-,244	,810
	TOT_Conscientiousness	,486	,879	,713	,553	,586
	TOT_Autonomy	,287	,597	,513	,480	,636
	Openness_x_Autonomy	,008	,133	,074	,060	,952
	Conscientiousness_x_Autonomy	-,103	,144	-1,019	-,713	,484

Note. Since no observations were recognised within these options, the following variables were extracted from the analysis: D_Educ_None; D_Educ_Primary.

As the table was extracted straight from SPSS, no adjustments were made in changing variable names and labels. Therefore, a little explanation of the variable names can be made as follows;

Variables with TOT_, which stands for total, included (e.g. TOT_Openness) include all corresponding items that had not been deleted from the analysis yet.

Variables with D_ (e.g. D_Educ_Low) can be identified as dummy variables that were created to enable the addition of categorical variables in the analysis.

Variables with _x_ (e.g. Openness_Autonomy) are variables where two already existing variables interact (with regard to H3a and H3b).

Discussion

Theoretical Implications

This study focused on the relationship of individual ambidexterity with openness to experience and conscientiousness, and inspected how job autonomy moderated these relations. The call for further research on the individual level of ambidexterity that arose over a decade ago (Raisch & Birkinshaw, 2008) caused for a rapid emerging development of the construct, which is still active (Mu et al., 2020). Although consensus was reached in previous research regarding the predominantly positive impact of individual ambidexterity on organizational outcomes (Birkinshaw & Gibson, 2005; Cao et al., 2009; Good & Michel, 2013; He & Wong, 2004; Junni et al., 2013; Mu et al., 2020; Raisch & Birkinshaw, 2008), it is the concept's ambiguity regarding definitions, antecedents and measurements that explains why the call for further research is still active. Literature review found that personality traits are irrevocably linked to understanding ambidexterity at the individual level, as well as how it contributes to organizational ambidexterity which in turn benefits other organizational outcomes (Birkinshaw & Gupta, 2013; Gupta et al., 2006; Keller & Weibler, 2015; LePine et al., 2000; Mu et al., 2020; Park & Kim, 2021; Raisch et al., 2009; Schnellbacher et al., 2019). That being said, it motivates why it is essential to discover the influence of personality traits on an individual's ambidexterity.

However, no statistical significant effects were found between the explanatory variables

and individual ambidexterity, meaning that none of the hypotheses are supported. Literature review demonstrated that employees being more conscientious or open to experiences would be more likely to perform individual ambidexterity than those who perceive these personality traits less. This indicates that the theory is not applicable for explaining the relations that were examined in this research. Additionally, the study can not be used in examining the construct of individual ambidexterity in the transportation sector. Concludingly, it is acknowledged that this research expected to be in line with previous research, but completely different findings determined otherwise.

Practical Implications and Recommendations

Literature review indicated the relevance of individual ambidexterity for organizations, as well as the role of personality traits of individuals for individual ambidexterity, but also for other organizational outcomes. Previous studies determined the importance of personality traits for achieving individual ambidexterity, which put emphasis for managers on establishing the right working environment for their employees in order to encourage the emergence of ambidexterity for their employees. This study contributes to emphasizing the manager's understanding of liberating the appearance of openness to experience and conscientiousness features, and recommends managers to further develop their understanding on how advance the emergence of these personality traits within the organization. The development of a manager's knowledge on these personality traits also promotes awareness regarding the value of employees possessing these traits, as long as individual ambidexterity is aimed. Moreover, the study sheds light on how these traits are impacted by the extent of job autonomy in their relation with individual ambidexterity. Literature review found that higher values of job autonomy advance the impact of openness to experience and conscientiousness on individual ambidexterity, which is why managers should have faith in their ambidextrous behaving employees, because the autonomy allows them to freely integrate and switch between explorative and exploitative activities.

The analysis of this research also gives practical implications. In the examination of correlation between variables (Table 3), several control variables were found to be significantly correlating with individual ambidexterity. For gender, a correlation of Pearson's $R = -.367$ was found, which indicates that individual ambidexterity correlates more with men than it does with women within this research. The correlation with education was statistically significant as well, determined at Pearson's $R = .493$. This suggests that, within this research, individual ambidexterity increases with the highest level of education that participants completed. This confirms the findings of Papadakis et al. (1998), and therefore, managers are recommended to take the educational level of (future) employees into account when striving for individual ambidexterity among employees. Job tenure also correlates significantly with individual ambidexterity within this research (Pearson's $R = .347$), meaning that ambidextrous behavior increases when individuals work at the same organization for a longer time. This approves the findings of Mom et al. (2009). Managers should take these findings into consideration, as it might induce them to work on employee loyalty within the organization. All other correlations with individual ambidexterity turned out to be statistically insignificant. The findings regarding conscientiousness and openness to experience are contradicting the hypothesized predictions, with both correlations with individual ambidexterity being negative. This also applied to the effects found through regression analysis, with openness to experience, conscientiousness and job autonomy having (insignificant) negative effects on individual ambidexterity. This contradicted to the prediction made based on Barrick and Mount (1993), where conscientiousness was significantly related to job performance and positively moderated by job autonomy. In other words, the latter findings have no practical value.

Limitations and Future Research

This study experienced several limitations during the process, with some creating opportunities for future research. What is experienced as the main limitation is the low sample size, which

produced a sampling error that affected the analysis from scratch. The researcher had been aware of the risks belonging to a small sample size which could have impact on the analysis in a later stage, but the failure of finding an alternative case company caused the problems to occur. However, it was never expected to have such impact, as sample size requirements were met. It is very unfortunate that the sample size impacted the research tremendously, with barely obtaining statistical significant outcomes and effects that match the predictions based on previous studies. This resulted in the findings not being legitimate and meaningful. Moreover, the validity of research became questionable, since it is unclear whether the measurements actually measured what was desired. It was attempted to provide for validity to some extent by checking all factors individually, because the small sample size led to the impracticality of an actual factor analysis. The absence of a factor analysis therefore affected discriminant and convergent validity. Future academic research should aim at a larger sample size from the beginning, to overcome a lack of statistical significance and explanatory power in research. The same relations could be analyzed in another setting in order to determine whether significant effects can be identified. If research would be conducted within the transportation sector, academics should consider a sample size consisting of multiple transportation organizations. This will in turn enable the researcher to draw conclusions about a larger population, such as the Dutch transportation sector as a whole.

As mentioned above, the validity status within this research is insufficient, making it impossible to draw conclusion about a larger population. Moreover, even though measurements originated from studies that experienced lots of recognition, a reliability of .62 was found for the variable conscientiousness, which is below the desired value of .70. In order to provide for sufficient validity and reliability within the study, future research could consider doing research by the mixed methods approach. When gathering qualitative data through interviews with several employees and managers, it can be determined how organizations perceive

ambidexterity, as well as the impact of personality traits on the ambidexterity of individuals. This could also assess whether the chosen items correspond to daily activities of employees. Then, quantitative data will be collected from the complete sample. After all, individual ambidexterity will be known for its ambiguity, as no practical way to achieving it has been discovered. As long as this ambiguity holds, there is enough substantiation to further investigate the concept.

What is also perceived as a limitation of the study, is the response bias within the collected data. Although Mom et al., (2009) and Langfred (2005) used Likert scales with respectively seven and nine options, it could still occur that one respondent gives more divergent or better rated answers than others when in reality, his or her answers demonstrate otherwise. Moreover, the item variables, such as individual ambidexterity, can be perceived differently as well. Such subjectivity cannot be fully avoided by just anonymizing the questionnaire. Although Mom et al. (2007) tried to dampen the bias by performing in-depth interviews in order to construct the 14-item measurement, there is still room for response bias once the questionnaire is sent to the sample. For future research, it would be difficult to overcome the response bias once the questionnaire is distributed. However, looking at the findings within this study's measurements, future research should consider adjusting their measurements to a more neutral tone. For example, the study of Donnellan et al. uses the phrase "make a mess of things" (2006, p. 203), which is a reverse coded item that, in this study, turned out to be susceptible to bias, as individuals do not willingly agree to that answer (this could however also be impacted by the translation of the phrase to Dutch, see Appendix 1). Lastly, the five personality traits that form the Big Five find the same origin, and are still established that way. This means that the traits are coherent to each other. It would therefore be interesting to assess the relation between individual ambidexterity and the concept as a whole.

Conclusion

This study aimed to determine whether there is a relation (and if so, to what extent) between the employees' personality traits, openness to experience and conscientiousness, and their individual ambidextrous behavior. The importance of the individual level of ambidexterity has been emerging for more than a decade (e.g. Raisch & Birkinshaw, 2008; Tempelaar & Rosenkranz, 2019), but the call for a further understanding of the concept and its antecedents has been existent ever since. Previous research identified personality traits, such as the Big Five (Barrick & Mount, 1991), as antecedents for ambidextrous behavior of individuals (e.g. Schnellbacher et al., 2019). The direct effects of these traits on individual ambidexterity were tested, as well as the interaction that the variables had with job autonomy. The study intended to contribute to literature regarding ambidexterity, personality traits and job autonomy, by providing for more insight into the relationships existing between these variables. Understanding these relations would help managers in innovative businesses to determine the value that individual ambidexterity could have on organizational and strategic outcomes. This conduct was guided by the research question: how do openness to experience and conscientiousness influence individual ambidexterity among employees? In order to answer the research question, a regression analysis was conducted with use of statistical software platform SPSS. Data was gathered through a questionnaire at a Dutch transportation organization, and a total of 36 employees participated in the research.

The research performed found no statistical significant results regarding the effects of the personality traits and individual ambidexterity. Therefore, the composed hypotheses H1, H2, H3a and H3b were rejected. This means that within this study, no statistical significant relations were found for individual ambidexterity with openness to experience and conscientiousness. This is certainly caused by the main limitation of this study, which is the small sample size ($N = 36$). The only substantiated recommendations to managers that were

derived from the analysis concern the educational level of employees, as well as their job tenure. Individual ambidexterity was found to be significantly, positively correlated with education and job tenure. Therefore, in order to achieve ambidextrous behavior among individuals, this study recommends to take highest educational level completed into account, especially when hiring new employees, and to preserve employee loyalty to prosper job tenure in the long term. A possible future research direction could investigate the same conceptual model and its relations in an attempt to determine whether statistical significant effects exist, but it could also include other antecedents within the research, such as the other personality traits belonging to the Big Five.

Bibliography

- Agarwal, R., & Prasad, J. (1998). A Conceptual and Operational Definition of Personal Innovativeness in the Domain of Information Technology. *Information Systems Research*, 9(2), 204–215. <https://doi.org/10.1287/isre.9.2.204>
- Al-Haraisa, Y. E. (2021). The Effect of Job Characteristics on Organizational Ambidexterity: Insight from Jordan. *International Business Research*, 14(4), 37. <https://doi.org/10.5539/ibr.v14n4p37>
- Ali, I. (2019). Personality traits, individual innovativeness and satisfaction with life. *Journal of Innovation & Knowledge*, 4(1), 38–46. <https://doi.org/10.1016/j.jik.2017.11.002>
- Anderson, N., Potočnik, K., & Zhou, J. (2014). Innovation and Creativity in Organizations. *Journal of Management*, 40(5), 1297–1333. <https://doi.org/10.1177/0149206314527128>
- Andriopoulos, C., & Lewis, M. W. (2009). Exploitation-Exploration Tensions and Organizational Ambidexterity: Managing Paradoxes of Innovation. *Organization Science*, 20(4), 696–717. <https://doi.org/10.1287/orsc.1080.0406>

- Babbie, E. (1990). *Survey Research Methods* (2nd ed.). Wadsworth.
https://www.ucg.ac.me/skladiste/blog_609332/objava_105202/fajlovi/Creswell.pdf
- Baregheh, A., Rowley, J., & Sambrook, S. (2009). Towards a multidisciplinary definition of innovation. *Management Decision*, *47*(8), 1323–1339.
<https://doi.org/10.1108/00251740910984578>
- Barrick, M. R., & Mount, M. K. (1991). The Big Five Personality Dimensions and Job Performance: a Meta-Analysis. *Personnel Psychology*, *44*(1), 1–26.
<https://doi.org/10.1111/j.1744-6570.1991.tb00688.x>
- Barrick, M. R., & Mount, M. K. (1993). Autonomy as a moderator of the relationships between the Big Five personality dimensions and job performance. *Journal of Applied Psychology*, *78*(1), 111–118. <https://doi.org/10.1037/0021-9010.78.1.111>
- Bayhan, B., & Korkmaz, O. (2021). Relationship between Innovation Management and Innovative Organizational Culture in Logistics Companies: A Study in the City of Mersin. *Istanbul Business Research*, *50*(1), 103–126.
<https://doi.org/10.26650/ibr.2020.50.0058>
- Benner, M. J., & Tushman, M. L. (2001). Exploitation, Exploration, and Process Management: The Productivity Dilemma Revisited. *Academy of Management Review*, *28*(2), 238–256. <https://doi.org/10.5465/amr.2003.9416096>
- Bidmon, C. M., & Boe-Lillegraven, S. (2019). Now, switch! Individuals' responses to imposed switches between exploration and exploitation. *Long Range Planning*, *53*(6), 1–19. <https://doi.org/10.1016/j.lrp.2019.101928>
- Birkinshaw, J., & Gibson, C. (2004). Building Ambidexterity into an Organization. *MIT Sloan Management Review*, 47–55. <https://sloanreview.mit.edu/article/building-ambidexterity-into-an-organization/>

- Birkinshaw, J., & Gupta, K. (2013). Clarifying the Distinctive Contribution of Ambidexterity to the Field of Organization Studies. *Academy of Management Perspectives*, 27(4), 287–298. <https://doi.org/10.5465/amp.2012.0167>
- Blazevic, V. (2021, November). *TL_Multiple Regression Analysis_#3.2_process* [Slides]. Brightspace. <https://brightspace.ru.nl/d21/le/content/261897/viewContent/1339987/View>
- Bledow, R., Frese, M., Anderson, N., Erez, M., & Farr, J. (2009). A Dialectic Perspective on Innovation: Conflicting Demands, Multiple Pathways, and Ambidexterity. *Industrial and Organizational Psychology*, 2(3), 305–337. <https://doi.org/10.1111/j.1754-9434.2009.01154.x>
- Bonesso, S., Gerli, F., & Scapolan, A. (2014). The individual side of ambidexterity: Do individuals' perceptions match actual behaviors in reconciling the exploration and exploitation trade-off? *European Management Journal*, 32(3), 392–405. <https://doi.org/10.1016/j.emj.2013.07.003>
- Breaugh, J. A. (1985). The Measurement of Work Autonomy. *Human Relations*, 38(6), 551–570. <https://doi.org/10.1177/001872678503800604>
- Buchanan, L. B. (1998, February). *The Impact of Big Five Personality Characteristics on Group Cohesion and Creative Task Performance*. <https://vtechworks.lib.vt.edu/bitstream/handle/10919/30415/etd.pdf>
- Caniëls, M. C. J., & Veld, M. (2016). Employee ambidexterity, high performance work systems and innovative work behaviour: How much balance do we need? *The International Journal of Human Resource Management*, 30(4), 565–585. <https://doi.org/10.1080/09585192.2016.1216881>

- Cao, Q., Gedajlovic, E., & Zhang, H. (2009). Unpacking Organizational Ambidexterity: Dimensions, Contingencies, and Synergistic Effects. *Organization Science*, 20(4), 781–796. <https://doi.org/10.1287/orsc.1090.0426>
- Carmeli, A., & Halevi, M. Y. (2009). How top management team behavioral integration and behavioral complexity enable organizational ambidexterity: The moderating role of contextual ambidexterity. *The Leadership Quarterly*, 20(2), 207–218. <https://doi.org/10.1016/j.leaqua.2009.01.011>
- Chen, G., Gully, S. M., & Eden, D. (2001). Validation of a New General Self-Efficacy Scale. *Organizational Research Methods*, 4(1), 62–83. <https://doi.org/10.1177/109442810141004>
- Creswell, J. W. (2008). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches, 3rd Edition* (3rd ed.). SAGE Publications, Inc.
- Danneels, E. (2002). The dynamics of product innovation and firm competences. *Strategic Management Journal*, 23(12), 1095–1121. <https://doi.org/10.1002/smj.275>
- Digman, J. M. (1990). Personality Structure: Emergence of the Five-Factor Model. *Annual Review of Psychology*, 41(1), 417–440. <https://doi.org/10.1146/annurev.ps.41.020190.002221>
- Dolz, C., Iborra, M., & Safón, V. (2019). Improving the likelihood of SME survival during financial and economic crises: The importance of TMTs and family ownership for ambidexterity. *BRQ Business Research Quarterly*, 22(2), 119–136. <https://doi.org/10.1016/j.brq.2018.09.004>
- Donnellan, M. B., Oswald, F. L., Baird, B. M., & Lucas, R. E. (2006). The Mini-IPIP Scales: Tiny-yet-effective measures of the Big Five Factors of Personality. *Psychological Assessment*, 18(2), 192–203. <https://doi.org/10.1037/1040-3590.18.2.192>

- Dougherty, D., & Hardy, C. (1996). Sustained product innovation in large, mature organizations: overcoming innovation-to-organization problems. *Academy of Management Journal*, 39(5), 1120–1153. <https://doi.org/10.2307/256994>
- Duan, Y., Peng, X., Gui, Q., Zhou, H., Zhang, X., & Song, W. (2020). Multilevel models of transformational leadership, behavioral integration of top management team and manager ambidexterity in SMEs. *Chinese Management Studies*, 15(5), 1009–1031. <https://doi.org/10.1108/cms-06-2020-0234>
- Duncan, R. B. (1976). Organizational Support and Managers' Ambidexterity in Social Enterprise: The Mediating Role of Emotional Intelligence. *The Management of Organization*, 1, 167–188. [https://www.scirp.org/\(S\(351jmbntvnsjt1aadkposzje\)\)/journal/paperinformation.aspx?paperid=92706](https://www.scirp.org/(S(351jmbntvnsjt1aadkposzje))/journal/paperinformation.aspx?paperid=92706)
- Eisenhardt, K. M., & Martin, J. A. (2000). Dynamic capabilities: what are they?. *Strategic management journal*, 21(10-11), 1105-1121.
- Field, A. (2018). *Discovering statistics using SPSS*. London: Sage.
- George, J. M., & Zhou, J. (2001). When openness to experience and conscientiousness are related to creative behavior: An interactional approach. *Journal of Applied Psychology*, 86(3), 513–524. <https://doi.org/10.1037/0021-9010.86.3.513>
- Gibson, C. B., & Birkinshaw, J. (2004). The Antecedents, Consequences, and Mediating Role of Organizational Ambidexterity. *Academy of Management Journal*, 47(2), 209–226. <https://doi.org/10.2307/20159573>
- Gilbert, C. G. (2005). Unbundling the Structure of Inertia: Resource Versus Routine Rigidity. *Academy of Management Journal*, 48(5), 741–763. <https://doi.org/10.5465/amj.2005.18803920>

- Goldberg, L. R. (1999). a broad-bandwidth, public-domain, personality inventory measuring the lower-level facets of several five-factor models. *Personality Psychology in Europe*, 7, 7–28. <https://ipip.ori.org/A%20broad-bandwidth%20inventory.pdf>
- Good, D., & Michel, E. J. (2013). Individual Ambidexterity: Exploring and Exploiting in Dynamic Contexts. *The Journal of Psychology*, 147(5), 435–453.
<https://doi.org/10.1080/00223980.2012.710663>
- Gupta, A. K., Smith, K. G., & Shalley, C. E. (2006). The Interplay Between Exploration and Exploitation. *Academy of Management Journal*, 49(4), 693–706.
<https://doi.org/10.5465/amj.2006.22083026>
- Gurven, M., von Rueden, C., Massenkoff, M., Kaplan, H., & Lero Vie, M. (2013). How universal is the Big Five? Testing the five-factor model of personality variation among forager–farmers in the Bolivian Amazon. *Journal of Personality and Social Psychology*, 104(2), 354–370. <https://doi.org/10.1037/a0030841>
- Hackman, J., & Oldham, G. R. (1976). Motivation through the design of work: test of a theory. *Organizational Behavior and Human Performance*, 16(2), 250–279.
[https://doi.org/10.1016/0030-5073\(76\)90016-7](https://doi.org/10.1016/0030-5073(76)90016-7)
- Hair, J.F. Jr, Anderson, R.E., Tatham, R.L., and Black, W.C. (1998), *Multivariate Data Analysis* (5th edition), Englewood Cliffs, NJ: Prentice-Hall.
- Hair, J. F. Jr, Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate Data Analysis* (8th edition). Cengage Learning EMEA.
- He, Z. L., & Wong, P. K. (2004). Exploration vs. Exploitation: An Empirical Test of the Ambidexterity Hypothesis. *Organization Science*, 15(4), 481–494.
<https://doi.org/10.1287/orsc.1040.0078>

- Jannink, L., (2017). Hoe eerlijk durf jij te zijn? Invloed van methodes van bevraging op sociale wenselijkheid in een vragenlijst. *University of Twente, Psychologie, Conflict & Vrede*: 1-62.
- Jansen, J. J. P., George, G., van den Bosch, F. A. J., & Volberda, H. W. (2008). Senior Team Attributes and Organizational Ambidexterity: The Moderating Role of Transformational Leadership. *Journal of Management Studies*, 45(5), 982–1007.
<https://doi.org/10.1111/j.1467-6486.2008.00775.x>
- Junni, P., Sarala, R. M., Taras, V., & Tarba, S. Y. (2013). Organizational Ambidexterity and Performance: A Meta-Analysis. *Academy of Management Perspectives*, 27(4), 299–312. <https://doi.org/10.5465/amp.2012.0015>
- Kaufman, S. B., Quilty, L. C., Grazioplene, R. G., Hirsh, J. B., Gray, J. R., Peterson, J. B., & DeYoung, C. G. (2014). Openness to Experience and Intellect Differentially Predict Creative Achievement in the Arts and Sciences. *Journal of Personality*, 84(2), 248–258. <https://doi.org/10.1111/jopy.12156>
- Kauppila, O. P., & Tempelaar, M. P. (2016). The Social-Cognitive Underpinnings of Employees' Ambidextrous Behaviour and the Supportive Role of Group Managers' Leadership. *Journal of Management Studies*, 53(6), 1019–1044.
<https://doi.org/10.1111/joms.12192>
- Keller, T., & Weibler, J. (2014). Behind Managers' Ambidexterity — Studying Personality Traits, Leadership, and Environmental Conditions Associated with Exploration and Exploitation. *Schmalenbach Business Review*, 66(3), 309–333.
<https://doi.org/10.1007/bf03396909>
- Keller, T., & Weibler, J. (2015). What It Takes and Costs To Be an Ambidextrous Manager: : Linking leadership and cognitive restraint to balancing exploration and exploitation.

- Journal of Leadership & Organizational Studies*, 22(1), 54–71.
<https://doi.org/10.1177/1548051814524598>
- Kirton, M., & de Ciantis, S. M. (1986). Cognitive style and personality: The Kirton adaption-innovation and Cattell's sixteen personality factor inventories. *Personality and Individual Differences*, 7(2), 141–146. [https://doi.org/10.1016/0191-8869\(86\)90048-6](https://doi.org/10.1016/0191-8869(86)90048-6)
- Langfred, C. W. (2005). Autonomy and Performance in Teams: The Multilevel Moderating Effect of Task Interdependence. *Journal of Management*, 31(4), 513–529.
<https://doi.org/10.1177/0149206304272190>
- Laureiro-Martínez, D., Brusoni, S., & Zollo, M. (2010). The Neuroscientific Foundations of the Exploration–Exploitation Dilemma. *Journal of Neuroscience, Psychology, and Economics*, 3(2), 95–115. <https://doi.org/10.1037/a0018495>
- Lavie, D., Stettner, U., & Tushman, M. L. (2010). Exploration and Exploitation Within and Across Organizations. *Academy of Management Annals*, 4(1), 109–155.
<https://doi.org/10.5465/19416521003691287>
- LePine, J. A., Colquitt, J. A., & Erez, A. (2000). Adaptability To Changing Task Contexts: Effects Of General Cognitive Ability, Conscientiousness, And Openness To Experience. *Personnel Psychology*, 53(3), 563–593. <https://doi.org/10.1111/j.1744-6570.2000.tb00214.x>
- Levinthal, D. A., & March, J. G. (1993). The myopia of learning. *Strategic Management Journal*, 14(S2), 95–112. <https://doi.org/10.1002/smj.4250141009>
- March, J. G. (1991). Exploration and Exploitation in Organizational Learning. *Organization Science*, 2(1), 71–87. <https://www.jstor.org/stable/2634940>
- Matzler, K., Renzl, B., Müller, J., Herting, S., & Mooradian, T. (2008). Personality Traits and Knowledge Sharing. *Journal of Economic Psychology*, 29(3), 301–313.
<https://ideas.repec.org/a/eee/joepsy/v29y2008i3p301-313.html>

- McCrae, R. R., & Terracciano, A. (2005). Universal Features of Personality Traits From the Observer's Perspective: Data From 50 Cultures. *Journal of Personality and Social Psychology, 88*(3), 547–561. <https://doi.org/10.1037/0022-3514.88.3.547>
- Mom, T. J. M., Fourné, S. P. L., & Jansen, J. J. P. (2015). Managers' Work Experience, Ambidexterity, and Performance: The Contingency Role of the Work Context. *Human Resource Management, 54*(1), 133–153. <https://doi.org/10.1002/hrm.21663>
- Mom, T. J. M., van den Bosch, F. A. J., & Volberda, H. W. (2007). Investigating Managers' Exploration and Exploitation Activities: The Influence of Top-Down, Bottom-Up, and Horizontal Knowledge Inflows. *Journal of Management Studies, 44*(6), 910–931. <https://doi.org/10.1111/j.1467-6486.2007.00697.x>
- Mom, T. J. M., van den Bosch, F. A. J., & Volberda, H. W. (2009). Understanding Variation in Managers' Ambidexterity: Investigating Direct and Interaction Effects of Formal Structural and Personal Coordination Mechanisms. *Organization Science, 20*(4), 812–828. <https://doi.org/10.1287/orsc.1090.0427>
- Mu, T., van Riel, A., & Schouteten, R. (2020). Individual ambidexterity in SMEs: Towards a typology aligning the concept, antecedents and outcomes. *Journal of Small Business Management, 60*(2), 347–378. <https://doi.org/10.1080/00472778.2019.1709642>
- O'Reilly, C. A., & Tushman, M. L. (2011). Organizational Ambidexterity in Action: How Managers Explore and Exploit. *California Management Review, 53*(4), 5–22. <https://doi.org/10.1525/cmr.2011.53.4.5>
- Papadakis, V. M., Lioukas, S., & Chambers, D. (1998). Strategic decision-making processes: the role of management and context. *Strategic Management Journal, 19*(2), 115–147. <https://onlinelibrary.wiley.com/doi/epdf/10.1002/%28SICI%291097-0266%28199802%2919%3A2%3C115%3A%3AAID-SMJ941%3E3.0.CO%3B2-5>

- Park, M., & Kim, S. (2021). Effects of Personality Traits and Team Context on Individual Innovative Behavior (Exploitation and Exploration). *Sustainability*, *14*(1), 306–323. <https://doi.org/10.3390/su14010306>
- Petro, Y., Ojiako, U., Williams, T., & Marshall, A. (2019). Organizational Ambidexterity: A Critical Review and Development of a Project-Focused Definition. *Journal of Management in Engineering*, *35*(3), 03119001. [https://doi.org/10.1061/\(asce\)me.1943-5479.0000685](https://doi.org/10.1061/(asce)me.1943-5479.0000685)
- Raisch, S., & Birkinshaw, J. (2008). Organizational Ambidexterity: Antecedents, Outcomes, and Moderators. *Journal of Management*, *34*(3), 375–409. <https://doi.org/10.1177/0149206308316058>
- Raisch, S., Birkinshaw, J., Probst, G., & Tushman, M. L. (2009). Organizational Ambidexterity: Balancing Exploitation and Exploration for Sustained Performance. *Organization Science*, *20*(4), 685–695. <https://doi.org/10.1287/orsc.1090.0428>
- Random House Unabridged Dictionary. (2022). Conscientiousness. In *Dictionary.com*. <https://www.dictionary.com/browse/conscientious>
- Roberts, B. W., & DelVecchio, W. F. (2000). The rank-order consistency of personality traits from childhood to old age: A quantitative review of longitudinal studies. *Psychological Bulletin*, *126*(1), 3–25. <https://doi.org/10.1037/0033-2909.126.1.3>
- Rosing, K., & Zacher, H. (2017). Individual ambidexterity: the duality of exploration and exploitation and its relationship with innovative performance. *European Journal of Work and Organizational Psychology*, *26*(5), 694–709. <https://doi.org/10.1080/1359432x.2016.1238358>
- Rossberger, R. J. (2014). National Personality Profiles and Innovation: The Role of Cultural Practices. *Creativity and Innovation Management*, *23*(3), 331–348. <https://doi.org/10.1111/caim.12075>

- Schnellbacher, B., & Heidenreich, S. (2020). The role of individual ambidexterity for organizational performance: examining effects of ambidextrous knowledge seeking and offering. *The Journal of Technology Transfer*, 45(5), 1535–1561.
<https://doi.org/10.1007/s10961-020-09781-x>
- Schnellbacher, B., Heidenreich, S., & Wald, A. (2019). Antecedents and effects of individual ambidexterity – A cross-level investigation of exploration and exploitation activities at the employee level. *European Management Journal*, 37(4), 442–454.
<https://doi.org/10.1016/j.emj.2019.02.002>
- Schultz, C., Schreyoegg, J., & von Reitzenstein, C. (2013). The moderating role of internal and external resources on the performance effect of multitasking: Evidence from the R&D performance of surgeons. *Research Policy*, 42(8), 1356–1365.
<https://doi.org/10.1016/j.respol.2013.04.008>
- Simsek, Z. (2009). Organizational Ambidexterity: Towards a Multilevel Understanding. *Journal of Management Studies*, 46(4), 597–624. <https://doi.org/10.1111/j.1467-6486.2009.00828.x>
- Simsek, Z., Heavey, C., Veiga, J. F., & Souder, D. (2009). A Typology for Aligning Organizational Ambidexterity's Conceptualizations, Antecedents, and Outcomes. *Journal of Management Studies*, 46(5), 864–894. <https://doi.org/10.1111/j.1467-6486.2009.00841.x>
- Tempelaar, M. P., & Rosenkranz, N. A. (2019). Switching Hats: The Effect of Role Transition on Individual Ambidexterity. *Journal of Management*, 45(4), 1517–1539.
<https://doi.org/10.1177/0149206317714312>
- Tuncdogan, A., van den Bosch, F., & Volberda, H. (2015). Regulatory focus as a psychological micro-foundation of leaders' exploration and exploitation activities. *The Leadership Quarterly*, 26(5), 838–850. <https://doi.org/10.1016/j.leaqua.2015.06.004>

- Tushman, M. L., & O'Reilly, C. A. (1996). Ambidextrous Organizations: Managing Evolutionary and Revolutionary Change. *California Management Review*, 38(4), 8–30.
http://web.mit.edu/curhan/www/docs/Articles/15341_Readings/Organizational_Learning_and_Change/Tushman_&_OReilly_1996_Ambidextrous_Organizations.pdf
- Ursachi, G., Horodnic, I. A., & Zait, A. (2015). How Reliable are Measurement Scales? External Factors with Indirect Influence on Reliability Estimators. *Procedia Economics and Finance*, 20, 679–686. [https://doi.org/10.1016/s2212-5671\(15\)00123-9](https://doi.org/10.1016/s2212-5671(15)00123-9)
- van Vianen, A. E., & de Dreu, C. K. (2001). Personality in teams: Its relationship to social cohesion, task cohesion, and team performance. *European Journal of Work and Organizational Psychology*, 10(2), 97–120.
<https://doi.org/10.1080/13594320143000573>
- Vassend, O., & Skrandal, A. (2011). The NEO personality inventory revised (NEO-PI-R): Exploring the measurement structure and variants of the five-factor model. *Personality and Individual Differences*, 50(8), 1300–1304.
<https://doi.org/10.1016/j.paid.2011.03.002>
- Vera, D., & Crossan, M. (2004). Strategic Leadership and Organizational Learning. *Academy of Management Review*, 29(2), 222–240. <https://doi.org/10.5465/amr.2004.12736080>
- Walrave, B., Romme, A. G. L., van Oorschot, K. E., & Langerak, F. (2017). Managerial attention to exploitation versus exploration: toward a dynamic perspective on ambidexterity. *Industrial and Corporate Change*, 26(6), 1145-1160.
- Wang, C. L., & Rafiq, M. (2014). Ambidextrous Organizational Culture, Contextual Ambidexterity and New Product Innovation: A Comparative Study of UK and Chinese

High-tech Firms. *British Journal of Management*, 25(1), 58–76.

<https://doi.org/10.1111/j.1467-8551.2012.00832.x>

Weisberg, Y. J., DeYoung, C. G., & Hirsh, J. B. (2011). Gender Differences in Personality across the Ten Aspects of the Big Five. *Frontiers in Psychology*, 2.

<https://doi.org/10.3389/fpsyg.2011.00178>

Widiger, T. A., & Trull, T. J. (1997). Assessment of the Five-Factor Model of Personality. *Journal of Personality Assessment*, 68(2), 228–250.

https://doi.org/10.1207/s15327752jpa6802_2

Williams, C. (2007). Research Methods. *Journal of Business & Economics Research (JBER)*, 5(3). <https://doi.org/10.19030/jber.v5i3.2532>

Zhang, Y., Wei, F., & van Horne, C. (2019). Individual Ambidexterity and Antecedents in a Changing Context. *International Journal of Innovation Management*, 23(03),

1950021. <https://doi.org/10.1142/s136391961950021x>

Appendices

Appendix A. Questionnaire

Radboud Universiteit



Beste werknemer van Maters Huissen bv,

Allereerst wil ik u bedanken voor uw tijd en uw deelname aan dit onderzoek.

Mijn naam is Robin Maters. In september ben ik begonnen aan een Bedrijfskunde master aan de Radboud Universiteit in Nijmegen. Voor mijn afstudeeropdracht doe ik onderzoek naar hoe verschillende persoonlijkheidskenmerken het innovatieve gedrag van werknemers beïnvloeden. Dit innovatieve gedrag wordt 'individual ambidexterity' genoemd, wat bestaat uit de combinatie van het incrementeel verbeteren van dagelijkse processen en het ontdekken/ontwikkelen van nieuwe zakelijke mogelijkheden.

Het invullen van deze enquête duurt ongeveer 5 minuten. Alle informatie die ik gedurende dit onderzoek verzamel wordt enkel gebruikt in dit academische onderzoek. Voorop staat dat uw gegevens anoniem blijven, zowel gedurende als na het onderzoek. Ik hoop u bij deze te kunnen verzekeren dat ik zorgvuldig met uw gegevens te werk ga. U kunt de enquête op ieder moment beëindigen. Er zijn geen goede of foute antwoorden te geven: het enige wat telt is uw mening.

Mocht u vragen over het onderzoek hebben, stuur mij dan gerust een mail:
robinmatters100@hotmail.com.

Ik wil u nogmaals bedanken voor uw tijd en medewerking aan dit onderzoek.

Met vriendelijke groet,
Robin Maters

Conscientiousness*¹– Geef aan in hoeverre u het eens bent met de volgende stellingen:

	Sterk mee oneens (1)	Oneens (2)	Neutraal (3)	Eens (4)	Sterk mee eens (5)
Ik pak klusjes meteen aan (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik vergeet vaak dingen op de goede plek terug te leggen (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik ben gesteld op orde (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik kan een puinhoop maken van dingen (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Openness to Experience – Geef aan in hoeverre u het eens bent met de volgende stellingen:

	Sterk mee oneens (1)	Oneens (2)	Neutraal (3)	Eens (4)	Sterk mee eens (5)
Ik heb een levendige verbeelding (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik ben niet geïnteresseerd in abstracte ideeën (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik heb er moeite mee om abstracte ideeën te begrijpen (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik heb weinig verbeeldingskracht (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

¹ The questions were asked without mentioning the corresponding variable. This applies to all variables.

Ik bepaal mijn doelstellingen zelf. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik heb enige controle over wat ik in het team moet bereiken. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik kan beïnvloeden hoe ik word beoordeeld, dus ik bepaal zelf welke taken ik meer of minder belangrijk vind. (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Control Variables Gender, Age, Education and Job position

Wat is uw geslacht?

- Man (1)
- Vrouw (2)
- Anders (3)

Wat is uw leeftijd?

15 25 35 45 55 65 75 85

Leeftijd



Wat is uw hoogst genoten opleiding?

- Geen opleiding (1)
 - Basisschool (2)
 - Lager beroepsonderwijs (bijv. LTS, VMBO) (3)
 - Middelbaar beroepsonderwijs (bijv. MBO) (4)
 - Hoger beroepsonderwijs (bijv. HBO, HTS) (5)
 - Universitair onderwijs (bijv. WO Bachelor, Master) (6)
-

Vraag 4 Wat is uw functie binnen het bedrijf?

- Administratie (1)
 - Middenmanagement (2)
 - Montage (3)
 - Planning (4)
-

Hoelang bent u werkzaam bij Maters Huissen bv?

0 10 20 30 40 50 60 70

Aantal jaar werkzaam



End of Block: Default Question Block

Bedankt voor uw deelname aan het onderzoek. Uw gegevens zijn opgeslagen. U heeft het onderzoek afgerond en kunt de pagina sluiten.

Appendix B. Mini-IPIP Scales Table – Conscientiousness and Openness to Experience

Item	Factor	Text
1	Conscientiousness	Get chores done right away
2	Conscientiousness	Often forget to put things back in their proper place (R)
3	Conscientiousness	Like order
4	Conscientiousness	Make a mess of things (R)
1	Openness to Experience	Have a vivid imagination
2	Openness to Experience	Am not interested in abstract ideas (R)
3	Openness to Experience	Have difficulty understanding abstract ideas (R)
4	Openness to Experience	Do not have a good imagination (R)

Note. (R) = Reverse Scored Item. This table is retrieved from Donnellan et al. (2006). Hereby, the item numbers correspond to this study, not to the study of Donnellan et al. All items were measured on a five-point scale (1 = *strongly disagree*, 5 = *strongly agree*)

Appendix C. Manager's Ambidexterity Table

Factor:	Item	Text
To what extent did you, last year, engage in work related activities that can be characterized as follows:		
A manager's exploration activities	1	Searching for new possibilities with respect to products/services, processes, or markets.
	2	Evaluating diverse options with respect to products/services, processes, or markets.
	3	Focusing on strong renewal of products/services or processes.
	4	Activities of which the associated yields or costs are currently unclear.
	5	Activities requiring quite some adaptability of you.
	6	Activities requiring you to learn new skills or knowledge.
	7	Activities that are not (yet) clearly existing company policy.
A manager's exploitation activities	1	Activities of which a lot of experience has been accumulated by yourself.
	2	Activities which you carry out as if it were routine.
	3	Activities which serve existing (internal) customers with existing services/products.

	4	Activities of which it is clear to you how to conduct them.
	5	Activities primarily focused on achieving short-term goals.
	6	Activities which you can properly conduct by using your present knowledge.
	7	Activities which clearly fit into existing company policy.

Note. These measures are retrieved from Mom et al. (2009). The item numbers are equal to both this study and the original study. All items were measured on a seven-point scale (1 = *to a very small extent*, 7 = *to a very large extent*).

Appendix D. Job Autonomy Measurement Table

Item	Text
1	I am free to decide how to go about getting my work done.
2	I am free to choose how to carry out my work.
3	I am able to choose the way to go about my work in the team.
4	I can decide when to do particular activities as part of my work in the team.
5	I have control over the scheduling of my work in the team.
6	I have some control over the sequencing of my activities in the team.
7	I am able to decide for myself what my objectives are.
8	I have some control over what I am supposed to accomplish in the team.
9	I can influence how I am evaluated, so I can emphasize some aspects of what I do an play down others.

Note. This measurement is retrieved from Langfred (2005). Item numbers are equal for both this research and the original study. All items were measured on a nine-point scale (1 = *strongly disagree*, 9 = *strongly agree*).