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**The role of entrepreneur identity in shaping responses to
feedback: a study on idea commitment and pivoting**

Master's Thesis Marketing
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‘The Role of Entrepreneur Identity in Shaping Responses to Feedback: A Study on Idea Commitment and Pivoting’

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Preface

This thesis marks the highlight of my study in Business Administration with a specialization in Marketing at Radboud University Nijmegen. The journey towards the completion of this thesis has been challenging and rewarding.

First, I want to thank my supervisor Dr. Prof. Bas Hillebrand, whose support, expertise and feedback have been of great help in this project. Second, I want to thank Hanif Widyanto for his time and effort. Lastly, I want to thank Bluehub for their help, opening their company for our research and the acceptance of the researchers participating in pitches. The willingness to share their information has been crucial for this research.

Enjoy reading my Master's thesis!

Tamara Koggel

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Abstract

The aim of this study was to research the effect between the commitment to an idea on pivoting after receiving feedback and the moderated effect of an entrepreneur identity on this relation. The entrepreneur identities were based on the self-identity theory and divided in Darwinian and missionary. All constructs were researched for separately in literature, however, not often were they researched for together. This study researched whether entrepreneur identity influenced the relation, and therefore the implementation of feedback. A survey was made to generate outcomes for this research, which was send to 160 respondents from a consultancy company Bluehub. Via a multiple regression analysis, hypotheses were tested, conclusions were drawn, and the research questions was answered. Results show a significant effect between commitment to an idea on pivoting after receiving feedback, implying a higher commitment towards an idea has a negative effect on pivoting. However, no significant effects were found between the moderators and this relation.

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1. Introduction

Within the introduction, the background of this research will be explained, followed by the research question which will be the focus of this research. This chapter ends with the theoretical and managerial relevance to explain what this research contributes to literature and society.

1.1. Problem statement

Entrepreneurs are driven and motivated people, but they tend to struggle with setting up and developing their own ideas and reflecting on them (Driessen & Zwart, 2007). To help them with this problem, they often feel they require feedback to help them with their development (Drencheva et al., 2022). This is important, as feedback influences the learning process, which makes it easier for entrepreneurs to adjust their ideas (Henderson et al., 2019). Feedback is the information provided by an agent (e.g., teacher, peer, book parent, self, experience) regarding aspects of one's performance or understanding (Hattie & Tamperley, 2007). The influence of feedback on learning is incredibly potent, both when resulting in either positive or negative outcomes. The way the feedback is received or provided can have an impact on the adjustments that have to be made (Hattie & Timperley, 2007).

How an individual uses feedback depends on the level of commitment that an individual has to the idea and the willingness to change the course of direction of that idea (Schmidt & Calatone, 2002, Hon & Kim, 2018). Adapted from the article by Tang (2008), the definition of commitment is the extent to which an entrepreneur identifies with and is engaged with its initial idea. How committed someone is to an idea, strongly impacts the strength of engagement in a certain course of action despite difficulties that may occur along the way (Burnell et al., 2023). Highly committed people may be resistant towards adjustment or change because they are inclined to keep doing the same and familiar things (Dowd, 1999; Watson, 1971). This also applies to entrepreneurs, who can see the feedback as a threat to their idea and are not willing to implement these changes (Grimes, 2018).

The level of commitment to an idea can furthermore influence the changes made to an idea after receiving feedback (Burnell et al., 2023), also known as pivoting. Pivoting is the substantive transformation of a business model to create or maintain a competitive advantage (Grimes, 2018). In other words, pivoting is the change made to a business idea of an entrepreneur after receiving feedback. This is important because research shows that an entrepreneurial innovation or an idea needs adjustments or rearrangements to increase its

chances of becoming successful (Sadeghiani & Anderson, 2023). Accordingly, entrepreneurs need feedback to improve their ideas and to increase their chances of success. For example, Twitter had to pivot its strategy to become successful, going from podcasting to creating a platform for microblogging (Sadeghiani & Anderson, 2023). However, there is a chance that this adjustment is more difficult for some entrepreneurs than others (Farmer et al., 2011). This is due to the type of identity conveyed by the entrepreneur and is based on social identity theory, which explains the categorization of individuals into groups, and how individuals perceive themselves within these groups (Fauchart & Gruber, 2011).

Identity can be defined by people characterizing themselves and establish their roles in distinct settings, like individual relationships, relationships with others, or in organizations (Newbery et al., 2018). Entrepreneurs aspire to be someone, or they see themselves accomplishing something and they are engaged or motivated to make this happen. This is reinforced by identifying with others who identify with the same group (Farmer et al., 2011). This entrepreneur identity is formed when individuals “see and talk of themselves as entrepreneurs” (Down & Reveley, 2004, p. 234).

How individuals see themselves as entrepreneurs strongly influences their start and continuance with their businesses, and the strategies they are pursuing. As a result, entrepreneurs align their actions and goals with the identity they assume, which creates a purpose for the entrepreneur (Farmer et al., 2011). This purpose can cause the entrepreneur to respond differently on feedback, as they are driven by different purposes when doing business. For example, entrepreneurs who seek a financial gain may prefer feedback that highlights potential profits, while entrepreneurs who seek social impact might value feedback that supports their mission.

Understanding how individuals identify themselves as an entrepreneur is crucial for understanding the involvement in or avoidance of entrepreneurial activities, as this identification affects the motivation, willingness, and passion in doing business, even when it involves risks (Vanoorbeek & lecuyle, 2021). It can cause entrepreneurs to respond differently on entrepreneurial activities, as entrepreneur identities can find different aspects important in doing business or are striving different goals or strategies (Gonzalez-Canosa et al., 2021). Moreover, it drives how entrepreneurs behave, make decisions, and act in certain situations (Farmer et al., 2011), resulting in them implementing or not implementing feedback in their strategies.

Sieger et al. (2016), describes three entrepreneur identities: missionary, Darwinian, and communitarian. This research focuses on the missionary- and the Darwinian identity. Ganzin et al. (2019), suggests that entrepreneurs are driven by either a social purpose or a financial gain, aligning these drivers with the two identities mentioned by Sieger et al. (2016). The missionary identity corresponds with a purpose-driven entrepreneur, who is motivated by a social purpose or goal in life. On the contrary, the Darwinian identity corresponds to a money-driven entrepreneur, who is focused on economic successes and profit making (Ganzin et al., 2019; Gonzalez-Canosa et al., 2021).

The Darwinian identity is classified as a businessperson who is looking for strong and profitable opportunities in business, acts on them, and makes them successful, while the missionary identity is driven by a passion to make a positive impact in society and take responsibility for their actions by achieving their social purpose (De La Cruz et al., 2017). Both identities could respond differently to feedback and act differently on it, as both identities have different motivations or are striving different goals or strategies when doing business. This leads them to considering other aspects in their ideas/goals as more important and can cause the involvement in or avoidance of entrepreneurial activities when doing business (Sieger et al., 2016). As a result, they both pursue different ideals in business and pursue different paths, which explains why entrepreneurs with different identities might respond differently on given feedback.

Entrepreneur identities can form or influence the behavior or decision-making of an entrepreneur, causing the entrepreneur to respond differently to feedback on their idea. Entrepreneur identities can moderate the relationship between commitment to pivoting, as these identities can impact how the feedback is perceived or interpreted by an entrepreneur, and the willingness to implement these advised changes. Both identities pursue different goals in entrepreneurship and find different aspects important when doing business, which may lead to different decisions along the way and different interpretations regarding feedback that is given.

1.2. Research question

How does a type of entrepreneur identity (Darwinian or missionary) moderate the relationship between commitment to an idea prior to a pitch on pivoting after receiving feedback?

1.3. Theoretical relevance

This research adds new insights to the literature in multiple ways. Firstly, this research looks closely at how commitment to an idea and pivoting after receiving feedback is connected, utilizing feedback from entrepreneurs. Previous studies devoted research to the relationship between commitment to an idea and pivoting (Burnell et al., 2023; Grimes, 2018; Sadeghiani & Anderson, 2023) for example, the type of relation someone has with their idea affecting the degree of change (Al-Haddad & Kotnour, 2015). However, this study contributes to literature by looking more closely to the relation between commitment and pivoting when receiving feedback on an idea.

Secondly, this research will add insights to the literature by studying the moderated effect a type of entrepreneur identity can have on the relation between commitment and pivoting, as this effect was given less attention to. A type of identity can impact this relation by influencing how the feedback is perceived or interpreted and how the entrepreneur will respond to the feedback.

In summary, all constructs are researched separately in previous research, but when studying together there is a lack of information. Moreover, this study contributes to a better understanding of the impact on entrepreneurs when receiving feedback and whether a type of entrepreneur identity moderates this.

1.4. Managerial relevance

The moderated effect of entrepreneurial identity on the relation between commitment to an idea and pivoting can be crucial information for managers at Bluehub because this information can give valuable insights into the pivoting process of entrepreneurs and the commitment they feel towards their own ideas. For an entrepreneur to successfully implement the feedback in a way that the outcome of commitment to pivoting is optimized, the feedback providers must look at the identity of the entrepreneur to see how the direction from commitment to pivoting can change, according to this identity.

When taking this identity into account the findings can offer a perspective on entrepreneurs' behaviors concerning feedback. In addition, these preferences emphasize the importance of different entrepreneurial identities moderated on the relation between commitment to an idea and pivoting when developing an effective feedback program.

The host of the pitch session can alter this session to a way that can be more suitable for the participating entrepreneurs, suggest other ideas or provide ideas and/or feedback in different ways to connect with the person in question and make sure that the feedback is aligned with the identity of the entrepreneur. In addition, this study can explain why it is important for investors to invest in this program, by showing them the results of this study.

2. Theoretical framework

This chapter elaborates on theoretical constructs used in this research. The constructs are separately defined and explained within their paragraphs and are placed within a conceptual model at the end of this chapter to provide an overview.

2.1. Pitching and feedback

A pitch can be helpful to present an idea of an entrepreneur in a time efficient way (Chapple et al., 2021; Van Werven et al., 2019), as it gives the most important details in a short amount of time familiarizing the audience or feedback providers with the idea (Chapple et al., 2021; Clark, 2008). Pitches can come in different lengths, including short pitches that last up to approximately five minutes, or long pitches that can range in time between fifteen to thirty minutes. The aim of a pitch often is to persuade the audience to support or invest in the idea explained (Clark, 2008). This research is not about pitching in essence of seeking investors to support the idea. It is about entrepreneurs who are seeking feedback to their pitch and their business idea, to help them further with this idea when doing business.

After the pitch, feedback can be given on the idea presented in this pitch. Feedback can help the pitcher with their idea to gather ideas or helpful information to continue their business (London et al., 2013). Moreover, feedback helps by identifying the idea's strengths and weaknesses, providing insights in the business idea, and can align investors' expectations (Spinuzzi et al., 2015). The degree to which the feedback is incorporated can depend on different factors in this process. For example, the commitment of the entrepreneur to the idea (Watson, 1971) and the way the feedback is being received (Gamlem & Smith, 2013; London et al., 2023; Small & Attree, 2015).

Most research is performed on how these pitches are being held or where the focus should be while pitching the idea (Clark, 2008; Faff, 2015; Van Werven et al., 2019) and what the best way of providing feedback is (Ossenberget al., 2018; Schartel, 2012; Van Der Leeuw & Slootweg, 2013). However, less research is devoted on what entrepreneurs do with the feedback they receive and how they react on this feedback. This is important, as the received feedback can determine the degree of change of the pitched idea (Sadeghiani & Anderson, 2023).

2.2. Pivoting

The degree of change in business terms is also known as pivoting (Burnell et al., 2023). Pivoting is the substantive transformation of a business model to create or maintain competitive advantage (Grimes, 2018). It describes how changes are being implemented after receiving the feedback (Burnell et al., 2023). Pivoting is a widely researched topic mainly focused on why an individual changes direction from its idea (Burnell et al., 2023; Grimes, 2018; Sadeghiani & Anderson, 2023). Previous research studied the way of pivoting when dealing with a crisis (Sanasi & Ghezzi, 2022), in other words the fastness of changing the strategy when unforeseen circumstances arise. In addition, Eisenmann (2020), suggests that pivoting is the change made in different domains and focuses on which business elements are changed in the process to optimize an idea.

This study focuses on the degree of pivoting because the degree of pivoting in terms of domains creates long-term changes and competitive advantages when altering an idea (Snihur & Clarysse, 2022). The degree of change can be conceptualized by four business elements borrowed from the research by Eisenmann (2020). These elements are common elements that are used more often in research and are known as: “target customer segments, product features, marketing approach, and monetization approach” (Eisenmann, 2020, p. 63).

Customer target segments delineate the various groups of individuals or organizations that entrepreneurs want to appeal to and serve with their products and services, which corresponds to the customer segments element in the Business Model Canvas (Osterwalder & Pigneur, 2010). These segments are helpful, as it brings focus to marketing and sales efforts, and provide tailoring strategies to connect to the important segments (Osterwalder & Pigneur, 2010). This implies that pivoting in this domain means changing your customer segment in the idea. Product features are the functionalities of a product, the attributes, or capabilities that a product is providing towards their users (Nowlis & Simonson, 1996). It is important as it can increase consumer experiences, improve product development, and provide differentiation in the market where it operates (Zhang et al., 2018). This suggest that in this domain, pivoting includes a change in product features for an idea. Marketing approach, on the other hand, explains how a company would like to sell or advertise their products to meet the goals they have for their business. It is based on the target customer segments, but also looks how potential customers can be attracted to raise awareness and drive sales (Rosenberg & Czepiel, 1984). This indicates that this domain of pivoting is changing when the marketing approach of an idea is altered. Monetization approach is related to the value stream element in the Business Model

Canvas, which represents how an entrepreneur converts value into revenue from each customer segment (Osterwalder & Pigneur, 2010). It is important for entrepreneurs, as this approach outlines how they will generate revenue, and how they will continue growing and maintain stability to create long-term successes (Osterwalder & Pigneur, 2010). This suggests that pivoting in this area involves changing the monetization approach of the idea.

The degree of pivoting according to Eisenmann (2020), is based on the average change on the different elements mentioned above and will show the extent to which the entrepreneur has changed the idea. It can also reveal if the entrepreneur chooses to maintain their initial strategy without pivoting following the feedback received during the pitch. If an entrepreneur decides to pivot, they can adjust one or more elements of their business plan or idea.

2.3. Commitment to a pitched idea

As noted before, commitment is defined as the extent to which an entrepreneur identifies with and is engaged with their pitched idea (Tang, 2008). Commitment is a tendency that can create biases for a personal idea or innovation (Keil et al., 2007). This is extended when an entrepreneur has control over the idea and views this idea as an extension of themselves, contributing to their own identity and self-assurance (Grimes, 2018).

Entrepreneurs who are committed to their ideas are committed to defending and maintaining these ideas (Tang, 2008). They can be influenced by the emotional attachment or the loyalty they feel towards an idea. Therefore, these effects lead to entrepreneurs' resistance to change and the unwillingness to adjust ideas or incorporate feedback (Mowday et al., 1979; Schmidt & Calantone, 2002; Staw, 1976). Moreover, this engagement or loyalty towards the idea makes it difficult for entrepreneurs to pivot or admit that change is needed (London et al., 2023; Tang, 2008).

When the idea is perceived as an extension of the entrepreneur, this commitment can lead to entrepreneurs not identifying problems that occur along the way that need to be taken care of (Schmidt & Calantone, 2002). This commitment can also lead to problems in which resources are allocated to innovations that are no longer profitable. Moreover, it can lead to entrepreneurs not utilizing the feedback they receive, as they perceive the feedback as a threat to their ideas (Grimes, 2018).

As previously mentioned, the strong identification with an idea causes entrepreneurs to not let go of the idea. In addition to the unwillingness to adapt feedback and this identification with an idea, this also results in entrepreneurs continuing to work on an idea, despite others

providing feedback in which the entrepreneur is discouraged (Eliëns et al., 2018). This phenomenon is called escalation of commitment and is the tendency to continue with a course of action when it is not beneficial (Eliëns et al., 2018).

When entrepreneurs have a high feeling of commitment towards an idea and receive feedback on this idea, it can be harder for them to alter or implement the feedback to change and improve their ideas (Keil et al., 2007; Staw, 1976). The emotional attachment or loyalty someone has for an idea may result in that person not pivoting or implementing feedback when necessary, or the resistance to change (Burnell et al., 2023). Therefore, the hypothesis is:

H1. Commitment to a pitched idea has a negative impact on the degree of pivoting after receiving feedback.

2.4. Entrepreneur identity

Entrepreneurs aspire to be someone, or they see themselves accomplishing something and they are engaged or motivated to make this happen and it determines the way of doing business (Farmer et al., 2011). This aspiration is, amongst other things, due to the identity assumed by the entrepreneur (Farmer et al., 2011) because how the entrepreneur identifies, influences the way s/he does business and the choices s/he makes along the way (Newbery et al., 2018). This identity is formed when an entrepreneur “sees and talk of themselves as entrepreneurs” (Down & Reveley, 2004, p. 234) and is important as it guides behaviour in a certain direction (Burke, 1991). Moreover, the entrepreneur identity is important, as it is a way of identifying oneself and forming behaviours and decision-making (Teyi et al., 2023). According to Teyi et al. (2023), entrepreneur identities often view (business) challenges differently, causing them to respond and behave differently in certain situations when doing business and make different decisions. These findings are also confirmed in the study by Sieger et al. (2016). In addition, previous literature elaborated on the identity of an entrepreneur by discussing the importance of the motives of an entrepreneur when doing business and the question “Who am I?” (Munieks & Mosakowski, 2007, p. 2).

Along with an entrepreneur’s individual identification, they also find it important to belong to a group, as it helps to define their identity as a certain entrepreneur and helps to drive the motivation to meet goals and influence decision-making (Farmer et al., 2011). Social identity theory provides an understanding of how individuals see themselves concerning groups, influencing their thoughts, emotions, behaviours, and decision-making (Fauchart &

Gruber, 2007). As previously mentioned, social identity theory is the categorization of individuals into groups, and how individuals perceive themselves within these groups (Fauchart & Gruber, 2011).

According to this theory, the different identities of entrepreneurs are defined according to dimensions. These dimensions describe characteristics that belong to an identity and show which aspects each identity considers important. Borrowed from Sieger et al. (2016), the dimensions used are (1) the basic social motivation, (2) the basis for self-evaluation, and (3) the frame of reference. Firstly, basic social motivation is how individuals perceive and understand the fundamental goals and purposes of engaging in social interactions. Secondly, the basis for self-evaluation refers to the criteria that individuals use for self-assessment or assume others will use to evaluate them. Lastly, the frame of reference describes the sources through which individuals develop or gain their self-esteem. According to Sieger et al. (2016), these three dimensions collectively shape an individual's social identity. Their research implemented three entrepreneur identities: missionary, Darwinian, and communitarian (De La Cruz et al., 2017; Fauchart & Gruber, 2007; Sieger et al., 2016).

In line with Ganzin et al. (2019), this research focuses on two identities: the missionary, and the Darwinian. Entrepreneurs are driven by a goal, such as a social purpose or a financial gain. The missionary identity aligns with a purpose-driven entrepreneur, who is motivated by a purpose or mission in life. On the contrary, the Darwinian identity corresponds to a money-driven entrepreneur, who is focused on economic success and profit-making (Ganzin et al., 2019). Sieger et al. (2016), suggest that these identities inherently include such motivations, which validates the pairing of missionary identity with a purpose-driven motivation and Darwinian identity with a money-driven motivation as a coherent match. The communitarian identity, in this research, is not relevant, as this identity is focused on creating a product or idea for a specific community and is not driven by making money or a social cause. In Table 1 an overview is shown for the dimensions that define the entrepreneur identities (Sieger et al., 2016, p. 548).

Table 1. Overview dimensions of entrepreneur identity

Dimensions	Missionary identity	Darwinian identity
<i>Basic social motivation</i>	Advancing a cause	Personal interest
<i>Basis for self-evaluation</i>	Contributing to make the world a better place	Being a competent professional
<i>Frame of reference</i>	Society	Competitors

As noted before, the Darwinian identity is classified as a businessperson who seeks strong and profitable opportunities in business, acts on them, and makes them successful (De La Cruz et al., 2017). The dimensions refer to this identity as someone who acts out of personal interest, with the importance of being a competent professional and the focus on differentiating themselves from their competitors to make a profit and create competitive advantages (Sieger et al., 2016). The missionary identity, on the other hand, is driven by a passion to make a positive impact in society and take responsibility for their actions by achieving their social purpose (De La Cruz et al., 2017). The dimensions refer to this identity as someone who advances a cause, by contributing to making the world a better place, with a focus directed to the society to improve their living conditions (Sieger et al., 2016).

The type of entrepreneur identity can impact the relation between commitment to a pitched idea and pivoting after receiving feedback. The identity of the entrepreneur can influence the behavior and the decision-making of the entrepreneur in the process of interpreting feedback and the willingness to implement changes (Vanoorbeek & Lecluyse, 2021). Both identities may pursue different goals or strategies in entrepreneurship and find different aspects important when doing business (Gonzalez-Canosa et al., 2021; Sieger et al., 2016). It causes them to act and respond differently on feedback and explains the involvement in or avoidance of entrepreneurial activities, as both identities may perceive feedback differently, want to pursue different goals in business or find different aspects important when making decisions.

The negative effect of commitment on pivoting is likely to be stronger for missionaries than for Darwinians because their original plan or goal is likely to be more important for missionaries, as they are less likely to adapt their idea as this is altering their goals and they want to be in control (Vanoorbeek & Lecluyse, 2021). They are driven by contributing to the world and their ideals, making it harder for them to incorporate feedback. The Darwinian entrepreneur is more focused on making money and achieving business success, making entrepreneurs with this identity more easily adjustable because profit-making is the goal and feedback could help them stand out from competitors to create more profit, they do not feel the need to be in control which makes it easier for them to adapt (Vanoorbeek & Lecluyse, 2021).

As these two identities are often researched together in literature, it is not said that they are two extremes of each other. It is possible that an entrepreneur identifies with both identities and that they find both important in doing business (Sieger et al., 2016). Therefore, they are considered as two independent variables: the missionary- and the Darwinian identity. They can

both differently impact the relation between commitment and pivoting and can influence how the feedback is being interpreted and the willingness to implement advised changes. These identities are leading to the following hypotheses:

H2: The negative relationship between commitment to a pitched idea and pivoting after receiving feedback is positively moderated by the entrepreneur identity missionary.

H3: The negative relationship between commitment to a pitched idea and pivoting after receiving feedback is negatively moderated by the entrepreneur identity Darwinian.

2.5. Conceptual model

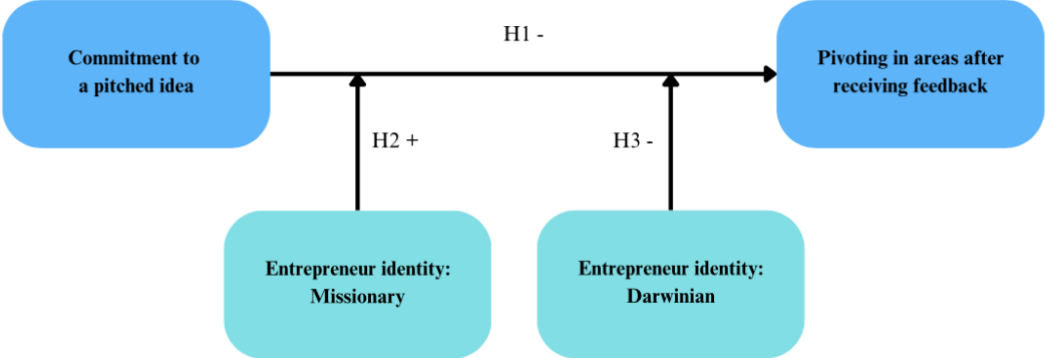


Figure 1. Conceptual framework

3. Methodology

An overview of the method used in this research is provided. First, the research strategy will be discussed. Second, there will be more in-depth information about the data collection that is being retrieved in this study, followed by the measurements of this research and the analysis. Lastly, the ethical considerations will be explained.

3.1. Research strategy

This study employed a quantitative method with a deductive research approach, as the aim of this research was to see whether there is an influence of entrepreneurial identity on the relation between commitment to an idea and the pivoting after receiving feedback. The constructs of this research were based on literature and helped generate the scales, items, and hypotheses for this study.

A survey was used to collect the data for this study, as it could help to test several hypotheses and generate information and data directly from the target group. With the help of a survey, it was also possible to conclude the population based on a smaller sample size (Ponto, 2015). Four pilot interviews were held before the survey was officially sent, to improve the survey when necessary. Regression analysis was used to test the hypotheses.

This study was part of a larger study conducted by eight other students at Radboud University Nijmegen, who all studied the program Openbrains at Bluehub and together made one survey for the respondents.

3.2. Data collection

The data collection process of this research was collected at Bluehub, a company based in Venlo. Bluehub was founded in 2014. This consultancy company is specialized in marketing and innovation and strives to make these innovative products known to the world, by developing a marketing strategy and a multi-channel approach, such as social media, PR, and digital media. The data comes from their program ‘OpenBrains’, which was initiated in 2015, where individuals pitch their innovative ideas. Approximately, 275 pitches were held over the years in the Openbrains sessions. This program is structured to allow individuals to pitch and get valuable feedback from experts in the audience on their idea. The pitcher can use this feedback to implement and adjust the idea and create a successful business model. Bluehub contributes to this program by helping during the pitch and providing pre-and post-pitch

support. The company offers help, provides information, and builds customer relationships and other networks to help the pitcher move forward. This research is based on entrepreneurs with an innovative idea that pitch this idea to an audience and receive feedback on it.

3.2.1. Survey

As stated in the research strategy, a survey was conducted. First, an introduction mail was sent by Bluehub, to preannounce and explain the survey. It was sent to 160 entrepreneurs who have pitched previously at Openbrains. This study is interested in entrepreneurs who have pitched at an Openbrains session and therefore the mail was sent by the technology specialist at Bluehub to the 160 entrepreneurs who have pitched. The introduction mail consisted of the aim- and the meaning of the research.

Secondly, the survey was sent by Bluehub via a link in a mail two weeks later to the same entrepreneurs that received the introduction mail. The mail consisted of an introduction to the research, the ethical considerations for the participants, and general information about the research and the survey. Moreover, the email also communicated that one coupon, with a value of two consultancy hours, would be given away to a respondent who completed the survey. The survey was in Dutch as it was suggested by Bluehub that almost all pitchers had Dutch as their native language, and this would generate the most respondents. Due to the retrospective nature of the survey, the first questions in the survey asked the respondents to recall their pitch, to provide more accurate answers later in the survey. This was necessary as the pitches began in 2015 until now, which could have made it difficult for some respondents to remember this pitch.

The survey was designed in Qualtrics and would not take longer than a maximum of ten minutes as this may cause respondents to drop out of the survey (Story & Tait, 2019). The survey can be found in Appendix 3 of this research. The respondents had approximately four weeks to fill in the survey. Three reminders were sent to the respondents to fill in the survey. The first reminder was sent via the company mail and LinkedIn and the second and third reminders were sent via personal mail from the owner of Bluehub, because of the personal connection with the respondents. The second and third reminders helped increase the number of respondents. The survey was online from May 8th until May 30th and collected a total amount of 80 respondents.

3.2.2. Pilot interviews and attendance pitches

Prior to the surveys, four pilot interviews were conducted with four entrepreneurs who already pitched their ideas at an Openbrains session. Interviewees were selected by the owner based on entrepreneurs who already pitched at Bluehub and were open to being interviewed by the students. During these pilot interviews, the survey questions were orally tested with these interviewees to see if errors or unclearness occurred. More specifically, an out-loud method was used in which the interviewee needed to speak the questions out loud to find errors (Alhejaili et al., 2022). By testing these survey questions prior to sending them to the respondents, the items and questions used in the survey were optimized and thereby the validity increased. These pilot interviews took approximately 20 to 50 minutes.

In addition to the interviews, the researcher also attended and participated in two pitches at an Openbrains session at Bluehub, to experience the pitch themselves and understand what it contains when doing a pitch. In week 16 and 22, the researcher attended the pitch sessions at Bluehub. This information, together with the pilot interviews, assisted the researcher in collecting as much data as possible for the survey items.

Based on interviews, the observation of the pitches, and the discussion among the student team members as well as with the supervisor, the survey was adapted.

3.3. Operationalization

Most constructs were measured using a multi-item five-point Likert scale, ranging from 1) strongly disagree to 5) strongly agree. Measurements were based on existing literature and adapted were needed to fit this research. The measurements can be found in Appendix 1 of this research.

For the independent variable, commitment, items were borrowed from the study by Schmidt & Calantone (2002) and the study by Mowday et al. (1979). The five items of commitment were based on the loyalty of the entrepreneur to the idea, the emotional attachment, and the personal meaning. The dependent variable, the degree of pivoting (areas), is based on the studies by Eisenmann (2020), Osterwalder & Pigneur (2010), Rosenberg & Czepiel (1984), and Nowlis & Simonson (1996). The areas of pivoting are borrowed from the study by Eisenmann (2020), consisting of the target customer segment, product features, marketing approach, and monetization approach. Before these areas are asked, a general question is asked about whether respondents have pivoted, to check if they have changed. Afterwards, it can be seen on which areas this change took place. Based on these areas and the definitions, five items were formed for the survey, which were altered to better align with this

research. The average score of these areas was used, as this research does not concern the individual areas in which a pivot has occurred but will study the degree of the pivot. Entrepreneur identity can be distinguished into two constructs: Darwinian- and missionary identity and is based on the study by Sieger et al. (2016), De la Cruz et al. (2017), and Fauchart and Gruber (2007). The dimensions used for defining the identities of entrepreneurs were borrowed and based on the study by Sieger et al., (2016) and consist of ‘basic social motivation, the basis for self-evaluation, and frame of reference’ (Sieger et al., 2016, p.548). These dimensions helped form the identities of the entrepreneurs and the behaviour and decision-making after receiving feedback. The corresponding six items per identity are adapted from Sieger et al. (2016), with minor adjustments made to the six items to better align with this research.

3.3.1. Control variable

This study also measured control variables which can be found in Appendix 2. They are not the prime importance of this study but were helpful in the control of influences on the conceptual model (Hünermund & Louw, 2020). This study included the demographic variable gender, as it provides general information about the respondents. Gender is categorized as male, female, different, and prefer not to say. Alongside this demographic, there are also retrospective questions about the pitch included, such as in which year the entrepreneur pitched his/her idea at Openbrains, the number of attendees during the pitch, and the purpose of the pitch, enabling the respondents to refocus on their initial pitch. This refocusing enables more relevant and precise responses about their pitch throughout the survey since the pitch took place in the past.

Additionally, perceived quality of feedback and innovativeness were included as control variables and were measured with a five-point Likert scale ranging from 1) strongly agree to 5) strongly disagree. Perceived quality of feedback was divided into three different items that describe the scope of quality: clarity, relevancy, and development (Halman et al., 2016). This variable determined how the respondent felt about the feedback received during the pitch and how helpful the feedback was to the respondents. The last control variable is innovativeness, referring to a radical- or incremental innovation and includes a self-developed scale, consisting of one item.

3.4. Sample demographics

The number of respondents necessary was 60 as it was stated that per construct 15 respondents were necessary to conclude the data (Field, 2018). The total number of respondents was 80.

However, 19 respondents did not fill in the survey questions. This may be due to several reasons: the survey could have contained too many similar questions, included a sensitive question that the respondent preferred not to answer, or there was insufficient time for the respondent to complete the survey. Therefore, the survey remained with 61 valid cases.

The gender of the respondents was mainly male, with 78% percent. The remaining 22% was female. The age of the respondents was more distributed, mostly between the ages of 36 and 55, with a total of 57% of the whole sample (see Table 2).

Table 2. Demographics sample

	Category	Frequency	Percentage
Gender	Male	49	79%
	Female	13	21%
	Other	0	0%
	Prefer not to say	0	0%
Age	18-25	1	2%
	26-35	10	16%
	36-45	20	32%
	46-55	16	26%
	56-65	14	23%
	66+	1	2%
Session	Physical	45	73%
	Online	17	27%
Pitched idea	Product	15	25%
	Service	13	22%
	Combination	27	46%
	Other	4	7%
Year of the pitch	2014	1	2%
	2015	2	3%
	2016	4	7%
	2017	6	10%
	2018	11	18%
	2019	15	24%
	2020	10	16%
	2021	14	23%
	2022	4	7%
	2023	0	0%
	2024	3	5%

3.5. Analysis

SPSS was used to conduct the statistical analyses. The analyses started with checking and cleaning the data if necessary. After this control stage, a factor analysis and a reliability analysis were conducted via a varimax rotation, to check the internal consistency and the convergent and discriminant validity (Field, 2018). Next, assumptions needed to be met, to continue with the analysis. The multiple regression analysis was used to test hypotheses and to answer the research question (Field, 2018).

3.5.1. Reliability

Cronbach's Alpha was conducted on each construct to ensure that all variables are reliable when researching. The outcomes of this analysis, in Table 3, show that almost all constructs, including the control variables (appendix 4) are above $\alpha > 0.7$, except for entrepreneur identity Darwinian ($\alpha < 0.7$). When all the items of Darwinian are included in the analysis Cronbach's Alpha was 0.461, this increased when items 35, 36, and 37 were deleted to $\alpha = 0.494$. The items used for this construct were based on existing scales and had been carefully thought out. However, after analyzing the items properly, it was concluded that these items should have been formulated differently, as Cronbach's Alpha did not increase significantly. Item35 was formulated more personally than the other items. This item asked about the career of the entrepreneur, instead of the growth of the business in general, resulting in not matching with the other items for this scale. Item36 was about management methods, which was a vague or too broad term. It could have applied to all entrepreneurs, not just those scoring high on Darwinian, making this item applicable to multiple constructs. For item37 it could have been that entrepreneurs had not thought about a financial plan before pitching, resulting in the lack of meeting this item. Darwinian does not have a great scale, however with the remaining items it provides the best insight into the data. The items left, measured the money-driven approach of the respondents and their attitude towards competition (item34, 38, and 39). Therefore, we proceed with only a limited subset of the scale, even though the reliability is still rather low. The observation that this construct did not meet the expectations was kept in mind when analyzing data.

Pivoting decreased in Cronbach's Alpha to .739, as item21 (marketing approach) was deleted. This item had 22 missing values in total, making it difficult to draw conclusions based on this item in comparison to the other items in the construct. It could be that respondents who pitched an idea at Bluehub have not thought about a marketing approach before pitching. The number of missing values can represent the phase in which respondents are and suggest that a marketing approach is something they think about later in the process. This could be inferred from the survey, as it was seen that 22 respondents answered no to the question if they had thought about changing marketing approach before the pitch. Moreover, it could be inferred from the observations during attendance at the pitch sessions, as it was clear that entrepreneurs who pitched at this session had not thought about a marketing approach. Based on these findings, it was concluded that it would be more reasonable to remove this item from the scale.

3.5.2. Construct validity

After the reliability analysis, the convergent and discriminant validity of each construct was assessed (Hair et al., 2022). For the convergent validity, a factor analysis was conducted, in which the Kaiser-Meyer-Olkin (KMO) value should exceed 0.5, and Bartlett's test of sphericity should have been significant ($\alpha < 0.05$) (Hair et al., 2022). All constructs have met these assumptions with a significant value of $\alpha < 0.05$ and a KMO between 0.5 and 0.8 (appendix 4). Therefore, the analysis was continued.

Table 3. Internal consistency and convergent validity

Construct	Original # items	Cronbach's alpha	# of items deleted	Cronbach's alpha	Percentage of explained variance
Commitment	5	.804	0		58%
Pivoting	4	.817	1(item21)	.739	57%
Missionary	6	.865	0		61%
Darwinian	6	.465	3(item35, 36, 37)	.494	51%

Convergent validity is conducted to see if all items in a construct correlate (Hair et al., 2022). For each construct, the items were conducted in a separate analysis to see how the items correlated with each other. It was suggested by Hair et al. (2022), that a minimum of 60% variance should be explained. The construct missionary has met this requirement. However, the other constructs did not meet these expectations by 2%, 3% and 9%. The sample of this research is relatively small, resulting in major changes when something in the data is altered, which could be a reason why the explained variance is not as high as desired.

Even though the explained variance of commitment is not perfect, the alpha is high. Moreover, the items are theoretically consistent with the scale, as they were borrowed from literature and used in previous research. Commitment has a Cronbach's alpha of .804, deleting one item here decreases the alpha to .713, in addition to which a good item is removed from the scale. Therefore, no items were deleted, and the variance remained on 58%. The same applies to pivoting. It was already decided not to include item21 (marketing approach) in the scale, as this item has too many missing values in comparison to the other items. Deleting another item to increase the explained variance can have a major impact on this scale, especially since the sample is not high. The explained variance of Darwinian was already increased from 30% to

51%. This scale has deleted 3 items, resulting in a remaining scale of 3 items in total. However, with the remaining items it provides the best insight into the data, therefore, the explained variance is left at 51%. The control variables were also controlled for and can be found in appendix 4.

The next step involved discriminant validity, in which all constructs are evaluated together to check if they are separately loading on their factor. It tests the items to see if they only load on their construct (Hair et al., 2022) (see appendix 4). All items were included in a factor analysis, with a varimax rotation, except for item35 and item21, as it was previously decided not to include these items in the analysis due to empirical and theoretical reasons. The first analyses showed two cross-loadings on the items 36 and 37. The factor analysis was conducted again, with item37 removed from the analysis. Item36 again showed a cross-loading, in which was decided to remove this item from the analysis and when conducting a third-factor analysis. The last analysis showed sufficient findings. As seen in appendix 4 all items load on one component/factor.

In conclusion, all constructs have been considered and checked for within the reliability and convergent validity. Moreover, within the discriminant validity it was seen that all items load on one factor. The items of the constructs were combined based on summated scales. After this, the research could be proceeded.

3.6. Ethics

As a researcher ethical consideration or responsibility are necessary as external individuals are participating in this research. It was of great essence, that individuals who participated in this research, via an interview, survey, or other participation, were not mistreated. The participations in this research received a mail with information about the voluntariness, anonymity and that participants at any time during the research could decide to not cooperate anymore. This was ensured in this research, by being clear to respondents from the beginning what to expect from the research, what the purpose of the research was and what the outcomes of the survey were used for.

In addition, it was necessary to be as transparent as possible about the research, survey and within the pilot interviews to maintain a trust-worthy bond with the individuals involved. Therefore, the anonymity of the respondents was guaranteed at the beginning of the interviews and surveys. Before they began the survey, respondents had to give their consent that they have read everything and agreed to the terms of this research.

Furthermore, it was explained to the participants what was happening with the collected data. The researcher had explained what would happen with the outcomes of the survey and with who these outcomes were shared with. It was clear to the participants that this is a Master's thesis at Radboud University, on which nine students worked together. The information gathered was used in the thesis and the thesis defense.

4. Results

The results provide an overview of the analysis that is conducted to provide this research with answers. First the descriptive analysis will be given, to provide an overview of the correlation. Second, the assumptions of the multiple regression analysis will be tested, followed by the multiple regression analysis itself.

4.1. Descriptive analysis

A correlation matrix was provided to observe the relationships between the variables in the data. There is a significant positive correlation ($R^2=.287$, $p<.05$), indicating that higher commitment is associated with entrepreneurs who identify with a Darwinian approach. In addition, innovativeness and pivoting also has a significant negative correlation ($R^2=-.252$, $p<.05$), suggesting that innovation has a negative effect on pivoting after receiving feedback. For the main relation between commitment and pivoting, no significant correlations are found. The same applies to missionary.

Table 4. Correlation matrix and descriptive statistics

	Correlations					
	1	2	3	4	5	6
Commitment	1					
Pivoting	-.192	1				
Missionary	.061	.022	1			
Darwinian	.287*	-.001	-.088	1		
Perceived quality of feedback	.111	.250	.099	.006	1	
Innovativeness	-.079	-.252*	.132	-.027	-.122	1
Mean	3.8820	2.0915	4.0056	3.7322	3.7760	3.2787
Standard deviation	.60484	.93575	.49381	.57031	.62575	.83927

$N=61$; ** $p<.01$; * $p<.05$

4.2. Multiple Regression Analysis

Before conducting a multiple regression analysis, assumptions need to be checked and met to maintain validity and reliability of the results. To complete a multiple regression analysis, the variables need to be of interval or ratio level. The data was gathered via a survey with a five-point Likert Scale, making these variables of interval level, and thus suitable to conduct a

multiple regression analysis (Field, 2018). The outcomes can be found in appendix 5 and 6. After the assumptions, the hypotheses of this research will be tested.

4.2.1. Assumptions

The first assumption focuses on the linearity of the data. To perform a regression, the data must be linear, therefore this assumption was performed. To conclude the results, the P-P plot, found in Appendix 5, is examined. This plot shows that the variables are linear to each other, as the dots are on the line in the graph, meaning that this has met the assumption. The second assumption checks the normality of the data. To use multiple regression analysis, each variable should have a normal distribution. This can be assessed using skewness and kurtosis, a histogram, or a One-Sample Kolmogorov-Smirnov Test (Field, 2018). This assumption is met when this test has a significant value above .20 (Hair et al., 2022). In appendix 5, this test is provided, in which a significance of .20 is shown, concluding that this assumption is met. The third assumption checks the equality of the variance of residuals, also known as homoscedasticity (Field, 2018). In appendix 5, a scatterplot is shown, in which the residuals are spread out and are not following a pattern, resulting in the acceptance of this assumption. The last assumption regards the multicollinearity of the data. Multicollinearity in a regression analysis is not allowed, as this shows correlation between variables. The assumption is met when the VIF is around 1 and below 10 (see appendix 5) (Hair et al., 2022). In this research, multicollinearity was found when the interaction effects of the moderators were included in the model (VIF ranging between 1 and 155). Therefore, the constructs were first centralized before entered in the regression, resulting in a VIF around 1 and an acceptance of this assumption.

All the assumptions for this analysis are met, resulting in the continuance of this study and the conduction of the multiple regression analysis.

4.2.2. Hypotheses testing

As the assumptions of the multiple regression analysis were met, the analysis was continued. The multiple regression analysis was used to test if commitment has an influence on pivoting. In addition, it was used to test if entrepreneur identity influences the relation between commitment and pivoting. Therefore, three regression analyses have been run.

First the independent and dependent variable with the interaction effect missionary were tested. In model 1 the control variables perceived quality of feedback, innovativeness, and gender were included, together with the independent and dependent variables: commitment and

pivoting. The results of the first analysis showed significant results for the proportion of the variance ($R^2 = .223$, $F(5, 59) = 3.104$, $p < .05$). This result shows that commitment to an idea on pivoting after receiving feedback (H1) has a negative, significant relationship ($\beta = -.274$, $p < .05$) and thus, supports H1, implying that a high commitment to a pitched idea influences a decreasing effect of pivoting. In addition, a significant effect of gender on pivoting was found, implying that males (1), compared to females (0), showed a higher degree of pivoting ($\beta = .255$, $p < .05$). However, other control variables showed no significant results in the effect on pivoting after receiving feedback. The results of the models can be found in appendix 6.

Model 2 included the same control variables as previous mentioned, together with the independent and dependent variables, and added the moderator missionary. This model again showed significant results for the proportion of the variance ($R^2 = .254$, $F(6, 59) = 3.008$, $p < .05$). The main relation commitment to pivoting was found significant again ($\beta = -.259$, $p < .05$). However, the interaction-effect of missionary on the main relation was insignificant ($p = .145$, $p > .05$). The lack of effect of missionary on commitment to pivoting, resulted in the rejection of H2, which suggest that missionary has a positive effect on the relation between commitment to an idea and pivoting after receiving feedback. The relation between commitment and pivoting is not influenced by the moderator missionary. In addition, the effect of innovation was found significant in the second model ($\beta = -.242$, $p < .05$), implying that innovativeness has a negative effect on degree of pivoting. However, other control variables showed no significant results on pivoting after receiving feedback (see Table 5).

Table 5. Effects of commitment to an idea and Missionary on pivoting after receiving feedback

	Model 1:			Model 2:		
	Main effects			With interaction effects		
	β	SE	p	β	SE	p
Perceived Quality of Feedback	.236 ⁺	.189	.059	.228 ⁺	.188	.065
Innovativeness	-.241 ⁺	.135	.053	-.242*	.134	.050
Gender	.255*	.290	.040	.225 ⁺	.290	.069
Commitment	-.274*	.187	.028	-.259*	.186	.036
Missionary	.057	.231	.644	.058	.228	.636
Missionary*commitment				-.178	.117	.145
R² (adjusted R²)	.223 (.151)			.254 (.170)		

*N=60; ***p<.001; **p<.01; *p<.05; +p<.10; gender coded: 1= male, 0=female*

The same analysis was conducted again, with the same independent variable and dependent variable, but included the moderator Darwinian. In model 1 the control variables perceived quality of feedback, innovativeness, and gender were included, together with the independent variable commitment. This model shows a significant result for the proportion of variance ($R^2 = .242$, $F(5, 60) = 3.519$, $p < .05$). Again, H1 is supported, showing a significant, negative influence of commitment on pivoting ($\beta = -.289$, $p < .05$). In addition, the effects of gender on pivoting were found significant, implying that males, compared to females, showed a higher degree of pivoting ($\beta = .267$, $p < .05$). Moreover, perceived quality of feedback was found significant, implying that the quality of feedback has a positive effect of the degree of pivoting ($\beta = .259$, $p < .05$). However, the other control variable, innovativeness, remained non-significant.

Model 2 included the same control variables and antecedents as previous mentioned and included the interaction-effect Darwinian. This model again showed significant results for the proportion of the variance ($R^2 = .256$, $F(6, 60) = 3.102$, $p < .05$). However, the interaction effect Darwinian showed no significant effect on commitment to pivoting ($p = .319$, $p > .05$) resulting in the rejection of H3, which states that Darwinian has a negative influence on the relation between commitment and pivoting. The effect from commitment on pivoting remained significant ($p = .028$, $p < .05$). In addition, to this effect control variables were tested and showed a significant effect for perceived quality of feedback. Implying that perceived quality of feedback has a positive significant effect on pivoting ($\beta = .282$, $p < .05$).

Table 6. Effects of commitment to an idea and Darwinian on pivoting after receiving feedback

	Model 1:			Model 2:		
	Main effects			With interaction effects		
	β	SE	p	β	SE	p
Perceived Quality of Feedback	.259*	.178	.034	.282*	.181	.024
Innovativeness	-.233 ⁺	.132	.055	-.229 ⁺	.132	.059
Gender	.267*	.276	.028	.234 ⁺	.286	.061
Commitment	-.289*	.192	.024	-.281*	.193	.028
Darwinian	.072	.201	.561	.092	.204	.462
Darwinian*commitment				-.127	.109	.319
R² (adjusted R²)	.242 (.174)			.256 (.174)		

N=61; *** $p < .001$; ** $p < .01$; * $p < .05$; ⁺ $p < .10$; gender coded: 1= male, 0=female

Summarizing, the negative effect of commitment to a pitched idea on pivoting after receiving feedback was found significant, resulting in the acceptance of H1. However, both interaction effects Darwinian and missionary did not influence the relation between commitment to a pitched idea and pivoting after receiving feedback in this research, resulting in the rejection of H2 and H3.

4.3. Additional analysis multiple regression analysis

Additional analyses were conducted to check for influences of other variables on the results of the moderation effects. Multiple analyses were provided to check if a different order, or when a variable was split (for example male and female) had an influence on the moderators.

First, the group gender was divided in male and female to see if one of these demographics influenced the significance of the moderator effects. For both missionary and Darwinian, the effects remained non-significant for either male or female. However, the interaction-effect of Darwinian decreased to a significant level of .089. This does not meet the significance of $p < .05$ but is within the significance level of $P < .10$. When the same analysis was conducted for the moderator missionary this result was not found. The results of the analysis with the moderator Darwinian can be found in appendix 7.

A second analysis was conducted via a hierarchical regression (Hair et al., 2022). The interaction effect was placed into the model one by one with different variables, to see if the interaction effect became significant via this way. By playing with the order of the model, it was possible to see if this affected the interaction effect and the influence. This was done for both moderators and their interaction-effect. The alpha, for both moderators, decreased in comparison to the results of the regression analysis mentioned in chapter 4.2 but remained above the alpha of $p < .10$. No significant effects were found for either Darwinian or missionary. For both moderators this analysis was done three times, to see if the interaction-effect had influence when placed with different variables in the model.

The significance for the interaction-effects were also checked by the variables innovativeness and age. Age was divided into two variables, young respondents and old respondents. In addition, innovativeness was checked to see if a radical or incremental innovation had effect on the significance of the interaction effect. However, no significant results were found for both variables in the analyses. Therefore, no additional analyses could help improve the significance of the interaction-effects in this study.

5. Conclusion and discussion

The conclusion together with the discussion will be elaborated to provide an answer to the research questions. Afterwards the limitations of this research and implications for further research will be provided, should individuals wish to proceed with this research.

5.1. Conclusion

Three hypotheses were tested to find influences on the relationships formed and find answers to the research question: “How does a type of entrepreneur identity (Darwinian or missionary) moderate the relationship between commitment to an idea prior to a pitch on pivoting after receiving feedback?”. These can be found in Table 7.

The first hypothesis (H1) proposes that individuals who are highly committed to their idea have a negative effect on pivoting after receiving feedback. The relation between commitment to pivoting found a significant negative effect ($\beta = -.274, p < .05$). Commitment effectively predicts pivoting due to the significant impact indicated by the beta coefficient, leading to the acceptance of H1. Therefore, an entrepreneur who is highly committed to his/her own idea prior to the pitch, will be pivoting less after receiving feedback.

The second hypothesis (H2) proposes that the relationship between commitment and pivoting is strengthened by the presence of the missionary identity. However, the results found a negative effect ($\beta = -.178, p > .05$), but this effect was not significant, leading to the rejection of H2. Therefore, entrepreneurs with a missionary entrepreneur identity are not influencing the relation between commitment to an idea prior to a pitch and pivoting after receiving feedback.

The third hypothesis (H3) proposes that the relationship between commitment and pivoting was weakened by the presence of the moderator Darwinian as entrepreneur identity. These results found a negative effect ($\beta = -.127, p > .05$), but this effect was not significant, leading to the rejection of H3. Therefore, entrepreneurs with a Darwinian entrepreneur identity are not influencing the relation between commitment to an idea prior to a pitch and pivoting after receiving feedback.

With perceived quality of feedback, gender, and innovativeness as control variables included in the model, the effects of the model remained non-significant. Therefore, additional analyses were conducted to see if the interaction-effects of the moderators could be significant when tested for specific samples. Multiple analyses were performed, however, the results remained non-significant in these tests.

The findings suggest that being committed to an idea before a pitch negatively impacts the likelihood of pivoting after receiving feedback. However, either Darwinian or missionary, do not significantly affect the relationship between commitment and pivoting.

Table 7. Hypotheses testing outcomes

Hypotheses	Outcome
H1 Commitment to a pitched idea has a negative impact on the degree of pivoting after receiving feedback.	Supported
H2 The negative relationship between commitment to a pitched idea and pivoting after receiving feedback is positively moderated by the entrepreneur identity missionary.	Not supported
H3 The negative relationship between commitment to a pitched idea and pivoting after receiving feedback is negatively moderated by the entrepreneur identity Darwinian.	Not supported

5.2. Discussion

This research studied the effect of commitment to a pitched idea on pivoting after receiving feedback. Moreover, the relation between commitment and pivoting was also studied to control for the moderated effect of an entrepreneur identity, as it is still unclear in literature if these effects influence each other. Therefore, this study tried to contribute to earlier performed research by investigating if these effects are significant.

5.2.1. Theoretical implications

The relationship between the effect of commitment on pivoting was found significant, meaning that highly committed individuals to their idea show less pivoting after receiving feedback. This finding aligns with the studies by Keil et al. (2007) and Staw (1976), which suggest that entrepreneurs that feel a lot of commitment to their idea, find it harder to adjust or change their idea as a result of receiving feedback. The results show a significant effect that indeed, the high commitment of an entrepreneur to his/her idea prior to a pitch can lead to the unwillingness to pivot the idea after receiving feedback. This study contributes to existing literature by further detailing how commitment influences pivoting via feedback on the idea of entrepreneurs.

No significant support was found for the moderating effects of Darwinian and missionary on the relation between commitment and likelihood of pivoting. Previous research found that Darwinian entrepreneurs are money-driven (Ganzin et al., 2019), resulting in them being more willing to adjust the feedback given, as they can earn more money with the

adjustments made. Missionaries are known for their purpose in life, contributing to making the world a better place (Ganzin et al., 2019), resulting in them being less willing to adjust feedback, as this can cause them to change their purpose. However, these expectations were not reflected in the outcomes of this study, as no significant effects were found. This may be due to several reasons.

Firstly, the small sample size of this research, resulted in the decreasing of the statistical power (Hair et al., 2022). Because of the small sample size, it is harder to prove an interaction-effect, as the result of one respondent can change the outcomes completely. Therefore, it is advised to conduct this research with a bigger sample size to see if there can be an interaction-effect for both moderators on the relation between commitment to pivoting.

Secondly, it may also be that there is simply no effect, even with a larger sample. The scales used in this research were borrowed from literature suggesting three social identities (Fauchart & Gruber, 2011), of which two identities were selected to study in this research. However, it could be that the respondents were not identifying with either one of the moderators, meaning that they did not match the characteristics asked in the items. There can be a difference between the actual identity (in this case the entrepreneur identities) and the expected identity, as this can differ per individual (Banaji, 2001). Entrepreneurs could find other characteristics or aspects important when doing business, instead of earning money, or achieving a social purpose, resulting in them not (or partly) identifying with the moderators suggested in this research. The social identity of individuals is the individual identification together with the identification in social context, a group (Sieger et al., 2016). In addition, the social identity theory proves that a person's sense of self is flexible and can change based on how they see themselves in relation to different groups. Belonging to a group (or social identity) helps individuals feel socially connected, it helps them to feel good about themselves, and it helps with their behavior and decision-making as entrepreneurs (Sieger et al., 2016). In this research the social groups (also referred to as entrepreneur identities) were identified as Darwinian and missionary. However, maybe the respondents did not match with one of these moderators, as they did not feel that they belong to either one of them. Perhaps they feel more connected to another identity not mentioned in this research, or a completely new identity not yet formulated in literature. For future research it is suggested to see if there are more identities in literature where people can identify themselves with. This allows to see if there are multiple identities that individuals feel connected to, rather than the two mentioned in this study.

Thirdly, individuals may not have completed the survey to their honesty. It may be that they value money or a social cause but did not want to admit this, as it does not match, for example, their ideals when doing business or the aspiration of who they would like to be (Farmer et al., 2011). There is a difference in how individuals are and how they would like to be, also referred to as the actual-self and the ideal-self (Gan & Chen, 2017). For further research it could be helpful if the researcher took this questionnaire as an interview. This allows the researcher to probe further and find answers that the respondent may not initially want to say.

Fourthly, elaborating on the reason mentioned above, another reason why no effect was found for the interaction-effects of the moderators, could be that the identities did not match the environment in which the survey was asked. Bluehub is a consultancy company, in which mainly agricultural innovations were pitched. This appeared from conversations with the owner and from attendance at the pitches. Mentioned above, the possibility was suggested that individuals did not match the identities. It could also be that they did not intend to earn a lot of money, or to improve the world. It could be that when this research is studied in a different business environment, it can have an effect, as other sectors could find these characteristics more important. For example, companies who are pitching for investors, or businesses in another sector. This was also suggested in research from Fauchart and Gruber (2011), which stated that these identities for some industries are not equally important. Therefore, it is suggested to better research the context of the study, before providing the identities and conducting the survey. Furthermore, this study should be analyzed in different business sectors.

Fifthly, it was proven that Darwinian was not very high ($\alpha = .494$) before conducting the analysis. Within the scale of Darwinian several items were deleted as it was concluded afterwards that these items did not match the scale as it was envisioned. Therefore, the scale was minimized, remaining with a scale consisting of three items. The scale was not optimal when testing the hypotheses, as not all items were included in the analyses of this research. This could have been prevented if the items in the scales had been examined differently. For future research it is advised to examine the items used in the scales better before conducting them in the survey. When more thorough research is conducted prior to the survey, the researcher can see if these items match the individuals in the business context and do not need to delete half of the scale.

Sixthly, the hypothesis for the missionary identity suggested a positive effect on commitment to pivoting. However, the results showed a negative (yet insignificant) effect. Although the effect is not significant, this effect is noteworthy. Sieger et al. (2016), explained

that missionary refers to someone who advances a cause, by contributing to making the world a better place, with a focus directed to the society to improve their living conditions. In this research it was interpreted that missionaries did not want to adapt/include feedback, as this was altering their goals (Vanoorbeek & Lecluyse, 2021). However, after seeing these results, it may be that this identity does want to change, as it helps their goal and the society for whom they are doing it. This is not in line with the literature and therefore, further research is suggested to study the motivations of missionaries and if these results become significant and similar to the results now.

Lastly, additional analyses were provided to see if they could influence a significant effect of the interaction-effects. It emerged that the interaction-effect Darwinian for females, as opposed to males, was closer to a significant outcome ($p < .10$). However, the sample for women was low. Therefore, in future research, it is important to look for a sample with more females to control whether this effect is also seen in a larger sample. Other additional analyses performed were all found non-significant and did not affect the interaction-effects.

5.2.2. Practical implications

The findings of this research can help to give guidance to consultancy companies who provide feedback to pitchers and help them with their innovations/start-ups. It can help recruit pitchers by looking at how committed they are to their own idea. When this commitment is high, they are less likely to pivot, resulting in the possibility of the pitcher not wanting to change or adapt the feedback. If this is controlled for in advance, it can be prevented, by only letting individuals pitch who are looking for feedback.

The practical contributions of this research, go beyond application in consultancy companies, as it may also benefit the consulting role of managers overall. When employees are highly committed to their work, it can result in not willing to pivot/adapt. When this happens in the company, managers could provide training on flexibility and adjustability to help the employees in receiving feedback and the adaptability of it. Via this, managers could give more structured feedback and align this with the strategic goals of the business. Furthermore, they could establish mentor programs that provide guidance for employees on interpreting and acting on feedback, causing the employee to be more open to feedback.

Moreover, this research can be beneficial for the company Bluehub, as this research was conducted on their behalf. The outcomes provide insights into their company, as their customers were the respondents of the survey. The outcome of the surveys provide help to Bluehub in the

guidance and feedback they can provide to the pitchers and the consultant they can give pre- and post-pitch.

5.3. Limitations and further research

To further enhance the quality of future research, there are a couple things to consider. Firstly, the effect of the small sample size. In total 61 respondents have filled in the survey totally, resulting in a minimal number of respondents necessary. This can have a major effect on the data, as the change of one respondent can have a big influence on the outcomes of the data. It can reduce the statistical power of the analysis and the increase in risk of Type I (false positives) or Type II errors (false negatives) (Hair et al., 2022). For future research it is advised to check these hypotheses with a bigger sample group, to decrease the likelihood of occurrence of these errors. Moreover, it was seen that the interaction-effects of both moderators for females became closer to a significant result in comparison to males. Therefore, it is advised for future research to check if this holds or improves in significance when tested in a larger sample.

Secondly, the scale of the moderator Darwinian was not perfect. With a Cronbach's alpha below .6 and the deletion of 3 items in the scale, this moderator needs to be improved for future research. The scales of the construct were borrowed from previous literature, which could provide a good starting point, but need to be enhanced. The survey made apparent that some items did not match the construct as supposed. For further research it is suggested to improve this scale. This can be done by controlling the items in the scale to check if they really measure what they intend to measure or by checking the items better in previous pilot tests.

Thirdly, this research was based on retrospective questions in the survey, as the pitches were held in the past and the respondents had to think back to their pitch. This could influence the answers based on their satisfaction with the outcomes of the pitches and the improvements of their business afterwards. During this research the retrospective aspect was kept in mind. However, it was a limitation for this research.

Lastly, the survey was provided in one company with respondents who all pitched at this company named Bluehub. Besides being a strength, because of the homogeneous nature of the responses and the same treatment respondents had during their pitches, it is also a weakness. The results of this study are more difficult to generalize to other companies, also because of the bias respondents may have towards Bluehub. Therefore, for future research it is advised to test this research in other companies to see if the results provide different outcomes.

References

- Al-Haddad, S., & Kotnour, T. (2015). Integrating the organizational change literature: a model for successful change. *Journal of Organizational Change Management*, 28(2), 234–262. <https://doi.org/10.1108/jocm-11-2013-0215>
- Alhejaili, A., Wharrad, H., & Windle, R. (2022). A pilot study conducting online think aloud qualitative method during social distancing: benefits and challenges. *Healthcare*, 10(9), 1700. <https://doi.org/10.3390/healthcare10091700>
- Banaji. (2001). Stereotypes, social psychology of. In *Elsevier eBooks* (pp. 15100–15104). <https://doi.org/10.1016/b0-08-043076-7/01754-x>
- Burke, P. J. (1991). Identity processes and social stress. *American Sociological Review*, 56(6), 836–849. <https://doi.org/10.2307/2096259>
- Burnell, D., Stevenson, R. A., & Fisher, G. (2023). Early-stage business model experimentation and pivoting. *Journal of Business Venturing*, 38(4), 106–314. <https://doi.org/10.1016/j.jbusvent.2023.106314>
- Chapple, D., Pollock, N., & D'Adderio, L. (2021). From pitching to briefing: extending entrepreneurial storytelling to new audiences. *Organization Studies*, 43(5), 773–795. <https://doi.org/10.1177/01708406211024564>
- Clark, C. (2008). The impact of entrepreneurs' oral 'pitch' presentation skills on business angels' initial screening investment decisions. *Venture Capital*, 10(3), 257–279. <https://doi.org/10.1080/13691060802151945>
- De La Cruz, M. E., Jover, A. J. V., & Gras, J. M. G. (2018). Influence of the entrepreneur's social identity on business performance through effectuation. *European Research on Management and Business Economics*, 24(2), 90–96.
- Dowd, E. T. (1999). Why don't people change? What stops them from changing? An integrative commentary on the special issue on resistance. *Journal of Psychotherapy Integration*, 9(1), 119–131. <https://doi.org/10.1023/a:1023215012818>
- Down, S., & Reveley, J. (2004). Generational encounters and the social formation of entrepreneurial identity: 'young guns' and 'old farts'. *Organization*, 11(2), 233–250. <https://doi.org/10.1177/1350508404030381>
- Drencheva, A., Stephan, U., & Patterson, M. (2022). Whom to ask for feedback: insights for resource mobilization from social entrepreneurship. *Business & Society*, 61(7), 1725–1772. <https://doi.org/10.1177/00076503211057497>

- Driessen, M. P., & Zwart, P. S. (2007). The entrepreneur scan measuring characteristics and traits of entrepreneurs. *Entrepreneurscan*. Consulted on February 6, 2024, of <http://entrepreneurscan.com/wp-content/uploads/2016/09/E-Scan-MAB-Article-UK.pdf>
- Eisenmann, T. R. (2020). Determinants of early-stage startup performance: survey results. *Social Science Research Network*. <https://doi.org/10.2139/ssrn.3725023>
- Eliëns, R. P. C., Eling, K., Gelper, S., & Langerak, F. (2018). Rational versus intuitive gatekeeping: escalation of commitment in the front end of NPD. *Journal of Product Innovation Management*, 35(6), 890–907. <https://doi.org/10.1111/jpim.12452>
- Faff, R. W. (2015). A simple template for pitching research. *Accounting & Finance*, 55(2), 311–336. <https://doi.org/10.1111/acfi.12116>
- Farmer, S. M., Yao, X., & Kung-Mcintyre, K. (2011). The behavioral impact of entrepreneur identity aspiration and prior entrepreneurial experience. *Entrepreneurship Theory and Practice*, 35(2), 245–273. <https://doi.org/10.1111/j.1540-6520.2009.00358.x>
- Fauchart, E., & Gruber, M. (2011). Darwinians, communitarians, and missionaries: the role of founder identity in entrepreneurship. *Academy of Management Journal*, 54(5), 935-957.
- Field, A. (2018). *Discovering statistics using IBM SPSS Statistics* (5th ed.). London: Sage. ISBN 978-1-5264-1952-1
- Gamlem, S. M., & Smith, K. (2013). Student perceptions of classroom feedback. *Assessment in Education: Principles, Policy & Practice*, 20(2), 150–169. <https://doi.org/10.1080/0969594x.2012.749212>
- Gan, M., & Chen, S. (2017). Being your actual or ideal self? What it means to feel authentic in a relationship. *Personality & Social Psychology Bulletin*, 43(4), 465–478. <https://doi.org/10.1177/0146167216688211>
- Ganzin, M., Islam, G., & Suddaby, R. (2019). Spirituality and entrepreneurship: the role of magical thinking in future-oriented sensemaking. *Organization Studies*, 41(1), 77–102. <https://doi.org/10.1177/0170840618819035>
- Garcia, R., & Calantone, R. (2002). A critical look at technological innovation typology and innovativeness terminology: a literature review. *The Journal of Product Innovation Management*, 19(2), 110–132. <https://doi.org/10.1111/1540-5885.1920110>
- Gonzalez-Canosa, M. L., Osorio-Tinoco, F., Segura, J. C., Krauss-Delorme, C., & Pereira-Laverde, F. (2021). Is it because I can or because of who I am? The moderating effect of entrepreneurs' social identity on entrepreneurial self-efficacy - entrepreneurial

- intention relationship. *Journal of Technology Management & Innovation*, 16(4), 46–55. <https://doi.org/10.4067/s0718-27242021000400046>
- Grimes, M. (2018). The pivot: How founders respond to feedback through idea and identity work. *Academy of Management Journal*, 61(5), 1692–1717. <https://doi.org/10.5465/amj.2015.0823>
- Hair, J. F., Babin, B. J., Anderson, R. E., & Black, W. C. (2022). *Multivariate data analysis*. Cengage Learning.
- Halman, S., Dudek, N., Wood, T. J., Pugh, D., Touchie, C., McAleer, S., & Humphrey-Murto, S. (2016). Direct observation of clinical skills feedback scale: Development and validity evidence. *Teaching and Learning in Medicine*, 28(4), 385–394. <https://doi.org/10.1080/10401334.2016.1186552>
- Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of Educational Research*, 77(1), 81–112. <https://doi.org/10.3102/003465430298487>
- Henderson, M., Ryan, T., Boud, D., Dawson, P., Phillips, M., Molloy, E., & Mahoney, P. (2019). The usefulness of feedback. *Active Learning in Higher Education*, 22(3), 229–243. <https://doi.org/10.1177/1469787419872393>
- Hon, A. H., & Kim, T. (2018). Work overload and employee creativity: the roles of goal commitment, task feedback from supervisor, and reward for competence. *Routledge eBooks* (pp. 193–211). <https://doi.org/10.4324/9780203794012-11>
- Hünemann, P., & Louw, B. (2020). On the nuisance of control variables in regression analysis. *arXiv (Cornell University)*. <https://doi.org/10.1177/10944281231219274>
- Keil, M., Depledge, G., & Rai, A. (2007). Escalation: the role of problem recognition and cognitive bias. *Decision Sciences*, 38(3), 391–421. <https://doi.org/10.1111/j.1540-5915.2007.00164.x>
- Korte, R. (2018). Identifying as an entrepreneur: a social identity perspective of the entrepreneurial mindset. *American Society for Engineering Education*, 7(1). <https://eric.ed.gov/?id=EJ1199592>
- Lizzio, A. J., & Wilson, K. L. (2008). Feedback on assessment: students' perceptions of quality and effectiveness. *Assessment & Evaluation in Higher Education*, 33(3), 263–275. <https://doi.org/10.1080/02602930701292548>
- London, M., Volmer, J., Zyberaj, J., & Kluger, A. N. (2023). Gaining feedback acceptance: leader-member attachment style and psychological safety. *Human Resource Management Review*, 33(2), 100953. <https://doi.org/10.1016/j.hrmr.2023.100953>

- Mowday, R. T., Steers, R. M., & Porter, L. W. (1979). The measurement of organizational commitment. *Journal of Vocational Behavior*, 14(2), 224–247. [https://doi.org/10.1016/0001-8791\(79\)90072-1](https://doi.org/10.1016/0001-8791(79)90072-1)
- Murnieks, C., & Mosakowski, E. (2007). Who am I? Looking inside the “entrepreneurial identity”. *Frontiers of Entrepreneurship Research*. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1064901
- Newbery, R., Lean, J., Moizer, J., & Haddoud, M. Y. (2018). Entrepreneurial identity formation during the initial entrepreneurial experience: the influence of simulation feedback and existing identity. *Journal of Business Research*, 85, 51–59. <https://doi.org/10.1016/j.jbusres.2017.12.013>
- Nowlis, S. M., & Simonson, I. (1996). The effect of new product features on brand choice. *Journal of Marketing Research*, 33(1), 36–46. <https://doi.org/10.1177/002224379603300104>
- O’Neill, O. A. (2009). Workplace expression of emotions and escalation of commitment. *Journal of Applied Social Psychology*, 39(10), 2396–2424. <https://doi.org/10.1111/j.1559-1816.2009.00531.x>
- Ossenberg, C., Henderson, A., & Mitchell, M. (2018). What attributes guide best practice for effective feedback? A scoping review. *Advances in Health Sciences Education*, 24(2), 383–401. <https://doi.org/10.1007/s10459-018-9854-x>
- Osterwalder, A., & Pigneur, Y. (2010). Business model generation: a handbook for visionaries, game changers, and challengers (Vol. 1). *John Wiley & Sons*.
- Ponto J. (2015). Understanding and evaluating survey research. *Journal of the advanced practitioner in oncology*, 6(2), 168–171.
- Rosenberg, L., & Czepiel, J. A. (1984). A marketing approach for customer retention. *Journal of Consumer Marketing*, 1(2), 45–51. <https://doi.org/10.1108/eb008094>
- Sadeghiani, A., & Anderson, A. R. (2023). What pivot is: touching an elephant in the dark. *Digital Business*, 3(1), 056-100. <https://doi.org/10.1016/j.digbus.2023.100056>
- Sanasi, S., & Ghezzi, A. (2022). Pivots as strategic responses to crises: evidence from Italian companies navigating Covid-19. *Strategic Organization*, 1-35. <https://doi.org/10.1177/14761270221122933>
- Schartel, S. A. (2012). Giving feedback – An integral part of education. *Best Practice & Research Clinical Anesthesiology*, 26(1), 77–87. <https://doi.org/10.1016/j.bpa.2012.02.003>

- Schmidt, J. B., & Calantone, R. J. (2002). Escalation of commitment during new product development. *Journal of the Academy of Marketing Science*, 30(2), 103–118. <https://doi.org/10.1177/03079459994362>
- Sieger, P., Gruber, M., Fauchart, E., & Zellweger, T. (2016). Measuring the social identity of entrepreneurs: scale development and international validation. *Journal of Business Venturing*, 31(5), 542–572. <https://doi.org/10.1016/j.jbusvent.2016.07.001>
- Small, F., & Attree, K. (2015). Undergraduate student responses to feedback: expectations and experiences. *Studies in Higher Education*, 41(11), 2078–2094. <https://doi.org/10.1080/03075079.2015.1007944>
- Snihur, Y., & Clarysse, B. (2022). Sowing the seeds of failure: organizational identity dynamics in new venture pivoting. *Journal of Business Venturing*, 37(1), 106164. <https://doi.org/10.1016/j.jbusvent.2021.106164>
- Solinger, O., Hofmans, J., & Van Olffen, W. (2014). The dynamic microstructure of organizational commitment. *Journal of Occupational and Organizational Psychology*, 88(4), 773–796. <https://doi.org/10.1111/joop.12097>
- Spinuzzi, C., Pogue, G., Nelson, R. S., Thomson, K. S., Lorenzini, F., French, R. A., Burbach, S. D., & Momberger, J. (2015). How do entrepreneurs hone their pitches? *Association for Computing Machinery*. <https://doi.org/10.1145/2775441.2775455>
- Staw, B. M. (1976). Knee-deep in the big muddy: a study of escalating commitment to a chosen course of action. *Organizational Behavior and Human Performance*, 16(1), 27–44. [https://doi.org/10.1016/0030-5073\(76\)90005-2](https://doi.org/10.1016/0030-5073(76)90005-2)
- Story, D. A., & Tait, A. R. (2019). Survey research. *Anesthesiology*, 130(2), 192–202. <https://doi.org/10.1097/aln.0000000000002436>
- Tang, J. (2008). Environmental munificence for entrepreneurs: entrepreneurial alertness and commitment. *International Journal of Entrepreneurial Behaviour & Research*, 14(3), 128–151. <https://doi.org/10.1108/13552550810874664>
- Teyi, S. S., Larsen, M. M., & Namatovu, R. (2023). Entrepreneurial identity and response strategies in the informal economy. *Journal of Business Research*, 165, 114–047. <https://doi.org/10.1016/j.jbusres.2023.114047>
- Van Der Leeuw, R. M., & Slootweg, I. A. (2013). Twelve tips for making the best use of feedback. *Medical Teacher*, 35(5), 348–351. <https://doi.org/10.3109/0142159x.2013.769676>

- Van Werven, R., Bouwmeester, O., & Cornelissen, J. (2019). Pitching a business idea to investors: how new venture founders use micro-level rhetoric to achieve narrative plausibility and resonance. *International Small Business Journal*, 37(3), 193–214. <https://doi.org/10.1177/0266242618818249>
- Vanoorbeek, H., & Lecluyse, L. (2021). How social identity affects entrepreneurs' desire for control. *Social Sciences*, 11(1), 7. <https://doi.org/10.3390/socsci11010007>
- Watson, G. (1971). Resistance to change. *American Behavioral Scientist*, 14(5), 745–766. <https://doi.org/10.1177/000276427101400507>
- Yitshaki, R., & Drori, I. (2018). Understanding mentorship processes. In *Edward Elgar Publishing eBooks*. <https://doi.org/10.4337/9781786434098.00008>
- Zhang, J., Simeone, A., Gu, P., & Hong, B. (2018). Product features characterization and customers' preferences prediction based on purchasing data. *CIRP Annals*, 67(1), 149–152. <https://doi.org/10.1016/j.cirp.2018.04.020>

Appendices

Appendix 1. Scales table research constructs

Construct	Definition	Original items	Adapted items	Translated adapted items	Source
Commitment to pitched idea.	The extent to which an entrepreneur identifies with and is engaged with its pitched idea (Tang, 2018).	<p>I am committed to this new product.</p> <p>I will stick with this new product no matter what problems are encountered.</p> <p>I feel a sense of loyalty to this new product.</p> <p>I do not feel 'emotionally attached' to this organization.</p> <p>4 This organization has a great deal of personal meaning for me</p>	<p>Before the pitch, I was committed to my pitched idea.</p> <p>Before the pitch, I was determined to stick to my pitched idea.</p> <p>-Before the pitch, I felt a sense of loyalty to my pitched idea.</p> <p>I feel emotionally attached to my pitched idea.</p> <p>My pitched idea has a great deal of personal meaning to me.</p>	<p>Voorafgaand aan de pitch was ik erg toegewijd aan mijn idee.</p> <p>Voorafgaand aan de pitch was ik vastbesloten om bij mijn idee te blijven.</p> <p>Voorafgaand aan de pitch voelde ik me erg gehecht aan mijn idee.</p> <p>Voorafgaand aan de pitch voelde ik me zeer emotioneel verbonden met mijn idee.</p> <p>Het idee dat ik pitchte betekende persoonlijk veel voor mij.</p>	<p>Schmidt & Calantone (2002)</p> <p>Mowday et al., (1979)</p>
Degree of pivot (area's)	A pivot implements a significant		After the pitch, I changed my	Naar aanleiding van de pitch heb ik mijn	Self-developed

	<p>change to one or more of the following business model elements, typically in response to customer feedback, while retaining other elements: 1) target customer segments; 2) product features; 3) marketing approach; and/or 4) monetization approach</p> <p>(Eisenmann, 2020)</p>		<p>idea significantly .</p> <p>After the pitch, I changed my revenue model significantly .</p> <p>After the pitch, I significantly changed my customer segment(s).</p> <p>After the pitch, I significantly changed the product characteristics of my product.</p> <p>After the pitch, I significantly changed my marketing approach.</p>	<p>idee aanzienlijk veranderd.</p> <p>Naar aanleiding van de pitch heb ik mijn verdienmodel aanzienlijk veranderd.</p> <p>Naar aanleiding van de pitch heb ik mijn klantsegment(en) aanzienlijk veranderd.</p> <p>Naar aanleiding van de pitch heb ik mijn product/dienst aanzienlijk veranderd.</p> <p>Naar aanleiding van de pitch heb ik mijn marketingaanpak aanzienlijk veranderd.</p>	<p>items, based on: Eisenmann, (2020); Osterwalder & Pigneur (2010); Nowlis & Simonson, (1996); Burnell et al., (2023)</p>
<p>Entrepreneur identity: Darwinian</p>	<p>Darwinian identity is classified as a businesspers on who seeks strong and profitable opportunities in business acts on them and makes them successful</p>	<p>I will create my firm in order to make money and become rich.</p> <p>I will create my firm in</p>	<p>As an entrepreneur , I think it is important to make a lot of money.</p> <p>As an entrepreneur , I believe it is important to advance my career in</p>	<p>Als ondernemer vind ik het belangrijk om veel geld te verdienen.</p> <p>Als ondernemer vind ik het belangrijk om mijn carrière in de zakenwereld vooruit te helpen.</p>	<p>Items based on Sieger (2016)</p>

	<p>(De la Cruz et al., 2017).</p>	<p>order to advance my career in the business world.</p> <p>As a firm founder, it will be important to me to operate my firm on the basis of solid management practices.</p> <p>As a firm founder, it will be important to me to have thoroughly analyzed the financial prospects of my business.</p> <p>When managing my firm, it will be important to me to have a strong focus on what my firm can achieve vis-à-vis the</p>	<p>the business world.</p> <p>As an entrepreneur , I find it important to manage my business based on solid management methods.</p> <p>As an entrepreneur , I think it is important to draw up a financial plan in advance.</p> <p>As an entrepreneur , I think it's important to focus on what my company can achieve compared to the competition.</p> <p>As an entrepreneur , I think it is important to create a</p>	<p>Als ondernemer vind ik het belangrijk om mijn business te managen op basis van gedegen managementmethod en.</p> <p>Als ondernemer vind ik het belangrijk om voorafgaand een financieel plan op te stellen.</p> <p>Als ondernemer vind ik het belangrijk om te focussen op wat mijn bedrijf kan bereiken ten opzichte van de concurrentie.</p> <p>Als ondernemer vind ik het belangrijk om een</p>	
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		competitio n.	competitive advantage.	concurrentievoordee l te creëren.	
Entreprene ur identity: missionary	The missionary identity is driven by a passion to make a positive impact in society and take responsibilit y for their actions by achieving their social purpose (De la Cruz et al., 2017)	I will create my firm in order to solve a societal problem that private businesses usually fail to address. I will create my firm in order to play a proactive role in changing how the world operates. As a firm founder, it will be important to me to be a highly responsible citizen of our world. As a firm founder, it will be important to me to make the world a	As an entrepreneur , I believe it is important to solve a social problem that private businesses usually fail to address. (e.g. social injustice, environment al destruction). As an entrepreneur , I believe it is important to play a proactive role in changing how the world operates As an entrepreneur , I believe it is important to be a highly responsible citizen of our world. As an entrepreneur , I care about making the world a "better place" (e.g.,	Als ondernemer vind ik het belangrijk om een maatschappelijk probleem op te lossen (bijv. sociale onrechtvaardigheid, vernietiging van het milieu). Als ondernemer vind ik het belangrijk om een proactieve rol te spelen in het veranderen van de wereld. Als ondernemer vind ik het belangrijk om een zeer verantwoordelijke burger van onze wereld te zijn. Als ondernemer vind ik het belangrijk om van de wereld een "betere plek" te maken (bijv. door	Items based on Sieger (2016).

		<p>“better place”.</p> <p>When managing my firm, it will be important to me to have a strong focus on what the firm is able to achieve for society-at-large.</p> <p>When managing my firm, it will be important to me to convince others that private firms are indeed able to address the type of societal challenges that my firm addresses.</p>	<p>pursuing social justice, protecting the environment).</p> <p>As an entrepreneur , I think it is important to have a strong focus on what the company can achieve for society in general.</p> <p>As an entrepreneur , I think it is important to convince others that private firms are capable of tackling social challenges.</p>	<p>sociale rechtvaardigheid na te streven, het milieu te beschermen).</p> <p>Als ondernemer vind ik het belangrijk om een sterke focus te hebben op wat het bedrijf kan bereiken voor de maatschappij in het algemeen.</p> <p>Als ondernemer vind ik het belangrijk om anderen ervan te overtuigen dat private bedrijven in staat zijn maatschappelijke uitdagingen aan te pakken.</p>	
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Table 8. Construct scales

Appendix 2. Scales table of control variables

Construct	Definition	Original items	Translated adapted items	Source
Gender		Male, female, different, would rather not say	Mannelijk, Vrouwelijk, Andere, Dat zeg ik liever niet	
Perceived quality of feedback	The degree to which the feedback is perceived as supporting, including elements such as clarity, relevancy, and development on the recipient's performance (Halman et al., 2016).	Gave feedback that I could understand. Feedback was provided that I could use. The feedback was productive.	Ik kon de feedback goed begrijpen Ik kon de feedback goed gebruiken De feedback was productief	Items based on Lizzio & Wilson, (2008)
Innovativeness	"Innovativeness reflects the degree of newness and usefulness of an idea" (Garcia & Calantone, 2002, p 112)	The business idea I pitched was completely new to the market at the time.	Het business idee dat ik pitchte was destijds volledig nieuw op de markt.	Self-developed items

Table 9. Scales table control variables

Appendix 3. Final survey

Beste

ondernemer,

In het verleden heeft u uw idee, innovatie of businessmodel gepresenteerd bij Open Brains. In deze enquête vragen we u hierop terug te blikken.

Met deze enquête onderzoeken wij wat ondernemers vinden van Open Brains en hoe Open Brains verbeterd zou kunnen worden. Uw mening is daarbij uiteraard erg belangrijk. Wij willen graag van u weten hoe u uw Open Brains sessie heeft ervaren en wat u gedaan heeft met de feedback die u toen heeft gekregen. **Het is van groot belang dat u zich de Open Brains sessie zich zo goed mogelijk probeert te herinneren.** Let wel, het gaat ons om de Open Brains sessie waarin u zelf presenteerde, niet een sessie waarbij u in het publiek zat. **Mocht u meerdere pitches hebben gedaan bij Open Brains, vragen wij u om terug te blikken op de meest recente pitch.**

Wij zijn negen studenten van de Radboud Universiteit in Nijmegen en wij voeren een onderzoek uit in opdracht van Bluehub. Wij rapporteren de uitkomsten van het onderzoek aan Bluehub, maar we delen uw gegevens niet met Bluehub. Uw anonimiteit is ten alle tijden gegarandeerd.

Waarom zou u meedoen?

- Onder de deelnemers verloten wij twee gratis consultancy-uren met Bluehub;
- U krijgt, op verzoek, een management summary van de resultaten van het onderzoek;
- U helpt ons bij het afstuderen.

Wij danken u bij voorbaat voor uw deelname.

Mocht u vragen hebben over het onderzoek dan kunt contact opnemen met Bente, de contactpersoon van het onderzoeksteam, via het mailadres: Bente.Horsting@ru.nl

Vriendelijke groeten,

Alexandre Facon, Bente Horsting, Chris van As, Eline Agterberg, Joost Koelewijn, Leon van Deursen, Michelle Hannisse, Niels van den Bekerom en Tamara Koggel

Meedoen aan onderzoek

Hartelijk dank dat u aan het onderzoek mee wilt doen. Voordat we van start gaan zijn we verplicht u te informeren over het onderzoek en over uw rechten en om formeel te vragen of u akkoord bent met deze informatie. Als u niet akkoord bent, dan kunt u zich (zonder opgaaf van reden) terugtrekken uit het onderzoek.

Deze enquête gaat over uw mening over de Open Brains sessie waar u een innovatie of een idee voor een nieuw bedrijf heeft gepresenteerd en wat u daarna met de feedback heeft gedaan. **De enquête duurt ongeveer 10 minuten. Het is belangrijk om te benadrukken dat er geen goede of foute antwoorden zijn: het gaat om uw mening!**

We vragen u (geheel vrijwillig) alleen om uw naam en contactgegevens om u de management summary te sturen en/of om u te berichten als u het gratis consultancy-uur heeft gewonnen. Als

u hier geen belangstelling voor heeft dan hoeft u deze gegevens niet in te vullen. We zullen uw naam en contact gegevens verder nergens voor gebruiken en verwijderen zodra we ze voor bovenstaande doeleinden niet meer nodig hebben.

De data die we verzamelen zullen anoniem worden geanalyseerd. We behandelen uw gegevens met zorg. **De gegevens zijn alleen toegankelijk voor het onderzoeksteam, de begeleider van het onderzoeksteam en toezichthouders op de kwaliteit van het onderwijs (zoals de examencommissie aan de Radboud Universiteit). De gegevens zullen niet gedeeld worden met Bluehub.** In publicaties en rapporten zullen alleen geanonimiseerde gegevens worden gebruikt. De onderzoekers garanderen uw anonimiteit en volgen de richtlijnen van de Nederlandse code van wetenschappelijke integriteit en het beleid van de Radboud Universiteit aangaande datamanagement en opslag. Aangezien gegevens anoniem worden opgeslagen is het niet mogelijk om uw gegevens te verwijderen wanneer de data eenmaal verzameld zijn. De gegevens voor dit onderzoek zullen gedurende minimaal 10 jaar worden bewaard om controle op wetenschappelijk onderzoek mogelijk te maken. Als u vragen heeft over uw privacy, dan kunt u contact opnemen met de Data Protection Officer van de Radboud Universiteit via privacy@ru.nl.

Deelname aan het onderzoek is geheel vrijwillig. **U bent geheel vrij om deelname aan het onderzoek te weigeren of te stoppen gedurende het onderzoek zonder opgave van reden en heeft geen negatieve consequenties voor u.** Stoppen van het onderzoek heeft wel consequenties voor de kwaliteit van ons onderzoek, dus we verzoeken u vriendelijk om alleen deel te nemen aan het onderzoek als u de intentie heeft om de gehele vragenlijst in te vullen.

Het onderzoek bevat geen klinische of diagnostische testen.

Het onderzoek is bedoeld voor iedereen die eerder gepresenteerd heeft op een Open Brains sessie en bevat verder geen restricties.

Als u vragen of opmerkingen heeft over dit onderzoek, dan kunt u zoals vermeld contact opnemen via Bente.Horsting@ru.nl. Als u vragen of opmerkingen heeft die u liever niet deelt met de onderzoekers, dan kunt u contact opnemen de Academic Confidentiality Advisor via vertrouwenspersonen@ru.nl, die onafhankelijk is en niet betrokken bij dit onderzoek.

Ik heb deze informatie begrepen en ga akkoord

- Ja
- Nee

Q1 In welk jaar heeft u gepitcht bij Open Brains?
- Mocht u meerdere pitches hebben gedaan, kies dan de meest recente pitch.
- Mocht u niet meer precies weten in welk jaartal u gepitcht heeft, maak dan een schatting.

- 2014
- 2015
- 2016
- 2017
- 2018
- 2019
- 2020
- 2021
- 2022
- 2023
- 2024

Q2 Sommige Open Brains sessies waren online (met name gedurende Corona). Was uw pitch fysiek of online?

- Fysiek
- Online

Q3 Hoe groot was het publiek tijdens uw pitch?

- 0-5
- 6-10
- 11-15
- 16-20
- 20+

Q4 Tijdens de pitch heeft u een product - of business idee gepresenteerd, kunt u in een paar woorden uw idee beschrijven?

Q5 Mijn gepitchte business idee betrof...

- Voornamelijk een fysiek product
- Voornamelijk een dienst
- Combinatie van een product en een dienst
- Anders, namelijk... _____

Q6 Voorafgaand aan de pitch had ik al veel tijd besteed aan mijn business idee.

- Helemaal oneens
- Oneens
- Eens noch oneens
- Eens
- Helemaal eens

Q7 Het business idee wat ik gepitch heb was zeer specifiek.

- Helemaal oneens
- Oneens
- Eens noch oneens
- Eens
- Helemaal eens

Q8 Voorafgaand aan de pitch was ik erg toegewijd aan mijn business idee.

- Helemaal oneens
- Oneens
- Eens noch oneens
- Eens
- Helemaal eens

Q9 Voorafgaand aan de pitch was ik vastbesloten om bij mijn business idee te blijven.

- Helemaal oneens
- Oneens
- Eens noch oneens
- Eens
- Helemaal eens

Q10 Voorafgaand aan de pitch voelde ik me erg gehecht aan mijn business idee.

- Helemaal oneens
- Oneens
- Eens noch oneens
- Eens
- Helemaal eens

Q11 Voorafgaand aan de pitch voelde ik me emotioneel zeer verbonden met mijn business idee.

- Helemaal oneens
- Oneens
- Eens noch oneens
- Eens
- Helemaal eens

Q12 Het business idee dat ik pitchte betekende persoonlijk veel voor mij.

- Helemaal oneens
- Oneens
- Eens noch oneens
- Eens
- Helemaal eens

Q13 Naar aanleiding van de pitch heb ik mijn business idee aanzienlijk veranderd.

- Helemaal oneens
- Oneens
- Eens noch oneens
- Eens
- Helemaal eens

Q14 Voorafgaand aan de pitch had ik al nagedacht over mijn verdienmodel.

- Ja
- Nee

Q15 Naar aanleiding van de pitch heb ik mijn verdienmodel ...

Niet veranderd Aanzienlijk veranderd

0 1 2 3 4 5



Q16 Voorafgaand aan de pitch had ik al nagedacht over te benaderen klantensegment(en).

- Ja
- Nee

Q17 Naar aanleiding van de pitch heb ik te benaderen klantensegment(en)...

Niet veranderd Aanzienlijk veranderd

0 1 2 3 4 5



Q18 Voorafgaand aan de pitch had ik al nagedacht over mijn product/dienst.

- Ja
- Nee

Q19 Naar aanleiding van de pitch heb ik mijn product/dienst ...

Niet veranderd Aanzienlijk veranderd

0 1 2 3 4 5

Q24 Na de pitch stelde ik het nemen van beslissingen naar aanleiding van de ontvangen feedback uit.

- Helemaal oneens
- Oneens
- Eens noch oneens
- Eens
- Helemaal eens

Q25 Ik heb de pitch gebruikt om specifieke assumpties ten aanzien van mijn business idee te testen.

- Helemaal oneens
- Oneens
- Eens noch oneens
- Eens
- Helemaal eens

Q26 Ik heb de pitch gebruikt om te zien of mijn aanname(s) correct waren.

- Helemaal oneens
- Oneens
- Eens noch oneens
- Eens
- Helemaal eens

Q27 Ik heb de reacties van het publiek bij de pitch gebruikt om te beoordelen of bepaalde verwachtingen ten aanzien van mijn business idee klopten.

- Helemaal oneens
- Oneens
- Eens noch oneens
- Eens
- Helemaal eens

Q29 De feedback die ik kreeg tijdens de pitch was in strijd met de kern van mijn business idee.

- Helemaal oneens
- Oneens
- Eens noch oneens
- Eens
- Helemaal eens

Q30 De feedback die ik kreeg tijdens de pitch verwierp aspecten van mijn business idee die belangrijk voor mij waren.

- Helemaal oneens
- Oneens
- Eens noch oneens
- Eens
- Helemaal eens

Q31 Ik had het gevoel dat een groot deel van de feedback die ik kreeg mijn business idee ter discussie stelde.

- Helemaal oneens
- Oneens
- Eens noch oneens
- Eens
- Helemaal eens

Q32 Tijdens de pitch had het publiek flinke twijfels over mijn business idee.

- Helemaal oneens
- Oneens
- Eens noch oneens
- Eens
- Helemaal eens

Q33 Tijdens de pitch ervaarde ik de feedback van het publiek als bedreigend voor mijn business idee.

- Helemaal oneens
- Oneens
- Eens noch oneens
- Eens
- Helemaal eens

Q34 Als ondernemer vind ik het belangrijk om veel geld te verdienen.

- Helemaal oneens
- Oneens
- Eens noch oneens
- Eens
- Helemaal eens

Q35 Als ondernemer vind ik het belangrijk om mijn professionele carrière vooruit te helpen.

- Helemaal oneens
- Oneens
- Eens noch oneens
- Eens
- Helemaal eens

Q36 Als ondernemer vind ik het belangrijk om mijn business te managen op basis van gedegen managementmethoden.

- Helemaal oneens
- Oneens
- Eens noch oneens
- Eens
- Helemaal eens

Q37 Als ondernemer vind ik het belangrijk om voorafgaand aan mijn business idee een financieel plan op te stellen.

- Helemaal oneens
- Oneens
- Eens noch oneens
- Eens
- Helemaal eens

Q38 Als ondernemer vind ik het belangrijk om te focussen op wat mijn bedrijf kan bereiken ten opzichte van de concurrentie.

- Helemaal oneens
- Oneens
- Eens noch oneens
- Eens
- Helemaal eens

Q39 Als ondernemer vind ik het belangrijk om een concurrentievoordeel te creëren.

- Helemaal oneens
- Oneens
- Eens noch oneens
- Eens
- Helemaal eens

Q40 Als ondernemer vind ik het belangrijk om een maatschappelijk probleem op te lossen (bijv. sociale onrechtvaardigheid, vernietiging van het milieu).

- Helemaal oneens
- Oneens
- Eens noch oneens
- Eens
- Helemaal eens

Q41 Als ondernemer vind ik het belangrijk om een proactieve rol te spelen in het veranderen van de wereld.

- Helemaal oneens
- Oneens
- Eens noch oneens
- Eens
- Helemaal eens

Q42 Als ondernemer vind ik het belangrijk om een verantwoordelijke burger van onze wereld te zijn.

- Helemaal oneens
- Oneens
- Eens noch oneens
- Eens
- Helemaal eens

Q43 Als ondernemer vind ik het belangrijk om van de wereld een "betere plek" te maken (bijv. door sociale rechtvaardigheid na te streven, het milieu te beschermen).

- Helemaal oneens
- Oneens
- Eens noch oneens
- Eens
- Helemaal eens

Q44 Als ondernemer vind ik het belangrijk om een sterke focus te hebben op wat het bedrijf kan bereiken voor de maatschappij in het algemeen.

- Helemaal oneens
- Oneens
- Eens noch oneens
- Eens
- Helemaal eens

Q45 Als ondernemer vind ik het belangrijk om anderen ervan te overtuigen dat private bedrijven in staat zijn maatschappelijke uitdagingen aan te pakken.

- Helemaal oneens
- Oneens
- Eens noch oneens
- Eens
- Helemaal eens

Q46 Ik kon de feedback die ik kreeg goed begrijpen.

- Helemaal oneens
- Oneens
- Eens noch oneens
- Eens
- Helemaal eens

Q47 Ik kon de feedback die ik kreeg goed gebruiken.

- Helemaal oneens
- Oneens
- Eens noch oneens
- Eens
- Helemaal eens

Q48 De feedback die ik kreeg was productief.

- Helemaal oneens
- Oneens
- Eens noch oneens
- Eens
- Helemaal eens

Q49 Het business idee dat ik pitchte was destijds volledig nieuw op de markt

- Helemaal oneens
- Oneens
- Eens noch oneens
- Eens
- Helemaal eens

Q50 Ik ben tevreden met de groei die mijn idee/bedrijf heeft gemaakt na de pitch.

- Helemaal oneens
- Oneens
- Eens noch oneens
- Eens
- Helemaal eens

Q51 Mijn business idee is uitgegroeid tot een succesvol product/een succesvolle dienst.

- Helemaal oneens
- Oneens
- Eens noch oneens
- Eens
- Helemaal eens

Q52 Ik heb voldoende ondersteuning gehad van Bluehub bij de pitch.

- Helemaal oneens
- Oneens
- Eens noch oneens
- Eens
- Helemaal eens

Q53 Bluehub heeft mij goed geholpen ten aanzien van mijn pitch.

- Helemaal oneens
- Oneens
- Eens noch oneens
- Eens
- Helemaal eens

Q54 Ik was tevreden over de ondersteuning van Bluehub bij de pitch.

- Helemaal oneens
- Oneens
- Eens noch oneens
- Eens
- Helemaal eens

Q55 De voornaamste reden waarom ik heb gepitcht bij Open Brains was ...

- Om feedback te ontvangen.
- Om te netwerken.
- Omdat ik was benaderd door Open Brains.
- Om mijn presentatievaardigheden te verbeteren.
- Anders, namelijk: _____

Q56 Wat is uw geslacht?

- Man
- Vrouw
- Anders
- Dat zeg ik liever niet

Q57 Wat is uw leeftijd?

- 18-25
- 26-35
- 36-45
- 46-55
- 56-65
- 65+

Q58 Wat vond u goed aan Open Brains? Wat vond u minder goed aan Open Brains?
Hoe kan volgens u Open Brains verbeterd worden?

Q59 Wilt u een management summary van ons onderzoek ontvangen? Bij antwoord "Ja" kan u onderstaand uw mailadres toevoegen.

- Ja _____
- Nee

Q60 Wilt u in aanmerking willen komen voor een gratis consultancy uur van Bluehub? Bij antwoord "Ja" kan u onderstaand uw mailadres toevoegen.

- Ja _____
- Nee

Appendix 4. Validity and reliability analyses

Table 10. Items and Cronbach's Alpha

Construct	Original # items	Cronbach's alpha	# of items deleted	Cronbach's alpha after deletion	Percentage of variance explained
Commitment to an idea	5	.804	0		58%
Pivoting after receiving feedback	4	.817	1	.739	57%
Darwinian	6	.465	3	.494	51%
Missionary	6	.865	0		61%
Perceived quality of feedback	3	.874	0		80%
Innovativeness	1	-	-		-
Gender	1	-	-		-

4.1. Commitment to idea

Table 11. Reliability Statistics Commitment

Cronbach's Alpha	N of items
.804	5

Table 12. KMO and Bartlett's Test Commitment

Kaiser-Meyer-Olkin Measure of Sampling Adequacy			.781
Bartlett's Test of Sphericity	Approx. Chi-Square	df	104.367
	Sig.		10
			<.001

Table 13. Total Variance Explained Commitment

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	2.894	57.874	57.874	2.894	57.874	57.874
2	.805	16.097	75.502			
3	.568	11.359	86.861			
4	.392	7.845	94.706			
5	.265	5.294	100.000			

Table 14. Component Matrix Commitment

Component	1
Q8	.680
Q9	.654
Q10	.823
Q11	.846
Q12	.781

4.2. Pivoting after receiving feedback

Table 15. Reliability Statistics Pivoting

Cronbach's Alpha	N of items
.739	4

Table 16. KMO and Bartlett's Test Pivoting

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.705
Bartlett's Test of Sphericity	Approx. Chi-Square	45.981
	df	6
	Sig.	<.001

Table 17. Total Variance Explained Pivoting

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	2.278	56.949	56.949	2.278	56.949	56.949
2	.751	18.781	75.730			
3	.573	14.331	90.061			
4	.398	9.939	100.000			

Table 18. Component Matrix Pivoting

Component	1
Q13	.748
Q15	.796

Q17	.697
Q19	.774

4.3. Entrepreneur identity Missionary

Table 19. Reliability Statistics Missionary

Cronbach's Alpha	N of items
.865	6

Table 20. KMO and Bartlett's Test Missionary

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.848
Bartlett's Test of Sphericity	Approx. Chi-Square	158.122
	df	15
	Sig.	<.001

Table 21. Total Variance Explained Missionary

Component	Total	Initial Eigenvalues		Extraction Sums of Squared Loadings		
		% of variance	Cumulative %	Total	% of variance	Cumulative %
1	3.662	61.040	61.040	3.662	61.040	61.040
2	.698	11.636	72.676			
3	.547	9.125	81.801			
4	.435	7.245	89.046			
5	.396	6.608	95.654			
6	.261	4.346	100.000			

Table 22. Component Matrix Missionary

Component	1
Q40	.815
Q41	.796
Q42	.734
Q43	.822
Q44	.781

Q45	.734
-----	------

4.4. Entrepreneur identity Darwinian

Table 23. Reliability Statistics Darwinian

Cronbach's Alpha	N of items
.494	3

Table 24. KMO and Bartlett's Test Darwinian

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.553
Bartlett's Test of Sphericity	Approx. Chi-Square	13.358
	df	3
	Sig.	.004

Table 25. Total Variance Explained Darwinian

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	1.533	51.109	51.109	1.533	51.109	51.109
2	.873	29.095	80.203			
3	.594	19.797	100.000			

Table 26. Component Matrix Darwinian

Component	1
Q34	.632
Q38	.814
Q39	.687

4.5. Discriminant validity

Table 27. Principal Component Factor analysis

Component	1	2	3	4
Q40 Als ondernemer vind ik het belangrijk om een maatschappelijk probleem op te lossen (bijv. sociale onrechtvaardigheid, vernietiging van het milieu).	.803			
Q41 Als ondernemer vind ik het belangrijk om een proactieve rol te spelen in het veranderen van de wereld.	.760			
Q42 Als ondernemer vind ik het belangrijk om een verantwoordelijke burger van onze wereld te zijn.	.699			
Q43 Als ondernemer vind ik het belangrijk om van de wereld een "betere plek" te maken (bijv. door sociale rechtvaardigheid na te streven, het milieu te beschermen).	.804			
Q44 Als ondernemer vind ik het belangrijk om een sterke focus te hebben op wat het bedrijf kan bereiken voor de maatschappij in het algemeen.	.685			
Q45 Als ondernemer vind ik het belangrijk om anderen ervan te overtuigen dat private bedrijven in staat zijn maatschappelijke uitdagingen aan te pakken.	.703			
Q8 Voorafgaand aan de pitch was ik erg toegewijd aan mijn business idee.		.659		
Q9 Voorafgaand aan de pitch was ik vastbesloten om bij mijn business idee te blijven.		.644		
Q10 Voorafgaand aan de pitch voelde ik me erg gehecht aan mijn business idee.		.794		
Q11 Voorafgaand aan de pitch voelde ik me emotioneel zeer verbonden met mijn business idee.		.765		
Q12 Het business idee dat ik pitchte betekende persoonlijk veel voor mij.		.802		
Q13 Naar aanleiding van de pitch heb ik mijn business idee aanzienlijk veranderd.			.736	
Q15_1 Naar aanleiding van de pitch heb ik mijn verdienmodel ... -775	
Q17_1 Naar aanleiding van de pitch heb ik te benaderen klantensegment(en)... -687	
Q19_1 Naar aanleiding van de pitch heb ik mijn product/dienst ... -746	
Q34 Als ondernemer vind ik het belangrijk om veel geld te verdienen.				.578
Q38 Als ondernemer vind ik het belangrijk om te focussen op wat mijn bedrijf kan bereiken ten opzichte van de concurrentie.				.807
Q39 Als ondernemer vind ik het belangrijk om een concurrentievoordeel te creëren.				.476

Appendix 5. Assumptions Multiple Regression Analysis

5.1. Linearity

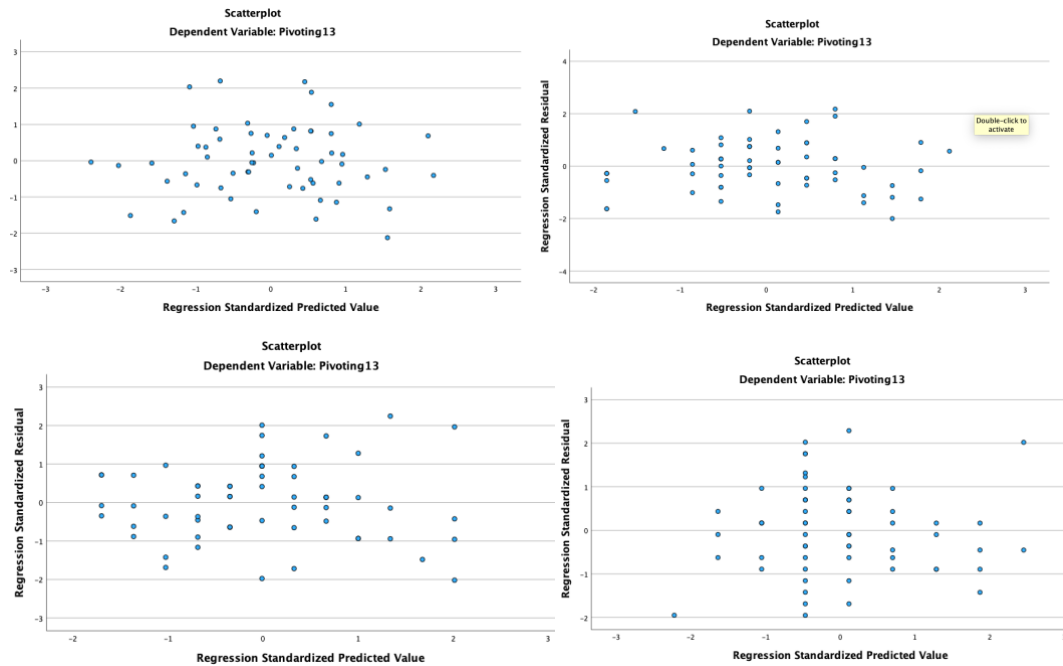


Figure 2. Scatterplots Regression constructs

5.2. Normality

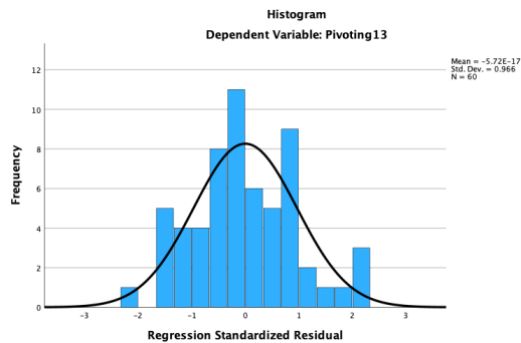


Figure 3. Histogram Regression all constructs together

	RES_1 Unstandarized Residual
Asymp. Sig.	.200

Table. 28. One-Sample Kolmogorov-Smirnov Test

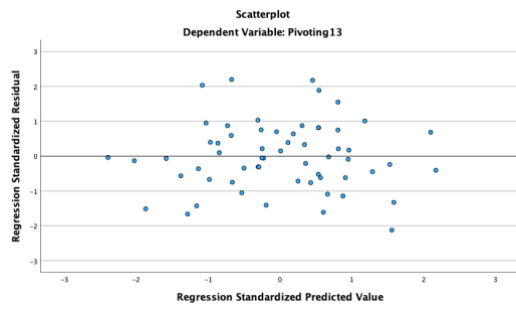


Figure 4. Scatterplot normality all constructs together

5.3. Homoscedasticity

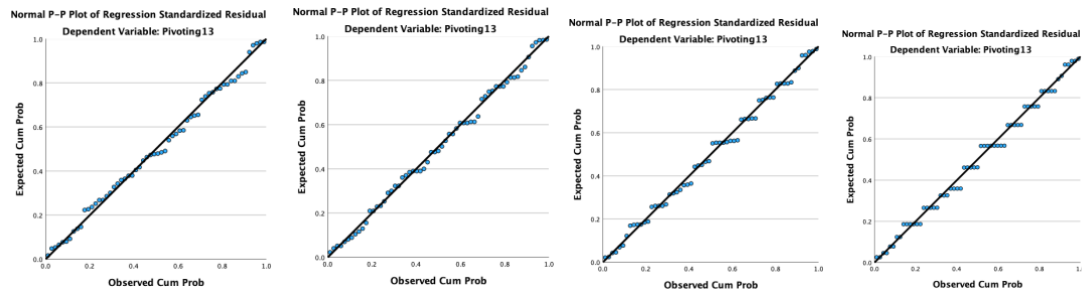


Figure 5. P-Plot Regression of the constructs

5.4. Multicollinearity

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Mentoring	1.000	1.000
2	(Constant)		
	Mentoring	.991	1.009
	Commitment	.991	1.009
3	(Constant)		
	Mentoring	.945	1.058
	Commitment	.906	1.104
	Missionary	.940	1.064
	Darwinian	.904	1.106

Table 29. Coefficients Regression all constructs together

Appendix 6. Results Multiple Regression Analysis

Table 30. Model Summary – Darwinian

Model	R	R-square	Adjusted R Square	Std Error of the Estimate
1	.492	.242	.174	.85070
2	.506	.256	.174	.85060

Table 31. ANOVA – Darwinian

Model		Sum of Squares	Df	Mean Square	F	sig
1	Regression	12.735	5	2.547	3.519	.008*
	Residual	39.803	55	.724		
	Total	52.538	60			
2	Regression	13.467	6	2.245	3.102	.011*
	Residual	39.070	54	.724		
	Total	52.538	60			

Table 32. Model Summary – Missionary

Model	R	R-square	Adjusted R Square	Std Error of the Estimate
1	.472	.223	.151	.85925
2	.504	.254	.170	.84994

Table 33. ANOVA – Missionary

Model		Sum of Squares	Df	Mean Square	F	sig
1	Regression	11.457	5	2.291	3.104	.016*
	Residual	39.869	54	.738		
	Total	51.326	59			
2	Regression	13.039	6	2.173	3.008	.013*
	Residual	38.287	53	.722		
	Total	51.326	59			

Appendix 7. Additional analyses

7.1. Additional analysis 1 – gender with moderator: Darwinian

Table 34. Model Summary

Model	R	R-square	Adjusted R Square	Std Error of the Estimate
Male	.470	.221	.131	.83249
Female	.771	.595	.257	.87374

Table 35. ANOVA

Model		Sum of Squares	Df	Mean Square	F	sig
Male	Regression	8.462	5	1.692	2.442	.049*
	Residual	29.800	43	.693		
	Total	38.263	48			
Female	Regression	6.727	5	1.345	1.762	.255*
	Residual	4.581	6	.763		
	Total	11.307	11			

Table 36. Coefficients

		Model 1: Main effect			Model 2: With interaction effects		
		β	SE	p	β	SE	p
Male	Commitment	-.325	.203	.020	-.334	.207	.019
	Darwinian	.113	.221	.408	.098	.228	.487
	Darwinian*commitment				.070	.134	.622
Female	Commitment	-.054	.913	.930	-.354	.793	.516
	Darwinian	-.247	.680	.604	-.067	.581	.869
	Darwinian*commitment				-.701	.237	.089
R ² (adjusted R ²)		.221 (.131)			.595 (.257)		

N=61; ***p<.001; **p<.01; *p<.05; +p<.10; gender coded: 1= male, 0=female

7.2. Additional analysis 2 – gender with moderator: Missionary

Table 37. Model Summary

Model	R	R-square	Adjusted R Square	Std Error of the Estimate
Male	.376	.141	.084	.85448
Female	.721	.519	.313	.86333

Table 38. ANOVA

Model		Sum of Squares	Df	Mean Square	F	sig
Male	Regression	5.407	3	1.802	2.468	.074
	Residual	32.856	45	.730		
	Total	38.263	48			
Female	Regression	5.635	3	1.878	2.520	.142
	Residual	5.217	7	.745		
	Total	10.852	10			

Table 39. Coefficients

		Model 1: Main effect			Model 2: With interaction effects		
		β	SE	p	β	SE	P
Male	Commitment	-.318	.207	.026	-.327	.208	.025
	Missionary	.159	.255	.253	.149	.256	.610
	Missionary*commitment				-.118	.146	.231
Female	Commitment	-.055	.920	.929	.246	.487	.657
	Missionary	-.281	.882	.577	-.382	.517	.390
	Missionary*commitment				-.700	.286	.124
R² (adjusted R²)		.141 (.084)			.519 (.313)		

N=61; ***p<.001; **p<.01; *p<.05; +p<.10; gender coded: 1= male, 0=female