

St. Petersburg State University
Graduate School of Management
Master in management program

Master thesis

An exploration of cognitive traps and personality effects on decision making of project managers

Master 's Thesis by 2nd year student
Concentration - MIM
Ove Murberg Henriksen

Research advisor:
Ioannis P. Christodoulou
Associate Professor

Saint Petersburg

2020

Contents

Contents	1
Abstract	4
Introduction	5
Cognitive traps and personality	7
Behaviour economics	8
Neuroeconomics and physiology	10
Cognitive traps	11
Personality	15
The Big 5 personality traits model	17
Situations	18
Emotions	18
Temperament	19
Intelligence	21
Culture	21
Project management & project leadership in the oil and gas industry	22
Project manager selection	22
Personalities in project management	22
Components of big 5, characteristics of successful project managers	23
Intelligence traits of successful project managers	23
Research gap	24
Research question	25
Hypotheses	26
Methodology	27
Research aims & objectives	27
Research philosophy & design	27
Quantitative methods	29
Survey	31
Respondents	32
Sample size	32
Personality model and cognitive trap	33
Software & tools	34
Challenges	34
Limitations	35
Findings	37
Data	37

Sample	37
Variables	37
Are project managers different?	38
Replicating the Status quo	39
The connection between Big 5 personality traits and Status quo trap	41
Conclusion	47
The connection between the Big 5 personality traits and cognitive traps	47
Effects of cognitive traps on project managers	48
How to avoid the Status Quo trap	50
Theoretical contribution	51
Practical contribution	52
Limitations	53
Suggestion for further research	54
References	55
Appendix:	58
Source code:	58
Data:	76

Abstract

Master Student's Name	Ove Murberg Henriksen
Master Thesis Title	An exploration of cognitive traps and personality effects on decision making of project managers
Main field of Study	Management
Year	2020
Academic Advisor's Name	Ioannis Christodolou
Description of the goal, tasks and main results	<p>The objective of this research is to explore the connection between cognitive traps and personality in context of project managers.</p> <p>Tasks:</p> <ul style="list-style-type: none">-explore the relationships between cognitive traps and personality traits;-identify the connections between the Big 5 personality traits and the Status quo trap;-identify practical advice for project managers on how to avoid cognitive traps; <p>The results of literature review and quantitative research showed a connection between cognitive traps and personality.</p> <p>The results of quantitative research showed a relationship between the Status Quo trap and the Big 5 personality traits "Openness to new experience" and "Conscientiousness".</p> <p>Based on results, practical advice has been suggested to project managers.</p>
Key words	Behaviour economics, cognitive traps, Big 5 Personality traits, project management

Introduction

Behaviour economics is a field that, through empirical research, finds and demonstrates the deviances between rational economic decision making and actual decision making, according to (Ogaki, Masao and Tanaka 2018). The findings are often described as cognitive traps, a form of cognitive bias, and these traps are continuously being discussed, Hammond, John S., Ralph L. Keeney, and Howard Raiffa (1998), wrote an article in Harvard business review about the hidden traps in decision making. They mentioned the Anchoring trap, Status quo trap, Sunk cost trap, Confirming evidence trap, Framing trap, Estimating and forecasting traps and the Recallability trap. The article was cited again in 2014 by Sid Peimer at Stratplanning.com. Razavian, Maryam, Oktay Turetken, and Irene Vanderfeesten (2017), also, more recently, wrote that *”Despite many business process design approaches and practices that are available, the quality of business process analysis and design relies heavily on human factors. Some of these factors concern cognitive biases.”*

In literature there are indicators that traps, described in the field of Behaviour economics, does not depend on intelligence, rather personality. It has for example been proven that the Myside bias is not related to intelligence (Gignac, Gilles E, 2005) and that the Anchoring trap is related to the Big 5 personality trait conscientiousness (Eroglu, Cuneyt, and Keely L. Croxton, 2010). So there must be something else that explains susceptibility to cognitive traps better than intelligence. And while some previous research has sporadically found relations between personality and cognitive traps, no collection of theory or theoretic models exist to explain how personality influences cognitive traps, but Ariely (2010, 89-100) hints about a connection to physiology, and consequently to personality (Fisher et al. 2015). The establishment of a basic theoretical understanding through an exploration of relationships between cognitive traps and personality is therefore needed.

A link between personality and cognitive traps could reveal ways to address them. Which would be important for project managers, as well as others to understand, in order to bar against irrational decisions. Assessment and recruiting specialists, who often use personality tests among their tools in search of talent, would also find this knowledge intriguing because they might already be influencing their organization’s susceptibility to certain cognitive traps, unknowingly.

Additionally such knowledge could aid practitioners such as Strategists, because culture is considered a part of personality (O’Reilly et al. 2014). Cultivating organisational culture with the relationship to the Cognitive traps in mind could achieve a desired effect or solution to certain cognitive traps.

But how to do research on the connection between cognitive traps and personality? At hand we have powerful computers and software like “RStudio: Open Source & Professional Software for Data Science Teams.” (Rstudio.com 2020). An exploration could demonstrate a way to analyse the data with the help of inferential statistics, as opposed to descriptive statistics.

To narrow down the research regarding the connection between cognitive traps and personality, in order to have an achievable goal to focus on, we contextualize to project managers. They strike us as suitable, because a project is *“A temporary endeavor undertaken to create a unique product, service, or result.”* (Richardson and Jackson (2018, 3). Which indicates that they make decisions that are new in nature, possible without established decision processes or experience with outcome. Additionally we would get some help to make conclusions from Merrow and Nandurdikar (2018), that already did research on what Big 5 personality traits can be considered successfactors for project managers.

The topic is also very interesting because the Big 5 personality traits model is widely used (DeYoung, Carey and Krueger 2016), and if we can connect it to cognitive traps, we open up the possibility to

derive information regarding cognitive traps from a vast amount of literature. In such literature, we could possibly find new ways to group and define them, for example according to neurochemistry through temperament (Fisher et al. 2010)(Fisher et al. 2015), because research have already shown some links (Fujino et al. 2016).

So we ask the broader research question: “*What are the effects on decision making for project managers, regarding the connection between Big 5 personality traits and cognitive traps?*”.

And in our exploratory research we aim to:

1. Explore the relationships between cognitive traps and personality traits.
2. Identify the connections between the Big 5 personality traits and the Status quo trap.
3. Identify practical advice for project managers on how to avoid cognitive traps.

The structure of our dissertation is after the introduction:

1. The literature review, that includes the Cognitive traps and personality. That results in the construction of research questions and hypotheses.
2. Methodology. Where we explain our reasoning for our choice of methodologies.
3. Findings & analysis. Where we show the output of our statistical analysis so anyone may infer their own opinions and insight from them, based on their own competence. But we also present the reasoning we did, based on these findings in order to conclude.
4. Conclusion & contributions. Where we explain what we derive from our findings, both in literature and in our statistical analysis.

Finally, in the appendix, we decided to attach all the source code we wrote in R, along with all the data, so that readers of our work may simply “copy paste” from our pdf, and explore the methods and the data themselves.

Cognitive traps and personality

In order to understand the connection between cognitive traps and the personality of project managers, we need to search through and explore literature from different fields. Then we need to fit the knowledge into a theoretical model that may explain the logical connection. In the subchapters below we will focus on picking information from different fields of study that is relevant for explaining the connection between personality and cognitive traps. While we search through different fields of study and literature, we will only include what is found relevant and not attempt to give a full review of each field of study as it would make this paper too big. But when picking bits and pieces of literature we are susceptible to the bias of confirming existing evidence or confirming our prediction or forecast about how we think everything connects together. In order to address this bias and not fall into such cognitive traps, the literature we explore will be weighted heavily towards full textbooks rather than individual research papers. In doing that we hope to get the best possible general view of each field and adopt the understanding of authors who have already explored each field in order to write the books. Another benefit is that the information we get has already been checked by authors of such textbooks and we simply need to do a brief, on the go, investigation of the references.

Behaviour economics

Classical economics considers the allocation of resources, given that the actors are completely rational maximizers of their utility, but people are not rational. Behavioral economics considers more factors, such as, psychology, sociology, anthropology, neurology, and other disciplines, in order to demonstrate the difference between economically rational decision making, which is maximizing utility, and actual economic decision which is “*the study of economics which does not rely on the assumption of the rational, selfish economic man.*” (Ogaki, Masao and Tanaka 2018, 17). They also claim that a critical role of behaviour economics is to show the limitations of traditional economics.

So what is irrational? Dan Ariely gives us two definitions in the Faq on his web page (Ariely 2015, July 20). In the first definition he says that it is something that violates the basic axioms of economic theory, namely that preferences are complete and transitive. In the second definition he explains that it's when you think you will behave in one way but you don't. Personally I would suggest that being irrational is to do things, or behave in a way, that contradict the outcome you desire, but to tie the definition to utility maximizing and economy in this context, like Dan Ariely does, might be wise, in order to avoid unending debates on the utility in form of a good feeling from for example giving a gift, or even purchasing something for the shopaholics out there. As Ogaki, Masao and Tanaka (2018, 6) points out, “Both in utilitarianism and in the concept of Pareto efficiency, the concept of happiness is utility, and increasing utility is considered to be desirable”. Dan Ariely’s definitions of irrationality are of particular interest here because he wrote a book called Predictably Irrational (Ariely 2010) wherein he elaborates further on the concept. In his book he demonstrates predictable differences between economically rational decision making and actual decision making, each chapter describing different predictable differences as follows:

1. Relativity. We need to compare things to value something, and demonstrates that when we have to choose between three options where two are easily comparable while the third option is not, we tend to choose the best of the two options that are easily comparable, despite the third option being better.

2. Fallacy of supply and demand. We tend to anchor the price of things to the first price presented to us. He explains for example that if we purchase a LCD television set for 3000\$ we will anchor the price of a LCD television set to this price and consider future LCD television sets according to this price.

3. The cost of zero cost. We are loss averse, so that if we are offered something for free, we value that offer more than if we would have to pay a very small amount for the same offer compared to a second offer with a price.

4. The cost of social norms. Things have value in two separate markets, one being the monetary market and the other being the social market. Ariely demonstrates this by showing, among other things, that lawyers who initially are opposed to giving a big discount on services for retired elderly, would agree to provide services to the same group for free.

5. The influence of arousal. As we get more aroused, our behaviour changes to accept more risk. Ariely demonstrates that this does not only hold true for sex, but for example teenage drivers who are initially 40% more likely to be involved in a car accident, will be exponentially more likely to be involved in an accident with the increasing amount of other teenagers in the car.

6. The problem of procrastination and self control. This chapter provides the fundamentals of this subject, for it explains that we procrastinate, but doesn't go any further. It could have provided deeper insight if, for example, Dr. Ariely had explored how procrastination connects with instant gratification, and then with an experiment answered the question about how we value things we receive now

compared to receiving things with a higher value later, in order to unveil bad decisions connected to this concept.

7. The high price of ownership. We tend to overvalue things that we own, Ariely demonstrates this with showing how the price that students are willing to pay for a ticket to a game changes, as the situation changes from not owning a ticket to a situation where the student has won the ticket in a lottery.

8. Keeping doors open. We let options distract us from our main objective. Ariely demonstrates that we have a preference of keeping several options available over committing to one option that would bring us the most value.

9. The effect of expectations. Our expectations of something influence the experience we get when we receive it. Ariely demonstrates this with an experiment where people who are told about a beer sample containing vinegar before tasting it, will dislike it opposed to people being told about it afterwards.

10. The power of Price. Our experience of something may change depending on how expensive it is. Ariely demonstrates this by showing how big the effect of a placebo is depending on how expensive the placebo is.

11. Why we are dishonest and what we can do about it. In this chapter Ariely demonstrates how people are dishonest when given the opportunity but only to a small degree. For example, common people are prone to stealing a pen, given the opportunity but would not take the opportunity to steal a box of pens.

12. Why dealing with money makes us more honest. Ariely demonstrates how stealing money directly is uncommon, but stealing something one step away from money is common. For example an airline company that would not steal money directly from your credit card, would still tell you that there are no spare seats when you want to use your saved up bonus points.

In the last chapter, Dan Ariely (2010) sums up the experiments, concluding that people are irrational and that their decision making is often influenced by irrelevant factors in our environment. While he demonstrates predictable differences in decision making compared to economically rational decision making, he does little to explain what causes them, leaving us with speculations. Some of the experiments might be demonstrating the same underlying mechanism in how our mind works. For example our preference for things that are easily compared over things that are not easily comparable, might originate from the same underlying mechanism that makes us anchor price to the first price presented to us, as both indicate that we have to compare in order to make a judgment. Lastly his experiments can be criticised by arguing that other unknown factors might have influenced the outcome, although the simplicity of the experiments makes it less likely. In addition we can question some unmentioned assumptions in the conclusions. Our utility might for example not be linear, in the hypothetical case where people would steal a pen but not a box of pens when given the opportunity, we could argue that if the same people were given the opportunity to steal a pen factory, it is possible they would, because a box of pens don't bring additional utility when you already have a pen, but a pen factory would bring utility in form of profit. So to conclude about Dan Ariely's work, we can say that his findings are debatable as a result of the complexity of the subject, but in the light of the fact that we can find irrational behaviour in both ourselves and people around us, even without doing extensive research, the findings seems valid.

Neuroeconomics and physiology

“Neuroeconomics has its origins in two places, in events following the neoclassical economic revolution of the 1930s and in the birth of cognitive neuroscience during the 1990s.” (Glimcher and Fehr 2014, 17). Neuroeconomics is a science trying to answer the question: “How do our brains work in the process of the decision making?”, according to Ogaki, Masao and Tanaka (2018, 23). They also claim that: “One of the aims of neuroeconomics is to develop an economic theory that can explain real human behavior including individual preference, based on the brain mechanism, on economic behavior”, while others make claims that neurobiological approaches might explain the deviances in behaviour from normative theory (Glimcher and Fehr 2014 p24).

Glimcher and Fehr (2014, 113-125) proceed to explain how risk seeking behaviour positively relates to the release of dopamine and how serotonin positively relates to risk averseness. Which in light of a physiology study by Brown, Acevedo and Fisher (2013), connects the related neurotransmitter systems to 4 temperament dimensions, which they in a later study proceed to explain how relate to the Big 5 personality traits model (Fisher et al. 2015) known from psychology. This way, neuroeconomics effectively connects economics to psychology, being the middle link between behaviour economics and physiology, given that we adopt a systematic view.

Neuro economics also provides some important insights. For example that stress increases arousal, which we know from behavioural economics to influence our decision making to become more risky (Ariely 2010, 89-100), and makes us tend towards more automatic decision making (Glimcher and Fehr 2014, 221), which would consequently make us more likely to fall into cognitive traps. Another important insight is that according to Glimcher and Fehr (2014 p195), some people have more social preferences in their decision making than others and that people tend towards self interest in competitive environments while deviating away from self interest in strategic games.

Neuroeconomics also tries to explain how emotions affect decision making, two ways have been identified according to (Glimcher and Fehr 2014, 220). One way is that emotions influence the affective response to choices, and the other is the emotional change to the choice that is being made, which influences the valuation. The latter mechanism might explain what we know from behaviour economics about the value of things increasing when we purchase them. Additionally they present the concept of looking upon the neuromodulator systems as context editors of our decision making.

Cognitive traps

In order to narrow down our research, considering the abundance of cognitive biases, we need to find what cognitive traps are the most common, but no such ranking seems to exist. However, an article appeared in Harvard business review about the seven traps in decision making, and how to avoid them, by Hammond, Keeney and Raiffa (1998, 2006). While it is likely that there are more hidden traps in decision making, and despite the age of the article, it sums up 7 common traps that are still relevant. Namely: Anchoring, status quo, sunk cost, confirming evidence, framing, estimating forecasting and recallability. We find that these traps are useful for scoping our research.

Another option would be to consider known cognitive traps for project managers in the oil and gas industry, but we can't argue that decisions in oil and gas industry project management is fundamentally different from usual decision making, so in doing so, we would effectively fall into the recallability trap and end up doing research on cognitive traps that are specific to the oil and gas industry, rather than the general traps that would be more frequent although less mentioned.

1. Anchoring trap

Quote Hammond, Keeney and Raiffa (1998, 2006):

“When considering a decision, we give a disproportionate weight to the first information we receive. If we asked two groups the following questions, those that were asked the second set gave a larger estimate.

1. *‘Is the population of Turkey greater than 35 million? What’s your estimate of Turkey’s population? Is the population of Turkey greater than 150 million?’*
2. *‘What’s your estimate of Turkey’s population?’*

This might be a simple and predictable example, but the effect of anchors in decision making has been shown in numerous experiments to affect not only managers, but accountants, engineers, bankers (believe it or not), lawyers and stock analysts. To mitigate the effect of anchoring, it would be prudent to view a problem from different perspectives – alternative starting points. Essentially be open-minded.”

It seems that some research have been done regarding anchoring and personality:

- McElroy and Dowd (2007) concluded: *“higher levels of openness lead individuals to become relatively more influenced by anchoring Cues.”*, but their research lacks reliability due to brief measure of the personality traits using TIPI, a shorter version of the Big 5 inventory.
- Caputo and Andrea (2014) concluded: *“Moreover, agreeableness and openness to experience have been found to reduce susceptibility to the anchoring effect, suggesting that managers with those predominant personality factors should rely less on irrelevant information when making decisions.”* Their study suffered from the same lack of reliability due to usage of TIPI.
- Eroglu and Croxton (2010) concluded: *“In terms of specific personality traits, conscientiousness increases anchoring and overreaction biases, while openness to experience increases optimism bias but has no significant effects on anchoring and overreaction biases.”* Their study was more meticulous but focused on forecasting biases so it’s hard to know if they considered the complete picture regarding anchoring.

All in all, the research on the relationship between anchoring bias and personality is indicating that conscientiousness increases susceptibility to anchoring while openness to experience has no effect on susceptibility to anchoring bias.

2. The status quo trap

Quote Hammond, Keeney and Raiffa (1998, 2006):

"Choosing the status quo saves energy. Research shows that people are more likely to choose the status quo when two alternatives are presented as opposed to one. The perceived mental energy that needs to be expended becomes high, so we take a shortcut. To lessen the pull to default to what is, always remind yourself of the objective, and ask yourself whether you would choose the status quo alternative, if in fact it was not the status quo."

It seems that no research regarding personality and status quo traps have been conducted.

Possible survey question, by (Hammond, Keeney and Raiffa 1999, 193):

"You inherit 100 shares of a blue-chip stock that you would never have bought yourself. You can sell the shares and reinvest the money for a minimal commission and no tax consequences. What will you do?"

When faced with this situation, a surprising number of people hang on to the inherited shares. They find the status quo comfortable, and they avoid taking action that would upset it. "Maybe I'll rethink it later," they say. But later is always later."

3. Sunk cost trap

Quote Hammond, Keeney and Raiffa (1998, 2006):

"We tend to make choices that justify our past decisions, even if those past decisions no longer seem valid. This bias shows up regularly in banking when a borrower's business runs into trouble. In this case the initial lender will tend to advance funds more readily in the hope of reaffirming that the original decision was the right one. Banks have wised up to this and have introduced a policy that the loan be reassigned to another banker when problems arise – someone for whom the original decision is not worth 'saving'. As Warren Buffett says: "When you find yourself in a hole, the best thing you can do is stop digging.""

(Fujino et al. 2016) has researched "Neural mechanisms and personality correlates of the sunk cost effect". They concluded: *" We found that individuals with high levels of agreeableness and conscientiousness were more susceptible to the sunk cost effect. Furthermore, we show that elevated neural activation in the insula explains the relationship between these personality traits and the sunk cost effect."*

4. Confirming evidence trap

Quote Hammond, Keeney and Raiffa (1998, 2006):

"This cognitive bias encourages us to seek out information that supports our existing point of view, while avoiding information that contradicts it. There are two psychological forces that have an impact here. The first is our tendency to decide immediately what we want to do before we have really worked out why we want to do it. The second is that we become more engaged with things we like than things we dislike. To address this trap, someone who plays the role of the devil's advocate is appropriate to build up counterarguments. But an even better prescription would be for you to be honest about your motives."

There seems to be no research regarding confirming evidence bias or confirmation bias in relation to personality.

5. Framing trap

Quote Hammond, Keeney and Raiffa (1998, 2006):

"The way a problem is presented can profoundly affect the choice you make. In a classic experiment by Daniel Kahneman and Amos Tversky, the following was proposed: Three barges have sunk. Each barge holds \$200 000 worth of cargo. These are your salvage options – which would you choose? Plan A: Saving the cargo of one of the three barges, worth \$200 000 Plan B: Have a one-third probability of saving the cargo on all three barges worth \$600 00, but with a two-thirds probability of saving nothing. Over 70% chose the 'less risky' option of Plan A, even though both have the same potential outcome. The questions were just framed differently. To counteract the framing trap, don't automatically accept the initial framing – always try to reframe the problem in different ways. This is crucially important for strategy, because the first step is always defining the problem correctly."

A study, "Personality Traits Moderate Attribute Framing Effects.", by Gamliel, Zohar and Kreiner (2013), replicated previous research on personality and attribute framing, showing that people high in agreeableness and conscientiousness are more susceptible to attribute framing. Additionally they showed that these same personality traits amplified the framing effect in social justice situations, but not in situations unrelated to social justice, suggesting that the more mindful you are about something the more susceptible you are to framing, rather than these personality traits affecting framing directly. A direct quotation is excluded from this paper because of their misuse of the word "moderate" as a synonym to affect in their study, which also makes it hard to conclude anything based on their paper. It seems fair however, that we can assume the susceptibility to framing increases the more you care about something, rather than being directly connected to personality traits.

6. The estimating and forecasting traps

Quote Hammond, Keeney and Raiffa (1998, 2006):

"I have yet to see the headline "Clairvoyant wins lottery". Predicting the future is fiction. Other than weather forecasters and bookmakers we generally don't use a great deal of data which we carefully track over a long period of time. We are however good at making accurate estimates about time, distance, weight and volume, because we're constantly making judgements about these and getting immediate feedback, so our minds become finely calibrated. Forecasting sales is a difficult process at best. One of the Big Three automakers felt this most keenly. The planning department responsible for the final forecast asked each of the other departments for their forecasts using key variables such as dealer demand, competitor actions and costs. The problem was that each department gave a high forecast in favour of building more cars 'just to be safe'. So the planners had a collection of estimates – all which played safe. It took six months to sell off the surplus resorting to substantial discounts. Garbage in, garbage out."

There seems to be no research regarding estimating and forecasting traps in relation to personality.

7. The recallability trap

Quote Hammond, Keeney and Raiffa (1998, 2006):

”When estimating forecasts it should come as no surprise that we base our predictions about future events largely on our memory of past events. The problem is that we are overly-influenced by events that are more dramatic. For example we exaggerate the probability of events such as plane crashes and shark attacks, because they get a disproportionate amount of attention in the media. To reduce the effects of the recallability trap, the idea is to consider the extremes of the situation – the low and high ends of the possible range of values, and then challenge your estimates of the extremes. To minimise the distortions due to recallability, it’s best not to be guided by impressions, but the actual stats. As I’ve always said: “In G_d we trust. Everyone else bring data”.”

There seems to be no research regarding recallability traps or availability heuristics in relation to personality.

Personality

Corr and Matthews (2009, 24), introduces us to the debate on what personality is, and whether behaviour depends more on personality or situation and context. There are also lots of perspectives you can adopt when defining personality.

Major perspectives in personality, table quoted from Corr and Matthews (2009, 60):

Perspective	Major concepts	Contributors
Biological	temperament, evolution, adaptation, altruism, sexual jealousy, heredity, neurotransmitter pathways, cerebral hemisphere function	D. Buss, Eysenck, J. A. Gray, C. R. Cloninger, Kagan
Cognitive	expectancy, self-efficacy, outcome expectation, schema, cognitive person variable, personal construct, reciprocal determinism, modelling, constructive alternativism, life narrative	Mischel, Bandura, Kelly, Beck
Humanistic	self-actualization, creativity, flow, spirituality, personal responsibility, freedom, choice, openness to experience, unconditional positive regard, acceptance, empathy, real self, hierarchy of needs, peak experience, positive psychology	Maslow, Rogers, Seligman, Csikszentmihalyi
Learning	reinforcement, punishment, stimulus, response, conditioning, extinction, shaping, discrimination learning, generalization, situation, act frequency, basic behavioural repertoire, labelling, gradients of approach and avoidance	Skinner, Staats, Dollard and Miller
Psychodynamic	libido, conflict, id, ego, superego, defence mechanisms, Oedipal conflict, fixation, repression, attachment, object-relations	Freud, Jung, Adler, Erikson, Horney, Klein, Sullivan, Chodorow, Westen, Kohut, Kernberg
Trait	trait, type, facet, factors, Neuroticism/Emotional Stability, Extraversion	Allport, Cattell, McCrae and Costa

“If commonality is to be found among these diverse definitions, it may be a frequently shared assumption that an individual’s personality begins with biologically innate components, both those shared with others and those that are distinct because of heredity or other influences; that over the life course, these innate tendencies are channelled by the influence of many factors, including family experience, culture and other experience; and that the resulting pattern of habitual behaviours, cognitions, emotional patterns, and so on constitutes personality.” (Corr and Matthews 2009, 61) .

While this interesting debate is going on, we have to take a more pragmatic approach to defining personality for our research. In doing so, we recognize that by measuring personality for use in research, we must derive the definition from the measuring in order to be able to use it correctly. This means that all the things that are affecting the measurement, must therefore be considered a component of the result. So for the purpose of this research we define personality as the total measurable behaviour characteristics of a person, consisting of components such as temperament, emotions, culture and situation/context. These components are explored further below.

The next thing to consider while measuring personality, using the conventional trait based approach, is that the personality traits will be more or less dynamic. We will have to accept that personality change when situations, culture, emotions and other things that influence it change. Corr and Matthews (2009, 148) mentions the problem of instability in traits and that they are founded on unknown biological factors, but there have been breakthroughs, one stable biological factor has recently been found, namely temperament. It seems that personality may have several factors, some stable and some unstable which we will explore in sub chapters.

The Big 5 personality traits model

Based on Goldberg (1992) The big 5 personality traits consist of:

- Neuroticism
- Agreeableness
- Conscientiousness
- Extraversion
- Openness

The Big 5 are usually measured with a Questionnaire developed by Goldberg (1992), and in order to measure the Big five, the original questions should be used, because rephrasing them substantially reduces the evaluativeness of them (Boyle, Saklofske, and Matthews 2014, 36). And its worth mentioning that *“The NEO-FFI was not intended to provide definitive measurement of the five personality factors. Instead, it was designed as a brief instrument that would yield reasonable estimates of the factors, perhaps chiefly of use in exploratory research. In over a decade of use, it has shown itself to be reliable, valid, and useful in a variety of contexts and cultures.”* (McCrae, and Costa 2004).

Rothmann and Coetzer (2003) did a study on *“The Big Five Personality Dimensions and Job Performance.”*, where they claimed that *“The results showed that Emotional Stability, Extraversion, Openness to Experience and Conscientiousness were related to task performance and creativity. Three personality dimensions, namely Emotional Stability, Openness to Experience and Agreeableness, explained 28% of the variance in participants’ management performance.”*.

The Big 5 personality model seems to have become quite popular. DeYoung, Carey and Krueger (2016) pointed out that the *“Big Five has proved extremely useful in providing a common language for researchers and organizing personality research.”*

DeYoung, Carey and Krueger (2016) also found *“2 distinct (but correlated) aspects within each of the Big Five”*, further dividing the Big 5 personality traits into 10 aspect.

- Neuroticism: Volatility & Withdrawal
- Agreeableness: Compassion & Politeness
- Conscientiousness: Industriousness & Orderliness
- Extraversion: Enthusiasm & Assertiveness
- Openness/Intellect: Intellect & Openness

Situations

From a contextual point of view, it is not hard to imagine that we behave differently at work than at home for example. This is backed up by Corr and Matthews (2009, 83). First they claim that “What people do depends, to an important extent, on the situation they are in” (Corr and Matthews 2009, 83). And next they claim that: “ *The bottom line is that subjective situations are confounded with personality traits by definition of the situation, and therefore personality effects are often confounded with situational effects on behaviour, an unfortunate state of affairs that many personality researchers tend to ignore*” But there is one problem with the contextual point of view, namely that we usually don’t go around thinking about the context of the situation we are in. Maybe the answer is in physiology and neuroscience. Perhaps, instead of caring too much about the situation people are in, we should care more about the physiological state people are in? For example what emotions they are influenced by.

Emotions

According to Corr and Matthews (2009, 111) there is no generally accepted theoretical definition of emotions, but the widespread agreement among researchers is that emotions are the transitory state of persons, such as happiness, sadness, fear, anger, pity, pride, guilt, and so forth. They also agree that emotions are reactions to perception or imagination. Corr and Matthews (2009, 111) also claim that appraisal theory is the dominant theory of how we generate emotions, that is for example that we evaluate events to be either positive or negative, and gain emotions thereafter. The purpose of emotions according to hedonistic theory is supposedly that the ultimate goal of humans is to maximize pleasure and minimize displeasure (Corr and Matthews 2009, 112), which would be in line with utility theory if it weren't for emotions being commonly known for irrationality. Clearly emotions affect both our decision making and our behaviour, and we could say it affects our personality as well for people that are subjected to emotional distress. The big question is: “How do emotions affect our likelihood of falling into cognitive traps?” We already mentioned that stress increases arousal which increases risky behaviour (Glimcher and Fehr 2014, 221), but what about other emotions?

Temperament

Although the idea of personality being conceptualized into four temperaments is ancient, Brown, Acevedo and Fisher (2013) have recently extracted from literature four suites of behavioral traits that are connected to our neural systems, and developed the Fisher Temperament Inventory (FTI) (Fisher et al. 2010), a questionnaire to measure temperament. Then they did a study to see if the FTI was measuring the brain activity supposedly related to them. They concluded positively:

“Scores on the Curious/Energetic scale of the FTI co-varied with activation in a region of the substantia nigra in two independent studies, providing strong evidence that the Curious/Energetic scale could measure some aspect of the dopamine system activity in people thinking about their romantic partner. Scores on the Cautious/Social Norm Compliant scale co-varied in both studies with activation in the ventrolateral prefrontal cortex, in a region associated with “social norm compliance,” a trait linked in the biological literature with the serotonin system, indirect evidence that the Cautious/Social Norm Compliant scale measures some aspect of the serotonin system. Scores on the Analytical/Tough minded scale co-varied in these two studies with activity in regions of the occipital, parietal, orbitofrontal and prefrontal cortex, regions affected by sex hormones and associated with sex differences in behavior. Last, scores on the Prosocial/Empathetic scale correlated in both studies with activity in regions associated with mirror neurons and concomitant empathy, a trait linked with the estrogen system, and brain regions structurally affected by gender. Although each of the temperament dimensions use many other neurochemical systems, one or two appear to predominate in each dimension under these specific task circumstances. These findings support the hypothesis that the four broad temperament dimensions measured by the FTI are associated with separable brain systems. Because the results were replicated in two independent studies using participants of significantly different ages, these data also suggest that traits associated with these four temperament dimensions may be relatively stable across the life course. Finally, the results suggest that there could be a unique “neural signature” for each temperament dimension associated with close, love relationships.”

They also compared the FTI to The big 5 (Fisher et al. 2015). Where they concluded:

“The FTI is, to our knowledge, the first measure of temperament constructed directly from brain science, using four basic neuromodulator systems, that was subsequently tested and partially validated by two fMRI brain-scanning studies, rather than finding physiological correlates for proposed traits established by other means. This approach may produce broader, more useful temperament dimensions for further study because they are less likely to show trait crossovers, physiologically, than The Big Five, for example. The Curious/Energetic scale may subsume both Openness to Experience and Extraversion. In addition, the model is a clearly testable hypothesis. Further, the correlations of the FTI temperament dimensions with five behavioral variables, as well convergent and discriminant validity with the NEO-FFI, give us reason to suggest that the FTI may be useful in psychotherapy, business, medicine, and the legal community to understand and serve individuals with different temperament profiles. It was designed to be a complement to existing measures and may be most useful for informing users about compatibility between individuals in all aspects of life, from household to work environments. The FTI may have broad applications, as well as initiate several further lines of inquiry into the on-going investigation of the biological structures of personality.”

Now you might ask the reason for quoting the full conclusions from the research in this paper. It is because they, though passively, suggest that the four trait model based on neuromodulator systems would work better for personality evaluation because of less trait crossover, but this is short sighted, the philosophical debate about the stability of personality is on-going. Should we define personality in psychological terms as a stable set of traits or should we allow them to change according to situations, emotions and so forth? Earlier in this paper we mentioned that we must take a pragmatic approach to personality, and without participating in the debate, we must from a systematic point of view, regarding use of the big 5 personality measurement as a tool, accept that temperament is a factor in personality, because from their research we can see how the temperament dimensions or neuromodulator systems, if you will, are factors of influence in The Big 5 personality model. So for the purpose of this research, without participating in the debate, we consider temperament as a stable biological factor in personality, among other factors.

The temperament dimensions are according to (Fisher et al. 2010) supposedly (shortened quotations):

- **“Dopamine and Norepinephrine (DA/NE)** *“Components of sensation-seeking associated with dopamine activity include: thrill, experience and adventure seeking; boredom susceptibility; and disinhibition. Novelty seeking is also associated with other traits, including exploratory excitability, impulsiveness, quick-temperedness, extravagance and disorderliness. Other traits linked to activity in the dopamine system include sex drive, mania and hypersocial behavior, enthusiasm, lack of introspection, social dominance, energy, assertiveness, ambition, motivation and achievement striving, exploration, abstract intellectual exploration, cognitive flexibility, plasticity, curiosity, idea generation, and verbal and non-linguistic creativity.”*
- **“Serotonin (5-HT)** *“Alleles of the serotonin system are associated with sociability, lower levels of anxiety, higher scores on a scale of hypomania and extroversion, and lower scores on a scale of “No Close Friends”. Positive mood and sociability are associated with serotonin activity, as is religiosity, conformity, orderliness, conscientiousness, concrete thinking, self-control, sustained attention, low novelty seeking and figural and numeric creativity”*
- **“Testosterone (T)** *“Traits currently linked with prenatal testosterone expression are heightened attention to detail, intensified focus, and restricted interests. Testosterone activity is also associated with emotional containment, emotional flooding, particularly rage, social dominance, aggressiveness, less social sensitivity and heightened spatial and mathematical acuity.”*
- **“Estrogen and Oxytocin (E/OT)** *“Verbal fluency and other language skills are linked with estrogen priming in the womb. Empathy, nurturing, the drive to make social attachments, and other prosocial skills are associated with estrogen and oxytocin activity in humans and other mammals. Estrogen activity is also associated with contextual thinking, imagination, and mental flexibility.”*

Intelligence

“Intelligent”, commonly measured in IQ, is not a direct personality trait, despite being a way we can characterize someone. It is rather a descriptor of cognitive ability and while not being a direct personality trait, there is a proven relationship between intelligence and openness to new things (Gignac and Gilles 2005).

Culture

We find in previous research that organizational culture is a part of personality. O'Reilly et al. (2014) states that *“CEO personality dimensions are related to organizational culture (e.g., higher levels of Agreeableness and lower levels of Neuroticism are associated with more collaborative cultures) and that culture is related to firm outcomes (e.g., more adaptable cultures have a higher Tobin’s Q, are more admired in the Fortune rankings, and have higher employee ratings).”*

Project management & project leadership in the oil and gas industry

The first thing we should understand about projects is that they are different. Otherwise it would not make much sense to launch a project with its overhead costs in the first place, right? Still when we want to understand projects, we need to classify them somehow. (Merrow and Nandurdikar 2018), who have done research regarding personality traits of successful project managers in the oil and gas industry, claims that it's not the size of projects that matters to its success rate, rather the complexity of the project. They also state that for projects with low complexity the project manager can be successful while being quite transactional in the project management practice, while in projects of high complexity the project manager must conduct good project leadership in order to be successful. In addition they state that the success of more complex projects depends more on the leadership of the project manager, than the success of less complex projects depend on the leadership of a project manager.

Project manager selection

According to Merrow and Nandurdikar (2018 ch1), the common method in companies of selecting project managers, for complex projects, is by looking at previous track record/success history, and little else. Personality is not considered at all in the selection process and all the selected project managers for complex projects are consequently measured to belong to the same population of personalities as project managers in general.

Merrow and Nandurdikar (2018 ch2) mention that this practice is probably not optimal because people usually have only one complex project in their career and success in low complexity projects is not a good predictor of success in a high complexity project. In addition, they claim that many of the successful project managers in complex projects were assigned out of necessity earlier in their careers, exemplifying the lack of validity in this selection process and that a better way of selecting project managers for complex projects, earlier in their careers, would significantly increase the supply of these critical human resources. In fact they Merrow and Nandurdikar (2018 ch4) believe that people can be unsuccessful in less complex projects and highly successful in highly complex projects.

Personalities in project management

Merrow and Nandurdikar (2018 ch1) have investigated the characteristics of successful project managers in complex projects and describe them as: *“They are unusually open personalities”, “better learners”* and *“scored higher on five of the six scales measuring different attributes of emotional intelligence”*. While some claim that emotional intelligence lacks incremental validity (Harms and Credé 2010) over IQ and Big 5 personality traits, we can assume that project managers who are successful in complex projects are intelligent, very open to new things and are extroverted.

Merrow and Nandurdikar (2018 ch1) claim that emotional intelligence shapes the tasks that project managers find important to do. They have found that project managers in complex projects who failed were focusing on classical project management tasks while those who were successful focused on classical leadership tasks. They also reveal that 95% of the project managers for complex projects are men, while women are overrepresented in the successful projects Merrow and Nandurdikar (2018 ch2).

While it might be tempting to evaluate, based on this information, how personality traits differ between genders and investigate the extremes of the distribution in order to argue that the personality traits that one gender possess are success factors, we should be careful if we do that, because we think it is reasonable to assume that prejudices exist in our society, which means that women face unfair evaluation in order to get a job as a project manager, leading to a population of women project managers where only

the very successful have survived while in the population of male project managers we might find “surviving” average performers.

Components of big 5, characteristics of successful project managers

According to Merrow, Edward W., and Neeraj Nandurdikar. (2018 ch4), direct quotes:

- **Extroversion:** *“There are no meaningful differences between the best and the worst project leaders on the Extraversion scale or any of its components.”*
- **Neuroticism:** *“The differences on this scale between the successful and unsuccessful are not statistically different, but the two groups do not distribute themselves in the same way. The successful group is more uniformly emotionally stable with a normal distribution around the mean. But the unsuccessful group has about half of the sample that is decidedly more neurotic and the other half that is decidedly less neurotic. In short, the unsuccessful sample has a clearly bimodal distribution.”*
- **Conscientiousness:** *“characterizes all project leaders. The more and less successful project leaders do not differ on this attribute of personality. In general, because engineers tend to be a conscientious lot, selecting project leaders on this trait should not be difficult. It turns out that more conscientious project leaders are more willing to take on some difficult tasks, which is almost a definition of conscientiousness!”*
- **Agreeableness:** *“Although successful project leaders are more agreeable on most of the individual measures of agreeableness, there is only one on which they are much more likely to respond affirmatively than their less successful colleagues: “I make people feel at ease.”*
- **Openness:** *“The Big 5 personality trait that best describes successful project leaders is openness ($Pr. |z| < .015$). Openness in the Big 5 measures the degree to which one is comfortable entertaining new ideas, tends to think abstractly, and perhaps even the extent to which one is a little quirky. Every item on the Big 5 openness scale points toward more successful project leaders being more open. Openness means that successful project leaders are more likely to listen carefully and consider all points of view.”*

It's also worth noting that these personality traits characterize successful project managers in complex projects, while in less complex projects these traits may not be significant predictors of success.

Intelligence traits of successful project managers

Merrow, Edward W., and Neeraj Nandurdikar (2018 ch4) concludes: “Our conclusion then is that emotional intelligence plays an important role in fashioning the successful leader of complex projects. Significantly, our earlier study of project managerial success in smaller, simpler projects found that emotional intelligence did not play nearly as important a part in their success as it does for complex project leaders. This difference is not surprising. The project manager's job on smaller projects is often highly transactional. It is less about leadership and more about good management of tasks and assignments. By contrast, complex projects require both leadership and management. The leadership component is far more difficult and far more demanding of emotional and normal intelligence.”

Research gap

The mapping of relationships between cognitive traps and the Big 5 Personality traits seems to be incomplete, only covering a few cognitive traps. Based on the selection of hidden traps in decision making, the Anchoring trap, The status quo trap, Sunk cost trap, Confirming evidence trap, Framing trap, The estimating and forecasting traps and the The recallability trap (Hammond, John S., Ralph L. Keeney, and Howard Raiffa, 1998), we found existing research on how the Big 5 Personality traits relate to:

- Anchoring (McElroy and Dowd 2007) (Caputo and Andrea 2014) (Eroglu and Croxton 2010)
- Sunk cost (Fujino et al. 2016)
- Framing trap (Gamliel, Zohar and Kreiner 2013).

But we did not find how the personality traits relate to:

- The status quo trap, Confirming evidence trap
- The estimating and forecasting traps
- Recallability trap.

Despite our knowledge of project manager personality (Merrow and Nandurdikar 2018), we did not find any literature explaining, nor confirming how cognitive traps affect their decision making.

The field of Behaviour economics describes how our actions deviate from classical economic theory. Ogaki, Masao and Tanaka (2018, 4) describes it as “the study of economics which does not rely on the assumption of the rational, selfish economic man.”. Proceedingly, neuroeconomics offers a physiological explanation, “*How do our brains work in the process of the decision making?*”, according to Ogaki, Masao and Tanaka (2018 p23). And then, Fisher shows how physiology is linked with personality by comparing the FTI to The Big 5 (Fisher et al. 2015). This strongly suggests there should be casual relationships between the Big 5 Personality traits and cognitive traps. Additionally we see that Myside bias is not related to intelligence (Gignac and Gilles 2005), and that the Anchoring trap is related to the big 5 personality trait conscientiousness (Eroglu and Croxton 2010).

Which suggests that the bias should rather be related to something else. Maybe behaviour or habits? in other words our personality. Despite this strong suggestion of an underlying physiological mechanism that might govern if people fall into cognitive traps or not, we did not find any existing literature that elaborates on this topic, nor describe the existence of such a mechanism.

Research question

The prospect of personality influencing the likelihood of project managers to fall into cognitive traps, should be interesting, because it opens up the possibility for practitioners, such as recruiters or specialists at assessment centres, to keep this in mind when they use personality assessment in their processes, which we know is common.

Additionally it should be of interest for practitioners such as organization managers when cultivating company culture, because we can consider organizational culture a part of personality, especially since direct relations between the Big 5 personality traits of CEO's and organizational culture have been found (O'Reilly et al. 2014). In other words, cultivating organisational culture with the relationship to the Cognitive traps in mind could achieve a desired effect or solution to certain cognitive traps.

The topic of how personality relates to cognitive traps should be interesting for theorists, because it provides a foundation for discussion of findings from previous research. Maybe there is a way to group cognitive traps by the Big 5 Personality traits. Which could offer more insights on how cognitive traps are interrelated.

The relationships between personality and cognitive traps should also be important for all managers to understand, in order to solve problems they might have regarding cognitive traps where decisions don't adhere to classical economic theory. But in order to narrow down our scope with clear boundaries we find project managers suitable, because a project is "*A temporary endeavor undertaken to create a unique product, service, or result.*" according to Richardson and Jackson (2018, 3). Which implies that they face complex and unknown decisions that are new in nature, possible without established decision processes or experience with outcome.

Therefore our broader research question is:

"What are the effects on decision making for project managers, regarding the connection between Big 5 personality traits and cognitive traps."

To cover the whole topic, would be too much work for this thesis, but it should be possible to demonstrate that there is causality between the Status Quo cognitive trap and the Big 5 Personality traits, because both can be measured quantitatively. The personality traits we can measure by using the questions that are already used by <https://openpsychometrics.org/tests/IPIP-BFFM/> to measure the Big 5 Personality traits. The Status Quo trap can also be formulated as a question. So our narrower research question is "Do the measurable Big 5 personality traits of project managers relate to their likelihood of falling into the Status Quo cognitive trap?"

And then we can do quantitative research on it by formulating some hypotheses.

Hypotheses

Burns and Bush (2013, 58) claims that *“Hypotheses are statements that are taken for true for the purposes of argument or investigation. In making assumptions about the consequences of decision alternatives, managers are making hypotheses.”*, and they continue to explain that *“For now, you should understand that when a manager makes a statement he or she assumes to be true and wants the researcher to determine if there is support for the statement, we call these statements hypotheses.”* (Burns and Bush 2013, 58). And in our exploration we need to make some assumptions, for practical reasons in order to be able to do our statistical analysis. But, we also want to verify that there is not anything obviously wrong with our assumptions.

Since we don't have a very big sample, we must first make sure that our data set is suitable, in order to assume so. If we by chance, have a dataset without the existence of a Status Quo trap, it could imply that we had “bad luck” with our sample, or that our sample is simply not trustworthy. Either way, further analysis would not make sense. So we want to replicate the Status Quo trap, to verify that we can investigate relationships between the Big 5 personality traits and the Status Quo trap further.

For replicating the Status Quo trap

H0: People have no Status Quo bias and are selling the shares they inherit.

H1: People have a significant Status Quo bias, avoiding selling the shares they inherit.

Then we need to see if there are any differences between project managers and other people regarding the likelihood of falling into the Status Quo trap. If there are no significant differences, we will assume that the dynamics that governs the probability of falling into the Status Quo traps are the same for project managers compared to others. Which means we will find it reasonable to include all responses for analysing the relationships between the Big 5 personality traits and Status Quo trap.

For testing differences between project managers and others

H0: Project managers are not different from other people in regards of falling into the Status Quo trap

H1: Project managers are significantly different from others in regards to falling into the Status Quo trap

Methodology

Research aims & objectives

1. To explore the relationships between cognitive traps and personality traits.
2. Identify the connections between the Big 5 personality traits and the Status quo trap.
3. Identify practical advice for project managers on how to avoid cognitive traps.

Research philosophy & design

Our research started out with the idea that there should be a connection between the Big 5, and that personality measure could be used to determine susceptibility to cognitive traps. As we started reviewing the literature we quickly understood that this would get complicated. And as we didnt know at the time what the exact outcome would be, or what exact methods we had to use, we decided to do an exploration, because we lacked the basic structure and foundation for more descriptive or causal research, as explained by (Burns and Bush 2013, 68-80). We did for example not know if a survey containing the Status Quo trap formulated as a question would work, nor did we know what statistics would be required to analyze the responses. According to Burns & Bush (2013, 73), the exploratory research is formulated like this: “*Exploratory research is most commonly unstructured, informal research that is undertaken to gain background information about the general nature of the research problem. By unstructured, we mean that exploratory research does not have a predetermined set of procedures. Rather, the nature of the research changes as the researcher gains information.*

It is informal in that there is no formal set of objectives, sample plan, or questionnaire. Often, small, nonrepresentative, samples are used in exploratory research.” We also suspected that we might have to search through literature for clues and relevant information, and focus on picking and understanding the parts that were relevant, with the disadvantage that we would not get a complete understanding of each field. Also in this way, conducting an exploration made sense because “*Exploratory research is flexible in that it allows the researcher to investigate whatever sources he or she identifies and to the extent he or she feels is necessary to gain a good feel for the problem at hand.”* (Burns & Bush 2013, 73). We also want to conduct an exploration because we would not know what the connection between cognitive traps and personality will imply, and certainly not about the effect on project management. So to set the foundation for more descriptive research in the future, for example by demonstrating that it is viable to measure cognitive traps in a survey together with personality, and then to make statistical analysis on it. We hope that our research generates insights that can save time and resources for more extensive studies. In this, the exploration is also useful according to Burns & Bush (2013) who claims the use for an exploration is to: gain Background Information, define Terms, clarify Problems and hypotheses, and establish research priorities.

But how to gain the knowledge we seek in such a way that it is useful for others? According to Lee (2008, 6) “*Research is about generating knowledge about what you believe the world is*”. This can be split up into the concepts of deduction and induction. They continue to explain that “*Deduction is basically the process of drawing conclusions from rational and logical principles.*”, and that “*Induction is essentially the opposite of deduction. It is the process of moving from specific observations to a more general theory.*”

Lee (2008, 7): describes a process of deduction from theory, to generate hypotheses about the world, then collecting data and generalizing it to induct new theory.

This process applies to our research in the way we collect data from literature, then based upon that data, induct that there is a connection between cognitive traps and personality. Based upon that theory we deduct that we should be able to find significant statistical relations between the Big 5 personality traits and the Status Quo trap. We then proceeded to collect data in a survey about personality and the Status Quo trap, doing a statistical analysis and concluding if the connection really exists, then finally concluding with generalization of our findings in light of literature and try to come up with new theory both on the connection itself and the effects of the cognitive traps on project managers.

Finally we must consider how we can present our findings in such a way that it is believable for both theorists and practitioners, we want to guard our findings against criticism. For example from accusations that our bias makes the outcome into what we think should be. For this purpose a positivist research approach where we generate theory, about “*what is actually happening, not what ought to happen.*” (Lee 2008, 13), is desirable. Furthermore we want to measure and calculate what is happening, so it can be communicated beyond doubt, which implies that a quantitative methodology should be used, as opposed to qualitative. (Burns and Bush 2013, 118) defines the differences as “*Quantitative research is defined as research involving the administration of a set of structured questions with predetermined response options to a large number of respondents.*” while “*Qualitative research, in contrast, involves collecting, analyzing, and interpreting data by observing what people do and say.*”.

We will therefore pursue the goal of gaining insight based on Quantitative methods, but the overhead, the way we select literature, the way we seek advice from others and the way we conclude will still be qualitative in nature. All while striving for a positivist research philosophy which “*has been argued as the ‘standard view’ of Western philosophy of science in the 20th century*”(Lee 2008, 30). By that we mean that our research should be verifiable (Lee 2008, 30), for example by checking references to literature regarding what we say, and that our quantitative research should be possible to replicate. Lee (2008, 30) also explains how western research should, and have moved into a realist position. And while we agree and also take a realist position, in order to include findings in literature, for example from psychology that is not directly observable (Lee 2008, 30), we still think its a good practice to strive for positivism as a virtue from a realist position, in order to guard against criticism. Finally we decided that the primary data for our research should be survey responses, in order to analyse statistically, and that it should be explored in light of secondary data from literature, to cross validate it.

Quantitative methods

For replicating the Status Quo trap, just to verify that our data is valid, we decided to use simple binomial testing in R studio (Rstudio.com 2020). Then in our more advanced statistical analysis on the relationship between the Status Quo trap and Big 5 personality traits, we used our own statistical knowledge along with advice from online tutorials on analyses on similar problems. Considering the nature of the sources, we can't guarantee the information is correct, nor did we find a tutorial that fits exactly to our problem and we visited a lot of them, so we choose not to cite the web pages we visited here. What we can say is that when trying to find a statistical method, we considered the nature of what we are doing, and in the end we found a method that made sense to us, simply because it achieved what we wanted, namely to analyse predictors for falling into the status Quo trap. Be therefore mindful that this is just a possible statistical method, not necessarily the best. For this we found Inferential statistics to be suitable which (Chin and Lee 2008, 43-60) defines as: *"Inferential statistics helps to suggest explanations for a situation or phenomenon. It allows you to draw conclusions based on extrapolations, and is in that way fundamentally different from descriptive statistics that merely summarize the data that has actually been measured."* Then we needed a statistical model that can predict the probability of falling into the Status Quo trap and MacKenzie (2018, 93) wrote about a similar statistical problem to ours in the context of *"Inferring Patterns and Dynamics of Species Occurrence"*, which is a similar to our study because we are trying to explore the occurrence of falling into the Status Quo trap based on "inferring patterns and dynamic" within the survey questions that are used for assessing the Big 5 personality traits. More specifically they write that *"In many examples, important parameters such as species occupancy (ψ), or nuisance parameters such as detection probability (p), may be functions of predictor variables or covariates (e.g., habitat type, patch size, elevation, rainfall in previous 24 hours, time of day or distance to nearest road). Modeling these relationships can be viewed as a type of generalized linear regression technique. A link function is used as a transformation of the parameter that is more convenient for expressing the linear relationship with the covariates. Typically, here, the parameters that we wish to be functions of covariates are probabilities and the use of a special link function called the logit link is widely used when the parameter of interest is to be restricted to values between 0 and 1"* (MacKenzie 2018, 93).

We will not go into the specifics of this modeling method in this thesis, but reading Chin & Lee (2008) and MacKenzie (2018) will provide insights. We only need to know how to use and interpret this method, although correctly, in our research, because the R programming language provides the functionality of calculating it all for us in the "glm()" with "link logit" function, as well as help documentation to guide us on the way. We will therefore refer to "RStudio: Open Source & Professional Software for Data Science Teams." at RStudio.com for documentation regarding specific calculations. This might leave us open for critique such as: *"What I am talking about is that – because analysis is as simple as clicking a button these days – researchers do not spend enough time learning what is going on underneath their data, and inside their analysis methods. Furthermore, many researchers do not know enough about what their analysis results mean, and rely on simplistic 'rules of thumb' to tell them what their results mean."* (Lee 2008, 320) and *"Remember, you should never rely totally on anyone else to 'tell' you what to do when it comes to analysis, and especially how to interpret the numbers."* (Lee 2008, 320). To this I can only say that we tried our best to understand the details in the statistical method we are using, which actually resulted in an addition that is specific for our case, namely that we can look to see if the estimate for falling into the Status Quo cognitive trap, is orderly arranged with agreement levels (Likert scale), to the survey Questions. This we did in order to cross verify that the predicted probability of falling into the Status Quo trap is rising or falling according to a personality trait that the survey question is used to measure. Although you could still argue that there might be a relation in the

extremes, such as when strongly agreeing or disagreeing, to the probability of falling into the Status Quo trap, but that would not be relevant for our research because we are focusing on finding relationships within the dynamics of the Big 5 personality traits, not within the dynamics of the survey questions. Further demonstration of how we deduce, based on this, is shown in the “findings” chapter.

MacKenzie (2018, 73) provides us with a set of basic concepts that helps to understand inferential statistics, and consequently our modeling method, quoted below.

- *“Population: The population is the complete set of sampling units that we are interested in studying.”*
- *“Sample: The sample is the set of sampling units that are actually surveyed. It is chosen from the population using an appropriate probabilistic sampling scheme (e.g., simple random sampling, stratified random sampling, unequal probability sampling, etc.).”*
- *“Parameter: A parameter is a characteristic of the population that we would like to know about. For our earlier example, the parameter would be the probability a unit is occupied by the species. Generally, a population parameter is never known exactly. In our example, the symbol ψ may be used to represent the parameter that we refer to as the probability of occupancy. A parameter will often be associated with a model (as discussed in Chapter 1), although the model may not be explicitly stated.”*
- *“Estimator of a Parameter: As we never know the value of a parameter exactly, we have to use an estimator of the parameter based on a sample. An estimator is an equation or process applied to the collected data to produce an estimate of the parameter. In our notation, $\hat{\psi}$ may be used to represent an estimator of the parameter ψ . For example, if the individuals of the species are very easy to detect, the proportion of sampled units occupied by the species can be used as the estimator for the population probability of occupancy. Clearly ψ , the parameter, and $\hat{\psi}$, the estimator, are distinct, and use of the circumflex or ‘hat’ to represent an estimator has become standard notation. In general, detection probability has to be considered and this simple estimator is unsatisfactory, but we defer this discussion to the next chapter.”*
- *“Parameter Estimate: When an estimator is applied to a specific data set, the resulting numerical value is a parameter estimate. The ‘hat’ notation is also used to denote an estimate. For example, if ten units were surveyed and six were occupied by the conspicuous species (the data) then applying the above estimator our estimate would be $\hat{\psi}=0.6$. Im”*

Now that we have a way to model, using the Generalized Linear Model with the link logit function, based on (MacKenzie 2018, 101-107) we want to figure out which survey questions, or combination of survey questions, that makes up the Big 5 personality traits (Goldberg 1992), we can consider predictors for falling into the Status Quo cognitive trap.

For this we just tried out different combinations, using personal judgement, while searching for significant findings and testing combinations of them in order to find the model that best predicts the probability of falling into the Status Quo trap. For this we looked for a drop in AIC, where Rstudio documentation helps us with the statement that *“When comparing models fitted by maximum likelihood to the same data, the smaller the AIC or BIC, the better the fit.”* This should help us to narrow down the model to the best predictors. MacKenzie (2018, 102) provides the explanation that: *“AIC encourages parsimonious models; models that explain the variation in the data well, with Fundamental Principles of Statistical Inference Chapter | 3103 as few parameters as possible. We hasten to add that the derivation of AIC was based on sound theoretical work, and the simplistic nature of the calculation is fortuitous. The absolute magnitude of AIC is not very relevant, but the differences in AIC among different models are*

the focus of model selection.”. In this process we additionally used the “anova()” function in Rstudio, specifying for Chi Square test, which according to MacKenzie (2018, 101) in the context of inferential statistics and likelihood distributions is “*An old, common, and simple goodness of fit test*”, to look for drops in deviance as well. Finally after trying and testing, we had a significant model that consisted of what we think are the best predictors for the probability of falling into the Status Quo trap. Finally we ran the “pR2” function in R studio to calculate the McFadden pseudo R2, in order to assess the model fit, looking for a higher value, where 0,2-0,4 would indicate an excellent model fit according to McFadden(1979).

Survey

We found it to be suitable to use surveys in collecting our data, because it allows us to distribute it online, in order to gather data in a way that is convenient and time saving, resulting in more data than we could collect in person, and possible enough data to do statistical analysis on. In addition, surveys allow us to avoid personal biases that we may bring, for example by leading on the subject we gather data from or simply influencing their personality by our mere presence. It also allows us to let the subjects respond to the survey and to the Status Quo trap, anonymously. This should reduce any stress that would inflate the subjects chances of falling into cognitive traps. Surveys are also in line with our positivist research philosophy and in line with previous research practices, as it has been used to investigate the Status Quo trap, for example (Kahneman, Knetsch and Thaler 1991).

We designed a survey based on the Status Quo cognitive trap devised by (Hammond, Keeney and Raiffa 1999, 193), but we simplified the trap to be easier to understand across different languages and for people without deep knowledge in finance. We formulated the question like this: “Imagine that you inherit 100 shares in a company, that you would never have bought yourself, what will you do?”, with options to keep the shares, sell the shares and make a decision later.

Then we included a full 50 question questionnaire to map the Big five personality traits borrowed from <https://openpsychometrics.org/tests/IPIP-BFFM/> , which refer to (Goldberg 1992, 26-42). And to achieve consistency with previous research, we used the personality assessment questions without modification.

We then distributed the survey, using SurveyMonkey.com (2020), and personally contacting people, trying to get responses from project managers especially.

Respondents

We are all born humans, and we may therefore expect that we have the same biology, although differences in neuro chemistry results in different temperament (Fisher et al. 2010), and consequently different personalities (Fisher et al. 2015). Based on this, we reason that we can collect data from anyone at random in order to explore a relationship between personality and cognitive traps. But what if a selected sub population is different? What if people who are used to facing new decisions are different from other people? If they are different, there must be other things that govern if people fall into cognitive traps than personality. So in order to explore this in detail, it makes sense to explore at least one subpopulation of humanity. In addition we want to produce knowledge that can be used by practitioners. So in order to guide us in our exploration and narrow down our scope with clear boundaries we chose to try to investigate the cognitive traps in terms of project managers. They strike us as suitable, because a project is “*A temporary endeavor undertaken to create a unique product, service, or result.*” according to Richardson and Jackson (2018, 3), who also highlight that companies often use projects to transition between states. We therefore imagine that they face the complex and unknown, which indicates that they make decisions that are new in nature, possible without established decision processes or experience with outcome. In addition we have a basis in literature that can help us conclude, because Merrow and Nandurdikar (2018 ch1) points out the personality traits that can be considered successfactors for project managers.

Sample size

Burns & Bush (2013, 73) claims that “*Often, small, nonrepresentative, samples are used in exploratory research.*”. This is true for our exploration as well, because we don’t know the total population of project managers in the world. Nor do we expect that project managers will be very eager to respond to our survey, so we have to sample for convenience, with the strategy of gathering all the respondents we could. According to (Burns and Bush 2013, 238), our sample is therefore not representative. This is however ok for an exploration (Burns and Bush 2013, 73). We did, however, employ certain measures to ensure validity and reliability of our sample, such as:

- We only collected from people we had a personal direct or indirect relationship to, who therefore should be inclined to answer seriously. For example to colleagues and friends as well as connections on the LinkedIn professional network. We did not employ surveymonkey’s data collection service, where you can buy responses.
- We employed the same practice as Openpsychometrics.org, to include a Question at the end, asking the respondent to confirm that they had answered the survey to the best of their ability so that the response can be used in research. We reason that even if someone could lie on that question as well, we know that many people are reluctant to lie on a direct question. Therefore, this question will eliminate some, if not all invalid responses, due to respondents not taking the survey seriously.
- We did not promise any rewards, and only asked people to fill out the survey as a favor, in order to avoid people clicking through it at random to get the reward.

We hope that these measures have provided us with a trustworthy data set, which we favor over the possible noise we could be exposed to by gathering data en masse.

Still we worked hard and tried to get a sample size of 200 because the increase of accuracy you get from each respondent to a survey is quite steep, but starts to have diminishing returns after around 200 and there is almost no increase in accuracy for respondents after around 400. This dynamic is also confirmed

and described by Burns & Bush (2013, 240). Our actual accuracy will be reported under sample in the findings chapter.

Personality model and cognitive trap

For our research we choose the Big 5 Personality traits model, measured by the Big-Five Factor Markers from the International Personality Item Pool, developed by (Goldberg 1992), found at openpsychometrics.org (2020). This makes it possible to Quantitatively measure personality so it can be explored in relation to a cognitive trap. Our second reason is that we want to avoid any bias we might have, especially since we lack the competence to decide on people's personality based on interviews or observations, compared to a practitioner or researcher whose main field is psychology. Our third and main reason is that we want our research to provide findings that can be logically compatible with previous research. For such compatibility, the Big 5 personality traits model stands out, because it has been employed vastly. And Merrow and Nandurdikar (2018, ch1) have already provided us with knowledge about the personality of project managers in terms of the Big 5 model. We therefore chose the Big 5 model, despite the possibility that other models might be better predictors. Fisher's Temperament Inventory (Fisher et al. 2015) could for example be a better predictor because it logically links personality to physiology and subsequently to neuroeconomics and behavioral economics. For our cognitive trap we choose the Status Quo trap, because it is easily formulated into a survey as well, and more importantly, because we can't find any

Software & tools

For the statistical analysis in this study, we find the statistical programming language R to be suitable. R is chosen because:

- The programming language is perceived as more user friendly for the author of this study compared to SPSS for example. The reason is that the author has a computer science background.
- R is flexible and more powerful, meaning we will have access to libraries (programming context). This means that we may add functionality we may or may not need. As opposed to solutions like SPSS where functionality is set.
- R can be utilized to import and format our data, and we may manipulate our tables in any way imaginable, without touching it ourselves. This should take care of the risk that we may corrupt the data with missclicks or other accidents.
- We program in R, using the R Studio IDE, available from <https://rstudio.com/>, which has a focus on reproducible science, that is in line with our research philosophy.

For data collection in this study we find an online survey, distributed with the help of <https://www.surveymonkey.com/> to be suitable. SurveyMonkey is chosen because it is a good balance between the budget of the author and trustworthiness of data collection. The only cheaper option the author could find was Google forms, where it is difficult to maintain good quality data because it's so easily accessible.

Challenges

- Read a vast amount of literature, in such detail that we understand it, in order to gain the knowledge needed to establish an initial model of how the connection between personality and cognitive traps affect project managers.
- Construct a survey that identifies personality and in addition question the respondents in such a way that some of the respondents will fall into a cognitive trap.
- Gathering an appropriate amount of surveys. Especially since the survey might become quite large, as the personality part will be around 50 questions alone.
- Personality is not static, this complicates research but it also opens up the possibility to change personality in order to address cognitive traps.
- Personality is situational (Corr, Philip J., and Gerald Matthews 2009 p83), meaning that both project managers and other people might have different personalities, depending if they are in a project management setting. We can easily imagine that the work environment and what people the project managers are together with in the team might affect the personality of the project manager.

Limitations

In order to fit the scope of this research within our thesis, and to address some of the challenges we must employ a set of limitations, which we choose below:

- This research will be limited to one personality type model that is trait based. We choose the The big 5, because we want to comply with existing research that have considered this model to be solid, despite the existence of Fishers Temperament Inventory, which could be a more accurate model because of its link to physiology and subsequently to neuroeconomics and behavioral economics (Fisher et al. 2015).
- This research will be limited to the Big 5 personality traits, in the sense that we will not explore the 10 personality aspects of DeYoung, Carey and Krueger (2016)
- This research will be limited to a selection of the most common cognitive traps in decision making, namely Anchoring trap, The status quo trap, Sunk cost trap, Confirming evidence trap, Framing trap, The estimating and forecasting traps and the The recallability trap (Hammond, John S., Ralph L. Keeney, and Howard Raiffa,1998). The topic would otherwise be way too big for a master thesis.
- This research will only consider the project manager as an individual, not the team, which would bring group biases into the topic. This is also done in order to narrow down the topic to a manageable size.
- This research will not try to delve into how people change personality depending on the situation. The main reason for this is to narrow the scope and we reason that it is not important to know how personality changes between situations in order to investigate our research question, because if we know how personality affects cognitive traps, the knowledge is enough for practitioners who may want to try change personality in themselves in others, in order to address cognitive traps.
- We are limited in our research to conduct surveys, because it is otherwise difficult to get extensive access to project managers in the oil and gas industry for experiments or interviews. There is also a very short time window for our empirical part and survey is effective.
- Within the scope of this thesis, we will not be able to create a complete theoretical model regarding how cognitive traps relate to the personality traits of project managers. We only aim to initiate a model to gain the understanding needed for our empirical research to make sense.
- While we plan to measure the personality, according to a well established assessment method, devised in previous research, we are not going to say anything about differences in personality between project managers and other people. Mainly because we lack the competence of a psychologist, that is needed to interpret the statistics, secondly to limit and focus the scope.
- It is possible that the Status Quo trap is situational, especially if it relates to personality because personality is situational (Corr, Philip J., and Gerald Matthews., 2009 p83). We will not discuss the situational dynamics in this thesis, but we make sure to measure personality and if people fall into the Status Quo trap at the same time.
- We employed a convenience sample method, which means we do research on a non representative sample according to (Burns and Bush 2013, 238). This is however ok for an exploration (Burns and Bush 2013, 73).
- We found no significant difference between project managers and others regarding the likelihood of falling into the Status Quo trap. We therefore base our research on the assumption that the dynamics that make people fall into the Status Quo trap, is the same for project managers as others.

- We will not investigate personality differences between project managers and others, because we don't have the competence of a psychologist to help us interpret the statistics.
- We can't consider ourselves exempt from common biases, but we try to handle them in the best possible way. When reviewing literature we tried to gather data primarily from books so that we have the additional safety net of an author and a publisher reviewing the information before we use it.
- Survey will mainly consist of people in the authors professional network, so the data might become biased towards Russian and Norwegian culture, more than others.
- Survey will mainly consist of people in the authors professional network, so the data might be biased towards people in the oil and gas industry. This is however ok as we are contextualizing to the project managers in the oil and gas industry based on Merrow and Nandurdikar (2018).

Findings

Data

Sample

After gathering the data we had 192 responses. We exported the data from SurveyMonkey.com (2020) as an .xlsx then cleaned it by excluding all responses where the respondent didn't complete the questionnaire or didn't answer a clear "yes" on the question: "Did you answer this survey honestly, to the best of your abilities, so that the information can be used in research?" This left us with 142 responses total, distributed like this:

Project managers:

- Project directors: 6
- People who previously have been project managers: 21
- Current project managers: 25

Random people:

- People who are not project managers: 86
- Others: 4

Then, to make it ready to import into Rstudio, we confirmed that there are no values lacking, so even if a certain response option does not occur in the dataset, it only means that all the respondents answered something else and we formatted it by:

1. Removing unnecessary columns.
2. Removing Whitespaces and special characters from headers.
3. Copying the table from spreadsheet into a text file resulting in a tab separated table.

Finally we calculated and report margin of error for 142 respondents for our binomial Status Quo trap variable based on (Burns and Bush 2013, 242):

$$\mp \text{Margin of sample error} = 1.96 \times \sqrt{(2500 \div 142)} = \mp 8,22\%$$

Variables

We imported the data in Rstudio and arranged variables for our analyses.

1. A binary variable telling if people are project managers or not.
2. A binary variable telling if people fell into the Status Quo trap
3. 50 categorical variables containing responses to the questions used to assess the Big 5 personality traits
4. 5 Multinomial variables, range 10-50, showing the Big 5 personality trait scores

Are project managers different?

We briefly investigated if there is any difference between project managers and other people in regards to the likelihood of falling into the Status Quo trap. We reason that if there is no difference, we may expand our dataset to include all people in order to discover significant findings in the main research about the relationship between personality traits of project managers and the likelihood of falling into the Status Quo trap in decision making.

We observe that project managers respond:

- Keep the shares: 18
- Make a decision later: 19
- Sell the shares to re-invest somewhere else right now: 15

We also observe that others respond:

- Keep the shares: 34
- Make a decision later: 32
- Sell the shares to re-invest somewhere else right now: 24

Quick calculation shows that 28,85% of project managers avoid the trap while 26,67% of others avoid the trap. This difference is so small that it does not make sense to analyse it statistically. Just a couple of more respondents could alter the difference to favor others instead of Project managers. Yet we must accept the fact that the small number of respondents, only 52 project managers, does not allow for finding small differences if they exist. There is also the possibility that highly experienced project managers who are successful in complex projects, as described by Merrow, Edward W and Neeraj Nandurdikar (2018 ch1), are different from the average project manager regarding personality traits, that we won't attempt to investigate in this study because we lack the competence of a psychologist to interpret the statistics. In addition, personality is situational (Corr and Matthews 2009, 83) and therefore people might behave differently in a project management situation.

We reason that, for the purpose of this exploration, it is reasonable to assume that project managers and others are samples from the same population in our data set, because they can contribute to finding relationships between the Big 5 personality traits and the status quo trap. A practicality we need for our exploration, backed up by Burns and Bush (2013, 73) "*It is informal in that there is no formal set of objectives, sample plan, or questionnaire. Often, small, nonrepresentative, samples are used in exploratory research.*", but we must also acknowledge that we don't have any significant observation or statistical calculation, that can prove that there is, or isn't, any difference between project managers and others regarding the likelihood of falling into the Status Quo trap, which we include in our limitations.

Replicating the Status quo

We briefly try to replicate the Status Quo trap in this part, in order to figure out if our data set is suitable for research on the relationship between personality traits of project managers and the Status Quo trap in decision making. Briefly means that we don't crosscheck with a secondary dataset gathered by using a similar survey, but with the trap option omitted from the Status Quo question. Nor did we consider a separate research method or philosophy that possibly could be more suitable for replicating the Status Quo trap. Looking at the data from all respondents, including both project managers and people who are not, we observe that 39 of 142, or 27% of people avoided falling into the cognitive trap.

Responses were distributed like this:

- Keep the shares: 52
- Make a decision later: 51
- Sell the shares to reinvest somewhere else right now: 39

Testing for H0 vs H1, we binomial test against a 50%/50% distribution, to see if people significantly avoid selling the shares. We reason that any response, other than selling the shares, translates to having fallen into the Status Quo trap.

Code line and result from R studio H0 vs H1:

```
> binom.test(103, 142, p=(1/2), conf.level = 0.95)

Exact binomial test

data: 103 and 142
number of successes = 103, number of trials = 142, p-value = 7.57e-08
alternative hypothesis: true probability of success is not equal to 0.5
95 percent confidence interval:
 0.6442016 0.7968492
sample estimates:
probability of success
 0.7253521
```

We find a clear bias towards keeping the shares, with a 95% confidence interval, so we reject H0 and assume that H1 is true. That people are falling into the Status Quo trap.

But, some may say that respondents might have been guessing and that the probability should be one in three, not fifty fifty, so for informal reasons we test the H0 vs H1 again, but this time we test against a distribution of $\frac{2}{3}$ of respondents not falling into the trap, as it would be the distribution if they were simply guessing, without making a decision.

Code line and result from R studio H1 vs H2:

```
> binom.test(103, 142, p=(2/3), conf.level = 0.80)

Exact binomial test

data: 103 and 142
number of successes = 103, number of trials = 142, p-value = 0.1543
alternative hypothesis: true probability of success is not equal to 0.6666667
80 percent confidence interval:
 0.6716123 0.7742084
sample estimates:
probability of success
 0.7253521
```

We fail to reject the possibility that people are guessing.

Summary:

We observe that only 39 out of 142 respondents sold the shares, which through testing, is a significant bias with a 95% confidence interval, assuming that people are making a sentient decision. We also note that the distribution between keeping the shares and postponing the decision is 52 vs 51, which is obviously not a significant difference between those two choices. But testing further, we fail to reject the possibility that people are simply guessing, yet we are able to achieve a positive result at 80% confidence interval against a 2/3 likelihood of falling into the Status Quo trap. Unfortunately it's difficult to get a narrower confidence interval with so few respondents when considering the nature of the test we employed. Playing a bit with numbers, we see that we would have to multiply our dataset by 4 to get anything significant, which is an unreasonable scope for this thesis, especially since we need our data to be gathered from trustworthy sources.

Therefore we reason that, for the purpose of this thesis, we have a satisfactory replication of the Status Quo trap. Because we think it is reasonable to assume that people are trying to make sentient decisions when responding to the question that includes the Status Quo trap.

The connection between Big 5 personality traits and Status quo trap

Since we didn't find any difference between project managers and others, regarding the likelihood of falling into the Status Quo trap, we decided to include all respondents when trying to discover relations between the Status Quo trap and personality.

First we investigated the full range of personality traits, to see if we can find anything significant directly.

Code line and result from R studio:

```
> summary(glm( survey$trapNumeric ~
+             survey$extraversion +
+             survey$agreeableness +
+             survey$conscientiousnes +
+             survey$emotionalstability +
+             survey$intellectimagination ,
+             family = binomial(link = "logit")))

Call:
glm(formula = survey$trapNumeric ~ survey$extraversion + survey$agreeableness +
    survey$conscientiousnes + survey$emotionalstability + survey$intellectimagination,
    family = binomial(link = "logit"))

Deviance Residuals:
    Min       1Q   Median       3Q      Max
-1.7747  -1.3176   0.8409   0.9576   1.2223

Coefficients:
                Estimate Std. Error z value Pr(>|z|)
(Intercept)         1.77956    2.29060   0.777   0.437
survey$extraversion  -0.01712    0.03581  -0.478   0.633
survey$agreeableness -0.04920    0.04604  -1.069   0.285
survey$conscientiousnes -0.02845    0.04229  -0.673   0.501
survey$emotionalstability  0.03367    0.03389   0.994   0.320
survey$intellectimagination 0.02995    0.03950   0.758   0.448

(Dispersion parameter for binomial family taken to be 1)

    Null deviance: 186.56  on 141  degrees of freedom
Residual deviance: 183.11  on 136  degrees of freedom
AIC: 195.11

Number of Fisher Scoring iterations: 4
```

As shown, it fails to produce any significant findings. But we can still find something when investigating the variables containing the questions, so we proceed to do so. In order to avoid a mess we only picked out the variables we found to be significant and combined them in a model below.

Code line and result from R studio:

```
Call:
glm(formula = survey$trapNumeric ~ survey$Iamalwaysprepared +
  survey$Ihavedifficultyunderstandingabstractideas + survey$Iusedifficultwords +
  survey$Ispendtimereflectingonthings, family = binomial(link = "logit"))

Deviance Residuals:
    Min       1Q   Median       3Q      Max
-2.2632  -1.0264   0.4077   0.8941   1.5360

Coefficients:
(Intercept)
survey$IamalwayspreparedDisagree
survey$IamalwayspreparedNeither agree nor disagree
survey$IamalwayspreparedStrongly agree
survey$IhavedifficultyunderstandingabstractideasDisagree
survey$IhavedifficultyunderstandingabstractideasNeither agree nor disagree
survey$IhavedifficultyunderstandingabstractideasStrongly agree
survey$IhavedifficultyunderstandingabstractideasStrongly disagree
survey$IusedifficultwordsDisagree
survey$IusedifficultwordsNeither agree nor disagree
survey$IusedifficultwordsStrongly agree
survey$IusedifficultwordsStrongly disagree
survey$IspendtimereflectingonthingsDisagree
survey$IspendtimereflectingonthingsNeither agree nor disagree
survey$IspendtimereflectingonthingsStrongly agree

Estimate Std. Error z value Pr(>|z|)
-0.46693  0.64190  -0.727  0.46697
 1.72713  1.12126  1.540  0.12348
-0.33440  0.43940  -0.761  0.44663
-2.30801  1.10933  -2.081  0.03748 *
 0.16958  0.61575   0.275  0.78301
 0.56730  0.74340   0.763  0.44539
-0.34538  1.51199  -0.228  0.81931
 1.22047  0.88218   1.383  0.16652
 0.39832  0.49873   0.799  0.42449
 1.00929  0.54636   1.847  0.06471 .
-0.02865  0.78695  -0.036  0.97096
-0.82130  1.71310  -0.479  0.63164
 0.26561  0.50919   0.522  0.60193
 1.77271  0.71044   2.495  0.01259 *
 2.47567  0.95149   2.602  0.00927 **

---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 186.56  on 141  degrees of freedom
Residual deviance: 153.04  on 127  degrees of freedom
AIC: 183.04
```

We can see that some significance is lost, leaving us with a significant P value on two variables.

Conscientiousness related questions:

- Those who “*strongly agree*” with always being prepared

Openness to new experience, or sometimes called Intellect/Imagination related questions

- Those who “*neither agree nor disagree*” that they reflect on things
- Those who “*strongly agree*” that they reflect on things

We did several interesting observations on this model.

1. The variable, with the response about difficulty to understand abstract ideas, lost its significance when combined with other variables. Indicating in the model above, that the other variables explain the probability of falling into the Status Quo trap better. Still we must also note that the variable belongs to the Openness to new experience domain, where we have several significant findings.
2. The variable, with the responses about using difficult words, also loses its significance. With this variable we also register that it belongs to the Openness to new experience domain.
3. We have a significant finding in the Conscientiousness domain
4. We have a significant finding in the Openness to new experience domain
5. The GLM with logit link function, treats the answer possibilities as categorical variables, consequently not influencing the value of the estimate. In other words, it is only we that know the order of the agreement levels. Still we observe that the “estimate”, within the significant variables about being prepared and about reflecting on things, are falling or rising in orderly

fashion according to agreement levels. In case of the question about reflecting on things, we additionally observe that the significance also increases in this orderly fashion. This observation is very interesting because it hints about an orderly, while not necessarily linear relationship, with the personality trait domain that we are exploring. It also hints about people making real decisions regarding the status Quo trap, rather than guessing, validating the trustworthiness of our data/survey responses.

6. Likewise, within the variable that contains the responses on “difficulty understanding abstract ideas”, we see that there is no order in “estimate” according to agreement level, raising doubt about its influence on our Status Quo trap. Even if there is a relationship where both extremes are the same, when it's computed into a personality trait score, this variable will counteract itself and rather draw the probability of falling into the Status Quo trap towards 0,5.

Based on what independent variables might be significant, we tried to find “the best” model, by trying different sets, to find the best predictors. We did it by looking for a drop in AIC when comparing the models to each other and ended up with the options below.

Code line and result from R studio:

```
Файл Правка Формат Вид Справка
> model <- glm(survey$trapNumeric ~
+             survey$Ispendtimereflectingonthings ,
+             family = binomial(link = "logit"))
>
> summary(model)

Call:
glm(formula = survey$trapNumeric ~ survey$Ispendtimereflectingonthings,
     family = binomial(link = "logit"))

Deviance Residuals:
    Min       1Q   Median       3Q      Max
-2.0963  -1.2557   0.5415   1.1010   1.1436

Coefficients:
                                Estimate Std. Error z value Pr(>|z|)
(Intercept)                   0.1823    0.2289   0.797   0.4257
survey$IspendtimereflectingonthingsDisagree -0.1023    0.4611  -0.222   0.8245
survey$IspendtimereflectingonthingsNeither agree nor disagree 1.6635    0.6621   2.513   0.0120 *
survey$IspendtimereflectingonthingsStrongly agree 1.8971    0.7841   2.419   0.0155 *
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 186.56 on 141 degrees of freedom
Residual deviance: 170.81 on 138 degrees of freedom
AIC: 178.81

Number of Fisher Scoring iterations: 4

> anova(model, test = "Chisq")
Analysis of Deviance Table

Model: binomial, link: logit

Response: survey$trapNumeric

Terms added sequentially (first to last)

              Df Deviance Resid. Df Resid. Dev Pr(>Chi)
NULL                               141    186.56
survey$Ispendtimereflectingonthings  3    15.752    138    170.81 0.001275 **
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
> pR2(model)
fitting null model for pseudo-r2
      llh      llhNull      G2      McFadden      r2ML      r2CU
-85.40411977 -93.27989848 15.75155743 0.08443168 0.10499544 0.14359260 |
```

We see that the variable that contains the question about “reflecting on things” is very significant on its own according to anova, and contains two significant answer options. Yet the McFadden is quite low, far from the 0,2-0,4 range that would indicate an excellent model fit. Therefore we have incentive to look for a model containing more variables. For tidiness sake, we won't include all the comparison outputs in

this paper, as it is quite lengthy and non substantial, but we show the best model. It was the best based on the criterias of:

- Had a drop in AIC
- Had the highest McFadden
- Had only significant variables

The best model, Code line and result from R studio:

```

> model <- glm(survey$trapNumeric ~
+             survey$Iamalwaysprepared +
+             survey$Ispendtimereflectingonthings ,
+             family = binomial(link = "logit"))
>
> summary(model)

Call:
glm(formula = survey$trapNumeric ~ survey$Iamalwaysprepared +
     survey$Ispendtimereflectingonthings, family = binomial(link = "logit"))

Deviance Residuals:
    Min       1Q   Median       3Q      Max
-2.2883  -1.1853   0.4971   1.1082   1.2138

Coefficients:
                    Estimate Std. Error z value Pr(>|z|)
(Intercept)          0.1651     0.2785   0.593  0.55332
survey$IamalwayspreparedDisagree
                    1.8636     1.0933   1.705  0.08829 .
survey$IamalwayspreparedNeither agree nor disagree
                   -0.2503     0.4137  -0.605  0.54515
survey$IamalwayspreparedStrongly agree
                   -1.7183     0.9661  -1.779  0.07531 .
survey$IspendtimereflectingonthingsDisagree
                    0.1379     0.4786   0.288  0.77317
survey$IspendtimereflectingonthingsNeither agree nor disagree
                    1.7184     0.6762   2.541  0.01105 *
survey$IspendtimereflectingonthingsStrongly agree
                    2.3773     0.8908   2.669  0.00762 **
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 186.56 on 141 degrees of freedom
Residual deviance: 161.67 on 135 degrees of freedom
AIC: 175.67

Number of Fisher Scoring iterations: 5

> anova(model, test = "Chisq")
Analysis of Deviance Table

Model: binomial, link: logit
Response: survey$trapNumeric

Terms added sequentially (first to last)

              Df Deviance Resid. Df Resid. Dev  Pr(>Chi)
NULL                               141    186.56
survey$Iamalwaysprepared             3    17.4275    138    179.13 0.0594509 .
survey$Ispendtimereflectingonthings  3    17.4601    135    161.67 0.0005683 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
> pR2(model)
fitting null model for pseudo-r2
      1lh      1lhNull      G2      McFadden      r2ML      r2CU
-80.8361189 -93.2798985 24.8875592  0.1334026  0.1607650  0.2198635

```

A quick calculation on our model to figure out how many cognitive trap observations are explained by the model, (residual deviance/null deviance = $161.67/186.56 = 0,87$), shows that approximately 87% of our observations can be explained by the model. Although the variable containing the question for always being prepared does not reach 95% confidence, we also register that the estimate is arranged orderly according to agreement level, which increases our suspicion that this variable contributes when trying to predict falling into the Status Quo Trap, especially since the variable containing the question about reflecting on things, seems to predict falling into the status quo trap so strongly that it overshadows being prepared. We also argue that, the orderly arrangement of estimate for the probability of falling into the Status Quo trap, according to agreement levels in the responses, which have the probability of happening by chance, based on the 3 types of responses, $(1/3)*(1/2) = \frac{1}{6}$ or 0,167, brings the probability of both significance value and order of estimate to happen by chance to 0.01 approximately. Which provides us with two survey questions, (predictors), within 95% confidence, thereby allowing us to avoid, what we otherwise suspected to be a type 2 error.

Finally we look at the estimates, where we register that the likelihood of falling into the Status Quo trap falls with increasing agreement with “being prepared”, while rising with increasing agreement with “reflecting on things”. Meaning that the more you agree to reflect on things, the more prone you are to the Status Quo trap (Openness to new experience trait), and the more you agree to being prepared (conscientiousness trait), the less prone you are to the Status Quo trap.

Summary:

During our analysis, we found that, when evaluated separately, several independent variables containing questions from the “openness to new experience” domain indicated significance, which might immediately strike us as obvious, because it lies in the definition that if you are not “open to new things”, you are prone to the Status Quo. But, when we look at the estimates for falling into the Status Quo trap, we see that the more people agree to “I spend time reflecting on things”, the more prone they are to the Status Quo trap. This strikes us as being quite radical, because the question is used to measure the “openness to new experience” trait positively, but at the same time increases the likelihood of falling into the Status Quo trap. Which is the opposite of what we might expect. Moreover, its significance and influence seems to be a better predictor than all other questions in the survey.

We also found a significant question in the domain of conscientiousness. The variable was not significant on its own, but we chose to report it because it is very close to the 95% confidence interval, and calculating the probability for the estimates being arranged orderly according to agreement levels brings it within 95% confidence.

Finally we reason that we didn't find any significant relationships between the Status Quo trap and the Big 5 Personality traits, but there is a significant relationship to the combination of two questions within the survey used to measure the traits. One being within Conscientiousness and one being within the Openness to new experience. Consequently there must be some casualty in the relationship between the Status Quo trap and personality, and it is fair to say that people who have a personality that agree to the statement that they “spend time reflecting on things”, have a significantly higher likelihood of falling into the Status Quo trap.

Conclusion

The connection between the Big 5 personality traits and cognitive traps

In literature, we find some research that links cognitive traps to personality, for example that high agreeableness and high conscientiousness increase the susceptibility to anchoring effects (Gamliel, Eyal, Ada H. Zohar, and Hamutal Kreiner 2013). Looking for an explanation in current literature, we understand that our brain is influenced by underlying neuro chemistry, such as the concept of neurotransmitters, explained in the field of physiology, that we will not attempt to elaborate more on here. This neurochemistry has also been quantitatively connected to personality. First in the paper “Four Primary Temperament Dimensions Based on Neurochemistry.” (Fisher et al. 2010), and then later, through temperament, to the Big 5 personality traits in the paper “Four broad temperament dimensions: description, convergent validation correlations, and comparison with the Big Five” (Fisher et al. 2015). Then in the field of Neuroeconomics they study how our brains work, in the process of decision making (Ogaki, Masao and Tanaka 2018 p23), for example how risk seeking behaviour connects to neurotransmitters (Glimcher, Paul W., & Ernst Fehr 2014 ch9). Neuroeconomics is then later mentioned to provide important insights to Behaviour Economics (Ariely 2010), which factors, such as, psychology, sociology, anthropology, neurology, and other disciplines, in order to demonstrate the difference between economically rational decision making, which is maximizing utility, and actual economic decision making according to Ogaki, Masao & Tanaka (2018). We reasoned that if we can trust the chain that we discovered in literature, we should be able to take any cognitive trap and find a quantitative connection to the Big 5 personality traits. The physiological explanation, along with our own quantitative study where we picked the Status Quo cognitive trap and demonstrated that we can indeed find a significant relationship with the Big 5 personality traits. Leads us to conclude that there is a connection between the Big 5 personality traits and cognitive traps. In addition, there are some direct quantitative findings between personality and other cognitive traps in literature, which supports this.

Effects of cognitive traps on project managers

Bear in mind that this is an exploration, therefore our conclusion should not be interpreted as factual as a more meticulous explanatory study. Our study of the Status Quo cognitive trap in particular, needs replication. The topic of “the connection between cognitive traps and personality” is also lacking in empirical research regarding specific cognitive traps. In other words, we don’t have the complete picture yet. Still, based on contemporary literature we can start to paint a picture.

Merrow, Edward W., and Neeraj Nandurdikar. (2018) claimed that the successful project managers of highly complex projects in the oil and gas industry have certain personality traits that can be considered success factors. So we sum up the effects of cognitive traps on “successful project managers in highly complex projects” (Merrow, Edward W., and Neeraj Nandurdikar. 2018), based on their Big 5 Personality traits. And in our research, we reviewed literature, checking the validity of previous research and mapping it to those personality traits. We also included the relation between personality and the Status Quo trap that we discovered in our own quantitative research.

Emotionally stable with neuroticism around mean, which implicates that they are:

- Less likely to be stressed and consequently less risk seeking (Ariely 2010, 89-100).
- Less likely to be stressed and consequently falling into cognitive traps due to automatic decision making (Glimcher and Fehr 2014, 221).

Highly conscientious, which implicates that they are:

- More susceptible to anchoring traps (Eroglu and Croxton 2010).
- More susceptible to sunk cost traps, when they also are highly agreeable (Fujino et al. 2016)
- More susceptible to framing traps (Gamliel, Zohar and Kreiner 2013)
- Less susceptible to the Status Quo trap. (Based on our own quantitative research, but this effect seems to be overshadowed by the effect from high openness)

Highly agreeable, makes people feel at ease, which implicates that they are:

- Making people around them less likely to be stressed and consequently less risk seeking (Ariely 2010, 89-100).
- Making people around them less likely to be stressed and consequently fall into cognitive traps due to automatic decision making (Glimcher and Fehr 2014, 221).
- More susceptible to framing traps in social justice situations (Gamliel, Zohar and Kreiner 2013)

Unusually high openness.

- More susceptible to the Status Quo cognitive trap. (based on our own quantitative research)

From this we deduct that successful project managers of highly complex projects in the oil and gas industry are more susceptible to, if not all, at least some cognitive traps than people who has different other personality traits, but at the same time they have a personality trait, high agreeableness, that reduce stress in themselves and people around them, given that we interpret the work of Merrow and Nandurdikar (2018) correctly, which makes everyone in the project team less likely to fall into fall into cognitive traps due to automatic decision making (Glimcher and Fehr 2014, 221). But, we found in our research that the more you “reflect on things”, the more you are prone to the Status Quo cognitive trap, which indicates, non conclusively, that reduction in automatic thinking might not be an universal measure against all cognitive traps. We also reason that different cognitive traps might require different ways to be addressed, but since the personality traits of successful project managers of highly complex

projects in the oil and gas industry, according to Merrow and Nandurdikar (2018), makes them more prone to cognitive traps, it indicates, non conclusively, that it is probably a mistake to try to get rid of cognitive traps completely. Maybe evolution equipped us with a certain type of decision making, deviating from classical economic theory, in order to give us the ability to make decisions regarding complex matters with incomplete information.

Still, based on the literature and our research, so far, we conclude that:

“With increasingly complex projects, the project managers should have an increasingly human personality (Merrow and Nandurdikar 2018). And based on our exploration, we conclude that the personality traits that are considered successfactors for project managers of highly complex projects, according to Merrow and Nandurdikar (2018), make them more prone to the selection of hidden traps in decision making, that were highlighted by (Hammond, Keeney and Raiffa 1998), and again highlighted at Stratplanning.com by Peimer (2014).”

How to avoid the Status Quo trap

It is very easy to imagine that if you score high in the Big 5 Personality trait “openness to new experience”, you will be more accepting of change. When it comes to the Status Quo cognitive trap, we have proven in this research that it's the opposite. We discovered that one of the 10 sub questions, used to assess that trait, where people increasingly agree to “I spend time reflecting on things”, is the strongest predictor of falling into the Status Quo trap. It is also a stronger predictor than any of the 50 questions used to assess the Big 5 personality traits, although we also found that people who agree to “I am always prepared”, which is in the conscientiousness trait, is a predictor for not falling into the Status Quo trap. And while being open minded might be a good way to avoid other traps such as Anchoring traps (Hammond, Keeney and Raiffa 1998), we think that it will be counter productive when trying to address the Status Quo. Maybe because the more reflective you are, the greater are the imagined horrors that come with change. We don't really know, and we will not try to explain it in this research.

In Harvard business review, Hammond, Keeney and Raiffa (1998) suggested ways to deal with the Status Quo trap. We will not dispute the effectiveness of their suggestions, but we will instead suggest something more simple that can be added or be used as an alternative. We suggest that in order to avoid the Status Quo cognitive traps, to some degree, for the purpose of keeping your company and your projects moving forward, without postponing important decisions until it is too late, you should:

- Plan for when to make your decisions and prepare yourself for making them

And we suggest implementing it into organizational culture as one of your expected behaviours, for example by using methods provided by Kuppler et al. (2014). If the practice could become “automatic”, it might counter situations where very “visible” cost to change, in the form of acquiring extra resources or changing plans and taking risks, influence you to avoid the decision until it is too late. We think this is doable because organizational culture is a part of personality (O'Reilly et al. 2014).

Theoretical contribution

We contributed to the body of knowledge in the areas of Behaviour economics, Neural economics, Physiology and Psychology by connecting the Big 5 personality traits to cognitive traps, through identifying an explanation in literature, a link that can be described as a chain from cognitive traps in Behaviour economics (Ariely 2010, 89-100) linking to Neural economics (Glimcher and Fehr 2014, 221), to temperament (Fisher et al. 2010) and finally to the Big 5 personality traits (Fisher et al. 2015). We further validated this link, by conducting our quantitative research on the connection between personality and the Status Quo trap, consequently adding validity to all the authors mentioned in this link, as well as adding validity to the Big 5 personality trait model (Goldberg 1992).

We contributed to the body of knowledge in Behavioral economics methodology by demonstrating that it is possible to initiate a research project based on an assumption that there likely are significant relationships between cognitive traps and the Big 5 personality traits. This contribution makes it possible for other students to initiate more meticulous quantitative research on connection between cognitive traps and the Big 5 personality traits, or a qualitative study to figure out the best ways to use personality measurement in management, for example by investigating the link through organizational culture highlighted by O'Reilly et al. (2014).

We contributed to the body of knowledge in Behavioral economics methodology by demonstrating a way to use inferential statistics to analyse the relationships between cognitive traps and personality, we especially point out the specific detail, of checking if estimates align according to agreement level for the specific questions in the Big 5 Personality assessment survey. If that cross validation fails, it would imply that there is no connection to that particular question.

We contributed to the body of knowledge in Behaviour economics by exploring the Status Quo cognitive trap, and filling part of the research gap in the mapping between personality traits and cognitive traps.

We contributed to the body of knowledge in Project management by identifying that the personality traits that are successfactors for project managers of highly complex projects (Merrow and Nandurdikar 2018) makes them more prone to cognitive traps. This hints about a possible explanation, that cognitive traps, while deviating from classical economic theory (Ogaki, Masao and Tanaka 2018), actually can be the rational decision making when addressing the complex and unknown. A subject for debate and further research.

Practical contribution

We contribute to the knowledge of recruiters who use personality measures in their hiring processes, that when they select certain personalities, they influence the susceptibility of their employees to certain cognitive traps, one way or the other. We must also mention that the prospect of using personality tests for hiring seems to be of limited use, because personality, at least we know that the way we measure it in The big 5, is not stable (Corr and Matthews 2009, 83), and it includes many factors that are dynamic (Corr and Matthews 2009, 83). Some of these factors that we ourselves are responsible for managing through our organizational culture. A better way could be to measure temperament instead (Fisher et al. 2010). Temperament is a factor of personality that is more or less stable through life, that we can build upon when we cultivate our organizational culture. Still, with all measuring methods designed around a self assessment survey, you have the problem that a person who fill out a personality test for a job application could be biased in their responses, for example by the situation they are in (Corr and Matthews 2009, 83), but this could also be desirable, because you would like to measure the personality in a “professional” setting, “the mask people wear at work”, in other words.

We contribute to the knowledge of managers in general by demonstrating causality between cognitive traps and personality, which means that it is within reason to use the Big 5 personality traits measure to investigate what cognitive traps your organization is prone to.

We contribute to the knowledge of strategists by suggesting that personality measurement can be used in the process of changing organisational culture, in order to adjust susceptibility to certain cognitive traps. Both because culture is a part of personality (O'Reilly et al. 2014) and because specific things within the personality measurement with relations to cognitive traps can be targeted. For example in our case where we pinpointed which survey responses had a significant relation with the Status Quo cognitive trap.

We contribute to the knowledge of project managers by suggesting a way to avoid the Status Quo trap. Specifically we suggest to Plan for when to make your decisions and prepare yourself for making them. This suggestion is possible to use for other managers as well, because the personality traits that are successfactors for project managers, are quite similar to personality traits associated with good leadership (Morrow and Nandurdikar 2018,).

Limitations

In order to fit the scope of this research within our thesis, and to address some of the challenges we must employ a set of limitations, which we choose below:

- The observed difference between project managers and other people regarding the probability of falling into the status Quo trap, was so small that just a couple of more survey respondents could change the difference to favor the other way. Therefore we assume that the dynamics in which personality interacts with cognitive traps are the same for project managers as for other humans.
- This research will be limited to The big 5, because we want to comply with existing research that have considered this model to be solid, despite the existence of Fishers Temperament Inventory, which could be a more accurate model because of its link to physiology and subsequently to neuroeconomics and behavioral economics (Fisher et al. 2015).
- This research will be limited to a selection of the most common cognitive traps in decision making, namely Anchoring trap, The status quo trap, Sunk cost trap, Confirming evidence trap, Framing trap, The estimating and forecasting traps and the The recallability trap (Hammond, John S., Ralph L. Keeney, and Howard Raiffa,1998).
- This research will only consider the project manager as an individual, not the team, which would bring group biases into the topic.
- This research will not try to delve into how people change personality depending on the situation. The main reason for this is to narrow the scope and we reason that it is not important to know how personality changes between situations in order to investigate our research question, because if we know how personality affects cognitive traps, the knowledge is enough for practitioners.
- We are limited in our research to conduct surveys, because it is otherwise difficult to get extensive access to project managers in the oil and gas industry for experiments or interviews. There is also a very short time window for our empirical part and survey is effective.
- Within the scope of this thesis, we will not be able to create a complete theoretical model regarding how cognitive traps relate to the personality traits of project managers. We only aim to initiate a model to gain the understanding needed for our quantitative research to make sense.
- We are not going to say anything about differences in personality between project managers and other people. Mainly because we lack the competence of a psychologist, that is needed to interpret the statistics.
- It is possible that the Status Quo trap is situational, especially if it relates to personality because personality is situational (Corr, Philip J., and Gerald Matthews., 2009 p83). We will not discuss the situational dynamics in this thesis, but we handle this in our data collection by measuring personality and if people fall into the Status Quo trap in the same survey, making sure that they make their decision on the status Quo question at the same time and therefore hopefully in the same situation as their personality is measured.
- We can't consider ourselves exempt from common biases, but we try to handle them in the best possible way. When reviewing literature we tried to gather data primarily from books so that we have the additional safety net of an author and a publisher reviewing the information before we use it.
- Survey will mainly consist of people in the authors professional network, so the data might become biased towards Russian and Norwegian culture, more than others.
- Survey will mainly consist of people in the authors professional network, so the data might be biased towards people in the oil and gas industry. This is however ok as we are contextualizing to the project managers in the oil and gas industry.

Suggestion for further research

During our research we demonstrated how the relations between the Status Quo trap (Hammond, Keeney and Raiffa 1999, 193) and the Big 5 personality traits (Goldberg 1992) can be statistically analyzed. Behaviour economists may conduct a bigger, more conclusive, study based on the statistical methods we provided. Especially the way we interpret the output to see if the estimates for the probability of falling into the Status Quo trap, based on a response to a survey question, is arranged orderly according to agreement levels, in rising and falling fashion, for the likert scale used to assess the Big 5 personality traits (Goldberg 1992). Such a study could replicate our findings as well as investigate many other cognitive traps.

We discovered that there is indeed a connection between personality and cognitive traps, and that it derives from physiology. Both Ariely (2010, 89-100) and Glimcher and Fehr (2014, 221) mention ways that human decision making is linked to neurotransmitters and Fisher et al. (2010, 2015) has already mapped the Big 5 personality traits to neurochemistry. This opens up the possibility to study many cognitive traps, and infer information on their relations to specific neurotransmitters, in a way that only requires a survey. This could be valuable for Neuroeconomist studies, because they can cross validate their findings. But it could also provide knowledge about how cognitive traps relate to each other, maybe they can be grouped according to neurotransmitters, just like Fisher et al. (2010, 2015) grouped certain personality traits to certain neurotransmitters. Such a grouping could imply that some cognitive traps are in reality the same, just with different formulations, and consequently change our perception and definition of those traps.

Our study also raises some, more diffuse, questions for future explorations. Firstly, are cognitive traps connected with culture, since culture is a part of personality? And if so, is there a link between cognitive traps and culture that is independent of the physiological explanation? And finally, since we found that the connection between cognitive traps and personality makes successful project managers more prone to cognitive traps, Does this imply that human decision making, developed by evolution, in terms of Neuroeconomics (Glimcher and Fehr 2014), is superior to classical, utility based economics, when trying to achieve certain goals. I might seem so since these project managers (Morrow and Nandurdikar 2018) “survived long enough in business“ to become successful.

References

1	Ariely, D. "FAQ." Last modified July 20, 2015. http://danariely.com/all-about-dan/faq/ .
2	Ariely, Dan. Predictably Irrational, Revised and Expanded Edition: The Hidden Forces That Shape Our Decisions. New York: HarperCollins, 2010.
3	Boyle, Gregory J., Donald H. Saklofske, and Gerald Matthews. Measures of Personality and Social Psychological Constructs. Cambridge: Academic Press, 2014.
4	Brown, Lucy L., Bianca Acevedo, and Helen E. Fisher. "Neural Correlates of Four Broad Temperament Dimensions: Testing Predictions for a Novel Construct of Personality." PLoS ONE 8, no. 11 (2013), e78734. doi:10.1371/journal.pone.0078734.
5	Burns, Alvin, C., and Ronald Bush F. Marketing Research, 2013.
6	Caputo, Andrea. "Relevant information, personality traits and anchoring effect." International Journal of Management and Decision Making 13, no. 1 (2014), 62. doi:10.1504/ijmdm.2014.058470.
7	Chin, Richard Y., and Bruce Y. Lee. Principles and Practice of Clinical Trial Medicine. Amsterdam: Elsevier/Academic Press, 2008.
8	Corr, Philip J., and Gerald Matthews. The Cambridge Handbook of Personality Psychology. Cambridge University Press, 2009.
9	DeYoung, C. G., Carey, B. E., Krueger, R. F., & Ross, S. R. (2016). Ten aspects of the Big Five in the Personality Inventory for DSM–5. Personality Disorders: Theory, Research, and Treatment, 7(2), 113-123. doi:10.1037/per0000170
10	Eroglu, Cuneyt, and Keely L. Croxton. "Biases in judgmental adjustments of statistical forecasts: The role of individual differences." International Journal of Forecasting 26, no. 1 (2010), 116-133. doi:10.1016/j.ijforecast.2009.02.005.
11	Fisher, H. E., J. Rich, H. D. Island, L. Marchalik, R. Silver, and D. Zava. "Four Primary Temperament Dimensions Based on Neurochemistry." PsycEXTRA Dataset, 2010. doi:10.1037/e516112012-001.
12	Fisher, H. E., Island, H. D., Rich, J., Marchalik, D., & Brown, L. L. (2015). Four broad temperament dimensions: description, convergent validation correlations, and comparison with the Big Five. Frontiers in Psychology, 6. doi:10.3389/fpsyg.2015.01098
13	Fujino, Junya, Shinsuke Fujimoto, Fumitoshi Kodaka, Colin F. Camerer, Ryosaku Kawada, Kosuke Tsurumi, Shisei Tei, et al. "Neural mechanisms and personality correlates of the sunk cost effect." Scientific Reports 6, no. 1 (2016). doi:10.1038/srep33171.
14	Gamliel, Eyal, Ada H. Zohar, and Hamutal Kreiner. "Personality Traits Moderate Attribute Framing Effects." Social Psychological and Personality Science 5, no. 5 (2013): 584–92. https://doi.org/10.1177/1948550613516874 .

15	Gignac, Gilles E. "Openness to experience, general intelligence and crystallized intelligence: A methodological extension." <i>Intelligence</i> 33, no. 2 (2005), 161-167. doi:10.1016/j.intell.2004.11.001.
16	Glimcher, Paul W., and Ernst Fehr. <i>Neuroeconomics: Decision Making and the Brain</i> , 2nd ed. Cambridge: Academic Press, 2014.
17	Goldberg, Lewis R. "The Development of Markers for the Big-Five Factor Structure." <i>Psychological Assessment</i> 4, no. 1 (1992): 26–42. https://doi.org/10.1037/1042-1611.4.1.26 .
18	Hammond, John S., Ralph L. Keeney, and Howard Raiffa. <i>Smart Choices: A Practical Guide to Making Better Decisions</i> . Brighton: Harvard Business Press, 1999.
19	Hammond, John S., Ralph L. Keeney, and Howard Raiffa. "The Hidden Traps in Decision Making." <i>Harvard Business Review</i> 76, no. 5 (September–October 1998): 47–+.
20	Harms, P.D., and Marcus Credé. "Remaining Issues in Emotional Intelligence Research: Construct Overlap, Method Artifacts, and Lack of Incremental Validity." <i>Industrial and Organizational Psychology</i> 3, no. 02 (2010), 154-158. doi:10.1111/j.1754-9434.2010.01217.x.
21	Kahneman, Daniel, Jack L Knetsch, and Richard H Thaler. "Anomalies: The Endowment Effect, Loss Aversion, and Status Quo Bias." <i>Journal of Economic Perspectives</i> 5, no. 1 (1991): 193–206. https://doi.org/10.1257/jep.5.1.193 .
22	Kuppler, Tim, et al. <i>Build the Culture Advantage: Deliver Sustainable Performance with Clarity and Speed</i> . The Culture Advantage, LLC, 2014.
23	Lee, Nicholas. <i>Doing Business Research: a Guide to Theory and Practice</i> . 2008.
24	MacKenzie, Darryl I. <i>Occupancy Estimation and Modeling: Inferring Patterns and Dynamics of Species Occurrence</i> . London: Academic Press, 2018.
25	McCrae, Robert R., and Paul T. Costa. "A contemplated revision of the NEO Five-Factor Inventory." <i>Personality and Individual Differences</i> 36, no. 3 (2004), 587-596. doi:10.1016/s0191-8869(03)00118-1.
26	McElroy, T. & Dowd, K. (2007). Susceptibility to anchoring effects: How openness-to-experience influences responses to anchoring cues. <i>Judgment and Decision Making</i> , 2(1): 48-53. (Feb 2007) Published by the Society for Judgment and Decision Making (ISSN: 1930-2975).
27	McFadden D (1979). Quantitative methods for analysing travel behavior of individuals: Some recent developments. In D. A. Hensher & P. R. Stopher (Eds.), <i>Behavioural travel modelling</i> (pp. 279-318). London: Croom Helm.
28	Merrow, Edward W., and Neeraj Nandurdikar. <i>Leading Complex Projects: A Data-Driven Approach to Mastering the Human Side of Project Management</i> . Hoboken: John Wiley & Sons, 2018.
29	O'Reilly, Charles A., David F. Caldwell, Jennifer A. Chatman, and Bernadette Doerr. "The Promise and Problems of Organizational Culture." <i>Group & Organization Management</i> 39, no. 6 (2014): 595–625. https://doi.org/10.1177/1059601114550713 .
30	Ogaki, Masao, and Saori C. Tanaka. <i>Behavioral Economics: Toward a New Economics by Integration with Traditional Economics</i> . Basingstoke: Springer, 2018.

31	Peimer, Sid. "The 7 Traps in Decision Making, and How to Avoid Them ..." Stratplanning.com, 2014. https://www.stratplanning.com/the-7-traps-in-decision-making-and-how-to-avoid-them/ .
32	Razavian, Maryam, Oktay Turetken, and Irene Vanderfeesten. "When Cognitive Biases Lead to Business Process Management Issues." Business Process Management Workshops Lecture Notes in Business Information Processing, 2017, 147–56. https://doi.org/10.1007/978-3-319-58457-7_11 .
33	Richardson, Gary L. "Project Management Theory and Practice," 2018. https://doi.org/10.1201/9780429464140 .
34	Rothmann, S., and E. P. Coetzer. "The Big Five Personality Dimensions and Job Performance." SA Journal of Industrial Psychology 29, no. 1 (2003). https://doi.org/10.4102/sajip.v29i1.88 .
35	Big Five Personality Test. Accessed June 3, 2020. https://openpsychometrics.org/tests/IPIP-BFFM/ .
36	"RStudio: Open Source & Professional Software for Data Science Teams." RStudio, PBC, 13 Apr. 2020, rstudio.com/ .
37	SurveyMonkey.com. 2020. SurveyMonkey: The World's Most Popular Free Online Survey Tool. [online] Available at: < https://www.surveymonkey.com/?ut_source=footer > [Accessed 3 June 2020].

Appendix:

We include all the R code as well as all the data for anyone with such interest to explore. We also give permission to freely use both the code and the data. Which can be imported into R studio with “copy paste”.

Source code:

```
#####  
#####          Master thesis 2020          #####  
##### The connection between cognitive traps and personality type. #####  
##### An exploration of its effects for decision making for project managers. #####  
#####          by Ove M Henriksen          #####  
#####  
  
# Annoying stuff to remember:  
# setwd("D:/Cyborgmuppet/Documents/Masterthesis/Rwork")  
# Sys.setenv(LANG = "en")  
  
# Libraries  
#install.packages("pscl", lib="D:/Cyborgmuppet/Documents/Masterthesis/backup/Rwork")  
#install.packages("pwr", lib="D:/Cyborgmuppet/Documents/Masterthesis/backup/Rwork")  
library(pscl, lib.loc = "D:/Cyborgmuppet/Documents/Masterthesis/backup/Rwork")  
library(pwr, lib.loc = "D:/Cyborgmuppet/Documents/Masterthesis/backup/Rwork")  
  
# loading data and setting up a dataframe for all  
survey <- read.table("MT2020dataCleanTxt.txt",header = TRUE, sep = "\t", stringsAsFactors = FALSE)  
  
#####  
#####          Scoring          #####  
##### Questions from https://ipip.ori.org/new_ipip-50-item-scale.htm #####  
##### Scoring based on https://ipip.ori.org/newScoringInstructions.htm #####  
##### Once the numbers are aquired for all the iterm, sum to get the score #####  
##### Survey scoring          ##### Points depending on item key + # - #####  
##### (1) Extraversion          ##### Strongly agree          5 # 1 #####  
##### (2) Agreeableness          ##### Agree          4 # 2 #####  
##### (3) Conscientiousnes          ##### Neither agree nor disagree          3 # 3 #####  
##### (4) Emotional Stability          ##### Disagree          2 # 4 #####
```

```
##### (5) Intellect/Imagination ##### Strongly disagree      1 # 5 #####
#####
```

```
# translating score
score <- function(agreementlevel, binverted) {
  if(agreementlevel == "Strongly agree")
    if(binverted == FALSE)
      return(5) else return(1)
  if(agreementlevel == "Agree")
    if(binverted == FALSE)
      return(4) else return(2)
  if(agreementlevel == "Neither agree nor disagree")
    if(binverted == FALSE)
      return(3) else return(3)
  if(agreementlevel == "Disagree")
    if(binverted == FALSE)
      return(2) else return(4)
  if(agreementlevel == "Strongly disagree")
    if(binverted == FALSE)
      return(1) else return(5)
  else {
    #Error hints
    print("Error, invalid agreement level")
    print(agreementlevel)
    print(binverted)
  }
  return()
}
```

```
# Adding extraversion to the dataframe
calculate_extraversion <- function(survey) {
  for(i in 1:nrow(survey)){
    s= 0

    # Am the life of the party (1+)
    s= s + score(survey$Iamthelifeoftheparty[i], FALSE)
    # Don't talk a lot (1-)
    s= s + score(survey$Idonttalkalot[i], TRUE)
    # Feel comfortable around people (1+)
```

```

s= s + score(survey$Ifeelcomfortablearoundpeople[i], FALSE)
# Keep in the background (1-)
s= s + score(survey$Ikeepinthebackground[i], TRUE)
# Start conversations (1+)
s= s + score(survey$Istartconversations[i], FALSE)
# Have little to say (1-)
s= s + score(survey$Ihavelittletosay[i], TRUE)
# Don't like to draw attention to myself (1-)
s= s + score(survey$Idontliketodrawattentiontomysself[i], TRUE)
# Talk to a lot of different people at parties (1+)
s= s + score(survey$Italktoalotofdifferentpeopleatparties[i], FALSE)
# Am quiet around strangers (1-)
s= s + score(survey$Iamquietaroundstrangers[i], TRUE)
# Don't mind being the center of attention (1+)
s= s + score(survey$Idontmindbeingthecenterofattention[i], FALSE)

survey$extraversion[i]= s
}
return(survey)
}
survey= calculate_extraversion(survey)

# Adding Agreeableness to the dataframe
calculate_agreeableness <- function(survey) {
  for(i in 1:nrow(survey)){
    s= 0

    # Feel little concern for others (2-)
    s= s + score(survey$Ifeellittleconcernforothers[i], TRUE)
    # Am interested in people (2+)
    s= s + score(survey$Iaminterestedinpeople[i], FALSE)
    # Insult people (2-)
    s= s + score(survey$Iinsultpeople[i], TRUE)
    # Sympathize with others' feelings (2+)
    s= s + score(survey$Isympathizewithothersfeelings[i], FALSE)
    # Am not interested in other people's problems (2-)
    s= s + score(survey$Iamnotinterestedinotherpeoplesproblems[i], TRUE)
    # Have a soft heart (2+)
    s= s + score(survey$Ihaveasoftheart[i], FALSE)

```

```

# Am not really interested in others (2-)
s= s + score(survey$Iamnotreallyinterestedinothers[i], TRUE)
# Take time out for others (2+)
s= s + score(survey$Itaketimeoutforothers[i], FALSE)
# Feel others' emotions (2+)
s= s + score(survey$Ifeelothersemotions[i], FALSE)
# Make people feel at ease (2+)
s= s + score(survey$Imakepeoplefeelaease[i], FALSE)

survey$agreeableness[i]= s
}
return(survey)
}
survey= calculate_agreeableness(survey)

```

```

# Adding Conscientiousnes to the dataframe
calculate_conscientiousnes <- function(survey) {
  for(i in 1:nrow(survey)){
    s= 0

    # Am always prepared (3+)
    s= s + score(survey$Iamalwaysprepared[i], FALSE)
    # Leave my belongings around (3-)
    s= s + score(survey$Ileavemybelongingsaround[i], TRUE)
    # Pay attention to details (3+)
    s= s + score(survey$Ipayattentiontodetails[i], FALSE)
    # Make a mess of things (3-)
    s= s + score(survey$Imakeamessofthings[i], TRUE)
    # Get chores done right away (3+)
    s= s + score(survey$Igetchoresdonerightaway[i], FALSE)
    # Often forget to put things back in their proper place (3-)
    s= s + score(survey$Ioftenforgettoputthingsbackintheirproperplace[i], TRUE)
    # Like order (3+)
    s= s + score(survey$Ilikeorder[i], FALSE)
    # Shirk my duties (3-)
    s= s + score(survey$Ishirkmyduties[i], TRUE)
    # Follow a schedule (3+)
    s= s + score(survey$Ifollowaschedule[i], FALSE)

```

```

# Am exacting in my work (3+)
s= s + score(survey$Iamexactinginmywork[i], FALSE)

survey$conscientiousnes[i]= s
}
return(survey)
}
survey= calculate_conscientiousnes(survey)

# Adding Emotional Stability to the dataframe
calculate_emotionalstability <- function(survey) {
  for(i in 1:nrow(survey)){
    s= 0

    # Get stressed out easily (4-)
    s= s + score(survey$Igetstressedouteasily[i], TRUE)
    # Am relaxed most of the time (4+)
    s= s + score(survey$Iamrelaxedmostofthetime[i], FALSE)
    # Worry about things (4-)
    s= s + score(survey$Iworryaboutthings[i], TRUE)
    # Seldom feel blue (4+)
    s= s + score(survey$I seldomfeelblue[i], FALSE)
    # Am easily disturbed (4-)
    s= s + score(survey$Iameasilydisturbed[i], TRUE)
    # Get upset easily (4-)
    s= s + score(survey$Igetupseteasily[i], TRUE)
    # Change my mood a lot (4-)
    s= s + score(survey$Ichangemymoodalot[i], TRUE)
    # Have frequent mood swings (4-)
    s= s + score(survey$Ihavefrequentmoodswings[i], TRUE)
    # Get irritated easily (4-)
    s= s + score(survey$Igetirritatedeasily[i], TRUE)
    # Often feel blue (4-)
    s= s + score(survey$Ioftenfeelblue[i], TRUE)

    survey$emotionalstability[i]= s
  }
  return(survey)
}

```

```

survey= calculate_emotionalstability(survey)

# Adding Intellect/Imagination to the dataframe
calculate_intellectimagination <- function(survey) {
  for(i in 1:nrow(survey)){
    s= 0

    # Have a rich vocabulary (5+)
    s= s + score(survey$Ihavearichvocabulary[i], FALSE)
    # Have difficulty understanding abstract ideas (5-)
    s= s + score(survey$Ihavedifficultyunderstandingabstractideas[i], TRUE)
    # Have a vivid imagination (5+)
    s= s + score(survey$Ihaveavividimagination[i], FALSE)
    # Am not interested in abstract ideas (5-)
    s= s + score(survey$Iamnotinterestedinabstractideas[i], TRUE)
    # Have excellent ideas (5+)
    s= s + score(survey$Ihaveexcellentideas[i], FALSE)
    # Do not have a good imagination (5-)
    s= s + score(survey$Idonothaveagoodimagination[i], TRUE)
    # Am quick to understand things (5+)
    s= s + score(survey$Iamquicktounderstandthings[i], FALSE)
    # Use difficult words (5+)
    s= s + score(survey$Iusedifficultwords[i], FALSE)
    # Spend time reflecting on things (5+)
    s= s + score(survey$Ispendtimereflectingonthings[i], FALSE)
    # Am full of ideas (5+)
    s= s + score(survey$Iamfullofideas[i], FALSE)

    survey$intellectimagination[i]= s
  }
  return(survey)
}
survey= calculate_intellectimagination(survey)

# Making a trap numeric factor
trapToNumeric <- function(survey) {
  for(i in 1:nrow(survey)) {
    # fell into the trap?
    if(survey$trap[i] == "Keep the shares."){

```

```

        survey$trapNumeric[i]= 0
    }
    else{
        survey$trapNumeric[i]= 1
    }
}
return(survey)
}
survey= trapToNumeric(survey)

```

Making a project manager numeric factor

```

projectmanagerToNumeric <- function(survey) {
  for(i in 1:nrow(survey)) {
    # Is a project manager?
    if(survey$projectmanager[i] == "No." | survey$projectmanager[i] == "Other (please specify)") {
      survey$pmNumeric[i]= 0
    }
    else {
      survey$pmNumeric[i]= 1
    }
  }
  return(survey)
}
survey= projectmanagerToNumeric(survey)

```

Setting up a dataframe for project managers

```

surveyPM= survey
surveyPM= subset(surveyPM, projectmanager != "No.")
surveyPM= subset(surveyPM, projectmanager != "Other (please specify)")

```

setting up a dataframe for non project managers

```

surveyNPM= survey
surveyNPM= subset(surveyNPM, projectmanager != "Yes.")
surveyNPM= subset(surveyNPM, projectmanager != "I have previously been a project manager.")
surveyNPM= subset(surveyNPM, projectmanager != "I am a project director.")

```

```
#####
#####
#####          Part 1          #####
#####          Can we replicate the Status Quo trap?          #####
#####
```

```
#          Answer possibilities          #
# Avoiding the trap: Sell the shares to re-invest somewhere else right now.
# Falling into the trap: Make a decision later.
# Falling into the trap: Keep the shares.
```

```
# Survey results, trap responses for all
print(table(survey$trap))
```

```
# Binominal testing, using H0: p = 2/3 for falling into the cognitive trap,
```

```
#95% sure people avoid selling the shares, thereby falling into the trap
binom.test(103, 142, p=(1/2), conf.level = 0.95)
```

```
# 80% confident that people fall into the trap, if we cant exclude that people are just guessing
binom.test(103, 142, p=(2/3), conf.level = 0.80)
```

```
#####
#####
#####          Part 2          #####
#####          Is the likelihood of falling into the Status Quo cognitive trap          #####
#####          significantly different between project Managers and others?          #####
#####
```

```
# H0 = Project managers are not different from other people in regards of falling into the Status Quo trap
# H1 = Project managers are significantly different from others in regards to falling into the Status Quo trap
```

```
# We observe that Project managers are falling into the cognitive trap with the same distribution as others
```

```

print(table(surveyPM$strap))
print(table(surveyNPM$strap))

# We fail to reject H0, so we have no reason to assume there is any difference
summary(glm(survey$strapNumeric ~ survey$pmNumeric, family = binomial(link = "logit")))

#####
#####
#####          Part 3          #####
##### Can the likelihood of falling into the cognitive trap be explained by a spesiffic #####
##### or spesiffic combination of personality traits?          #####
#####
#####

# No significant findings at the level of Personality traits.
summary(glm( survey$strapNumeric ~
  survey$extraversion +
  survey$agreeableness +
  survey$conscientiousnes +
  survey$emotionalstability +
  survey$intellectimagination ,
  family = binomial(link = "logit")))

# exploring questions for Extraversion

# Am the life of the party (1+)
summary(glm(survey$strapNumeric ~ survey$Iamthelifeoftheparty, family = binomial(link = "logit")))
# Don't talk a lot (1-)
summary(glm(survey$strapNumeric ~ survey$I donttalkalot, family = binomial(link = "logit")))
# Feel comfortable around people (1+)
summary(glm(survey$strapNumeric ~ survey$Ifeelcomfortablearoundpeople, family = binomial(link =
"logit")))
# Keep in the background (1-)
summary(glm(survey$strapNumeric ~ survey$Ikeepinthebackground, family = binomial(link = "logit")))
# Start conversations (1+)

```

```

summary(glm(survey$strapNumeric ~ survey$Istartconversations, family = binomial(link = "logit")))
# Have little to say (1-)
summary(glm(survey$strapNumeric ~ survey$Ihavelittletosay, family = binomial(link = "logit")))
# Don't like to draw attention to myself (1-)
summary(glm(survey$strapNumeric ~ survey$Idontliketodrawattentiontomysself, family = binomial(link = "logit")))
# Talk to a lot of different people at parties (1+)
summary(glm(survey$strapNumeric ~ survey$Italktoalotofdifferentpeopleatparties, family = binomial(link = "logit")))
# Am quiet around strangers (1-)
summary(glm(survey$strapNumeric ~ survey$Iamquietaroundstrangers, family = binomial(link = "logit")))
# Don't mind being the center of attention (1+)
summary(glm(survey$strapNumeric ~ survey$Idontmindbeingthecenterofattention, family = binomial(link = "logit")))

# exploring questions for Agreeableness

# Feel little concern for others (2-)
summary(glm(survey$strapNumeric ~ survey$Ifeellittleconcernforothers, family = binomial(link = "logit")))
# Am interested in people (2+)
summary(glm(survey$strapNumeric ~ survey$Iaminterestedinpeople, family = binomial(link = "logit")))
# Insult people (2-)
summary(glm(survey$strapNumeric ~ survey$Iinsultpeople, family = binomial(link = "logit")))
# Sympathize with others' feelings (2+)
summary(glm(survey$strapNumeric ~ survey$I sympathizewithothersfeelings, family = binomial(link = "logit")))
# Am not interested in other people's problems (2-)
summary(glm(survey$strapNumeric ~ survey$Iamnotinterestedinotherpeoplesproblems, family = binomial(link = "logit")))
# Have a soft heart (2+)
summary(glm(survey$strapNumeric ~ survey$Ihaveasoftheart, family = binomial(link = "logit")))
# Am not really interested in others (2-)
summary(glm(survey$strapNumeric ~ survey$Iamnotreallyinterestedinothers, family = binomial(link = "logit")))
# Take time out for others (2+)
summary(glm(survey$strapNumeric ~ survey$I taketimeoutforothers, family = binomial(link = "logit")))
# Feel others' emotions (2+)

```

```
summary(glm(survey$strapNumeric ~ survey$Ifeelothersemotions, family = binomial(link = "logit")))
# Make people feel at ease (2+)
summary(glm(survey$strapNumeric ~ survey$Imakepeoplefeelitease, family = binomial(link = "logit")))
```

```
# exploring questions for Conscientiousnes
```

```
# Am always prepared (3+)
summary(glm(survey$strapNumeric ~ survey$Iamalwaysprepared, family = binomial(link = "logit")))
# Leave my belongings around (3-)
summary(glm(survey$strapNumeric ~ survey$Ileavemybelongingsaround, family = binomial(link =
"logit")))
# Pay attention to details (3+)
summary(glm(survey$strapNumeric ~ survey$Ipayattentiontodetails, family = binomial(link = "logit")))
# Make a mess of things (3-)
summary(glm(survey$strapNumeric ~ survey$Imakeamessofthings, family = binomial(link = "logit")))
# Get chores done right away (3+)
summary(glm(survey$strapNumeric ~ survey$Igetchoresdonerightaway, family = binomial(link =
"logit")))
# Often forget to put things back in their proper place (3-)
summary(glm(survey$strapNumeric ~ survey$Ioftenforgettoputtingthingsbackintheirproperplace, family =
binomial(link = "logit")))
# Like order (3+)
summary(glm(survey$strapNumeric ~ survey$Ilikeorder, family = binomial(link = "logit")))
# Shirk my duties (3-)
summary(glm(survey$strapNumeric ~ survey$Ishirkmyduties, family = binomial(link = "logit")))
# Follow a schedule (3+)
summary(glm(survey$strapNumeric ~ survey$Ifollowaschedule, family = binomial(link = "logit")))
# Am exacting in my work (3+)
summary(glm(survey$strapNumeric ~ survey$Iamexactinginmywork, family = binomial(link = "logit")))
```

```
#exploring questions for Emotional Stability
```

```
# Get stressed out easily (4-)
summary(glm(survey$strapNumeric ~ survey$Igetstressedouteasily, family = binomial(link = "logit")))
# Am relaxed most of the time (4+)
```

```

summary(glm(survey$strapNumeric ~ survey$Iamrelaxedmostofthetime, family = binomial(link =
"logit")))
# Worry about things (4-)
summary(glm(survey$strapNumeric ~ survey$Iworryaboutthings, family = binomial(link = "logit")))
# Seldom feel blue (4+)
summary(glm(survey$strapNumeric ~ survey$I seldomfeelblue, family = binomial(link = "logit")))
# Am easily disturbed (4-)
summary(glm(survey$strapNumeric ~ survey$Iameasilydisturbed, family = binomial(link = "logit")))
# Get upset easily (4-)
summary(glm(survey$strapNumeric ~ survey$Igetupseteasily, family = binomial(link = "logit")))
# Change my mood a lot (4-)
summary(glm(survey$strapNumeric ~ survey$Ichangemymoodalot, family = binomial(link = "logit")))
# Have frequent mood swings (4-)
summary(glm(survey$strapNumeric ~ survey$Ihavefrequentmoodswings, family = binomial(link =
"logit")))
# Get irritated easily (4-)
summary(glm(survey$strapNumeric ~ survey$Igetirritatedeasily, family = binomial(link = "logit")))
# Often feel blue (4-)
summary(glm(survey$strapNumeric ~ survey$Ioftenfeelblue, family = binomial(link = "logit")))

```

```

# exploring questions for Intellect/Imagination

```

```

# Have a rich vocabulary (5+)
summary(glm(survey$strapNumeric ~ survey$Ihavearichvocabulary, family = binomial(link = "logit")))
# Have difficulty understanding abstract ideas (5-)
summary(glm(survey$strapNumeric ~ survey$Ihavedifficultyunderstandingabstractideas, family =
binomial(link = "logit")))
# Have a vivid imagination (5+)
summary(glm(survey$strapNumeric ~ survey$Ihaveavividimagination, family = binomial(link =
"logit")))
# Am not interested in abstract ideas (5-)
summary(glm(survey$strapNumeric ~ survey$Iamnotinterestedinabstractideas, family = binomial(link =
"logit")))
# Have excellent ideas (5+)
summary(glm(survey$strapNumeric ~ survey$Ihaveexcellentideas, family = binomial(link = "logit")))
# Do not have a good imagination (5-)
summary(glm(survey$strapNumeric ~ survey$I donothaveagoodimagination, family = binomial(link =
"logit")))

```

```

# Am quick to understand things (5+)
summary(glm(survey$trapNumeric ~ survey$Iamquicktounderstandthings, family = binomial(link =
"logit")))
# Use difficult words (5+)
summary(glm(survey$trapNumeric ~ survey$Iusedifficultwords, family = binomial(link = "logit")))
# Spend time reflecting on things (5+)
summary(glm(survey$trapNumeric ~ survey$Ispendtimereflectingonthings, family = binomial(link =
"logit")))
# Am full of ideas (5+)
summary(glm(survey$trapNumeric ~ survey$Iamfullofideas, family = binomial(link = "logit")))

```

Combined variables from Openess to new experiences. This reports the highest McFadden

```

model = glm(survey$trapNumeric ~
  survey$Ihavearichvocabulary +
  survey$Ihavedifficultyunderstandingabstractideas +
  survey$Ihaveavividimagination +
  survey$Iamnotinterestedinabstractideas +
  survey$Ihaveexcellenteideas +
  survey$Idonothaveagoodimagination +
  survey$Iamquicktounderstandthings +
  survey$Iusedifficultwords +
  survey$Ispendtimereflectingonthings +
  survey$Iamfullofideas ,
  family = binomial(link = "logit"))

```

```

summary(model)
anova(model, test = "Chisq")
pR2(model)

```

Combined variables from Openess to new experiences, but some removed

```

#model = glm(survey$trapNumeric ~
#  survey$Ihavearichvocabulary +
#  survey$Ihavedifficultyunderstandingabstractideas +
#  survey$Ihaveexcellenteideas +
#  survey$Iusedifficultwords +
#  survey$Ispendtimereflectingonthings +

```

```

# survey$Iamfullofideas ,
# family = binomial(link = "logit"))
#summary(model)
#anova(model, test = "Chisq")
#pR2(model)

```

Combined variables from Openess to new experiences, some other removed

```

#model = glm(survey$trapNumeric ~
# survey$Ihaveexcellentideas +
# survey$Iusedifficultwords +
# survey$Ispendtimereflectingonthings ,
# family = binomial(link = "logit"))
#summary(model)
#anova(model, test = "Chisq")
#pR2(model)

```

Combined variables from Openess to new experiences, some other removed, added concientiousness

In this model the excellent ideas and use difficult words variable lost significance and spend time

reflecting on things significance increased in the anova. We register that the significant finding in use difficult words

was "neither agree, nor disagree" which is an answer option that people who reflect on things might be biased towards.

we have no definitive proof of this, but we also register that the estimate within the answer options, although not significant

seems a bit random, Without order according to agreementlevel.

I have excellent ideas lost its significance completely, so even we might have a type 2 error,

we accept that we dont have the confidence to include it in our final model.

```

model = glm(survey$trapNumeric ~
survey$Iamalwaysprepared +
survey$Ihaveexcellentideas +
survey$Iusedifficultwords +
survey$Ispendtimereflectingonthings ,
family = binomial(link = "logit"))

```

```
summary(model)
```

```
anova(model, test = "Chisq")
```

```
pR2(model)
```

```
# Single model, to illustrate how strongly reflecting on things predicts the Status Quo trap.  
# since this model has very low mcfadden we have strong incentive to look for other variables
```

```
model <- glm(survey$strapNumeric ~  
            survey$Ispendtimereflectingonthings ,  
            family = binomial(link = "logit"))
```

```
summary(model)  
anova(model, test = "Chisq")  
pR2(model)
```

```
# Dual model, choosing difficult words. The variable about difficult words loose significance completely.
```

```
model <- glm(survey$strapNumeric ~  
            survey$Iusedifficultwords +  
            survey$Ispendtimereflectingonthings ,  
            family = binomial(link = "logit"))
```

```
summary(model)  
anova(model, test = "Chisq")  
pR2(model)
```

```
# Dual model, choosing having excellent ideas. The variable loose significance completely.
```

```
model <- glm(survey$strapNumeric ~  
            survey$Ihaveexcellenteideas +  
            survey$Ispendtimereflectingonthings ,  
            family = binomial(link = "logit"))
```

```
summary(model)  
anova(model, test = "Chisq")  
pR2(model)
```

```
# Dual model, omitting reflecting on things, including excellent ideas nothing significant
```

```
model <- glm(survey$strapNumeric ~  
            survey$Ihaveexcellenteideas +  
            survey$Iamalwaysprepared ,  
            family = binomial(link = "logit"))
```

```
summary(model)  
anova(model, test = "Chisq")
```

```
pR2(model)
```

```
# Dual model, omitting reflecting on things, including using difficult words. Then difficult words becomes more significant.
```

```
model <- glm(survey$strapNumeric ~  
            survey$Iusedifficultwords +  
            survey$Iamalwaysprepared ,  
            family = binomial(link = "logit"))
```

```
summary(model)
```

```
anova(model, test = "Chisq")
```

```
pR2(model)
```

```
# Trippel model
```

```
# We see that within usingdifficultwords, the estimate is not orderly,
```

```
# and only one response is significant, also always prepared loose significance
```

```
# the anova also tells us that the variable isnt significant combined with allways prepared and reflecting on things.
```

```
# then we note that I am always prepared has two significant answer options, and that its estimate is strongly
```

```
# orddered according to agreementlevel. Which indicates that we should consider keeping it in our final model
```

```
# which should be refelcting on things and always prepared.
```

```
#while this model have higher mcfadden it contains an insignificant variable according to anova.
```

```
model <- glm(survey$strapNumeric ~  
            survey$Iamalwaysprepared +  
            survey$Iusedifficultwords +  
            survey$Ispendtimereflectingonthings ,  
            family = binomial(link = "logit"))
```

```
summary(model)
```

```
anova(model, test = "Chisq")
```

```
pR2(model)
```

```
# Dual model, choosing to combine the variables that looks most promising we end up with this.
```

```
# Although the "I am allways prepared" variable does not have high significance, We also register that the
```

```
# estimate is arranged orderly accoring to agreement level, which increases our suspicion that this variable contributes
```

```

# in a good way when trying to predict falling into the Status Quo Trap, especially since the variable
about reflecting on things
# seems to predict falling into the status quo trap so strongly that it overshadows being prepared.
# we should also suspect there to be a natural coorellation within the openness domain, so including only
one variable from it
# is reasonable in order to find something in concientiousness domain.
# This model have the highest McFadden of any models that only contain significant variables.

```

```

model <- glm(survey$strapNumeric ~
  survey$Iamalwaysprepared +
  survey$Ispendtimereflectingonthings ,
  family = binomial(link = "logit"))

```

```

summary(model)
anova(model, test = "Chisq")
pR2(model)

```

```

model <- glm(surveyNPM$strapNumeric ~
  surveyNPM$Iamalwaysprepared +
  surveyNPM$Ispendtimereflectingonthings ,
  family = binomial(link = "logit"))

```

```

summary(model)
anova(model, test = "Chisq")
pR2(model)

```

```

model <- glm(surveyPM$strapNumeric ~
  surveyPM$Iamalwaysprepared +
  surveyPM$Ispendtimereflectingonthings ,
  family = binomial(link = "logit"))

```

```

summary(model)
anova(model, test = "Chisq")
pR2(model)

```

```

# code where we played around with independent variables to find a better model with drop in AIC
modela <- glm(survey$strapNumeric ~
  survey$Iusedifficultwords +

```

```
survey$Ispendtimereflectingonthings ,  
family = binomial(link = "logit"))
```

```
summary(model)
```

```
modelb <- glm(survey$strapNumeric ~  
survey$Iamalwaysprepared +  
survey$Ispendtimereflectingonthings ,  
family = binomial(link = "logit"))
```

```
summary(model)
```

```
anova(modela, modelb, test = "Chisq")
```

```
##### Test code below this line#####
```

```
warnings()
```

Data:

(In the format of tab separated text)

respondentID age gender country oilngas projectmanager Iamthelifeoftheparty
Ifeellittleconcernforothers Iamalwaysprepared Igetstressedouteasily Ihavearichvocabulary
Idonttalkalot Iaminterestedinpeople Ileaveybelongingsaround Iamrelaxedmostofthetime
Ihavedifficultyunderstandingabstractideas Ifeelcomfortablearoundpeople Iinsultpeople
Ipayattentiontodetails Iworryaboutthings Ihaveavividimagination Ikeepinthebackground
Isympathizewithothersfeelings Imakeameasofthings Iseldomfeelblue
Iamnotinterestedinabstractideas Istartconversations Iamnotinterestedinotherpeoplesproblems
Igetchoresdonerightaway Iameasilydisturbed Ihaveexcellentideas Iavelittletosay Ihaveasofheart
Ioftenforgettoputthingsbackintheirproperplace Igetupseteasily Idonothaveagoodimagination
Italktoalotofdifferentpeopleatparties Iamnotreallyinterestedinothers Ilikeorder Ichangemymoodalot
Iamquicktounderstandthings Idontliketodrawattentiontomyself Itaketimeoutforothers
Ishirkmyduties Ihavefrequentmoodswings Iusedifficultwords Idontmindbeingthecenterofattention
Ifeelothersemotions Ifollowaschedule Igetirritatedeasily Ispendtimereflectingonthings
Iamquietaroundstrangers Imakepeoplefeelitease Iamexactinginmywork Ioftenfeelblue
Iamfullofideas trap

11354699875 35-44 Female Norway Yes. I have previously been a project manager. Neither
agree nor disagree Disagree Agree Disagree Agree Agree Neither agree nor disagree
Disagree Agree Disagree Neither agree nor disagree Agree Agree Agree Neither agree nor
disagree Disagree Agree Disagree Neither agree nor disagree Neither agree nor disagree
Agree Disagree Neither agree nor disagree Agree Agree Disagree Disagree Disagree
Neither agree nor disagree Neither agree nor disagree Agree Disagree Agree Agree Agree
Neither agree nor disagree Agree Disagree Neither agree nor disagree Disagree Neither agree
nor disagree Agree Agree Agree Agree Neither agree nor disagree Agree Neither agree nor
disagree Disagree Neither agree nor disagree Keep the shares.

11347974202 35-44 Male Russia No. Yes. Disagree Disagree Agree Disagree Agree
Agree Agree Disagree Agree Disagree Disagree Disagree Disagree Disagree Agree
Disagree Neither agree nor disagree Disagree Disagree Agree Disagree Neither agree nor
disagree Disagree Disagree Disagree Disagree Neither agree nor disagree Disagree Disagree
Disagree Agree Disagree Agree Agree Disagree Agree Agree Disagree Disagree
Strongly disagree Disagree Agree Disagree Agree Agree Disagree Disagree Disagree
Neither agree nor disagree Disagree Disagree Make a decision later.

11342771091 25-34 Male Russia No. Yes. Neither agree nor disagree Agree Agree
Neither agree nor disagree Strongly agree Strongly disagree Agree Strongly disagree Agree
Strongly disagree Neither agree nor disagree Agree Agree Agree Strongly agree Neither
agree nor disagree Agree Strongly disagree Agree Disagree Agree Disagree Agree Agree
Agree Strongly disagree Neither agree nor disagree Strongly disagree Disagree Strongly
disagree Agree Disagree Strongly agree Neither agree nor disagree Agree Neither agree nor
disagree Neither agree nor disagree Neither agree nor disagree Strongly disagree Strongly agree
Neither agree nor disagree Agree Agree Neither agree nor disagree Strongly agree Neither
agree nor disagree Agree Agree Disagree Agree Sell the shares to re-invest somewhere else
right now.

11330098984 45-54 Male Norway Yes. Yes. Neither agree nor disagree Agree Agree
Neither agree nor disagree Agree Agree Agree Disagree Neither agree nor disagree Neither

Disagree Disagree Disagree Neither agree nor disagree Disagree Agree Disagree Agree
Disagree Agree Disagree Disagree Agree Disagree Disagree Agree Disagree Disagree
Agree Disagree Agree Disagree Agree Keep the shares.

11064437967 35-44 Male Russia Yes. Yes. Disagree Neither agree nor disagree Agree
Agree Agree Disagree Disagree Disagree Disagree Disagree Agree Disagree Agree
Disagree Agree Agree Agree Disagree Disagree Agree Agree Neither agree nor disagree
Disagree Disagree Agree Disagree Agree Disagree Disagree Disagree Disagree Neither
agree nor disagree Agree Disagree Agree Agree Neither agree nor disagree Disagree
Disagree Disagree Agree Neither agree nor disagree Agree Disagree Disagree Neither agree
nor disagree Disagree Agree Disagree Neither agree nor disagree Sell the shares to re-invest
somewhere else right now.

11062584366 25-34 Female Russia Yes. Yes. Disagree Disagree Agree Disagree
Agree Agree Neither agree nor disagree Disagree Disagree Disagree Disagree Disagree
Agree Disagree Agree Disagree Neither agree nor disagree Disagree Disagree Disagree
Agree Disagree Agree Disagree Neither agree nor disagree Neither agree nor disagree
Disagree Disagree Disagree Disagree Disagree Disagree Agree Disagree Agree Agree
Neither agree nor disagree Disagree Disagree Agree Agree Disagree Agree Agree Agree
Neither agree nor disagree Disagree Neither agree nor disagree Disagree Neither agree nor
disagree Keep the shares.

11014906326 35-44 Female Russia Yes. Yes. Disagree Agree Agree Neither agree nor
disagree Neither agree nor disagree Agree Agree Disagree Disagree Agree Neither agree
nor disagree Disagree Agree Agree Disagree Agree Agree Disagree Agree Agree
Neither agree nor disagree Disagree Agree Disagree Disagree Disagree Agree Strongly
disagree Disagree Agree Disagree Disagree Strongly agree Disagree Agree Agree
Agree Strongly disagree Disagree Disagree Agree Neither agree nor disagree Strongly agree
Disagree Disagree Disagree Agree Disagree Disagree Disagree Make a decision later.

10939110928 55-64 Male Norway No. I have previously been a project manager. Neither
agree nor disagree Neither agree nor disagree Agree Neither agree nor disagree Agree Disagree
Agree Agree Agree Agree Agree Agree Strongly agree Strongly disagree Agree
Disagree Neither agree nor disagree Neither agree nor disagree Neither agree nor disagree
Neither agree nor disagree Agree Agree Agree Agree Agree Disagree Agree Strongly
disagree Neither agree nor disagree Neither agree nor disagree Agree Disagree Agree Neither
agree nor disagree Agree Neither agree nor disagree Neither agree nor disagree Neither agree nor
disagree Agree Disagree Agree Agree Agree Neither agree nor disagree Agree Agree
Neither agree nor disagree Agree Neither agree nor disagree Agree Make a decision later.

10920103566 25-34 Male Norway No. Yes. Agree Agree Neither agree nor disagree
Neither agree nor disagree Agree Strongly disagree Agree Disagree Neither agree nor disagree
Disagree Agree Agree Agree Strongly agree Agree Disagree Disagree Disagree
Disagree Agree Agree Agree Neither agree nor disagree Disagree Neither agree nor disagree
Strongly disagree Disagree Disagree Disagree Neither agree nor disagree Agree Neither agree
nor disagree Agree Agree Agree Disagree Neither agree nor disagree Disagree Neither
agree nor disagree Agree Agree Disagree Neither agree nor disagree Neither agree nor disagree
Neither agree nor disagree Disagree Agree Agree Agree Neither agree nor disagree Sell the
shares to re-invest somewhere else right now.

10860154417 25-34 Female Russia No. No. Agree Disagree Agree Disagree Strongly
agree Disagree Strongly agree Agree Neither agree nor disagree Neither agree nor disagree

Agree Strongly disagree Agree Agree Neither agree nor disagree Disagree Agree Disagree
Neither agree nor disagree Disagree Agree Strongly disagree Neither agree nor disagree
Neither agree nor disagree Agree Disagree Neither agree nor disagree Agree Neither agree nor
disagree Disagree Neither agree nor disagree Disagree Neither agree nor disagree Neither agree
nor disagree Agree Disagree Agree Strongly disagree Neither agree nor disagree Agree
Strongly agree Agree Neither agree nor disagree Disagree Agree Neither agree nor disagree
Agree Agree Disagree Agree Keep the shares.

10857896192 45-54 Male United States of America (USA) I have previously been working in the
oil and gas industry I have previously been a project manager. Disagree Disagree Neither agree
nor disagree Agree Agree Agree Neither agree nor disagree Agree Disagree Strongly
disagree Disagree Disagree Neither agree nor disagree Agree Neither agree nor disagree
Agree Neither agree nor disagree Disagree Disagree Strongly disagree Neither agree nor
disagree Neither agree nor disagree Disagree Neither agree nor disagree Agree Disagree
Neither agree nor disagree Disagree Neither agree nor disagree Disagree Strongly disagree
Neither agree nor disagree Neither agree nor disagree Disagree Agree Agree Neither agree nor
disagree Neither agree nor disagree Disagree Agree Disagree Disagree Disagree Agree
Agree Agree Strongly disagree Neither agree nor disagree Agree Agree Make a decision
later.

10841122480 55-64 Female Russia No. No. Disagree Disagree Agree Agree Agree
Agree Neither agree nor disagree Agree Neither agree nor disagree Disagree Agree Strongly
disagree Agree Agree Agree Neither agree nor disagree Agree Neither agree nor disagree
Agree Neither agree nor disagree Agree Disagree Neither agree nor disagree Agree Agree
Disagree Agree Agree Neither agree nor disagree Agree Agree Disagree Disagree
Disagree Agree Neither agree nor disagree Agree Disagree Disagree Agree Neither agree
nor disagree Disagree Agree Disagree Disagree Neither agree nor disagree Agree Agree
Disagree Agree Sell the shares to re-invest somewhere else right now.

10830680666 25-34 Female Germany No. Yes. Disagree Agree Agree Agree Agree
Disagree Agree Neither agree nor disagree Disagree Strongly agree Agree Agree Agree
Agree Agree Agree Agree Disagree Neither agree nor disagree Disagree Agree Disagree
Agree Disagree Neither agree nor disagree Disagree Agree Disagree Disagree Disagree
Neither agree nor disagree Disagree Agree Neither agree nor disagree Agree Disagree Agree
Agree Disagree Neither agree nor disagree Neither agree nor disagree Agree Agree Disagree
Disagree Agree Agree Agree Disagree Agree Keep the shares.

10828529549 55-64 Male Norway I have previously been working in the oil and gas industry I
have previously been a project manager. Neither agree nor disagree Agree Agree Disagree
Neither agree nor disagree Neither agree nor disagree Agree Neither agree nor disagree Agree
Strongly disagree Agree Disagree Neither agree nor disagree Disagree Strongly agree
Disagree Neither agree nor disagree Neither agree nor disagree Strongly agree Strongly disagree
Agree Neither agree nor disagree Neither agree nor disagree Disagree Agree Disagree Agree
Disagree Disagree Agree Agree Disagree Agree Disagree Strongly agree Disagree
Agree Disagree Disagree Neither agree nor disagree Agree Neither agree nor disagree Neither
agree nor disagree Agree Agree Disagree Neither agree nor disagree Agree Disagree Agree
Sell the shares to re-invest somewhere else right now.

10816642015 25-34 Male Italy No. Yes. Strongly agree Strongly agree Neither agree nor
disagree Disagree Agree Disagree Agree Agree Disagree Strongly disagree Agree
Agree Agree Strongly disagree Agree Agree Agree Agree Agree Strongly disagree

Neither agree nor disagree Neither agree nor disagree Agree Neither agree nor disagree Neither agree nor disagree Neither agree nor disagree Neither agree nor disagree Agree Neither agree nor disagree Neither agree nor disagree Agree Disagree Agree Sell the shares to re-invest somewhere else right now.

10787651731 35-44 Male Russia No. No. Neither agree nor disagree Agree Disagree Agree Agree Disagree Agree Disagree Disagree Disagree Agree Neither agree nor disagree Neither agree nor disagree Agree Agree Disagree Agree Agree Disagree Agree Agree Neither agree nor disagree Disagree Agree Disagree Disagree Agree Neither agree nor disagree Agree Disagree Agree Disagree Disagree Disagree Disagree Neither agree nor disagree Disagree Agree Neither agree nor disagree Disagree Agree Agree Agree Agree Disagree Agree Disagree Agree Neither agree nor disagree Neither agree nor disagree Disagree Make a decision later.

10787370341 55-64 Male Norway Yes. Yes. Neither agree nor disagree Disagree Agree Disagree Agree Disagree Agree Disagree Agree Neither agree nor disagree Agree Disagree Agree Neither agree nor disagree Disagree Disagree Neither agree nor disagree Disagree Neither agree nor disagree Agree Agree Disagree Neither agree nor disagree Agree Neither agree nor disagree Disagree Neither agree nor disagree Disagree Disagree Disagree Agree Disagree Agree Disagree Agree Neither agree nor disagree Agree Disagree Disagree Neither agree nor disagree Disagree Neither agree nor disagree Agree Neither agree nor disagree Neither agree nor disagree Disagree Agree Agree Disagree Neither agree nor disagree Sell the shares to re-invest somewhere else right now.

10784856358 35-44 Male Norway Other (please specify) Yes. Neither agree nor disagree Disagree Disagree Strongly disagree Strongly agree Disagree Agree Neither agree nor disagree Agree Strongly disagree Agree Agree Strongly agree Neither agree nor disagree Agree Neither agree nor disagree Agree Agree Agree Strongly disagree Agree Disagree Neither agree nor disagree Strongly agree Neither agree nor disagree Disagree Disagree Agree Disagree Disagree Neither agree nor disagree Disagree Agree Neither agree nor disagree Strongly agree Neither agree nor disagree Agree Neither agree nor disagree Disagree Strongly agree Agree Agree Agree Disagree Agree Agree Agree Agree Disagree Agree Make a decision later.

10783702575 25-34 Female Norway Yes. No. Agree Disagree Agree Disagree Agree Disagree Strongly agree Agree Neither agree nor disagree Disagree Strongly agree Strongly disagree Agree Agree Neither agree nor disagree Neither agree nor disagree Agree Disagree Disagree Disagree Agree Strongly disagree Neither agree nor disagree Agree Neither agree nor disagree Disagree Agree Agree Disagree Agree Strongly agree Disagree Neither agree nor disagree Disagree Agree Neither agree nor disagree Agree Disagree Disagree Neither agree nor disagree Agree Agree Agree Disagree Agree Disagree Agree Neither agree nor disagree Disagree Neither agree nor disagree Keep the shares.

10782266863 25-34 Male Norway Yes. No. Neither agree nor disagree Disagree Agree Disagree Neither agree nor disagree Agree Strongly agree Neither agree nor disagree Strongly agree Disagree Agree Disagree Agree Disagree Agree Agree Disagree Neither agree nor disagree Disagree Neither agree nor disagree Disagree Neither agree nor disagree Disagree Agree Neither agree nor disagree Agree Agree Strongly disagree Disagree Neither agree nor disagree Agree Agree Strongly disagree Disagree Agree Neither agree nor disagree Neither agree nor disagree Strongly disagree Neither agree nor disagree Agree Agree Neither

agree nor disagree Strongly disagree Strongly agree Agree Agree Neither agree nor disagree
Disagree Strongly agree Make a decision later.

10780249138 25-34 Male Norway No. I have previously been a project manager. Neither
agree nor disagree Neither agree nor disagree Disagree Disagree Neither agree nor disagree
Disagree Agree Strongly agree Disagree Disagree Agree Neither agree nor disagree
Disagree Agree Agree Neither agree nor disagree Agree Neither agree nor disagree Neither
agree nor disagree Disagree Neither agree nor disagree Disagree Disagree Agree Agree
Disagree Disagree Agree Neither agree nor disagree Disagree Agree Disagree Disagree
Neither agree nor disagree Agree Disagree Agree Disagree Disagree Neither agree nor
disagree Agree Agree Strongly disagree Neither agree nor disagree Agree Neither agree nor
disagree Neither agree nor disagree Neither agree nor disagree Disagree Agree Sell the shares
to re-invest somewhere else right now.

10780135897 25-34 Male Norway No. I am a project director. Neither agree nor disagree
Strongly disagree Neither agree nor disagree Disagree Agree Neither agree nor disagree
Strongly agree Agree Agree Disagree Agree Neither agree nor disagree Neither agree nor
disagree Agree Strongly agree Neither agree nor disagree Agree Strongly disagree Neither
agree nor disagree Disagree Agree Neither agree nor disagree Strongly disagree Agree Agree
Disagree Agree Strongly agree Neither agree nor disagree Strongly disagree Agree Disagree
Agree Neither agree nor disagree Agree Neither agree nor disagree Agree Neither agree nor
disagree Neither agree nor disagree Agree Agree Neither agree nor disagree Strongly disagree
Disagree Strongly agree Disagree Agree Neither agree nor disagree Neither agree nor disagree
Agree Make a decision later.

10778812466 25-34 Male Norway No. No. Agree Disagree Disagree Disagree Agree
Disagree Strongly agree Disagree Strongly agree Strongly disagree Strongly agree Strongly
disagree Neither agree nor disagree Disagree Strongly agree Disagree Strongly agree
Disagree Strongly agree Strongly disagree Strongly agree Strongly disagree Agree Agree
Strongly agree Strongly disagree Neither agree nor disagree Disagree Disagree Strongly
disagree Strongly agree Strongly disagree Agree Strongly disagree Strongly agree Disagree
Agree Neither agree nor disagree Strongly disagree Agree Agree Strongly agree Disagree
Strongly disagree Strongly agree Disagree Strongly agree Agree Strongly disagree Strongly
agree Sell the shares to re-invest somewhere else right now.

10778610166 25-34 Male Norway I have previously been working in the oil and gas industry
No. Neither agree nor disagree Disagree Disagree Disagree Agree Agree Disagree
Strongly disagree Agree Agree Disagree Disagree Strongly agree Agree Disagree Agree
Agree Disagree Disagree Agree Disagree Disagree Disagree Agree Disagree Agree
Disagree Strongly agree Disagree Agree Disagree Agree Agree Disagree Agree Agree
Disagree Agree Disagree Agree Disagree Agree Disagree Agree Agree Agree Agree
Agree Agree Disagree Sell the shares to re-invest somewhere else right now.

10777954971 25-34 Male Norway No. No. Neither agree nor disagree Disagree Neither
agree nor disagree Disagree Agree Neither agree nor disagree Strongly agree Strongly disagree
Agree Neither agree nor disagree Neither agree nor disagree Strongly disagree Agree Agree
Strongly agree Agree Agree Agree Disagree Strongly disagree Strongly agree Disagree
Strongly disagree Agree Neither agree nor disagree Neither agree nor disagree Neither agree nor
disagree Disagree Disagree Strongly disagree Agree Disagree Neither agree nor disagree
Agree Agree Neither agree nor disagree Disagree Neither agree nor disagree Disagree Agree

Neither agree nor disagree Agree Neither agree nor disagree Neither agree nor disagree Disagree
Neither agree nor disagree Strongly disagree Agree Agree Disagree Disagree Agree Neither
agree nor disagree Neither agree nor disagree Disagree Strongly disagree Disagree Disagree
Agree Neither agree nor disagree Disagree Strongly agree Neither agree nor disagree Neither
agree nor disagree Strongly disagree Neither agree nor disagree Keep the shares.

10772542659 45-54 Male Norway I have previously been working in the oil and gas industry I
have previously been a project manager. Neither agree nor disagree Disagree Agree Disagree
Agree Agree Agree Agree Neither agree nor disagree Disagree Agree Disagree Agree
Agree Agree Neither agree nor disagree Agree Neither agree nor disagree Disagree Neither
agree nor disagree Agree Disagree Neither agree nor disagree Neither agree nor disagree
Neither agree nor disagree Disagree Neither agree nor disagree Disagree Disagree Disagree
Neither agree nor disagree Disagree Agree Disagree Neither agree nor disagree Agree Agree
Neither agree nor disagree Disagree Disagree Neither agree nor disagree Neither agree nor
disagree Agree Disagree Agree Agree Agree Neither agree nor disagree Disagree Neither
agree nor disagree Keep the shares.

10771160673 45-54 Male Russia No. I am a project director. Neither agree nor disagree
Neither agree nor disagree Agree Disagree Strongly agree Neither agree nor disagree Neither
agree nor disagree Disagree Disagree Disagree Neither agree nor disagree Strongly disagree
Agree Neither agree nor disagree Agree Agree Agree Neither agree nor disagree Agree
Neither agree nor disagree Agree Disagree Disagree Disagree Neither agree nor disagree
Disagree Agree Disagree Disagree Disagree Neither agree nor disagree Disagree Neither
agree nor disagree Neither agree nor disagree Agree Neither agree nor disagree Agree Strongly
disagree Disagree Strongly agree Neither agree nor disagree Agree Neither agree nor disagree
Disagree Neither agree nor disagree Agree Neither agree nor disagree Agree Disagree Agree
Make a decision later.

10770587479 45-54 Female Norway No. No. Neither agree nor disagree Strongly disagree
Agree Neither agree nor disagree Agree Disagree Agree Agree Neither agree nor disagree
Neither agree nor disagree Agree Neither agree nor disagree Neither agree nor disagree Neither
agree nor disagree Agree Neither agree nor disagree Agree Neither agree nor disagree Disagree
Neither agree nor disagree Agree Neither agree nor disagree Agree Agree Neither agree nor
disagree Neither agree nor disagree Agree Agree Disagree Disagree Agree Neither agree
nor disagree Neither agree nor disagree Neither agree nor disagree Agree Agree Neither agree
nor disagree Neither agree nor disagree Disagree Neither agree nor disagree Neither agree nor
disagree Agree Agree Agree Agree Agree Neither agree nor disagree Neither agree nor
disagree Disagree Neither agree nor disagree Make a decision later.

10769012763 45-54 Male Russia Yes. Yes. Neither agree nor disagree Agree Agree
Disagree Agree Neither agree nor disagree Agree Agree Disagree Disagree Agree
Disagree Agree Disagree Agree Disagree Agree Agree Agree Strongly disagree
Strongly agree Disagree Disagree Agree Agree Disagree Neither agree nor disagree Agree
Disagree Disagree Agree Disagree Agree Disagree Strongly agree Disagree Agree
Disagree Disagree Agree Disagree Agree Agree Disagree Agree Agree Agree Agree
Disagree Agree Sell the shares to re-invest somewhere else right now.

10768968627 25-34 Female Russia No. I have previously been a project manager. Agree
Agree Agree Neither agree nor disagree Agree Neither agree nor disagree Strongly agree
Agree Agree Agree Strongly agree Agree Strongly agree Agree Strongly agree Agree
Strongly agree Agree Neither agree nor disagree Agree Strongly agree Disagree Neither agree

nor disagree Disagree Agree Disagree Agree Neither agree nor disagree Neither agree nor disagree Strongly disagree Strongly agree Strongly disagree Neither agree nor disagree Disagree Strongly agree Disagree Agree Agree Neither agree nor disagree Strongly agree Strongly agree Strongly agree Neither agree nor disagree Disagree Disagree Disagree Agree Agree Disagree Strongly agree Keep the shares.

10767973130 45-54 Male United Kingdom (UK) I have previously been working in the oil and gas industry No. Disagree Strongly disagree Strongly agree Strongly agree Strongly agree Agree Strongly agree Strongly disagree Disagree Disagree Agree Agree Strongly agree Strongly agree Strongly agree Agree Strongly agree Disagree Strongly disagree Strongly disagree Neither agree nor disagree Strongly disagree Agree Agree Agree Neither agree nor disagree Strongly agree Disagree Strongly agree Strongly disagree Disagree Strongly disagree Strongly agree Agree Agree Agree Strongly agree Strongly disagree Agree Agree Neither agree nor disagree Strongly agree Strongly agree Strongly agree Agree Agree Agree Strongly agree Strongly agree Strongly agree Strongly agree Keep the shares.

10767617386 25-34 Female Norway Yes. No. Neither agree nor disagree Strongly disagree Neither agree nor disagree Agree Neither agree nor disagree Neither agree nor disagree Agree Disagree Neither agree nor disagree Neither agree nor disagree Neither agree nor disagree Disagree Agree Agree Neither agree nor disagree Agree Agree Disagree Neither agree nor disagree Neither agree nor disagree Agree Disagree Agree Agree Agree Neither agree nor disagree Agree Strongly disagree Neither agree nor disagree Disagree Neither agree nor disagree Disagree Strongly disagree Agree Agree Strongly agree Agree Neither agree nor disagree Agree Disagree Strongly disagree Agree Strongly agree Agree Agree Agree Disagree Neither agree nor disagree Disagree Agree Make a decision later.

10766298727 18-24 Male Russia No. No. Strongly agree Disagree Neither agree nor disagree Neither agree nor disagree Disagree Agree Neither agree nor disagree Agree Agree Disagree Neither agree nor disagree Neither agree nor disagree Agree Agree Agree Agree Agree Disagree Disagree Disagree Disagree Disagree Neither agree nor disagree Agree Agree Agree Agree Agree Disagree Disagree Neither agree nor disagree Neither agree nor disagree Neither agree nor disagree Agree Disagree Agree Neither agree nor disagree Neither agree nor disagree Agree Disagree Agree Keep the shares.

10766164278 25-34 Male Colombia No. No. Neither agree nor disagree Neither agree nor disagree Neither agree nor disagree Agree Agree Disagree Agree Agree Neither agree nor disagree Neither agree nor disagree Agree Agree Agree Agree Agree Neither agree nor disagree Agree Agree Neither agree nor disagree Neither agree nor disagree Agree Agree Agree Neither agree nor disagree Neither agree nor disagree Agree Agree Agree Neither agree nor disagree Agree Agree Neither agree nor disagree Agree Neither agree nor disagree Agree Neither agree nor disagree Agree Disagree Agree Make a decision later.

10766156167 18-24 Male Russia No. No. Neither agree nor disagree Neither agree nor disagree Disagree Disagree Agree Neither agree nor disagree Neither agree nor disagree Disagree Neither agree nor disagree Disagree Disagree Neither agree nor disagree Neither agree nor disagree Agree Agree Agree Neither agree nor disagree Neither agree nor disagree Neither agree nor disagree Neither agree nor disagree Agree Neither agree nor disagree Agree Disagree Agree Neither agree nor disagree Neither agree nor disagree Disagree Disagree Agree

Disagree Disagree Agree Neither agree nor disagree Agree Agree Agree Disagree Agree
Agree Neither agree nor disagree Disagree Agree Neither agree nor disagree Strongly agree
Agree Agree Neither agree nor disagree Neither agree nor disagree Agree Neither agree nor
disagree Sell the shares to re-invest somewhere else right now.

10766149025 18-24 Female Russia No. No. Disagree Neither agree nor disagree Neither
agree nor disagree Agree Neither agree nor disagree Neither agree nor disagree Agree Neither
agree nor disagree Disagree Disagree Disagree Strongly disagree Agree Strongly agree
Strongly agree Neither agree nor disagree Agree Neither agree nor disagree Disagree Disagree
Disagree Disagree Agree Agree Disagree Agree Strongly agree Agree Neither agree nor
disagree Disagree Agree Disagree Disagree Disagree Neither agree nor disagree Agree
Agree Disagree Disagree Disagree Agree Agree Disagree Agree Agree Disagree
Neither agree nor disagree Agree Disagree Disagree Keep the shares.

10766101032 18-24 Female Russia No. No. Disagree Neither agree nor disagree Neither
agree nor disagree Agree Agree Agree Disagree Agree Neither agree nor disagree Neither
agree nor disagree Disagree Neither agree nor disagree Neither agree nor disagree Agree Agree
Agree Neither agree nor disagree Neither agree nor disagree Disagree Disagree Disagree
Neither agree nor disagree Disagree Agree Neither agree nor disagree Neither agree nor disagree
Neither agree nor disagree Neither agree nor disagree Agree Disagree Disagree Neither agree
nor disagree Neither agree nor disagree Agree Agree Agree Neither agree nor disagree
Neither agree nor disagree Agree Agree Disagree Agree Disagree Agree Agree Agree
Neither agree nor disagree Neither agree nor disagree Agree Disagree Sell the shares to re-invest
somewhere else right now.

10766057078 35-44 Female Russia No. No. Neither agree nor disagree Neither agree nor
disagree Neither agree nor disagree Neither agree nor disagree Agree Disagree Agree
Disagree Disagree Neither agree nor disagree Agree Disagree Agree Agree Agree
Disagree Agree Neither agree nor disagree Neither agree nor disagree Disagree Agree
Disagree Disagree Neither agree nor disagree Neither agree nor disagree Disagree Agree
Neither agree nor disagree Agree Disagree Agree Disagree Agree Neither agree nor disagree
Agree Disagree Agree Disagree Disagree Neither agree nor disagree Neither agree nor
disagree Agree Neither agree nor disagree Neither agree nor disagree Disagree Neither agree
nor disagree Agree Neither agree nor disagree Disagree Agree Keep the shares.

10765895136 25-34 Male Russia No. Yes. Agree Agree Neither agree nor disagree
Agree Agree Disagree Agree Agree Neither agree nor disagree Disagree Agree Disagree
Agree Agree Strongly agree Strongly disagree Agree Neither agree nor disagree Neither
agree nor disagree Strongly disagree Agree Strongly disagree Strongly disagree Agree Agree
Strongly disagree Agree Strongly agree Disagree Strongly disagree Agree Strongly disagree
Strongly agree Agree Strongly agree Strongly disagree Agree Agree Neither agree nor
disagree Strongly agree Strongly agree Agree Disagree Neither agree nor disagree Agree
Agree Agree Agree Neither agree nor disagree Strongly agree Keep the shares.

10765860726 35-44 Female Russia No. No. Neither agree nor disagree Agree Neither
agree nor disagree Neither agree nor disagree Neither agree nor disagree Neither agree nor disagree
Agree Neither agree nor disagree Disagree Neither agree nor disagree Disagree Neither agree
nor disagree Neither agree nor disagree Agree Agree Disagree Neither agree nor disagree
Neither agree nor disagree Neither agree nor disagree Disagree Agree Strongly disagree
Disagree Disagree Neither agree nor disagree Neither agree nor disagree Agree Neither agree
nor disagree Neither agree nor disagree Disagree Neither agree nor disagree Disagree Agree

Disagree Neither agree nor disagree Neither agree nor disagree Neither agree nor disagree
Neither agree nor disagree Neither agree nor disagree Neither agree nor disagree Agree Strongly
agree Neither agree nor disagree Neither agree nor disagree Neither agree nor disagree Agree
Neither agree nor disagree Agree Neither agree nor disagree Agree Make a decision later.

10765316504 35-44 Male Russia No. No. Agree Agree Neither agree nor disagree
Neither agree nor disagree Agree Neither agree nor disagree Agree Disagree Disagree
Disagree Agree Neither agree nor disagree Strongly agree Agree Agree Agree Strongly
agree Agree Neither agree nor disagree Disagree Agree Neither agree nor disagree Neither
agree nor disagree Agree Neither agree nor disagree Disagree Neither agree nor disagree
Disagree Neither agree nor disagree Disagree Neither agree nor disagree Disagree Agree
Neither agree nor disagree Agree Agree Neither agree nor disagree Neither agree nor disagree
Neither agree nor disagree Agree Neither agree nor disagree Agree Neither agree nor disagree
Disagree Disagree Neither agree nor disagree Agree Neither agree nor disagree Neither agree
nor disagree Agree Sell the shares to re-invest somewhere else right now.

10765107254 35-44 Female Russia No. No. Agree Neither agree nor disagree Strongly
agree Disagree Disagree Neither agree nor disagree Agree Disagree Disagree Strongly
disagree Neither agree nor disagree Disagree Agree Neither agree nor disagree Strongly agree
Disagree Strongly agree Strongly disagree Neither agree nor disagree Strongly disagree Agree
Strongly disagree Strongly agree Strongly disagree Strongly agree Strongly disagree Strongly
agree Strongly disagree Strongly disagree Strongly disagree Neither agree nor disagree
Disagree Strongly agree Disagree Strongly agree Agree Agree Strongly disagree Strongly
disagree Strongly agree Strongly agree Strongly agree Strongly agree Strongly disagree
Strongly agree Neither agree nor disagree Neither agree nor disagree Strongly agree Disagree
Strongly agree Make a decision later.

10764865689 55-64 Male Italy Other (please specify) I have previously been a project
manager. Neither agree nor disagree Neither agree nor disagree Agree Strongly agree Neither
agree nor disagree Agree Agree Agree Agree Disagree Agree Neither agree nor disagree
Agree Disagree Neither agree nor disagree Agree Agree Agree Neither agree nor disagree
Disagree Neither agree nor disagree Disagree Neither agree nor disagree Neither agree nor
disagree Agree Agree Agree Agree Agree Agree Neither agree nor disagree Agree Disagree
Agree Agree Agree Agree Agree Agree Agree Agree Neither agree nor disagree Neither agree
nor disagree Agree Agree Neither agree nor disagree Agree Agree Agree Agree Disagree
Agree Make a decision later.

10764785998 35-44 Male Norway Yes. I am a project director. Disagree Disagree Agree
Disagree Agree Neither agree nor disagree Agree Agree Neither agree nor disagree Disagree
Agree Disagree Agree Agree Agree Disagree Agree Disagree Agree Disagree Agree
Disagree Neither agree nor disagree Neither agree nor disagree Agree Neither agree nor disagree
Agree Neither agree nor disagree Disagree Disagree Agree Disagree Agree Disagree
Agree Agree Agree Disagree Disagree Agree Agree Agree Agree Disagree Agree
Neither agree nor disagree Agree Agree Disagree Agree Sell the shares to re-invest somewhere
else right now.

10764756230 35-44 Male Russia No. I am a project director. Neither agree nor disagree
Disagree Agree Disagree Agree Disagree Strongly agree Agree Disagree Disagree
Disagree Agree Strongly agree Agree Agree Neither agree nor disagree Agree Agree
Neither agree nor disagree Disagree Disagree Disagree Agree Agree Neither agree nor
disagree Disagree Agree Neither agree nor disagree Agree Disagree Strongly disagree

Neither agree nor disagree Agree Strongly agree Disagree Neither agree nor disagree Make a decision later.

10762952444 25-34 Female Norway No. No. Neither agree nor disagree Disagree Agree
Neither agree nor disagree Neither agree nor disagree Neither agree nor disagree Agree Disagree
Agree Disagree Agree Strongly disagree Agree Neither agree nor disagree Neither agree nor
disagree Neither agree nor disagree Agree Disagree Disagree Disagree Neither agree nor
disagree Disagree Agree Neither agree nor disagree Agree Neither agree nor disagree Agree
Disagree Strongly disagree Disagree Agree Strongly disagree Agree Agree Agree Agree
Agree Neither agree nor disagree Agree Disagree Neither agree nor disagree Agree Neither
agree nor disagree Neither agree nor disagree Agree Agree Neither agree nor disagree Agree
Disagree Agree Keep the shares.

10762560797 35-44 Male Bulgaria No. No. Neither agree nor disagree Neither agree nor
disagree Neither agree nor disagree Strongly disagree Neither agree nor disagree Neither agree
nor disagree Neither agree nor disagree Neither agree nor disagree Neither agree nor disagree
Disagree Agree Neither agree nor disagree Neither agree nor disagree Disagree Neither agree
nor disagree Neither agree nor disagree Neither agree nor disagree Neither agree nor disagree
Neither agree nor disagree Neither agree nor disagree Agree Disagree Neither agree nor disagree
Disagree Neither agree nor disagree Neither agree nor disagree Neither agree nor disagree
Disagree Disagree Disagree Agree Neither agree nor disagree Neither agree nor disagree
Disagree Agree Neither agree nor disagree Neither agree nor disagree Neither agree nor disagree
Disagree Neither agree nor disagree Neither agree nor disagree Agree Agree Disagree Neither
agree nor disagree Disagree Agree Neither agree nor disagree Neither agree nor disagree
Neither agree nor disagree Sell the shares to re-invest somewhere else right now.

10762408498 25-34 Female Russia No. Yes. Agree Neither agree nor disagree Agree
Disagree Agree Disagree Agree Strongly disagree Agree Disagree Agree Disagree
Agree Agree Agree Agree Agree Disagree Disagree Agree Agree Agree Disagree
Agree Agree Disagree Agree Disagree Disagree Disagree Disagree Agree Neither agree
nor disagree Agree Agree Agree Agree Disagree Agree Disagree Agree Agree Agree
Disagree Agree Neither agree nor disagree Agree Agree Disagree Disagree Keep the shares.

10762308480 45-54 Female Russia No. I am a project director. Agree Neither agree nor
disagree Agree Neither agree nor disagree Agree Agree Agree Agree Agree Disagree
Agree Disagree Agree Disagree Agree Disagree Agree Disagree Disagree Disagree
Agree Disagree Disagree Disagree Agree Disagree Agree Disagree Disagree Disagree
Disagree Disagree Disagree Disagree Agree Agree Agree Disagree Disagree Disagree
Agree Agree Agree Disagree Agree Agree Agree Agree Agree Agree Sell the shares
to re-invest somewhere else right now.

10762090827 25-34 Male Bulgaria No. No. Neither agree nor disagree Disagree Agree
Disagree Strongly agree Agree Neither agree nor disagree Disagree Agree Strongly disagree
Neither agree nor disagree Strongly disagree Agree Disagree Strongly agree Neither agree nor
disagree Agree Disagree Agree Strongly disagree Neither agree nor disagree Disagree
Agree Neither agree nor disagree Agree Disagree Agree Disagree Strongly disagree
Strongly disagree Disagree Disagree Agree Disagree Agree Agree Agree Neither agree
nor disagree Disagree Agree Disagree Agree Agree Disagree Strongly agree Agree
Agree Agree Strongly disagree Agree Sell the shares to re-invest somewhere else right now.

10762045275 45-54 Female Russia No. Yes. Neither agree nor disagree Agree Strongly
agree Disagree Strongly agree Strongly disagree Agree Agree Disagree Strongly agree

Strongly agree Strongly disagree Agree Disagree Agree Strongly disagree Agree Neither agree nor disagree Strongly agree Strongly agree Strongly agree Disagree Strongly agree Agree Agree Strongly disagree Disagree Agree Disagree Strongly disagree Strongly agree Strongly disagree Strongly agree Strongly disagree Agree Disagree Agree Agree Disagree Disagree Disagree Agree Strongly agree Disagree Agree Agree Disagree Disagree Disagree Agree Strongly agree Strongly disagree Strongly agree Keep the shares.

10761985368 35-44 Male Norway No. Yes. Strongly disagree Strongly disagree Agree Strongly disagree Strongly agree Strongly agree Disagree Strongly disagree Strongly agree Strongly disagree Neither agree nor disagree Strongly disagree Agree Agree Agree Strongly agree Strongly agree Disagree Strongly disagree Strongly disagree Strongly disagree Disagree Strongly disagree Agree Agree Strongly disagree Agree Disagree Disagree Disagree Strongly disagree Agree Agree Disagree Strongly agree Strongly agree Strongly agree Disagree Disagree Agree Agree Agree Disagree Strongly disagree Strongly agree Strongly agree Neither agree nor disagree Agree Agree Strongly agree Make a decision later.

10761935130 35-44 Male Norway I have previously been working in the oil and gas industry No. Neither agree nor disagree Disagree Agree Disagree Neither agree nor disagree Agree Agree Agree Neither agree nor disagree Agree Neither agree nor disagree Agree Disagree Disagree Neither agree nor disagree Neither agree nor disagree Disagree Neither agree nor disagree Agree Neither agree nor disagree Neither agree nor disagree Disagree Agree Agree Neither agree nor disagree Agree Disagree Disagree Neither agree nor disagree Disagree Agree Agree Agree Neither agree nor disagree Disagree Disagree Disagree Neither agree nor disagree Agree Neither agree nor disagree Agree Neither agree nor disagree Neither agree nor disagree Agree Disagree Neither agree nor disagree Keep the shares.

10761932150 25-34 Female Norway No. Yes. Neither agree nor disagree Disagree Agree Neither agree nor disagree Neither agree nor disagree Disagree Agree Disagree Neither agree nor disagree Disagree Agree Neither agree nor disagree Agree Agree Neither agree nor disagree Neither agree nor disagree Agree Disagree Disagree Disagree Agree Agree Agree Neither agree nor disagree Neither agree nor disagree Disagree Agree Strongly disagree Neither agree nor disagree Neither agree nor disagree Agree Disagree Agree Neither agree nor disagree Agree Neither agree nor disagree Neither agree nor disagree Neither agree nor disagree Neither agree nor disagree Agree Neither agree nor disagree Agree Neither agree nor disagree Agree Neither agree nor disagree Agree Agree Neither agree nor disagree Neither agree nor disagree Keep the shares.

10761903813 25-34 Female Bulgaria No. No. Neither agree nor disagree Agree Neither agree nor disagree Disagree Agree Disagree Agree Strongly agree Agree Agree Agree Disagree Agree Agree Neither agree nor disagree Agree Strongly agree Agree Disagree Disagree Agree Disagree Disagree Disagree Agree Disagree Agree Agree Disagree Disagree Agree Disagree Neither agree nor disagree Agree Strongly agree Agree Agree Neither agree nor disagree Agree Agree Neither agree nor disagree Agree Agree Neither agree nor disagree Agree Agree Agree Agree Disagree Agree Keep the shares.

10761873922 35-44 Female Russia No. No. Disagree Strongly disagree Neither agree nor disagree Neither agree nor disagree Agree Agree Agree Neither agree nor disagree Disagree Neither agree nor disagree Agree Strongly disagree Agree Agree Agree Neither agree nor disagree Agree Disagree Agree Neither agree nor disagree Agree Neither agree nor disagree Disagree Neither agree nor disagree Neither agree nor disagree Disagree Agree Disagree

Agree Disagree Disagree Neither agree nor disagree Agree Agree Agree Disagree Agree
Disagree Neither agree nor disagree Agree Neither agree nor disagree Agree Disagree Neither
agree nor disagree Neither agree nor disagree Agree Disagree Agree Disagree Agree Make
a decision later.

10761859173 35-44 Male Russia No. I have previously been a project manager. Strongly
agree Agree Agree Neither agree nor disagree Strongly agree Agree Strongly agree Agree
Neither agree nor disagree Disagree Strongly agree Strongly disagree Strongly agree Agree
Agree Neither agree nor disagree Agree Disagree Neither agree nor disagree Disagree Agree
Neither agree nor disagree Strongly agree Strongly disagree Strongly agree Agree Agree
Strongly disagree Strongly disagree Strongly disagree Agree Strongly disagree Strongly agree
Neither agree nor disagree Strongly agree Neither agree nor disagree Neither agree nor disagree
Strongly disagree Strongly disagree Strongly agree Disagree Agree Agree Neither agree nor
disagree Agree Agree Agree Agree Strongly disagree Agree Sell the shares to re-invest
somewhere else right now.

10761845280 25-34 Female Russia No. I have previously been a project manager. Agree
Disagree Neither agree nor disagree Disagree Agree Neither agree nor disagree Strongly agree
Neither agree nor disagree Agree Disagree Strongly agree Strongly disagree Neither agree nor
disagree Agree Agree Neither agree nor disagree Strongly agree Agree Neither agree nor
disagree Disagree Agree Disagree Disagree Disagree Neither agree nor disagree Disagree
Agree Agree Neither agree nor disagree Disagree Agree Strongly disagree Neither agree nor
disagree Neither agree nor disagree Agree Disagree Agree Neither agree nor disagree Neither
agree nor disagree Agree Agree Agree Agree Neither agree nor disagree Disagree Agree Agree
Agree Agree Disagree Agree Keep the shares.

10761745321 25-34 Male Norway No. No. Disagree Strongly disagree Disagree
Neither agree nor disagree Neither agree nor disagree Disagree Agree Agree Neither agree nor
disagree Agree Agree Disagree Agree Agree Neither agree nor disagree Disagree Agree
Disagree Neither agree nor disagree Disagree Agree Disagree Disagree Strongly agree
Agree Disagree Agree Strongly agree Neither agree nor disagree Disagree Agree Disagree
Agree Neither agree nor disagree Agree Agree Neither agree nor disagree Neither agree nor
disagree Disagree Disagree Disagree Agree Neither agree nor disagree Neither agree nor
disagree Neither agree nor disagree Agree Agree Strongly disagree Disagree Agree Make a
decision later.

10761711324 35-44 Male Russia No. No. Neither agree nor disagree Neither agree nor
disagree Agree Strongly agree Disagree Disagree Agree Agree Neither agree nor disagree
Strongly disagree Disagree Disagree Agree Disagree Strongly agree Agree Strongly agree
Agree Disagree Strongly disagree Agree Disagree Agree Agree Agree Disagree Agree
Disagree Agree Disagree Agree Disagree Agree Agree Agree Neither agree nor disagree
Neither agree nor disagree Disagree Agree Agree Agree Agree Agree Agree Agree
Agree Agree Agree Disagree Agree Keep the shares.

10761672070 25-34 Male Norway No. No. Agree Strongly disagree Neither agree nor
disagree Disagree Neither agree nor disagree Neither agree nor disagree Agree Disagree
Strongly agree Disagree Strongly agree Strongly disagree Agree Disagree Neither agree nor
disagree Disagree Strongly agree Disagree Agree Disagree Neither agree nor disagree
Disagree Agree Neither agree nor disagree Agree Disagree Strongly agree Disagree
Disagree Neither agree nor disagree Agree Disagree Agree Disagree Agree Neither agree
nor disagree Agree Strongly disagree Strongly disagree Agree Agree Agree Strongly agree

Disagree Agree Neither agree nor disagree Agree Agree Disagree Neither agree nor disagree
Keep the shares.

10761668213 55-64 Female Norway Yes. No. Neither agree nor disagree Agree Neither
agree nor disagree Neither agree nor disagree Agree Disagree Strongly agree Disagree Agree
Disagree Strongly agree Disagree Agree Disagree Agree Disagree Strongly agree Neither
agree nor disagree Agree Disagree Agree Disagree Agree Agree Neither agree nor disagree
Disagree Agree Disagree Agree Disagree Agree Disagree Agree Agree Agree
Disagree Agree Disagree Neither agree nor disagree Disagree Agree Agree Neither agree
nor disagree Agree Neither agree nor disagree Disagree Agree Agree Disagree Neither
agree nor disagree Make a decision later.

10761665787 25-34 Male Norway No. No. Neither agree nor disagree Agree Agree
Disagree Neither agree nor disagree Neither agree nor disagree Neither agree nor disagree
Disagree Agree Disagree Agree Disagree Strongly agree Disagree Disagree Agree
Agree Strongly disagree Agree Disagree Neither agree nor disagree Agree Agree Disagree
Agree Agree Agree Disagree Disagree Agree Disagree Agree Neither agree nor disagree
Disagree Strongly agree Disagree Neither agree nor disagree Disagree Disagree Disagree
Agree Agree Neither agree nor disagree Disagree Agree Agree Agree Agree Disagree
Neither agree nor disagree Keep the shares.

10761639378 25-34 Female Russia No. No. Disagree Agree Agree Agree Agree
Strongly disagree Agree Agree Disagree Disagree Neither agree nor disagree Strongly
disagree Agree Agree Agree Disagree Strongly agree Neither agree nor disagree Agree
Neither agree nor disagree Neither agree nor disagree Disagree Neither agree nor disagree
Neither agree nor disagree Agree Disagree Agree Agree Agree Disagree Neither agree nor
disagree Neither agree nor disagree Neither agree nor disagree Agree Strongly agree Neither
agree nor disagree Agree Neither agree nor disagree Agree Agree Neither agree nor disagree
Strongly agree Neither agree nor disagree Disagree Agree Neither agree nor disagree Agree
Agree Disagree Agree Keep the shares.

10761638236 35-44 Female Russia No. No. Neither agree nor disagree Neither agree nor
disagree Neither agree nor disagree Disagree Agree Agree Strongly agree Neither agree nor
disagree Disagree Disagree Neither agree nor disagree Strongly disagree Strongly agree
Agree Strongly agree Agree Neither agree nor disagree Disagree Disagree Neither agree nor
disagree Agree Neither agree nor disagree Neither agree nor disagree Neither agree nor disagree
Agree Neither agree nor disagree Strongly agree Neither agree nor disagree Neither agree nor
disagree Disagree Disagree Disagree Neither agree nor disagree Agree Neither agree nor
disagree Agree Agree Neither agree nor disagree Neither agree nor disagree Agree Agree
Strongly agree Neither agree nor disagree Neither agree nor disagree Strongly agree Neither
agree nor disagree Neither agree nor disagree Neither agree nor disagree Strongly agree Strongly
agree Make a decision later.

10761632126 35-44 Male Russia No. I have previously been a project manager. Agree
Agree Agree Neither agree nor disagree Strongly agree Neither agree nor disagree Agree
Agree Neither agree nor disagree Strongly agree Neither agree nor disagree Disagree Neither
agree nor disagree Agree Strongly agree Agree Agree Disagree Agree Neither agree nor
disagree Disagree Neither agree nor disagree Agree Neither agree nor disagree Agree
Disagree Strongly agree Disagree Neither agree nor disagree Disagree Agree Disagree
Neither agree nor disagree Disagree Strongly agree Strongly disagree Agree Neither agree nor

disagree Disagree Agree Strongly agree Agree Neither agree nor disagree Disagree Agree
Agree Agree Agree Disagree Agree Make a decision later.

10761609765 45-54 Female Russia No. No. Disagree Disagree Agree Agree Neither
agree nor disagree Agree Agree Neither agree nor disagree Disagree Agree Neither agree nor
disagree Disagree Agree Agree Disagree Agree Agree Disagree Disagree Agree
Agree Neither agree nor disagree Neither agree nor disagree Agree Disagree Neither agree nor
disagree Agree Disagree Agree Agree Neither agree nor disagree Neither agree nor disagree
Strongly agree Neither agree nor disagree Agree Agree Agree Disagree Neither agree nor
disagree Disagree Disagree Agree Agree Agree Neither agree nor disagree Neither agree
nor disagree Neither agree nor disagree Agree Neither agree nor disagree Disagree Sell the
shares to re-invest somewhere else right now.

10761605031 35-44 Female Russia No. No. Neither agree nor disagree Agree Agree
Neither agree nor disagree Agree Disagree Agree Neither agree nor disagree Strongly disagree
Agree Disagree Strongly disagree Strongly agree Agree Neither agree nor disagree Agree
Agree Disagree Neither agree nor disagree Neither agree nor disagree Neither agree nor disagree
Disagree Neither agree nor disagree Agree Neither agree nor disagree Agree Strongly agree
Disagree Agree Agree Neither agree nor disagree Neither agree nor disagree Strongly agree
Agree Neither agree nor disagree Agree Agree Strongly disagree Agree Agree Strongly
agree Agree Strongly agree Neither agree nor disagree Strongly agree Neither agree nor
disagree Agree Agree Neither agree nor disagree Neither agree nor disagree Keep the shares.

10761593132 55-64 Female Russia No. No. Agree Agree Neither agree nor disagree
Disagree Strongly agree Neither agree nor disagree Agree Agree Agree Disagree Agree
Disagree Strongly agree Neither agree nor disagree Agree Disagree Agree Agree Agree
Disagree Agree Neither agree nor disagree Disagree Disagree Strongly agree Disagree
Agree Agree Disagree Disagree Neither agree nor disagree Disagree Neither agree nor
disagree Disagree Agree Agree Neither agree nor disagree Disagree Disagree Strongly
agree Neither agree nor disagree Agree Agree Neither agree nor disagree Disagree Agree
Disagree Agree Disagree Agree Keep the shares.

10761587321 25-34 Female Russia No. No. Disagree Disagree Agree Disagree
Neither agree nor disagree Disagree Neither agree nor disagree Disagree Disagree Agree
Agree Disagree Agree Neither agree nor disagree Agree Agree Agree Agree Neither
agree nor disagree Agree Disagree Agree Neither agree nor disagree Agree Disagree
Disagree Agree Neither agree nor disagree Agree Agree Agree Agree Agree Agree
Agree Disagree Disagree Neither agree nor disagree Agree Neither agree nor disagree
Disagree Agree Disagree Disagree Agree Agree Agree Neither agree nor disagree
Disagree Disagree Make a decision later.

10761551670 18-24 Female Norway No. No. Neither agree nor disagree Agree Agree
Agree Agree Disagree Agree Disagree Disagree Neither agree nor disagree Agree Agree
Agree Agree Neither agree nor disagree Neither agree nor disagree Agree Neither agree nor
disagree Neither agree nor disagree Neither agree nor disagree Agree Neither agree nor disagree
Neither agree nor disagree Agree Neither agree nor disagree Disagree Agree Disagree Neither
agree nor disagree Neither agree nor disagree Agree Disagree Neither agree nor disagree
Neither agree nor disagree Agree Neither agree nor disagree Agree Neither agree nor disagree
Neither agree nor disagree Neither agree nor disagree Neither agree nor disagree Agree Agree
Agree Neither agree nor disagree Agree Neither agree nor disagree Neither agree nor disagree
Neither agree nor disagree Neither agree nor disagree Make a decision later.

disagree Neither agree nor disagree Neither agree nor disagree Agree Disagree Agree
Disagree Neither agree nor disagree Disagree Disagree Agree Neither agree nor disagree
Agree Agree Disagree Neither agree nor disagree Neither agree nor disagree Agree Neither
agree nor disagree Disagree Disagree Keep the shares.

10760776645 35-44 Female Russia Yes. Other (please specify) Agree Neither agree nor
disagree Neither agree nor disagree Disagree Strongly agree Agree Strongly agree Agree
Disagree Neither agree nor disagree Agree Agree Agree Agree Neither agree nor disagree
Neither agree nor disagree Agree Neither agree nor disagree Strongly disagree Agree Agree
Disagree Neither agree nor disagree Neither agree nor disagree Neither agree nor disagree
Disagree Agree Disagree Disagree Neither agree nor disagree Neither agree nor disagree
Disagree Agree Neither agree nor disagree Agree Disagree Disagree Neither agree nor
disagree Disagree Agree Agree Agree Agree Agree Neither agree nor disagree Agree Neither
agree nor disagree Agree Agree Disagree Disagree Keep the shares.

10760750284 35-44 Female Russia No. No. Agree Agree Neither agree nor disagree
Agree Neither agree nor disagree Agree Agree Disagree Neither agree nor disagree Disagree
Neither agree nor disagree Disagree Agree Agree Agree Neither agree nor disagree Neither
agree nor disagree Disagree Disagree Neither agree nor disagree Agree Neither agree nor
disagree Disagree Disagree Neither agree nor disagree Disagree Agree Disagree Agree
Disagree Neither agree nor disagree Disagree Neither agree nor disagree Disagree Agree
Agree Agree Neither agree nor disagree Neither agree nor disagree Disagree Disagree Agree
Agree Agree Agree Agree Neither agree nor disagree Agree Agree Agree Keep the
shares.

10760742915 45-54 Female Russia No. No. Agree Disagree Agree Neither agree nor
disagree Agree Neither agree nor disagree Agree Disagree Disagree Disagree Agree
Strongly disagree Agree Agree Agree Disagree Agree Disagree Agree Disagree Agree
Disagree Neither agree nor disagree Disagree Strongly agree Disagree Agree Disagree
Neither agree nor disagree Strongly disagree Strongly agree Strongly disagree Strongly agree
Disagree Agree Disagree Neither agree nor disagree Disagree Disagree Agree Agree
Agree Agree Disagree Neither agree nor disagree Disagree Strongly agree Agree Disagree
Agree Keep the shares.

10760734315 25-34 Female Russia No. No. Neither agree nor disagree Disagree Agree
Neither agree nor disagree Strongly agree Disagree Strongly agree Strongly disagree Neither
agree nor disagree Strongly disagree Neither agree nor disagree Strongly disagree Agree
Neither agree nor disagree Agree Agree Agree Neither agree nor disagree Neither agree nor
disagree Agree Agree Strongly disagree Neither agree nor disagree Agree Neither agree nor
disagree Disagree Neither agree nor disagree Disagree Neither agree nor disagree Disagree
Agree Strongly disagree Agree Neither agree nor disagree Agree Strongly agree Agree
Strongly disagree Neither agree nor disagree Neither agree nor disagree Disagree Agree Agree
Neither agree nor disagree Agree Agree Agree Disagree Neither agree nor disagree Disagree
Keep the shares.

10760728332 25-34 Female Russia No. No. Neither agree nor disagree Agree Disagree
Neither agree nor disagree Strongly agree Agree Strongly agree Neither agree nor disagree
Disagree Disagree Neither agree nor disagree Disagree Strongly agree Agree Strongly agree
Strongly agree Strongly agree Neither agree nor disagree Disagree Strongly disagree Agree
Disagree Neither agree nor disagree Neither agree nor disagree Agree Strongly disagree Agree
Agree Agree Strongly disagree Disagree Disagree Neither agree nor disagree Agree Agree

Disagree Neither agree nor disagree Neither agree nor disagree Agree Strongly agree Disagree
Strongly agree Neither agree nor disagree Disagree Neither agree nor disagree Neither agree nor
disagree Disagree Neither agree nor disagree Disagree Strongly agree Make a decision later.

10760724566 25-34 Male Russia No. No. Agree Neither agree nor disagree Agree
Disagree Agree Disagree Agree Neither agree nor disagree Agree Neither agree nor disagree
Neither agree nor disagree Neither agree nor disagree Agree Agree Agree Neither agree nor
disagree Agree Disagree Neither agree nor disagree Agree Agree Disagree Agree
Disagree Agree Disagree Agree Disagree Disagree Disagree Agree Neither agree nor
disagree Agree Agree Agree Neither agree nor disagree Agree Disagree Disagree Agree
Neither agree nor disagree Agree Agree Neither agree nor disagree Agree Agree Neither
agree nor disagree Agree Neither agree nor disagree Agree Make a decision later.

10760716732 35-44 Female Russia No. I have previously been a project manager. Neither
agree nor disagree Neither agree nor disagree Disagree Disagree Agree Agree Neither agree
nor disagree Neither agree nor disagree Neither agree nor disagree Strongly disagree Neither
agree nor disagree Agree Agree Agree Strongly agree Neither agree nor disagree Agree
Neither agree nor disagree Disagree Strongly agree Agree Disagree Disagree Disagree
Strongly agree Disagree Disagree Agree Disagree Strongly disagree Disagree Agree
Disagree Agree Strongly agree Agree Agree Disagree Neither agree nor disagree Agree
Neither agree nor disagree Strongly agree Disagree Neither agree nor disagree Agree Neither
agree nor disagree Disagree Agree Agree Strongly agree Make a decision later.

10760715636 35-44 Male Russia No. No. Agree Agree Agree Agree Agree
Disagree Agree Neither agree nor disagree Neither agree nor disagree Disagree Agree Agree
Agree Neither agree nor disagree Neither agree nor disagree Agree Agree Agree Neither
agree nor disagree Disagree Neither agree nor disagree Disagree Disagree Agree Neither
agree nor disagree Disagree Agree Disagree Neither agree nor disagree Disagree Agree
Disagree Agree Agree Agree Agree Agree Agree Disagree Agree Neither agree nor
disagree Agree Neither agree nor disagree Agree Agree Neither agree nor disagree Agree
Agree Disagree Neither agree nor disagree Sell the shares to re-invest somewhere else right now.

10760713687 35-44 Male Russia No. No. Agree Neither agree nor disagree Agree
Strongly agree Strongly agree Strongly agree Neither agree nor disagree Disagree Disagree
Disagree Disagree Disagree Agree Disagree Disagree Agree Neither agree nor disagree
Disagree Neither agree nor disagree Agree Disagree Agree Strongly disagree Agree
Disagree Agree Neither agree nor disagree Neither agree nor disagree Disagree Strongly
disagree Disagree Agree Strongly agree Disagree Strongly agree Strongly agree Disagree
Disagree Neither agree nor disagree Strongly agree Agree Disagree Agree Neither agree nor
disagree Agree Strongly agree Disagree Agree Neither agree nor disagree Neither agree nor
disagree Keep the shares.

10760692061 35-44 Male Iceland No. I have previously been a project manager. Neither
agree nor disagree Agree Neither agree nor disagree Disagree Disagree Disagree Strongly
agree Agree Agree Disagree Agree Disagree Agree Neither agree nor disagree Neither
agree nor disagree Disagree Agree Disagree Neither agree nor disagree Neither agree nor
disagree Agree Agree Disagree Agree Neither agree nor disagree Disagree Agree Agree
Agree Neither agree nor disagree Disagree Disagree Agree Neither agree nor disagree Agree
Neither agree nor disagree Agree Disagree Neither agree nor disagree Neither agree nor disagree
Agree Agree Agree Agree Agree Agree Neither agree nor disagree Neither agree nor
disagree Neither agree nor disagree Agree Make a decision later.

10760678502 45-54 Male Norway I have previously been working in the oil and gas industry I am a project director. Agree Agree Agree Disagree Agree Neither agree nor disagree Agree Disagree Neither agree nor disagree Disagree Neither agree nor disagree Disagree Neither agree nor disagree Agree Neither agree nor disagree Neither agree nor disagree Agree Disagree Neither agree nor disagree Disagree Agree Neither agree nor disagree Neither agree nor disagree Disagree Neither agree nor disagree Disagree Agree Disagree Disagree Disagree Neither agree nor disagree Neither agree nor disagree Neither agree nor disagree Disagree Agree Agree Neither agree nor disagree Neither agree nor disagree Disagree Disagree Agree Agree Agree Disagree Agree Neither agree nor disagree Agree Neither agree nor disagree Disagree Agree Keep the shares.

10760652651 35-44 Male Belgium No. No. Agree Strongly disagree Agree Neither agree nor disagree Agree Neither agree nor disagree Agree Neither agree nor disagree Neither agree nor disagree Agree Agree Disagree Strongly agree Agree Neither agree nor disagree Neither agree nor disagree Agree Strongly disagree Agree Disagree Agree Disagree Neither agree nor disagree Agree Agree Disagree Agree Disagree Disagree Neither agree nor disagree Neither agree nor disagree Disagree Neither agree nor disagree Strongly disagree Strongly agree Agree Agree Neither agree nor disagree Strongly disagree Neither agree nor disagree Disagree Strongly agree Neither agree nor disagree Disagree Strongly agree Neither agree nor disagree Agree Strongly agree Strongly disagree Neither agree nor disagree Make a decision later.

10760642544 35-44 Female Russia No. No. Neither agree nor disagree Agree Agree Disagree Agree Agree Neither agree nor disagree Agree Disagree Disagree Neither agree nor disagree Neither agree nor disagree Strongly agree Strongly agree Neither agree nor disagree Disagree Neither agree nor disagree Disagree Neither agree nor disagree Disagree Agree Neither agree nor disagree Neither agree nor disagree Agree Neither agree nor disagree Neither agree nor disagree Agree Disagree Disagree Neither agree nor disagree Neither agree nor disagree Neither agree nor disagree Disagree Agree Agree Agree Strongly disagree Disagree Strongly agree Agree Neither agree nor disagree Agree Neither agree nor disagree Strongly agree Neither agree nor disagree Neither agree nor disagree Strongly agree Neither agree nor disagree Agree Make a decision later.

10760640749 25-34 Male Russia No. No. Disagree Disagree Neither agree nor disagree Agree Neither agree nor disagree Neither agree nor disagree Agree Agree Neither agree nor disagree Strongly disagree Neither agree nor disagree Disagree Agree Agree Agree Agree Agree Strongly agree Agree Disagree Agree Neither agree nor disagree Strongly disagree Agree Neither agree nor disagree Disagree Agree Disagree Agree Disagree Disagree Neither agree nor disagree Disagree Agree Agree Agree Agree Strongly disagree Agree Neither agree nor disagree Disagree Agree Neither agree nor disagree Agree Neither agree nor disagree Agree Disagree Agree Agree Neither agree nor disagree Sell the shares to re-invest somewhere else right now.

10760630786 35-44 Female Russia No. No. Agree Agree Neither agree nor disagree Disagree Agree Disagree Agree Agree Disagree Disagree Agree Disagree Strongly agree Agree Agree Agree Agree Agree Neither agree nor disagree Neither agree nor disagree Disagree Agree Disagree Neither agree nor disagree Agree Neither agree nor disagree Disagree Agree Disagree Disagree Disagree Agree Disagree Agree Neither agree nor disagree Neither agree nor disagree Disagree Neither agree nor disagree Disagree Neither agree

nor disagree Agree Disagree Agree Agree Disagree Disagree Neither agree nor disagree
Agree Agree Disagree Agree Keep the shares.

10760630158 35-44 Male Russia No. No. Agree Agree Agree Agree Neither agree
nor disagree Agree Agree Neither agree nor disagree Neither agree nor disagree Neither agree
nor disagree Agree Neither agree nor disagree Agree Neither agree nor disagree Neither agree
nor disagree Agree Neither agree nor disagree Neither agree nor disagree Disagree Agree
Agree Disagree Disagree Disagree Disagree Disagree Disagree Disagree Neither agree nor disagree
Disagree Disagree Disagree Disagree Agree Disagree Agree Agree Agree Disagree
Disagree Disagree Disagree Agree Agree Disagree Disagree Disagree Agree Agree
Disagree Agree Sell the shares to re-invest somewhere else right now.

10760626791 25-34 Female Russia No. Other (please specify) Agree Neither agree nor
disagree Agree Disagree Agree Agree Agree Disagree Neither agree nor disagree
Disagree Agree Agree Agree Agree Agree Neither agree nor disagree Agree Disagree
Neither agree nor disagree Disagree Agree Neither agree nor disagree Agree Neither agree nor
disagree Agree Agree Agree Disagree Neither agree nor disagree Neither agree nor disagree
Neither agree nor disagree Neither agree nor disagree Neither agree nor disagree Neither agree nor
disagree Agree Disagree Agree Neither agree nor disagree Neither agree nor disagree Neither
agree nor disagree Neither agree nor disagree Agree Disagree Disagree Neither agree nor
disagree Agree Agree Agree Neither agree nor disagree Neither agree nor disagree Sell the
shares to re-invest somewhere else right now.

10760619101 35-44 Male Russia No. No. Agree Agree Neither agree nor disagree
Disagree Strongly agree Disagree Strongly agree Agree Neither agree nor disagree Disagree
Strongly agree Strongly disagree Agree Neither agree nor disagree Strongly agree Disagree
Neither agree nor disagree Disagree Agree Disagree Agree Disagree Neither agree nor
disagree Disagree Agree Disagree Agree Disagree Disagree Disagree Agree Disagree
Neither agree nor disagree Disagree Agree Agree Agree Disagree Disagree Agree Neither
agree nor disagree Agree Neither agree nor disagree Neither agree nor disagree Neither agree nor
disagree Disagree Agree Agree Disagree Neither agree nor disagree Keep the shares.

10760618827 35-44 Male Norway I have previously been working in the oil and gas industry
No. Agree Strongly disagree Agree Agree Agree Disagree Strongly agree Strongly
disagree Agree Disagree Strongly agree Strongly disagree Agree Agree Agree Disagree
Agree Disagree Neither agree nor disagree Disagree Agree Strongly disagree Neither agree
nor disagree Neither agree nor disagree Neither agree nor disagree Neither agree nor disagree
Agree Disagree Strongly disagree Disagree Agree Strongly disagree Agree Strongly
disagree Agree Disagree Agree Neither agree nor disagree Strongly disagree Disagree
Strongly agree Agree Neither agree nor disagree Strongly disagree Agree Neither agree nor
disagree Strongly agree Strongly agree Neither agree nor disagree Agree Make a decision later.

10760613885 45-54 Female Russia No. I have previously been a project manager. Disagree
Disagree Strongly agree Agree Agree Disagree Agree Disagree Disagree Agree Agree
Disagree Agree Agree Agree Disagree Agree Disagree Agree Agree Agree Disagree
Agree Disagree Agree Disagree Agree Disagree Agree Agree Agree Disagree Agree
Disagree Agree Disagree Agree Disagree Disagree Disagree Agree Agree Agree
Disagree Agree Agree Agree Agree Disagree Disagree Keep the shares.

10760605468 35-44 Female Russia No. No. Neither agree nor disagree Disagree Neither
agree nor disagree Agree Agree Disagree Agree Disagree Disagree Disagree Agree
Disagree Neither agree nor disagree Agree Disagree Neither agree nor disagree Agree

Disagree Disagree Agree Agree Neither agree nor disagree Neither agree nor disagree Agree
Disagree Neither agree nor disagree Strongly agree Agree Agree Agree Agree Disagree
Agree Neither agree nor disagree Agree Disagree Agree Neither agree nor disagree Neither
agree nor disagree Disagree Disagree Agree Agree Agree Disagree Agree Agree
Neither agree nor disagree Disagree Disagree Make a decision later.

10760603880 35-44 Male Russia No. No. Neither agree nor disagree Agree Agree
Neither agree nor disagree Agree Agree Neither agree nor disagree Disagree Neither agree nor
disagree Neither agree nor disagree Neither agree nor disagree Disagree Agree Agree
Strongly agree Neither agree nor disagree Neither agree nor disagree Disagree Agree Neither
agree nor disagree Neither agree nor disagree Neither agree nor disagree Neither agree nor disagree
Agree Neither agree nor disagree Disagree Agree Disagree Agree Disagree Disagree
Neither agree nor disagree Strongly disagree Neither agree nor disagree Agree Neither agree nor
disagree Neither agree nor disagree Neither agree nor disagree Neither agree nor disagree Agree
Agree Agree Strongly agree Agree Neither agree nor disagree Neither agree nor disagree
Neither agree nor disagree Agree Neither agree nor disagree Neither agree nor disagree Make a
decision later.

10760586089 25-34 Male Russia No. No. Agree Agree Agree Agree Strongly agree
Disagree Agree Neither agree nor disagree Strongly agree Disagree Agree Disagree Neither
agree nor disagree Disagree Neither agree nor disagree Neither agree nor disagree Agree Agree
Disagree Disagree Agree Disagree Agree Disagree Agree Strongly disagree Disagree
Strongly disagree Disagree Disagree Agree Disagree Neither agree nor disagree Disagree
Strongly agree Strongly disagree Agree Disagree Disagree Agree Disagree Strongly agree
Agree Disagree Agree Neither agree nor disagree Agree Strongly agree Disagree Strongly
agree Sell the shares to re-invest somewhere else right now.

10760575584 35-44 Female Russia No. No. Neither agree nor disagree Strongly disagree
Agree Disagree Agree Disagree Agree Disagree Disagree Disagree Agree Strongly
disagree Strongly agree Agree Agree Disagree Strongly agree Disagree Agree Disagree
Agree Disagree Agree Agree Agree Disagree Agree Neither agree nor disagree Agree
Disagree Agree Disagree Agree Agree Agree Disagree Agree Disagree Agree Agree
Agree Agree Neither agree nor disagree Disagree Disagree Agree Agree Agree Neither
agree nor disagree Agree Sell the shares to re-invest somewhere else right now.

10760573234 35-44 Female Russia No. No. Neither agree nor disagree Neither agree nor
disagree Neither agree nor disagree Disagree Agree Strongly agree Agree Agree Strongly
disagree Agree Neither agree nor disagree Neither agree nor disagree Agree Neither agree nor
disagree Disagree Agree Agree Disagree Agree Disagree Neither agree nor disagree
Agree Neither agree nor disagree Disagree Agree Agree Agree Disagree Neither agree nor
disagree Neither agree nor disagree Agree Disagree Disagree Strongly disagree Agree
Agree Agree Neither agree nor disagree Agree Strongly agree Neither agree nor disagree
Agree Agree Disagree Neither agree nor disagree Disagree Strongly agree Strongly agree
Disagree Agree Make a decision later.

10760528819 25-34 Male Norway I have previously been working in the oil and gas industry
No. Neither agree nor disagree Disagree Neither agree nor disagree Disagree Agree Agree
Agree Disagree Agree Disagree Agree Agree Agree Agree Agree Agree Strongly
agree Disagree Agree Disagree Agree Disagree Agree Disagree Neither agree nor
disagree Neither agree nor disagree Strongly disagree Strongly disagree Strongly disagree
Agree Neither agree nor disagree Neither agree nor disagree Strongly agree Neither agree nor

Disagree Agree Neither agree nor disagree Neither agree nor disagree Agree Agree Agree
Neither agree nor disagree Neither agree nor disagree Agree Neither agree nor disagree Agree
Neither agree nor disagree Disagree Agree Make a decision later.

10760399724 25-34 Male Bulgaria No. No. Disagree Disagree Agree Neither agree nor
disagree Agree Agree Agree Disagree Neither agree nor disagree Strongly disagree Neither
agree nor disagree Disagree Agree Neither agree nor disagree Agree Neither agree nor disagree
Agree Neither agree nor disagree Agree Disagree Agree Neither agree nor disagree Neither
agree nor disagree Disagree Strongly agree Disagree Neither agree nor disagree Disagree
Disagree Disagree Neither agree nor disagree Disagree Agree Disagree Agree Neither agree
nor disagree Agree Disagree Disagree Agree Neither agree nor disagree Agree Agree
Disagree Agree Neither agree nor disagree Agree Agree Disagree Agree Make a decision
later.

10760398540 25-34 Female Russia No. I have previously been a project manager. Neither
agree nor disagree Agree Neither agree nor disagree Disagree Agree Disagree Strongly agree
Agree Agree Disagree Neither agree nor disagree Strongly disagree Agree Disagree Agree
Neither agree nor disagree Agree Disagree Neither agree nor disagree Disagree Neither agree
nor disagree Disagree Neither agree nor disagree Disagree Disagree Disagree Agree
Disagree Disagree Disagree Agree Disagree Neither agree nor disagree Disagree Agree
Agree Agree Agree Disagree Disagree Agree Agree Agree Disagree Agree Disagree
Agree Agree Disagree Neither agree nor disagree Sell the shares to re-invest somewhere else
right now.

10760395502 25-34 Female Russia No. I have previously been a project manager. Neither
agree nor disagree Strongly disagree Neither agree nor disagree Agree Strongly agree Agree
Strongly agree Neither agree nor disagree Disagree Agree Strongly agree Neither agree nor
disagree Agree Strongly agree Strongly agree Neither agree nor disagree Agree Neither agree
nor disagree Neither agree nor disagree Neither agree nor disagree Neither agree nor disagree
Disagree Neither agree nor disagree Neither agree nor disagree Agree Disagree Strongly agree
Disagree Strongly agree Strongly disagree Neither agree nor disagree Strongly disagree Agree
Agree Agree Neither agree nor disagree Neither agree nor disagree Neither agree nor disagree
Agree Agree Agree Agree Agree Agree Neither agree nor disagree Neither agree nor
disagree Agree Agree Neither agree nor disagree Neither agree nor disagree Make a decision
later.

10760355366 25-34 Male Russia No. No. Disagree Disagree Agree Strongly agree
Agree Neither agree nor disagree Agree Disagree Disagree Neither agree nor disagree Neither
agree nor disagree Disagree Strongly agree Agree Strongly agree Agree Agree Neither
agree nor disagree Neither agree nor disagree Agree Agree Disagree Agree Strongly agree
Neither agree nor disagree Disagree Agree Disagree Neither agree nor disagree Agree
Disagree Agree Agree Agree Agree Agree Neither agree nor disagree Neither agree nor
disagree Agree Neither agree nor disagree Disagree Agree Strongly agree Agree Agree
Agree Agree Neither agree nor disagree Neither agree nor disagree Disagree Make a decision
later.

10760350452 25-34 Female Norway Other (please specify) No. Agree Disagree Strongly
agree Disagree Agree Neither agree nor disagree Agree Disagree Agree Agree Agree
Strongly disagree Strongly agree Agree Agree Neither agree nor disagree Agree Disagree
Agree Neither agree nor disagree Neither agree nor disagree Neither agree nor disagree Agree
Disagree Agree Disagree Neither agree nor disagree Strongly disagree Strongly disagree

Disagree Agree Disagree Strongly agree Strongly disagree Agree Neither agree nor disagree
Neither agree nor disagree Strongly disagree Disagree Neither agree nor disagree Disagree
Agree Agree Disagree Strongly agree Agree Agree Agree Disagree Neither agree nor
disagree Sell the shares to re-invest somewhere else right now.

10760324452 18-24 Male Russia Yes. No. Disagree Neither agree nor disagree Neither
agree nor disagree Agree Agree Agree Neither agree nor disagree Neither agree nor disagree
Disagree Neither agree nor disagree Disagree Disagree Agree Agree Neither agree nor
disagree Agree Agree Disagree Agree Agree Disagree Neither agree nor disagree Neither
agree nor disagree Agree Neither agree nor disagree Agree Agree Disagree Agree Neither
agree nor disagree Disagree Disagree Agree Agree Disagree Agree Neither agree nor
disagree Disagree Agree Neither agree nor disagree Disagree Agree Agree Disagree
Agree Agree Neither agree nor disagree Agree Agree Disagree Make a decision later.

10760261047 35-44 Female Russia No. No. Neither agree nor disagree Agree Agree
Agree Agree Disagree Agree Neither agree nor disagree Disagree Agree Agree Disagree
Disagree Agree Agree Agree Agree Neither agree nor disagree Strongly disagree Neither
agree nor disagree Agree Strongly disagree Agree Agree Agree Disagree Agree Neither
agree nor disagree Agree Disagree Neither agree nor disagree Disagree Agree Agree Agree
Disagree Agree Strongly agree Strongly agree Disagree Agree Agree Agree Agree
Disagree Agree Agree Neither agree nor disagree Agree Agree Keep the shares.

10760143038 35-44 Male Norway No. No. Disagree Agree Agree Strongly disagree
Neither agree nor disagree Disagree Agree Disagree Neither agree nor disagree Neither agree
nor disagree Agree Disagree Strongly agree Neither agree nor disagree Agree Disagree
Strongly agree Neither agree nor disagree Disagree Neither agree nor disagree Agree Disagree
Neither agree nor disagree Disagree Agree Neither agree nor disagree Neither agree nor disagree
Neither agree nor disagree Disagree Disagree Neither agree nor disagree Disagree Agree
Strongly disagree Agree Agree Neither agree nor disagree Agree Neither agree nor disagree
Disagree Neither agree nor disagree Agree Disagree Strongly disagree Agree Neither agree
nor disagree Neither agree nor disagree Agree Neither agree nor disagree Agree Keep the
shares.

10760061466 35-44 Female Norway No. No. Strongly agree Disagree Strongly agree
Agree Agree Disagree Strongly agree Disagree Disagree Neither agree nor disagree
Strongly agree Disagree Agree Neither agree nor disagree Neither agree nor disagree Disagree
Agree Disagree Neither agree nor disagree Neither agree nor disagree Strongly agree Disagree
Agree Agree Neither agree nor disagree Disagree Agree Disagree Disagree Neither agree
nor disagree Disagree Disagree Agree Disagree Agree Disagree Agree Disagree
Disagree Neither agree nor disagree Agree Agree Agree Disagree Disagree Disagree
Agree Strongly agree Disagree Neither agree nor disagree Keep the shares.

10760031736 35-44 Female Norway Yes. No. Disagree Strongly disagree Neither agree
nor disagree Agree Strongly agree Disagree Strongly agree Neither agree nor disagree
Neither agree nor disagree Disagree Neither agree nor disagree Disagree Strongly agree Agree
Strongly agree Neither agree nor disagree Strongly agree Neither agree nor disagree Disagree
Disagree Neither agree nor disagree Disagree Agree Agree Agree Disagree Strongly agree
Disagree Agree Strongly disagree Disagree Disagree Agree Agree Strongly agree
Strongly agree Agree Disagree Agree Agree Disagree Strongly agree Neither agree nor
disagree Agree Agree Neither agree nor disagree Neither agree nor disagree Agree Agree
Strongly agree Keep the shares.

10760009910 35-44 Male Norway No. No. Disagree Strongly disagree Agree Disagree
Neither agree nor disagree Neither agree nor disagree Agree Disagree Agree Disagree Agree
Disagree Agree Disagree Neither agree nor disagree Neither agree nor disagree Agree
Disagree Neither agree nor disagree Disagree Agree Neither agree nor disagree Agree Neither
agree nor disagree Neither agree nor disagree Neither agree nor disagree Neither agree nor disagree
Disagree Disagree Neither agree nor disagree Agree Disagree Neither agree nor disagree
Disagree Neither agree nor disagree Agree Neither agree nor disagree Neither agree nor disagree
Disagree Disagree Disagree Agree Agree Neither agree nor disagree Agree Neither agree
nor disagree Neither agree nor disagree Neither agree nor disagree Disagree Neither agree nor
disagree Sell the shares to re-invest somewhere else right now.

10759921793 25-34 Male Norway Yes. No. Disagree Disagree Neither agree nor disagree
Neither agree nor disagree Neither agree nor disagree Disagree Neither agree nor disagree
Disagree Neither agree nor disagree Disagree Agree Neither agree nor disagree Agree Agree
Agree Disagree Agree Neither agree nor disagree Disagree Disagree Neither agree nor
disagree Neither agree nor disagree Disagree Agree Neither agree nor disagree Disagree
Agree Neither agree nor disagree Disagree Disagree Neither agree nor disagree Agree
Strongly agree Agree Strongly agree Neither agree nor disagree Neither agree nor disagree
Neither agree nor disagree Neither agree nor disagree Strongly disagree Disagree Agree
Disagree Neither agree nor disagree Strongly agree Strongly agree Agree Neither agree nor
disagree Disagree Disagree Make a decision later.

10759779343 45-54 Female Mexico No. Yes. Neither agree nor disagree Strongly disagree
Neither agree nor disagree Disagree Neither agree nor disagree Disagree Agree Neither agree
nor disagree Agree Disagree Agree Strongly disagree Agree Agree Agree Agree
Strongly agree Disagree Strongly disagree Neither agree nor disagree Strongly agree Strongly
disagree Agree Agree Agree Strongly disagree Agree Disagree Disagree Strongly
disagree Agree Strongly disagree Neither agree nor disagree Agree Disagree Agree Agree
Disagree Agree Agree Disagree Strongly agree Disagree Disagree Strongly agree Neither
agree nor disagree Strongly agree Neither agree nor disagree Agree Agree Make a decision
later.

10757709646 25-34 Male Norway No. No. Neither agree nor disagree Strongly disagree
Neither agree nor disagree Disagree Neither agree nor disagree Disagree Agree Agree
Disagree Disagree Agree Neither agree nor disagree Neither agree nor disagree Agree Agree
Neither agree nor disagree Agree Neither agree nor disagree Disagree Strongly disagree Agree
Disagree Neither agree nor disagree Agree Agree Neither agree nor disagree Agree Agree
Agree Disagree Agree Disagree Agree Neither agree nor disagree Agree Agree Agree
Disagree Agree Neither agree nor disagree Agree Agree Neither agree nor disagree Agree
Agree Agree Disagree Agree Agree Agree Keep the shares.