# Prosocially motivated innovative team behaviour

## and the sincerity of an organisational mission

Natalie Hellesø Milde
Martine Kjenstad

SNF

# SNF
SAMFUNNS- OG NÆRINGSLIVSFORSKNING AS

- er et selskap i NHH-miljøet med oppgave å initiere, organisere og utføre ekstern-finansiert forskning. Norges Handelshøyskole og Stiftelsen SNF er aksjonærer. Virksomheten drives med basis i egen stab og fagmiljøene ved NHH.

SNF er ett av Norges ledende forskningsmiljø innen anvendt økonomisk-administrativ forskning, og har gode samarbeidsrelasjoner til andre forskningsmiljøer i Norge og utlandet. SNF utfører forskning og forskningsbaserte utredninger for sentrale beslutningstakere i privat og offentlig sektor. Forskningen organiseres i program-mer og prosjekter av langsiktig og mer kortsiktig karakter. Alle publikasjoner er offentlig tilgjengelig.

# SNF
CENTRE FOR APPLIED RESEARCH AT NHH

- is a company within the NHH group. Its objective is to initiate, organize and conduct externally financed research. The company shareholders are the Norwegian School of Economics (NHH) and the SNF Foundation. Research is carried out by SNF´s own staff as well as faculty members at NHH.

SNF is one of Norway´s leading research environment within applied economic administrative research. It has excellent working relations with other research environments in Norway as well as abroad. SNF conducts research and prepares research-based reports for major decision-makers both in the private and the public sector. Research is organized in programmes and projects on a long-term as well as a short-term basis. All our publications are publicly available.

# SNF-Report No. 10/21

# Prosocially motivated innovative team behaviour

*and the sincerity of an organisational mission*

by

Natalie Hellesø Milde
Martine Kjenstad

Centre for Applied Research at NHH
Bergen, June 2021

# Preface

This master thesis is written as part of the masters degree in Economics and Business Administration at the Norwegian School of Economics, NHH. The thesis is part of the research project Radical Technology-Driven Change in Established Firms (RaCE), and constitutes 30 ECTS credits within the major Business Analysis and Performance Management (BUS).

With our thesis, we wanted to explore a topic at the frontier of research on innovation in established firms, and we are therefore very grateful for the opportunity given to us by the RaCE-project. Conducting such a comprehensive study has given us valuable experience, and although it has been challenging at times, more than anything it has been enjoyable and educational.

Contents

## Figures

## Tables

# 1 Introduction

Innovation is increasingly recognised as key to sustained performance and survival for firms operating in today's rapidly changing and complex world (Anderson, Potočnik & Zhou, 2014), and literature on innovative behaviour suggests that teams, as opposed to individuals, are key enablers of implementing and developing innovation (Hülsheger et al., 2009; Singh & Fleming, 2010). An important driver for effective team outcomes is motivated team members (Kozlowski & Bell, 2003), making understanding team motivation of critical interest for scholars and practitioners alike (Liu et al., 2016). Despite this evident importance, however, one type of motivation has been largely overlooked with regards to innovation in the team motivation literature, namely, prosocial motivation – the desire to benefit other people (Grant, 2008a). People engage in their work, to a large degree, to have a positive impact on and benefit other people, and not purely for self-advancement (Batson, 1987; De Dreu, 2006; Grant et al., 2007). Working in mission-driven organisations provides prosocially motivated individuals with the opportunity to do good for others (Grant & Sumanth, 2009). The vast majority of studies investigating prosocial motivation define it as a trait, looking at individual differences in other-orientation, personality and values (Bolino & Grant, 2016). However, little attention has been given to the contexts, situations and manners in which prosocial motivation arises – termed state-like prosocial motivation (Bolino & Grant, 2016). One such contextual factor, capturing state-like prosocial motivation, is the perceived sincerity of the organisational mission (Sandvik et al., 2019). In this thesis, we take this considerable opportunity and aim to fill this substantial research gap by answering the following research question: *To what extent does sincerity of organisational prosocial mission moderate the relation between team prosocial motivation and innovative team behaviour?*

We propose that team prosocial motivation, a trait-based construct, and a sincere prosocial mission, capturing the presence of state-like prosocial motivation, when combined together strengthen innovative behaviour at the team level. In our study, we define team prosocial motivation as the team's collective desire to benefit others (Hu & Liden, 2015), treating it as trait-like prosocial motivation. Trait-like prosocial motivation concerns continuous traits that employees carry across different situations and over time (Vallerand, 1997). Additionally, we anticipate that having a sincere organisational prosocial mission causes state-like prosocial motivation, as the latter relates to a temporary state caused by a situational context (Vallerand, 1997). Against this background, by investigating the effect of prosocial motivation and sincerity of organisational prosocial mission on innovative team behaviour in tandem, we offer a fresh

perspective for a better understanding of team motivation and subsequent innovative team behaviour in mission-driven organisations.

Our study advances the current understanding of prosocial motivation and teams in several ways. First, we investigate the extent to which team prosocial motivation promotes innovative behaviour at the team level in a mission-driven organisation, answering the scarcely answered call by Grant and Berg (2011) for research on prosocial motivation at the team level. Second, our study also answers the call by Scott and Bruce (1994) for more understanding of innovative behaviour, and contributes new knowledge, seeing as much innovation literature analyses the individual and the organizational levels. To a great extent, organisations across the world are moving towards team-based structures; the need for literature on work team innovation is thus more critical than ever (Anderson, Alvaro & Nielsen, 2014). Finally, the findings of our study will not only answer calls for research on the interaction between trait-like and state-like prosocial motivation, provided by Bolino and Grant (2016), but additionally offer organisations important information on how to enhance innovative behaviour by encouraging teams to help others and sincerely promoting their mission.

The rest of the paper is organised as follows. Chapter 2 outlines the theoretical background relevant to our research question and hypotheses. In Chapter 3, we present our sample organisation, variables construction, empirical methods, summary statistics as well as remarks on validity, reliability and ethics. In Chapter 4, we report the results of our analyses, while Chapter 5 includes our discussion, and the theoretical implications and limitations of the study. Chapter 6 contains practical implications and concluding remarks.

# 2 Literature review

The purpose of our study is to investigate and explain the relation between prosocial motivation and innovative behaviour, as well as the moderating effect of the perceived sincerity of the organisation's prosocial mission.

With the overall aim of answering our research question, we will in this chapter review previous literature and present a theoretical background for the concepts in our research question, subsequently leading up to our suggested hypotheses. We cover our dependent variable innovative team behaviour in Section 2.1 and our first independent variable team prosocial motivation in Section 2.2, before discussing the proposed relation between the two in Section 2.3. Next, we introduce our second independent variable, our moderator, sincerity of organisational prosocial mission, in Section 2.4 and its relation to innovative team behaviour in Section 2.5. Lastly, we investigate the relation among all our variables in Section 2.6.

It is essential to present our procedures in terms of a gathering of the literature. To identify studies relevant to this thesis, we first focused on literature related to innovative behaviour without any constraints. Subsequently, to find literature specifically relevant for our thesis, we included keywords such as prosocial motivation, team prosocial motivation, trait-like prosocial mission, innovation, mission, sincerity, and innovative behaviour. Throughout our search, we also emphasize finding literature from reliable and trusted academic journals, for instance, the *Academy of Management Review*, the *Journal of Applied Psychology*, the *Journal of Management*, the *Journal of Organizational Behaviour*, *Leadership Quarterly*, the *Journal of Creative Behaviour* and the *Strategic Management Journal*.

## 2.1 Innovative behaviour

Innovative behaviour is increasingly acknowledged as a crucial determinant of organizational performance and long-term survival (Anderson, Potočnik & Zhou, 2014). Frequently tasked with solving complex challenges (Salas et al., 2008), teams are often seen by scholars and practitioners alike as the driving force behind innovation (Hülsheger et al., 2009) and the primary unit of performance in organisations. With this background, the aim of this paper is to gain a better understanding of innovative behaviour at the team level.

Based on the definition by Scott and Bruce (1994, pp. 581–582), who define individual innovative behaviour as a multi-stage process involving idea generation, promotion and realisation stages, scholars have explored innovative behaviour in a multitude of contexts and focused on different antecedents – yet many simply equate this behavioural construct with that

of 'innovation' in general (De Spiegelaere et al., 2014). To illustrate the contrast, and to provide further clarity on the qualities of 'innovative behaviour' as a construct, consider West and Farr's (1990) much-used definition of innovation. They define innovation as 'the intentional introduction and application, within a role, group or organization of ideas, processes, products or procedures, new to the relevant unit of adoption, designed to significantly benefit the individual, the group, organization or wider society' (West & Farr, 1990, p. 9). Although this definition encompasses the behavioural aspect of innovative behaviour by emphasizing that innovation relates to the *intentional introduction and application* of something new, it does so with the implicit requirement of *success* of said introduction and application (De Spiegelaere et al., 2014). Accordingly, should an individual come up with a disruptive idea with great beneficial potential, but fail to follow through with implementation of the idea, the process would not be considered innovation. Insisting that innovation be restricted to activities resulting in beneficial outcomes prevents us from capturing such factors as *intentions*, unsuccessful yet valuable *attempts* at innovation, efforts that although innovative lead nowhere, and creative ideation that fails to produce explicit results yet acts as an inspiration to colleagues or team members.

In addition, whereas West and Farr (1990) define innovation as having two stages – introduction and application – Scott and Bruce's (1994) innovative behaviour captures a greater degree of complexity by including a third step – idea generation. The idea generation stage corresponds to the concept of creativity and can thus be seen as a sub-process of innovation (Somech & Drach-Zahavy, 2013). Indeed, creativity has to do with the production of new and useful ideas (Mumford & Gustafson, 1988) and 'doing something for the first time anywhere or creating new knowledge' (Woodman et al., 1993, p. 293). As such, the innovation process represents a more complex and demanding concept than being purely creative.

Finally, Scott and Bruce (1994) capture the fact that innovation processes frequently are characterised by discontinuous activities and, as such, depend on and benefit from various innovative behaviour in all stages. Considering that the present study investigates prosocial motivation and the sincerity of firm prosocial mission at the team level as antecedents of the generation, promotion and realisation of ideas, in other words, all the stages defined by Scott and Bruce (1994), measuring 'innovative behaviour' instead of only 'innovation' allows us the broad perspective we need to study innovative behaviour, not only successful innovations. Nonetheless, it is important to note that, although not identical, these two constructs have considerable overlaps, and a discussion of one is seldom complete without a discussion of the

other. Also, due to this overlap, literature relevant to one will have substantial and valuable relevance for the other.

All taken together, our point of departure for defining and conceptualising innovative team behaviour is Scott and Bruce (1994). For the purpose of this paper, we define innovative *team* behaviour as activities, actions and behaviours that *members of a work team engage in collectively or on behalf of the team* for generation, promotion and realisation of ideas. Our definition acknowledges that a team does consist of individual members that sometimes perform work on their own – making existing research on innovative behaviour at the individual level highly relevant to our study. Nonetheless, our definition also emphasizes the collective nature of teamwork. Furthermore, according to Scott and Bruce (1994), the idea generation stage involves problem recognition and the emergence of ideas or solutions, either new or adopted. During this stage, key drivers for success include open-mindedness, expertise and depth of knowledge (Janssen, 2000). The process continues with idea promotion, a stage in which innovative individuals or teams draw on their networking skills, seek sponsorship and attempt to build a coalition of supporters for an idea (Scott & Bruce, 1994). The process culminates in idea realisation, a stage involving the creation of a prototype or model of the innovation (Scott & Bruce, 1994), one 'that can be touched or experienced, that can now be diffused, mass-produced, turned to productive use, or institutionalized' (Kanter, 1988, p. 112). The idea realisation stage can be particularly demanding (Orth & Volmer, 2017), and important success factors include work persistence, willpower and commitment (Schmitt, 2019).

According to a meta-analysis of team-level predictors of innovation by Hülsheger et al. (2009), teams are usually the driving forces behind the implementation of new ideas. In addition, the findings of Jafri (2010) illustrate that there is a positive relation between affective commitment and innovative behaviour, stressing the fact that innovative behaviour is an essential driver of firm survival.

### 2.2 Prosocial motivation

Motivation is an important driver for behaviour, making it a foundational topic in organisational and psychological research at the individual as well as the team and organisational levels (e.g., Mitchell & Daniels, 2003). Pinder (2008, p. 11) defines work motivation as 'a set of energetic forces that originate both within as well as beyond an individual's being, to initiate work-related behaviour and to determine its form, direction, intensity, and duration'. A motivation not yet investigated in relation to innovative behaviour is team prosocial motivation. Grant (2008a, p.

49) defines prosocial motivation at the individual level as the desire to expend effort to benefit other people. In relation to team level prosocial motivation, it is the team members' shared desire to focus their efforts on benefiting others (Hu & Liden, 2015, p. 1104). Also, this represents more than an aggregation of individual prosocial motivation as it converges to form a shared belief that the team members develop and exchange in terms of highly valuing benefiting others through their work (Morgeson & Hofmann, 1999). The convergence of individual understandings of the team prosocial motivation into a shared belief at the team level is referred to as a bottom-up process in the multilevel literature (Klein & Kozlowski, 2000). According to a motivated social information processing perspective (De Dreu et al., 2008), team members will gather information from teammates about their values and other-orientation, and the team thereby functions as an information processor, gradually generating a shared understanding of the values motivating the team as a whole and the extent to which concern for others' well-being governs behaviour (Hu & Liden, 2015). In short, perceiving other-orientation in fellow teammates sparks shared team prosocial motivation in the team as a whole.

Prosocial motivation can be described and investigated both as a temporary state of mind driven by a situation and as a more continuous trait that individuals carry with them across situations and over time (Vallerand, 1997). As we intend to investigate team prosocial motivation in a mission-driven organisation that emphasizes prosocial values and motives, we treat team prosocial motivation as a trait. Mission-driven organisations often attract individuals with a stable, trait-like prosocial motivation that is likely to be important to them and endure over time (e.g., Perry & Hondeghem, 2008; Thompson & Bunderson, 2003).

Before moving on, a useful distinction to make is between the two closely related, yet distinct terms prosocial motivation and prosocial behaviours. Prosocial behaviours are actions intended to benefit individuals, customers, teams, stakeholders and/or the organization as a whole, representing acts that protect or promote others' welfare (Bolino & Grant, 2016). When investigating prosocial behaviours, one will study the actions of individuals as intended to benefit their surroundings, while prosocial motivation represents a desire to benefit the surroundings based on the individuals', or, in this case, the team's, prosocial values and motives. In essence, prosocial motivation can result in prosocial behaviours, but prosocial behaviours could also be driven by other incentives, externally or internally. The focus of this study is prosocial motivation and the team's desire to benefit their surroundings through innovative behaviour.

Individuals who are prosocially motivated possess an ability to take action and benefit their surroundings based on their other-orientation as they are concerned with promoting and protecting the welfare of others. Some scholars argue that the other-orientation that prosocially motivated employees possess makes them act at their own cost, representing an altruistic motive (Meglino & Korsgaard, 2004). On the other hand, self-concern and other-orientation are independent constructs, meaning that individuals may be self-concerned, other-orientated, or both at the same time (De Dreu & Nauta, 2009). Nevertheless, Grant and Berry (2011, p. 77) argue that prosocial motivation should not necessarily be equated with altruism; it refers to a concern for others, not a concern for others at the expense of self-interest. With that said, at the individual level, Korsgaard et al. (1996) found that prosocial motivation led to reduced sensitivity to risk, as well as less concern for personal gains relative to less other-oriented individuals (Korsgaard et al., 1996).

Research on team prosocial motivation is scarce. Constituting an exception, Hu and Liden (2015) examined team prosocial motivation in relation to team effectiveness as mediated by team processes. In their investigation, the authors looked at 191 traditional work teams from diverse industries and job types in three companies, in both the United States and China, in addition to undergraduate business students from a Midwestern US university. They found indirect effects of team prosocial motivation on team performance and team process, through the mediating role of team cooperation.

At the individual level, researchers have found that prosocial motivation can have results that are both positive (i.e., Grant, 2007, 2008b; Riggio & Taylor, 2000; Ilies et al., 2006; Moynihan et al., 2015) and negative (i.e., Bergeron et al., 2013; Grant, 2008a; Grant & Sumanth, 2009). Prosocially motivated individuals can be described as givers, as their primary concern is to benefit others, prioritising that over personal gain (Sandvik et al., 2019). As such, they are more likely to accomplish success in the long run (Grant, 2007). Furthermore, prosocial motivation can predict higher levels of performance in a variety of professions such as firefighting and fundraising (Grant, 2008a), nursing (Riggio & Taylor, 2000) and hospital work (Ilies et al., 2006). In addition, prosocial motivation is found to have a significant effect on employee performance and extra-role behaviour, as well as general life satisfaction and happiness (Moynihan et al., 2015). Studies have also investigated potentially harmful effects of prosocial motivation, finding that prosocial motivation is negatively related to job performance under certain circumstances (Grant, 2008a; Grant & Sumanth, 2009). Indeed, the researchers found that the desire to benefit others can become a burden or come at the cost of fulfilling more

recent and essential job responsibilities. Moreover, the desire to help others can result in individuals taking on too much, causing an overload, reduced levels of performance, and stress (Grant, 2008a). Helping others may also undermine career success in organisations that use outcome-based control systems and primarily reward individual accomplishments (Bergeron et al., 2013). Thus, being prosocially motivated may be advantageous in some cases, and a disadvantage in others.

In this study, we intend to extend this line of research, arguing that prosocial motivation also operates at the team level. For instance, many teams, ranging from firefighters to legal defence teams, in many cases engage as a unit, performing prosocial behaviours, emphasizing the team outcome as a result of collective prosocial motivation (Hu & Liden, 2015). In addition, the literature also suggests that prosocially motivated members will to a greater extent promote and engage in teamwork targeting team success, rather than members that are orientated towards self-interest (Batson, 1998; De Dreu, 2006). In addition, due to teamwork being highly influenced by the social context (Hackman, 2002), team members' prosocial motivation is expected to be transmissible, as the team as a whole are exposed to the same practices, events and policies, and thereby establish a uniform motivation, targeted at benefiting others through their work.

## 2.3 Prosocial motivation and innovative behaviour

Previous research has shown that teams, rather than individuals, are more likely to develop and implement innovations (Hülsheger et al., 2009; Singh & Fleming, 2010). Further, it is necessary to also create an environment where the members of the organisation have the right necessary resources and where the organisation structure promotes such behaviour and, most importantly, serves the teams with the right motivation, as motivation is an essential driver for innovative behaviour (Amabile, 1988).

From an individual perspective, Grant (2008b) finds that prosocial motivation can induce a stronger will and determination in employees to complete their tasks in original and more functional ways. Furthermore, an array of studies propose that prosocial motivation specifically is related to higher levels of performance, productivity and persistence (Grant et al., 2007; Grant, 2008a); as mentioned earlier, persistence, in particular, has been found to significantly aid the demanding idea realisation stage of the innovation process (Schmitt, 2019). This assertion holds true across different jobs, tasks and extra-role behaviours (Ilies et al., 2006; Grant, 2008a).

The relation between prosocial motivation and innovative behaviour appears to be a positive one, and theory on other-orientation supports this. Indeed, prosocially motivated individuals in a team have other-orientated values that may affect how they evaluate personal consequences (Meglino & Korsgaard, 2004). Specifically, according to Meglino and Korsgaard. (2004), the other-orientation might result in the individual prioritiszing a potential benefit to others highly enough to outweigh the risk of negative personal consequences. This is an important aspect in relation to innovative behaviour. Innovative behaviour often causes risk or ambiguity for the employee as it involves voicing and/or acting in ways that question existing business and practices (Clegg et al., 2002; Amabile et al., 2004).

However, tolerance towards ambiguous uncertainty has been found to predict prosocial behaviour (Vives & FeldmanHall, 2018) – behaviour that could involve engaging in innovation with a prosocial purpose. Therefore, a well-developed ability to evaluate one's personal consequences, or indeed a willingness to accept personal uncertainty in order to satisfy one's prosocial motivation, can provide the needed strength to go forward with innovation. Finally, according to research by Amar and Mullaney (2017), innovators tend not to be selfish and can be described as givers, as they seek actively to help other people through their innovations. In the end, this will increase the number of opportunities prosocially motivated teams find to engage in innovative behaviour.

By surveying more than 1,700 Russian government employees, Jaekel (2017) found a positive relation between prosocial motivation and innovative behaviour. Moreover, in a quantitative study, Simonton (1989) researched classical composers and found that they had a tendency to create the most creative and meaningful pieces for their audience when they were both prosocially and internally motivated to do so. The positive effect of prosocial motivation on creative abilities (Simonton, 1989) and innovative behaviour (Jaekel, 2017) was found in two very different research settings, yet the existence of research producing contrary findings makes further research such as the present study timely.

Indeed, contrary to the arguments we have presented so far, empirical research is somewhat ambiguous on the effect of prosocial motivation on innovative behaviour. It is thus worthwhile to also consider the possibility of a negative relation. Indeed, seeking to do good for others can have detrimental effects. Prosocial motivation can result in teams taking on too much and sacrificing their own energy and effectiveness, resulting in reduced levels of performance, overload and stress (Grant, 2008a; Amanatullah et al., 2008; Bergeron et al., 2013; Bolino et al., 2015; Bolino & Turnley, 2005; Flynn, 2003).

Kibler et al. (2019) researched the personal well-being of entrepreneurs and found that a strong prosocial motivation could be difficult to maintain and could potentially increase stress levels in the individual. The background, the researchers found, is that these innovative individuals who are also driven by a prosocial cause can get overwhelmed or burned out, spending too much energy on attempting to combine efforts towards reaching personal prosocial goals as well as delivering on work-related goals. Furthermore, some researchers believe that concern for the well-being of others can take the form of pro-environmental attitudes (Stern et al., 1993), and have found that individuals behave in an environmentally friendly way because they believe that declining environmental quality poses a risk to human health and well-being (Bendell, 2015). However, Bendell (2015) found that, in the context of adopting environmentally friendly innovations, higher prosocial motivation in business owners actually has a significant negative impact. Moreover, when the environment-friendly innovation had low compatibility with customer values and needs, prosocial business owners were even less likely to adopt it. Bendell (2015) explains the result as being caused by a primary concern for threats to the people living in the environment, not for the environment itself; thus, if customer demand is low for environmentally friendly innovation, the prosocially motivated decision-maker is less inclined to exhibit innovative behaviour.

In sum, theory suggests a positive relation between prosocial motivation and innovative behaviour at the team level. However, empirically, findings are mixed. Although prosocial motivation could contribute negatively to job performance and thus goal attainment due to employees' divided priorities, being prosocially motivated could, on the other hand, serve to enhance idea generation, commitment and persistence, and thus innovative behaviour. As such, we suggest that prosocial motivation will lead teams to explore and pursue innovative behaviour based on their other-orientated focus, which creates a collective concern for the well-being of others. Indeed, prosocially motivated teams will be driven by a genuine dedication or desire to help others, and innovation activities and results will give employees a channel or outlet for this dedication. Moreover, as a result of their propensity to consider the perspectives of others, team members will generate new ideas based on observations of challenges faced by others. Innovations will be seen not only from a personal problem-solving perspective but also with the interests in mind of teams, customers, co-workers and other stakeholders. Consequently, we hypothesize:

H1: Prosocial motivation is positively related to innovative behaviour.

**2.4 Sincerity of organisational prosocial mission (SOPM)**

In this section, we discuss the increasingly common phenomenon that is mission-driven organisations. Next, we explain organisational missions as concepts, their underlying dimensions as well as possible forms of inconsistencies in the dimensions that could affect the degree to which employees perceive the mission as sincere. Finally, we discuss prosocial motivation as a dynamic state and propose that it can be caused by the perceived sincerity of the organisational prosocial mission.

**2.4.1 Organisational missions and mission-driven organisations**

Organisational missions are published statements in which firms communicate to external stakeholders their purpose, commitment to stakeholders and/or identity (Bartkus & Glassman, 2008). These statements typically answer questions like 'why do we exist?' and 'what do we want to achieve?' and can convey a wide variety of motives (Bart & Tabone, 1999; Williams, 2008). Organisations whose mission statements focus on protecting and promoting human well-being, and not merely on earning profits, are known in organisational research as mission-driven organisations (Brickson, 2007; Margolis & Walsh, 2003) and are becoming increasingly common (Podolny et al., 2005). These organisations are dedicated to pursuing social goals, ideological causes and contributions to the public, the community and society as a whole, ultimately benefiting their stakeholders, not just their shareholders (Thompson & Bunderson, 2003).

Mission-driven organisations comprise a large and increasing segment, including, but not limited to, hospitals, fire and police departments, social enterprises, governments, armed forces, universities, and non-governmental organisations (NGOs) and non-profits working for health, educational, political, religious, environmental and humanitarian causes (Grant & Sumanth, 2009). Moreover, mission-driven organisations can take the form of for-profit companies (Russo, 2020). Consider a few examples: The mission of electric vehicle and clean energy company Tesla is 'to accelerate the world's transition to sustainable energy'. The game-based learning platform Kahoot wants to 'make learning awesome!'. SOLshare, a provider of peer-to-peer solar energy trading platforms and pay-as-you-go solutions to low-income households, aims to 'Create a network. Share electricity. Brighten the future'. And the chemicals and fertiliser producer Yara wants 'to responsibly feed the world and protect the planet'. These companies – according to their mission statements – are combining purpose with profit, a demanding but nonetheless possible feat (Birkinshaw et al., 2014).

However, according to Bartkus and Glassman (2008), as organisations seek to present themselves in the best possible light, some might end up painting an insincere picture. Stakeholders, explain the authors, are likely to expect companies to be truthful in public communication, and expect those who are not to be met with criticism or even penalties. Similar expectations extend to public statements such as missions, and stakeholders expect companies to 'practice what they preach' (Bartkus and Glassman, 2008). However, the extent to which mission statements actually drive organisational behaviour and results varies (Braun et al., 2012). Organisations are increasingly conscious of how the rhetoric of the mission statement can affirm positive relations with primary stakeholders (Fairfax, 2006) and convey 'politically correct' and socially acceptable stands on issues of concern to the public (Bartkus & Glassmann, 2008). Moreover, consumers and consumer watch groups are increasingly conscious of so-called 'greenwashing', which is when a company's sustainability claims are at odds with actual corporate activities (Walker & Wan, 2012), implying, in short, a discrepancy between its words and its deeds. Greenwashing as a term was coined to capture the practice of combining poor environmental performance with positive communication about said performance (Guo et al., 2017). Today, however, it more broadly encompasses when firms falsely paint themselves in a sustainable light to take advantage of the increased recent attention towards social as well as environmental issues as well as overall corporate social responsibility (Lyon & Maxwell, 2011).

In an experiment highlighting the importance of defining clear and sincere organisational missions, Carpenter and Gong (2016) randomly assigned workers whose mission preferences were known to organizations with clear missions, purposefully creating both matches and mismatches. They found that, indeed, person–organisation fit with regards to motivation is a strong determinant of effort in the workplace, especially compared to mismatches. The positive effects on organisational outcomes of person–organisation fit are widely researched and generally supported (O'Reilly et al., 1991), while mismatches are found to cause psychological, physiological and behavioural strains (French et al., 1982) as well as poor work attitudes (Koh & Boo, 2001; Viswesvaran et al., 1998). Generally, jobseekers are attracted to organisations that are seemingly value-congruent with themselves (Schneider, 1987), and ethical environments are often the most desirable (e.g., Coldwell et al., 2008; Treviño & Nelson, 2004). In general, economic theory does predict that agents work harder if they believe in the mission of the organisation (Carpenter & Gong, 2016). However, these effects cannot be expected to come into play with the same force if the organisation is misrepresenting its values through an

insincere mission (Sandvik et al., 2017). With this in mind, we will now look more closely at the concept of sincerity – or trustworthiness – as applied to missions.

## 2.4.2 A holistic approach to sincerity

As part of a holistic approach, Rey and Bastons (2018) describe three dimensions through which organisational missions work and through which to understand their sincerity: the formal dimension, the dynamic dimension and the motivational dimension. According to Rey and Bastons (2018), the key to the perceived sincerity of an organisational mission lies in the authenticity, integrity and coherence of these three dimensions. The formal dimension, the authors explain, is the explicitly expressed mission, reflecting those organisational values that in a perfect world will guide and make sense of employees' everyday interactions and actions. The dynamic dimension, by contrast, corresponds to how the mission is implemented and tied to organisational processes (Rey and Bastons, 2018). Finally, the motivational dimension, according to Rey and Bastons (2018), reflects the motivation behind the formulation and implementation of the mission.

*Authenticity* relates to the consistency between the formal and the motivational dimensions, meaning between values formally expressed through the mission statement and what actually motivates members of the organisation (Rey and Bastons, 2018). Accordingly, stating values publicly through a mission statement only contributes to perceived sincerity when it aligns with the personal values of organisational members. *Integrity* connects the motivational and the dynamic dimensions, indicating that the mission has high integrity when what motivates organisational members aligns with what they experience as constituting their tasks and activities at work (Rey and Bastons, 2018). By contrast, a mission that motivates employees but does not reflect realities in the organisation would harm the integrity, and by extension the sincerity, of the mission. Finally, *coherence*, according to Rey and Bastons (2018), concerns the alignment between the formal and the dynamic dimensions, meaning the extent to which formally espoused values correspond to those values actually enacted in the organisation. Indeed, formal values can give rise to expectations among employees about the kinds of work they will do and what kinds of priority and activity are valued and rewarded at the workplace. Hence, in order for the mission to be seen as believable or trustworthy, it needs to be reflected in organisational processes, reward systems and overall culture (Rey and Bastons, 2018).

## 2.4.3 SOPM causing state-like prosocial motivation

Although prosocial motivation, the desire to do good for others, is often seen as a stable trait, it can also be conceptualised as a dynamic state (Bolino & Grant, 2016). As a state, prosocial

motivation still refers to desires to do good for others; however, said desires are temporary, driven by situational or contextual factors guiding action in a specific task, circumstance or moment in time (Vallerand, 1997). Such situational or contextual factors could be a mission-driven organisation. Bellé (2013) elaborates that levels of prosocial motivation found among employees and teams in an organisation might indeed be partially attributable to jobseekers exhibiting trait-like prosocial motivation being drawn to and recruited by the mission-driven organisation (e.g., Perry & Hondeghem, 2008; Thompson & Bunderson, 2003) through mechanisms of attraction–selection–attrition (Schneider, 1987). However, the levels may very well also be caused by the organisation itself (Bellé, 2013). Indeed, exposure to a sincere prosocial mission within their organisation triggers a temporary state of prosocial motivation in employees (Sandvik et al., 2019).

Research on prosocial motivation as a state generally uses experiments to manipulate the desire to benefit others in a given situation with a specific task (Bolino & Grant, 2016). Arieli et al. (2014) conducted three experiments spanning two cultures (USA and Israel) and including 142 students as participants. The authors found that they could increase participants' willingness to volunteer to help others through as little as a 30-minute intervention emphasizing how the participant's actions would benefit others as well as why such benevolence matters. Furthermore, they found that this effect lasted for at least 4 weeks (Arieli et al., 2014). Similarly, through experiments in an Italian hospital, Bellé (2013) found that encouraging nurses to reflect on the social impact of their work increased their persistence, output, productivity, and vigilance.

All in all, although organisational missions are meant to inspire and motivate members of an organisation internally, as well as serve as a signal of organisational values and goals to external stakeholders, organisations do not always succeed in formulating and implementing missions that adequately serve this purpose – on the contrary, missions can sometimes be perceived as insincere. We believe that for the mission to be perceived as sincere, members of the organisation need to be motivated by the formally expressed mission statement, as well as see it as harmonising with organisational everyday processes and practices. When this sincerity is perceived by the individual, it triggers temporary state-like prosocial motivation.

### 2.5 SOPM and innovative behaviour

The nature of the impact of a prosocial mission on employee, team and organisational outcomes will depend on the extent to which the mission is perceived as sincere (Sandvik et al., 2017).

Based on the literature discussed thus far, we surmise that the perception of sincerity has a positive effect, causing organisational members in a team to experience a state of prosocial motivation, which in turn increases their innovative behaviour. The underlying logic is that by successfully conveying a sincere prosocial mission, the organisation signals support of and an expectation that the prosocial values expressed in the mission will guide team behaviour. The organisation is thereby signalling the importance of other-orientation, and, as such, employees experience greater support and acceptance from management when engaging in behaviour aiming to benefit others. The assertion about support for other-oriented behaviour holds true even when the behaviour involves increases risk – which innovative behaviour typically does (Clegg et al., 2002; Amabile et al., 2004). Such a climate should allow for increased psychological safety (Edmondson, 1999), and thus increased engagement in creative behaviours – that is, the first stage of the innovation process (West & Farr, 1990).

Moreover, we believe that perception of insincerity will have a negative effect on innovative behaviour. Consider that a common finding in research on donations to charities is that potential donors give less when there is a higher risk that their donation will have less impact (Krawczyk & Lec, 2010; Brock et al., 2013). We believe that these findings can inform research on prosocial missions. We propose that employees, due to their state-like prosocial motivation, will expend less effort towards fulfilling the organisational mission when they perceive it to be insincere. Furthermore, as they see the mission as insincere, they see any attempts at innovation within the organisational context as ultimately less likely to actually benefit others, and thus they are less likely to engage in innovative behaviour.

In conclusion, the context of a sincere prosocial mission, by triggering a state of prosocial motivation in team members (Sandvik et al., 2017), will be a driving force of a shared desire to focus team efforts on benefiting others. Similar to the relation between trait-like prosocial motivation and innovative behaviour, state-like prosocial motivation will also enable teams to generate new ideas by taking on the perspectives of others, attempting to help and solve the challenges of others through innovation.

All taken together, our second hypothesis reads:

H2: Sincerity of Organisational Prosocial Mission is positively related to innovative team behaviour.

**2.6 Prosocial motivation and innovative behaviour moderated by SOPM**

Our assumption is that, regardless of the trait-like prosocial motivation already exhibited by the team, being exposed to an organisational prosocial mission and believing in its sincerity will cause the individual to experience prosocial motivation as a state. Although little is known about the interaction of prosocial motivation as both trait and state (Bolino & Grant, 2016), the researchers have found that both self-centrality of values (strong trait-like prosocial motivation) and the activation of values (strong state-like prosocial motivation) are key driving forces of behaviour (Bellé, 2013; Grant, 2008a; Verplanken & Holland, 2002). Based on our discussion thus far, we propose that the combination of trait and state strengthens overall prosocial motivation in the individual, thereby increasing innovative behaviour. Indeed, work within the context of a mission-driven organisation is characterised by attributes such as high task significance, giving prosocially motivated individuals in teams more opportunities to fulfil their other-orientation and values of commitment to helping others (Perry & Wise, 1990; Bolino & Grant, 2016). In other words, high belief in the mission strengthens the positive effect of trait-like prosocial motivation on innovative behaviour. Perceiving the mission as mere greenwashing, however – as promoting an empty or fake image – would have the opposite effect, harming innovative behaviour.

In summation, we argue that state-like prosocial motivation caused by a strong belief in their organisation's prosocial mission will interact with pre-existing trait-like prosocial motivation to increase innovative behaviour due to the increased potential that innovation offers in terms of fulfilling teams' other-orientation. With this, we propose our third hypothesis:

H3: Sincerity of the Organisational Prosocial Mission (SOPM) moderates the relation between Team Prosocial Motivation (TPM) and innovative team behaviour (ITB) such that the positive effect of TPM on ITB is stronger when SOPM is higher as opposed to lower.

**2.7 Research model**

We propose that the level of innovative behaviour exhibited by prosocially motivated teams will depend on the degree to which they perceive the organisational prosocial mission to be sincere. The relation is such that higher perceived sincerity combined with higher prosocial motivation results in more innovative behaviour.
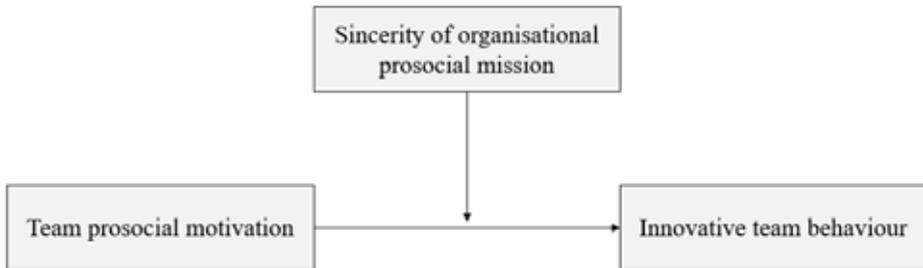


*Figure 1: Research model*

# 3 Methods

In Section 3.1, we describe the company where the survey was conducted with a special focus on the mission characterising it. In Section 3.2, we discuss the purpose, method, approach and strategy of the study. Sections 3.3 and 3.4 describe our data collection techniques and measures, respectively. In Section 3.5, we elaborate on the data analysis, and, finally, in Section 3.6 we discuss validity and reliability concerns as well as ethical and practical issues.

## 3.1 The company

As we aim to gain a deeper understanding of innovative behaviour in the context of a mission-driven company, this description focuses on the chosen company's innovative mindset and story, as well as its prosocial mission. Section 3.1 is in its entirety based on publicly available sources.

### 3.1.1 Prosocial mission

The company is a Norwegian multinational medical equipment manufacturer pursuing a prosocial mission and engaging in innovation on many fronts and levels. With more than 1,500 employees in 25 countries, the company today provides training, educational and therapy products for lifesaving and emergency medical care. It operates according to the organisational mission statement 'helping save lives'. The company vision is that 'no one should die or be disabled unnecessarily during birth or from sudden illness, trauma or medical errors' and its goal is to 'help save one million lives every year by 2030'. The company has been involved in innovation throughout its history, in terms of both its products and the impact it has had due to its investing and grants. As we will discover through this presentation, the company has always seen innovation as a vehicle for fulfilling its mission.

The core values of the company, as they have been since its establishment in 1940, are to actively seek practical problem solving, have a passion for hard work and continuous improvement, have respect for the customer and be curious. Throughout the firm's history, these core values have persisted and have been consciously and actively promoted internally. To motivate its employees to provide better service and products, the firm believes in integrating the values into the day-to-day work at every level of the organisation. New employees are introduced to the company values, mission and vision, as well as given booklets for self-study. Furthermore, through quarterly meetings, old and new employees receive insight into their work's direct effect on fulfilling the prosocial mission of saving lives. In addition, management puts effort into facilitating meetings between employees and the people whose

lives have been rescued or who have rescued someone with help from the company's products. This way, employees get to hear real stories from their beneficiaries of how their work contributes to 'helping save lives'.

### 3.1.2 The company's history of innovation

Initially, the company was a small Norwegian publishing house specialising in books, encouragement cards and toys for children. Although much development has happened throughout the years since 1940, the main stakeholder – the child – has remained the same. The founder of the company was convinced that success would follow their focus on delivering joy through high quality. A decade later, the company had become a pioneer in soft plastics, focusing on dolls and model cars, an early illustration of the company's innovative mindset.

A pivotal moment in the firm's history occurred as a result of a traumatic near-accident involving the founder's two-year-old son; it sparked decades of life-saving innovation. The child was rescued by his father from nearly drowning, an experience from which the founder drew his later unwavering devotion to saving lives through innovative products and education. In collaboration with Norwegian Civil Defence, the company started to develop its interest and knowledge of medical-related topics and to exploit its soft plastic expertise to develop imitation wounds for training in first aid. Of particular interest was developing the mount-to-mouth method, and in the 1960s the full-scale first aid doll Resusci Anne was launched. Allowing non-health professionals to be trained in the rescue method, this innovative launch represented a sea change in the industry. The American Heart Association has estimated that the rescue doll Anne has enabled the training of 500 million people worldwide in cardiopulmonary resuscitation. As a result, approximately two million lives have been saved, making it one of the most important public health innovations in two generations.

Since its launch, Resusci Anne has been continuously improved and distributed to more than 65 countries, its success also prompting the launch of a male version, named Resusci Andy, as well as a children's version, known as Resusci Baby. Alongside continuing to offer training with the use of dummies, the innovative journey continued. In collaboration with international medical and educational institutions, the company developed a first aid kit for cars aimed at increasing drivers' safety, as well as an advanced defibrillator for emergency situations. Finally, the company developed the SimMan, a technological patient simulator able to persuasively imitate numerous symptoms, aiming to minimise fatal mistakes made by medical professionals. In more recent times, firm attention has been devoted to maternity and baby health in developing countries, still staying true to the overall mission to save lives.

The organisational structure of the company as well as the partnerships it enters into has evolved over the decades and is today designed so as to optimally fulfil the fundamentally prosocial values at its core. For many years the company worked closely with various partners, including for-profit companies in developing countries, a practice around which considerable scepticism developed. As a result, the company established a non-profit subsidiary supported financially by the company's for-profit operations. In addition, in 2019, the company launched a $100 million venture capital fund with the mandate to invest in commercial-stage companies focused on education and healthcare technology. The fund complements the existing operations of the non-profit and the company. Finally, also in 2019, the company partnered with the Global Finance Facility (GFF), a division of the World Bank, to offer grants to innovations serving to reduce maternal and newborn mortality. The grants went to proven and scalable concepts that promised impact ultimately aligned with the mission of saving lives. Furthermore, in line with achieving their shared goal of saving one million lives every year, the partners have additionally committed to spending up to $500 million over the next ten years, aimed at the development and delivery phases in the innovation process.

## 3.2 Research design

The present study has a descriptive purpose, takes a deductive approach, and uses quantitative cross-sectional survey data in order to investigate the research question. Descriptive research is recommended when aiming to build on rich existing knowledge to create an accurate profile of events, actors, or constructs, according to Saunders et al. (2016). Our aim is to test the hypotheses that we developed through theory, and thus the descriptive purpose is suitable. Furthermore, in terms of theory development, we use a deductive approach: testing theory with the help of data (Saunders et al., 2016).

Moreover, according to Saunders et al. (2016), a survey strategy involves gathering quantifiable data, meaning numerically measured values, through one or more questionnaires. In order to avoid common method bias (Podsakoff et al., 2003), our survey includes two questionnaires, one for employees and one for supervisors, and we also use a time-lagged approach. First, data on prosocial motivation and sincerity of organizational prosocial mission (SOPM) were collected by surveying employees. After three months, data on innovative behaviour were collected by having leaders rate the innovative behaviour of specific employees. Finally, in both questionnaires, respondents were asked to rate their answers to our questions on a Likert-scale where 1 indicates strong disagreement and 7 strong agreement.

The survey strategy allowed us to efficiently gather large amounts of data on a high number of respondents, thus providing us with a high-quality foundation on which to conduct our analyses. A key drawback of the survey strategy was the difficulty of obtaining in-depth responses – a natural result following the numerical answer categories (Saunders et al., 2016). However, considering the purpose and the approach of the present study, the survey strategy is nonetheless suitable. Finally, this thesis takes a cross-sectional approach. Based on Saunders et al. (2016), cross-sectional data refers to information gathered over the course of a short period of time, often a single point in time, constituting a snapshot of a phenomenon or the relation between factors.

## 3.3 Data collection

### 3.3.1 Preparation of the survey

We took several actions in order to ensure the high quality of our data and the development of an adequate survey. Initially, we examined literature relating to our research question in terms of not only our constructs and the relations between them but also the methodologies used by relevant scholars. Much of the research covered in our literature review makes use of constructs based on validated scales. This technique allows for easier and more efficient comparisons of different studies' findings (Saunders et al., 2016). We adopted the same approach for all our variables except SOPM, which is developed especially for this study. This is discussed in more detail in Section 3.4. We made minor adjustments in order to improve the accuracy of the final survey, and we shortened the scale of innovative behaviour, to keep the survey from being too time-consuming for participants. In addition, we shortened some items with the aim of improving participants' concentration. The wording of some questions was reversed in the original source, and so we kept this wording to avoid the occurrence of common method bias (Podsakoff et al., 2003).

After all that was done, we had the finalised questionnaire translated by professionals, from English into the nine languages spoken across the 24 countries. Lastly, in a separate control process, we back-translated and benchmarked all items against the original source aiming to prevent alteration of their basic substance (Brislin, 1970).

### 3.3.2 Procedure

We distributed the survey through individual emails containing a personal link to the questionnaire and an attached cover letter with information. The questionnaire was accompanied by a set of instructions on how to fill out the form. Also, the instructions expressed

the right of participants to withdraw from the process at any time, thus underlining the voluntary nature of participation. Finally, the instructions contained disclaimers in accordance with the Norwegian Center for Research Data, aiming to achieve increased participant consciousness.

Although most employees were unproblematic to reach since the survey was distributed to their work emails, a challenge presented itself with regard to employees in manufacturing in China as they did not have their own work email. An alternative solution was created for these individuals in which a computer was made accessible to them during their working hours.

The attached cover letter outlined important aspects of the research, such as its purpose, the data collection methods used, how the data would be applied and how participant anonymity would be ensured. This last served to increase participants' honesty and precision, as well as to increase the overall response rate (Saunders et al., 2016).

Ultimately, 967 individuals completed the questionnaire, which is a response rate of 69%. This was achieved, firstly, in cooperation with managers in the firm who proactively encouraged their employees to complete the survey and, secondly, through follow-up emails to non-responders.

### 3.3.3 Sampling process

Considering the objective of the present study and the research question, sampling was not required (Saunders et al., 2016). Hence, we distributed the survey to all employees and leaders, making the entire population at the time of the data collection more than 1,400 individuals. However, 967 employees decided to complete the survey, making the response rate 69%.

Ultimately, we included only responses that had both employee and supervisory rating. This meant that if the supervisor of a given employee decided not to complete the questionnaire, we would not be able to use that employee's responses in the final sample.

With this restriction, our sample comprised 122 teams in the initial sample. Team size ranged from one to 13 members, with an average of five. Although most respondents resided in Norway at the time of the survey, there are a total of 19 countries represented in the data. The gender split is 44% female and 56% male, and the age of the respondents ranges from 27 to 63, the mean being 44. In terms of tenure, the values range from 8 to 374 months, the mean being 113, that is, about 9.5 years.

**3.4 Measures**

All three variables comprising our research model are measured using several items aimed at adequately quantifying the underlying phenomena. In this section, we present in detail each variable, its items, and its reliability. All items are measured using a 7-point Likert scale, where 1 represents strongly disagree and 7 strongly agree.

To measure and present the reliability of each variable, we include their respective Cronbach's Alpha values. Cronbach's Alpha is the most common measure of internal consistency and thus shows the reliability of the items composing a construct (Nunnally, 1978). Specifically, it indicates a potential correlation between the items' ratings (Bonett and Wright, 2015). Cronbach's Alpha ranges from 0 to 1; values above 0.7 are required in order to ensure that the aggregated questions measure the same construct (Nunnally, 1978). Regardless of this critical value, it is argued that a higher Cronbach's Alpha indicates higher internal consistency of the measure. Moreover, to ensure maximum reliability, we also checked whether removing an item improved the construct's Cronbach's Alpha. No significant improvements were detected using this method, and so no items were removed.

**3.4.1 Prosocial motivation**

To measure prosocial motivation, we adopted items from Grant (2008a). For instance, prosocial motivation was measured with the introductory question 'Why are you motivated to do your work?' followed by items such as 'Because I care about benefiting others through my work', 'Because I want to help others through my work', 'Because I want to have a positive impact on others' and 'Because it is important for me to do good for others through my work'. We find that Cronbach's Alpha for prosocial motivation is 0.936, meaning that the measure has strong internal consistency.

**3.4.2 Sincerity of Organisational Prosocial Motivation**

There is no prior established measure for Sincerity of Organisational Prosocial Motivation (SOPM), and thus items for the employee survey were developed especially for this study by Sandvik et al. (2017). Sample items include 1) 'the company says that they care about benefiting others through their products and services, but that's really just a lot of talk', 2) 'the company pays lip service to the idea that they want to help others, but that's not really what's important around here', 3) 'the company claims to try to make a positive impact on the lives of others, but this is mostly for show' and 4) 'the company says they want to do good in the world through their business, but that is mostly talk and they're really about making money just like everyone

else'. In terms of internal consistency, we observe that the Cronbach's Alpha for SOPM is 0.923.

### 3.4.3 Innovative behaviour

To measure innovative behaviour, leaders were asked to rate their perceptions of their employees' innovative behaviour, using a 3-item scale adapted from Scott and Bruce (1994). As pointed out in Section 3.3.1 (preparation of the survey), we shortened the measure, including only three of the total six items presented in the original source, namely: 'Searches out new technologies, processes, techniques, and/or product ideas', 'Generates creative ideas' and 'Is innovative'. Cronbach's Alpha for innovative behaviour is 0.909.

### 3.4.4 Control variables

In our thesis, we control for gender and team size. We chose to control for gender because the literature suggests that there are inequalities between men and women in terms of innovative behaviour (Alsos et al., 2013). Further, we included team size as a control variable as size is an essential variable influencing team performance (Brewer & Kramer, 1986) and larger teams have higher possibility for heterogeneity (Bantel & Jackson, 1989).

### 3.5 Data analysis

We tested the study's research model using the Statistical Package for Social Science version 27 (SPSS). First, we verified the internal consistency of all measures by computing their Cronbach's Alpha values. Next, in order to confirm the dimensionality of the scales, we conducted factor analysis using Principal Component Analysis (PCA) in SPSS. Finally, we evaluated our proposed hypotheses through Hayes's (2018) PROCESS macro and regression analyses in SPSS.

### 3.5.1 Preparation of the data and assumptions

To test the proposed model, we conducted multiple regression analysis in the statistical program SPSS. Multiple regression is based on several assumptions, so, to make sure that the method was appropriate, we needed to test whether our data met those assumptions (Hayes, 2018). Therefore, before conducting the regression analyses, we investigated the assumptions of normally distributed errors, linearity, multicollinearity, homoscedasticity, and autocorrelation, and also searched for outliers (Gelman & Hill, 2007).

As we intended to investigate our research question at the team level, we needed to aggregate our data from the initial individual level to the team level. Assumptions of linear regression also needed to be met in order to test whether aggregation from individual to team level was justified.

We, thus, tested all assumptions at the individual level before conducting the test for justifying aggregation. We removed missing values as well as some observations with extreme values in order to meet the associated requirements at the individual level. The results are presented below.

Missing data refers to when there are values lacking on one or more items, which can be a result of respondents skipping a question, purposefully or not, or of certain filters being added to the questionnaire (deVaus, 2014). Removal of observations with missing values was necessary for the present study with regard to the Johnson-Neyman technique as well as for indexes relating to justifying aggregation of the data, ICC(1), ICC(2) and rwg (j).

Outliers are values that significantly diverge from other observations in such a way as to potentially create statistical issues (Saunders et al., 2016). In order to detect potential outliers, we calculated the Mahalanobis distance, one of the most used metrics to discover how much a point diverges from a distribution (McLachlan, 1999). The Mahalanobis distance returned a value of 38.88, which is above the critical value of 18.47 (df = 4, p = 0.001), indicating that there are some outliers in our data. Further investigation revealed that the high Mahalanobis distance value related to a few particularly large teams of 20, 22 and 39 reported members. We evaluated their removal as justified as these reported teams were unlikely to represent real teams and did not belong in the analysis. Finally, although some teams consist of only one person, arguably not really constituting a team, we chose to include these observations as removing them would not significantly impact our results.

After aggregation, which we will discuss in detail in Section 3.5.2, we tested the assumptions of multiple regression using the team-level data. The results are presented below. The first assumption that needs to be met is the linearity assumption, meaning that there is a linear relation between the independent and the dependent variables (Hayes, 2018). After visually inspecting a scatterplot (see Appendix 1), we can confirm that our data satisfy this assumption. The second assumption is a requirement of a random sample, implying that the residuals are pairwise independent, meaning that there is no autocorrelation (Berry, 1993). The Durbin-Watson test gives us a value of 1.19, which is above the cut-off of 1.0, indicating that our data pass the independent residuals assumption. Further, we also need to investigate assumption three, homoscedasticity. The homoscedasticity assumption requires that the variance of the error term is assumed to be constant. To investigate this assumption, we visually inspected the scatterplot (see Appendix 1) again and can confirm that it does not outline any cone shape. Furthermore, multicollinearity must be absent, meaning that none of the independent variables

can be written as an exact linear combination of other independent variables (Berry, 1993). To rule out multicollinearity, we checked collinearity statistics for our model and looked at tolerance and variance inflation factors (VIF). The tolerance value of 0.74 tells us that none of the independent variables are correlated with a coefficient greater than the critical limit of 0.9. Together with VIF values of 1.35, well below the rule-of-thumb critical value of 10, these collinearity statistics allow us to rule out multicollinearity (Saunders et al., 2016). Lastly, the normality assumption requires that the residuals are normally distributed close to their average (Hill et al., 2018). By visually inspecting a PP-plot (see Appendix 1), we observed that all residuals cluster a line, suggesting that the assumption of normality has been met.

### 3.5.2 Aggregation

Our original dataset consisted of data collected at an individual level. However, as we aim to investigate our hypotheses and analyse our findings at a team level, we aggregated the data from individual to team level. We developed our three hypotheses, presented in Chapter 2, based on a mean aggregation of the variables prosocial motivation, SOPM and innovative behaviour, respectively. Moreover, these aggregated variables also represent the foundation for our results, presented in Chapter 4. In order to aggregate the data from the individual level to the team level, we needed to test whether the aggregated measure was valid, meaning that the team aggregation represents the team's results, not the average response of the individual team members. This validation is of great importance as we cannot assume that the team's opinions are representative purely through the average score of the individual team members. Moreover, as responses are initially based on individual perceptions, they might vary among team members. In order to empirically justify such an aggregation, we computed the Rwg(j) index, in combination with ICC(1) and ICC(2). Before presenting the theoretical background, it should be noted that in order to calculate these indexes, the underlying assumptions of ANOVA must be met. Therefore, before computing the indexes, we tested all the assumptions of ANOVA, resulting in removal of some extreme values, as described in more detail in Section 3.5.1 (Biemann et al., 2012a).

The Rwg(j) index represents the agreement among the group members and is commonly used to justify aggregation of the team members' score account for the team's score. In order to demonstrate that the given measures are consistent among the raters, we computed the ICC(1) and ICC(2) (Bliese, 1998). In terms of rwg values, the initial cut-off is 0.70 (Biemann et al., 2012a). However, it is suggested that instead of treating the rwg(j) values as having a cut-off limit, researchers should consider interpretation of the rwg(j) values in terms of 'very strong

agreement' being 0.91 to 1.00, 'strong agreement' being 0.71 to 0.90, 'moderate agreement' being 0.51 to 0.70 and 'lack of agreement' being 0.00 to 0.30 (LeBreton & Senter, 2008).

When considering the ICC(1) values, the ICC(1) index illustrates the amount of variance in a variable that is ascribable to group membership (Biemann et al., 2012a). According to Chen et al. (2004), when considering a multilevel context, in the case where ICC(1) is statistically different from zero, one can aggregate the individual data into the team data, and make the team data the focal analysis unit. Moreover, the ICC(2) index is a measure of reliability concerning the group-level means. The ICC(2) value indicates how reliable the mean rating across the group members is (Bliese, 2000); the literature suggests that ICC(2) values above 0.70 are sufficient (LeBreton & Senter, 2008).

Using an Excel tool for computing inter-rater agreement (IRA) and inter-rater reliability (IRR) estimates (Biemann et al., 2012b), we conducted estimates for rwg(j), ICC(1) and ICC(2), illustrated in Table 1.

| Variable | Rwg(j) | ICC(1) | ICC(2) |
|---|---|---|---|
| Prosocial motivation | 0.88 | 0.05 | 0.17 |
| SOPM | 0.83 | 0.50 | 0.80 |
| Innovative behaviour | 0.77 | 0.12 | 0.36 |

*Table 1: Aggregation results*

As Table 1 illustrates, the rwg(j) scores provide evidence of strong agreement within the team for all our variables, initially giving us support for aggregating the selected data into team level. The ICC(1) values also support aggregation, as all the conducted values are significantly different from zero. However, only one variable, SOPM, is above the threshold value of ICC(2). Since both the rwg(j) values and the ICC(1) values are well above the limit and indicate strong evidence for aggregation, we moved forward with the aggregation of our dataset.

### 3.5.3 Factor analysis

When conducting a quantitative study, the most common internal consistency and reliability measure is Cronbach's Alpha (Nunnally, 1978). However, Cronbach's Alpha does not indicate unidimensionality; we investigated this by conducting Principal Component Analysis (PCA) using the VARIMAX rotation in SPSS.

Throughout the exploratory phase of factor analysis, it is necessary to ascertain whether it is advisable to proceed with the analysis (Pett et al., 2003). Bartlett's test of sphericity and the

Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy (MSA) test allowed us to determine whether there were sufficient significant numbers of correlations among the items, and, thus, whether it was worthwhile continuing with the analysis. Where Bartlett's test of sphericity is significant ($p < 0.05$) and the KMO MSA is above 0.6, it indicates that it is appropriate to proceed with the factor analysis (Pett et al., 2003). The results are presented and discussed in Section 4.3.

### 3.5.4 Regression analysis

To test the proposed hypotheses, we conducted several multiple regressions in the statistical program SPSS.

Our multiple regression model consists of the following equation:

(1) $ITB_i = \beta_0 + \beta_1 TPM_i + \beta_2 SOPM_i + \beta_3 TPM_i \cdot SOPM_i + \beta_4 Gender_i + \beta_5 Team\ size_i + u_i$

Equation (1) predicts the effect of TPM on ITB, moderated by SOPM, where $ITB_i$ represents the dependent variable, innovative team behaviour; $\beta_0$ the constant; and $\beta_1$ and $\beta_2$ the coefficients for our independent variables, team prosocial motivation and sincerity of organisational prosocial mission. $\beta_3$ is the coefficient for our interaction term (TPM*SOPM), and $\beta_4$ and $\beta_5$ are the control variables, team size and gender. Lastly, $u_i$ is the random error term.

In greater detail, does SOPM strengthen or weaken the relation between TPM and ITB? Baron and Kenny (1986) describe appropriate procedures for testing moderation depending on two aspects: the levels of measurement of the independent variable and the moderator; and the different ways (linear, quadratic or stepwise) in which the moderator changes the effect of the independent variable on the dependent variable. Given that both our moderator (SOPM) and our independent x-variable (TPM) are continuous variables, and we presume that the effect of the independent variable on the dependent variable (ITB) varies linearly with respect to change in the moderator, we take a TPM*SOPM product variable approach, according to which hypothesis H3 is tested by adding the product of the moderator and the independent variable to the regression equation (Baron and Kenny, 1986). Moderator effects are thus signalled by a significant effect of TPM*SOPM on IBT while TPM and SOPM are controlled. Further, through a simple slope test as well as the Johnson-Neyman (JN) technique, equation (3) also allows us to test at what levels of SOPM the equation holds true. See Sections 3.5.7 and 4.4.3 for details.

### 3.5.5 Mean-centring

Mean-centring refers to subtracting the mean of the predictors and rescaling them; it is useful when intending to report beta-values from the regression analysis (Hayes, 2018). Although this is a much-discussed topic, and there is no consensus in the literature regarding what is right and what is wrong, some researchers claim that mean-centring is necessary in order to prevent collinearity and estimation problems (Hayes, 2018). In our case, to make our interpretation of the regression results in Section 4.4.2 as easy as possible, we mean-centred our predictor variables.

### 3.5.6 Interpreting interaction effects

Aiming to further probe the interaction effect in our model, we plotted the Johnson-Neyman (JN) graph as well as a plot of simple slopes with help from the Carden et al. (2017) Microsoft Excel 2013 workbook CAHOST. Both plots provide extra layers to the analysis, allowing us to understand more about the interaction effect. The simple slopes plot allows us to investigate the conditional effect of TPM on ITB for high and low values of the moderator. Since there are no theoretically meaningful breakpoints in the continuous moderator variable of SOPM, we defined high and low scores as values +/- 1 standard deviation (SD) from the sample mean respectively (Hayes, 2018). The values for high, average, and low sincerity are thus derived from our specific sample of teams, and do not represent artificial extremes. The Carden et al. (2017) workbook also gives us the significance of the slopes by producing the 95% confidence interval values. Moreover, the JN technique is a suitable addition as it allows for a more complete interpretation (Johnson & Neyman, 1936). As opposed to testing for significance at +/-1 SD which, essentially, are arbitrary values of SOPM, the JN technique works backwards and finds the values of SOPM for which the effect of TPM on ITB becomes or stops being significant. The JN technique thus tells us the range of values of SOPM in which the slope of the TPM as a predictor is significant, versus non-significant, at our Alpha level of 0.05 (Carden et al., 2017).

### 3.6 Reliability and validity

When it comes to assessing research quality, reliability and validity are key concepts. The following section will describe the process completed for ensuring reliability and validity in the present study.

**3.6.1 Validity**

Validity refers to the relevance of the research – in detail, what is measured. A valid survey will provide correct data that measure the accurate concepts to collect (Saunders et al., 2016). To assess the validity of a survey, one needs to consider both internal and external validity.

*Internal validity*

Internal validity, or measurement validity, refers to whether the study's measurements measure what they are intended to measure (Saunders et al., 2016). When assessing the internal validity of a survey, construct and content validity are essential to consider.

Construct validity is the extent to which the question set measures the presence of the concept it is intended to measure (Saunders et al., 2016). Checking for construct validity, we performed a factor analysis in SPSS. The factor analysis gives us indications regarding the representativeness of the questionnaire's questions and possible operationalisation of the respective terms used in the study. Two of our measures, prosocial motivation and innovative behaviour, are throughout existing theory and literature empirically found to be valid. However, our third measure, SOPM, was developed by Sandvik et al. (2017) and presented as a conference paper at the Annual Meeting of the Academy of Management. We found this measure appropriate to use as it was created by researchers with extensive expertise and knowledge of this topic.

One common threat against internal validity is confounding variables. These are effects that are difficult to measure and observe but potentially can undermine the conclusions regarding the relation and causality between the independent and the dependent variables (Saunders et al., 2016). However, by including team size and gender as control variables, we were able to prevent such a problem.

Content validity refers to the extent to which the measuring instrument – in our case, the survey questions – provides sufficient coverage of the overall research questions (Saunders et al., 2016). The items in the questionnaire were sourced from existing literature to secure content validity regarding the variables used in the study. Moreover, using these procedures allowed us to prevent potential misunderstanding of the questions, which is a common threat against content validity (Saunders et al., 2016). However, we distributed the survey online; we did not have the opportunity to clarify any possible ambiguities or misunderstandings among the respondents. To prevent such consequences, we were rigorous in our preparation of the survey, securing precise and clear wording. Also, owing to extended efforts in translating the survey

into the necessary languages, interpreting the questions across different countries gave accurate answers. Nevertheless, even if some aspects of the internal validity were challenging to control, we conclude that the present study has achieved a high degree of construct and content validity.

*External validity*

Assessing external validity concerns whether the study's research findings are generalisable to other relevant groups or settings (Saunders et al., 2016). The present study collected data from employees in one organisation, making it difficult to generalise the empirical findings to a broader range of different companies. However, the significant response rate of approximately 70% makes the present sample statistically representative for related organisations regarding prosocial mission and values. The logic underlying this proposition can be explained by Saunders et al. (2016), who clearly state that response rates of between 35% and 50% will provide results that are representative. Also, our dataset includes responses from 19 different nationalities, opening up the possibility of generalising the findings in an international context.

### 3.6.2 Reliability

Reliability concerns the replicability and the consistency of a study (Saunders et al., 2016). We differentiate between internal and external reliability.

*Internal reliability*

Internal reliability refers to securing consistency when conducting the research project (Saunders et al., 2016). Consistency refers to the stability or congruence of results on different items comprising a scale. We measured this consistency by calculating Cronbach's Alpha for each construct, accepting values above 0.7 as reliable, and removing items that were causing lower values.

*External reliability*

Replicability concerns the content of the survey and refers to whether the data collection and analysis techniques will yield consistent findings should they be repeated by other researchers (Saunders et al., 2016). The survey strategy is considered easy to replicate, and thus lends support to the external reliability due to it being based on rich existing research and widely tested and standardised measurements. Indeed, to ensure reliability, we used established measures for all of our constructs except SOPM. In sum, these choices aid the predictability of the survey and make it easier to replicate. In addition, we took several actions to prevent misunderstanding and erroneous interpretation of survey items by respondents.

Key challenges to external reliability considered in the process of the present study include participant and researcher error or bias (Saunders et al., 2016). We did not identify any researcher errors or bias of import and will therefore discuss only the potential risk of participant error and bias. To reduce the risk of participant error, meaning that respondents' answers are affected by the research process they are part of, we ensured that each employee received identical information. In addition, completing the survey had no deadline or restrictions, further aiming to minimise any impact from the process. Finally, situational factors such as mood and energy levels may influence respondents' answers and are difficult to control for. We were mindful of this risk and controlled for possible noise in our dataset by searching for outliers. Next, we aimed to reduce the risk of participant bias, meaning insincerity or dishonesty in respondents' contributions sometimes attributed to fear of being recognised and penalised for one's answers (Saunders et al., 2016). In the relevant communication, we stressed the anonymous, confidential, and aggregated nature of the study and its reporting. We also clearly communicated that no one answer was more correct or incorrect than another. However, with translating the survey into nine different languages and distributing it across the globe, extensive focus was also on ensuring that respondents were not illiterate, and thus to secure meaningful responses. To further avoid participant bias, managers were asked not to be present when the respondents answered the survey, as their presence potentially would create pressure and biased responses. Regardless of our efforts in reducing participant error and bias, these risks are difficult to eliminate altogether.

## 3.7 Research ethics

Ethical concerns emerge in all stages of the research process, and, in this section, we will present key considerations during the planning and execution of the present study, including those pertaining to access and data collection and management, analysis and reporting. Research ethics refers to the standards of the researcher's behaviour in relation to the rights of those who become the subject of the researcher's work, or affected by it (Saunders et al., 2016, p. 239). Important ethical standards facing survey researchers include confidentiality, informed consent, anonymity, and voluntary participation (Gideon, 2012).

Initial communication with the company and subsequently with each individual respondent was carried out in accordance with these standards, and additionally lay the foundation for ethical conduct during the next steps. The cover letter with instructions that accompanied the personal survey link emailed to each respondent was intended to allow employees to make an informed decision about participating. It contained adequate and understandable information about the

survey, its purpose and what would happen to the answers that respondents provided. It also stated that information provided by participants would be confidential and anonymous, the reason for which is to avoid causing harm to any involved party, and that survey answers and personally identifiable information would be kept separate and safe from prying eyes. Furthermore, the relevant documents clearly stated that participation was voluntary, that participants had the right to withdraw at any time and that they were free to skip any question they did not wish to answer. While we were aiming for as high a response rate as possible, no employee was to feel unduly pressured, cajoled or coerced into taking part in the survey. Being mindful of this ethical consideration was particularly important during the process of encouraging and reminding those who did not fill out the survey immediately. Finally, ensuring the highest possible ethical quality of the present research, the survey was developed in accordance with, and subsequently approved by, the Norwegian Centre for Research Data.

# 4 Results

### 4.1 Descriptive statistics

*Table 2: Descriptive statistics and correlations*

| Variables | Mean | SD | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|
| 1.Team size | 5.45 | 2.83 | 1 | | | | |
| 2. Gender (coded) | 0.44 | 0.37 | 0.113 | 1 | | | |
| 3. TPM | 6.11 | 0.69 | −0.073 | −0.046 | 1 (0.936) | | |
| 4. SOPM | 5.88 | 0.91 | −0.012 | 0.168 | 0.490** | 1 (0.923) | |
| 5. ITB | 4.32 | 1.23 | -0.271** | -0.276** | 0.055 | −0.084 | 1 (0.909) |

N = 122
The Cronbach's Alpha appears in brackets.
* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

Table 2 displays the descriptive statistics and correlation for our variables. The TPM mean is 6.11, telling us that the teams score high on this measure, given that the items were measured on a 7-point scale. The SD of TPM is 0.69. For the item SOPM, we find a mean value of 5.88, with SD of 0.91. Both items indicate that there is low variation between the teams. For ITB, we find a mean value of 4.32, with a corresponding SD of 1.23. Furthermore, given that all items are measured on a 7-point scale, the mean of TPM displays relatively high values, indicating that the organisation attracts and selects prosocially motivated employees.

The table reveals some correlations among the items. There is a positive and significant relation between SOPM and TPM ($p \leq 0.01$). In addition, ITB is negative and significantly correlated with gender and team size. Interestingly, SOPM also negatively correlated with ITB, but this is not significant.

### 4.2 Factor analysis

As mentioned in the Methods chapter (Section 3.5.4), before conducting the factor analysis, it was necessary to investigate the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy (MSA) and Bartlett's test of sphericity. The KMO MSA test revealed a value of 0.825,

representing a result above the threshold value of 0.7 (Pett et al., 2003). Furthermore, Bartlett's test of sphericity was found to be highly significant ($p > 0.001$). These results allowed us to undertake the initial factor analysis (Pett et al., 2003).

After we checked the initial steps of the factor analysis, it was important to further investigate the results of the analysis. The aim was to determine the minimum number of factors that account for the maximum variance to use in the study, by examining the Eigenvalues of the factors. We included all factors with Eigenvalue above 1. Alternatively, it is possible to examine the cumulative percentage variance explained by the factors. Factors included in the study should have a cumulative variance above 80% (Pett et al., 2003).

Using the VARIMAX rotation in SPSS, we linked the retained items to a specific component. Each component represented a limited number of items. Using the VARIMAX rotation in SPSS, it was possible to define the factors to include in the present study and establish a relation between the given factors with further analyses. Results are presented on the next page.

| Initial Eigenvalues | | | | Extraction Sums of Squared Loadings | Component | | | |
|---|---|---|---|---|---|---|---|---|
| Component | Total | Variance % | Cumulative % | Cumulative % | | TPM | SOPM | ITB |
| 1 | 4.189 | 38.080 | 38.080 | 38.080 | Because I care about benefiting others through my work | 0.893 | | |
| 2 | 2.602 | 23.654 | 61.734 | 61.734 | Because I want to help others through my work | 0.933 | | |
| 3 | 2.410 | 21.905 | 83.639 | 83.639 | Because I want to have a positive impact on others | 0.906 | | |
| 4 | 0.340 | 3.091 | 86.730 | | Because it's important to me to do good for others through my work | 0.897 | | |
| 5 | 0.289 | 2.629 | 89.359 | | The company says that they care about benefitting others through their products and services, but that's really just a lot of talk. | | 0.884 | |
| 6 | 0.276 | 2.509 | 91.868 | | The company pays lip service to the idea that they want to help others, but that's not really what's important around here. | | 0.918 | |
| 7 | 0.243 | 2.212 | 94.080 | | The company claims to try to make a positive impact on the lives of others, but this is mostly for show. | | 0.905 | |
| 8 | 0.181 | 1.650 | 95.730 | | The company says they want to do good in the world through their business, but that is mostly talk and they're really about making money just like everyone else. | | 0.895 | |
| 9 | 0.175 | 0.588 | 97.318 | | Searches out new technologies, processes, techniques, and/or product ideas. | | | 0.893 |
| 10 | 0.162 | 1.474 | 98.793 | | Generates creative ideas | | | 0.935 |
| 11 | 0.133 | 1.207 | 100.000 | | Is innovative | | | 0.931 |

*Table 3: Factor analysis results. (Extraction Method: Principal Component Analysis. Rotation Method: VARIMAX with Kaiser Normalization)*

Table 3 shows the total variance of the components. The first three components present an Eigenvalue above 1. These results support our assumption that there are three factors in our sample, and they are consistent with the characteristics of the variables used in this study. Furthermore, it is reasonable to assume that the three factors are unidimensional as they account for 83.73% of the cumulative total variance. Also, the VARIMAX rotated matrix (Table 3) supports the interpretation that the items do not overlap with any other concepts as all variables reveal a value below the threshold of 0.40 (Pett et al., 2003).

In conclusion, through the factor analysis, we confirmed our assumption that there are three components in the study and that these components each measure one variable. Therefore, based on our findings, we could go forward with our investigation.

### 4.3 Analysis

In this section we present the results of our regression analysis computed in SPSS, as well as the bootstrap results conducted using Hayes's (2018) PROCESS macro. Finally, we present results from probing the interaction effect through the Johnson-Neyman (JN) technique and the plotting of simple slopes.

### 4.3.1 Regression analysis

To test our hypothesis, we conducted hierarchical ordinary least squares (OLS) regression analyses to predict ITB in teams in a multinational medical equipment and services producer. As presented in Section 3.5.6 and in line with the recommended procedures of Cohen et al. (2003), all predictor variables are mean-centred.

*Table 4: Results of hierarchical regression analysis on innovative team behaviour (ITB)*

|  | ITB | | |
| --- | --- | --- | --- |
|  | Model 1 (OLS) | Model 2 (OLS) | Model 3 (OLS) |
| Team size | -0.243** | -0.241** | -0.187* |
| Gender | -0.248** | -0.232** | -0.221** |
| TPM |  | 0.066 | 0.100 |
| SOPM |  | -0.081 | 0.001 |
| Interaction (TPM*SOPM) |  |  | 0.241** |
| Constant | 5.266*** | 5.237*** | 4.986*** |
| $R^2$Adjusted | 0.120 | 0.110 | 0.149 |
| $\Delta R^2$ |  | 0.005 | 0.044 |
| F | 9.215 | 4.741 | 5.230 |
| $\Delta$F |  | 0.366 | 6.320 |
| N | 122 | 122 | 122 |

*** $\leq$ 0.001, ** $\leq$ 0.01, * $\leq$ 0.05
Standardised betas are presented.

In Model 1, our included control variables both display significant negative effects in all models presented in Table 4 First, as gender represents women, we find that women have a significant and negative effect on ITB ($\beta$ = -0.248, standard error (s.e.) = 0.285, p = 0.005), indicating that men are more innovative than women in our sample. Additionally, team size has a significant and negative effect on ITB ($\beta$ = -0.243, s.e. = 0.037, p = 0.006). From this, we can interpret that larger teams display lower levels of innovative behaviour than small teams.

Further, as presented in Table 4 (Model 2), we did not find support for H1. TPM was positively, but not significantly, related to ITB ($\beta$ = 0.066, s.e. = 0.177, p = 0.508). The non-significant relation could also be illustrated through the bootstrapping results on the basis of 5,000 random samples, conducted by the use of Hayes's PROCESS macro, to create bias-corrected confidence intervals (Grant & Sumanth, 2009). The confidence interval for our first hypothesis does include 0 [-0.169, 0.525], further illustrating the non-significant relation between TPM and ITB.

Neither did we find support for H2. The relation between SOPM and ITB was positive, but not significant ($\beta$ = -0.081, s.e. = 0.136, p = 0.425). Also, in our second hypothesis, the confidence interval did include 0 [-0.276, 0.279]. However, we found a statistically significant interaction between TPM and SOPM as a predictor of ITB ($\beta$ = 0.241, s.e = 0.140, p = 0.013). Our bootstrap confidence interval excluded 0 [0.074, 0.627], further proving the significance of our third hypothesis. Interestingly, however, in Model 3 the results of TPM and SOPM did not change. Against this background, in support of H3, SOPM is a significant moderator of the effect of TPM on ITB.

### 4.3.2 Visualisation and interpretation of the interaction effect

Since the interaction term in our model was statistically significant, we wish to probe the interaction to better understand the nature of the moderated relation between team prosocial motivation (TPM) and team innovative behaviour (ITB).

Figure 2 illustrates the interaction from Table 4 by showing the simple slopes of regression linking TPM to ITB under conditions of high and low SOPM.
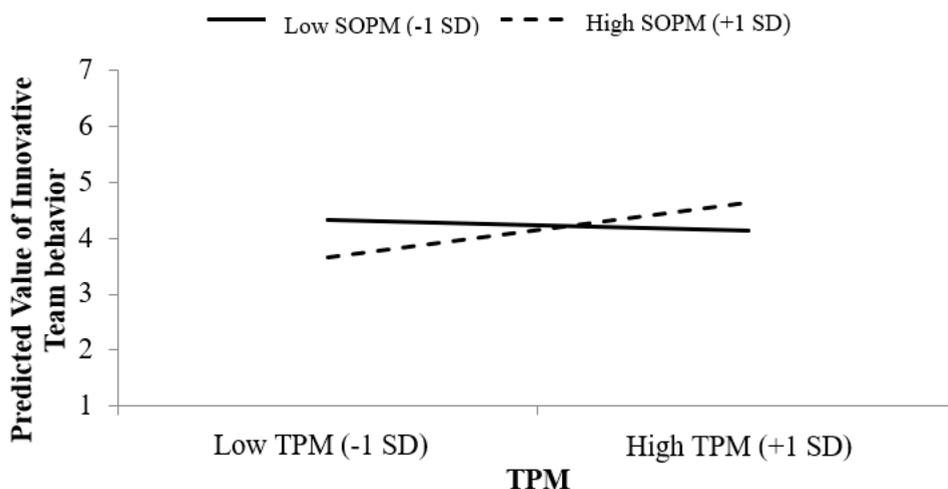


*Figure 2: Plot of simple slopes*

The slope representing high sincerity is positive and significant ($\beta_0$= 0.702, s.e. = 0.245, t = 2.868, CI = [0.217, 1.185]), meaning that teams that strongly perceive the organisational prosocial mission as sincere (SOPM) and who are highly prosocially motivated (TPM) exhibit considerably more ITB than those who are less prosocially motivated.

For teams that see the mission as insincere, the level of innovative behaviour actually appears to be slightly lower for the more prosocially motivated and higher for those that are less prosocial. However, the slope representing low sincerity is not significant ($\beta_0$ = -0.123, s.e. = 0.194, t = -0.634, CI = [-0.507, 0.261]). This is true for values at 1 SD below the mean of SOPM. However, in order to know whether it holds true for all low values of SOPM, we plotted the JN graph in Figure 3, in which the horizontal axis represents the values of the moderator SOPM and the vertical axis shows the corresponding values of the simple slope relating TPM to ITB. The dotted regression line thus represents values of the adjusted effect of TPM on ITB that correspond to the full range of all continuous values of SOPM. The two grey lines on each side of the regression line represent the 95% confidence region around the adjusted effect. The two vertical lines indicate the end and the start of the lower and upper regions of significance, respectively.
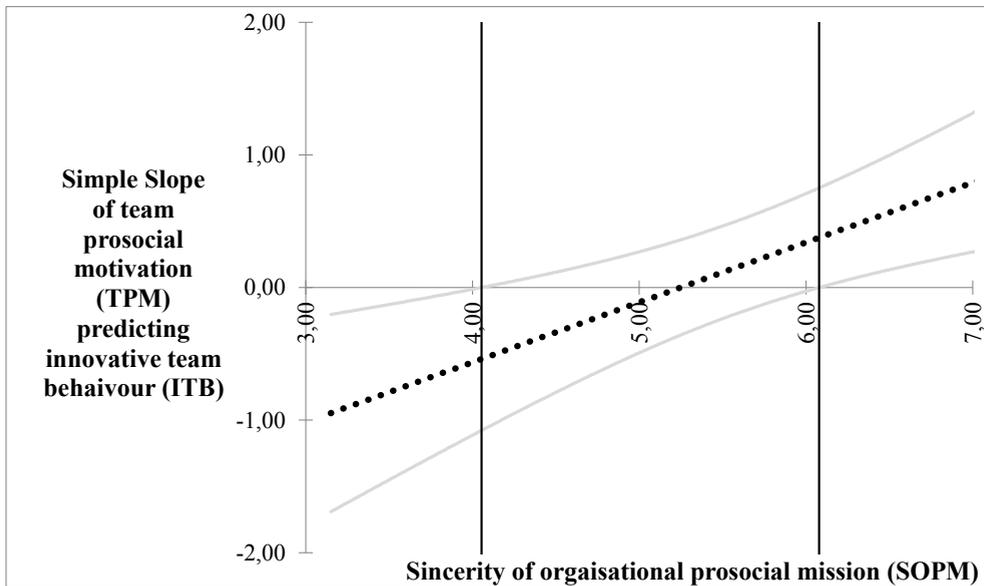


*Figure 3: Johnson Newman graph*

The JN graph shows us that for values of SOPM lower than 4.054 and greater than 6.079, the effect of TPM on ITB is significantly different from zero. For higher SOPM scores, TPM has a significantly positive effect on ITB, and for lower SOPM scores, TPM has a significantly negative effect on ITB. Recall that the test of the simple slopes told us that the effect of TPM on ITB was not significant at 1 SD from the mean of SOPM corresponding to SOPM = 4.14

and 4.31 for low and high values of TPM, respectively. Concluding that this is true for low values in general would be false. Indeed, for values below 4.054, there is a significant negative effect of TPM on ITB.

All in all, when innovative behaviour is the goal in an organisation where strong belief in the sincerity of the prosocial mission is widespread, our results predict that the prosocially motivated teams are the ones that will deliver.

# 5 Discussion

Our ultimate goal was to gain a better understanding of how teams' innovative behaviour is influenced by their collective prosocial motivation and the organisational prosocial mission. We investigated how team prosocial motivation (TPM) influences innovative team behaviour (ITB) as well as how this relation is impacted by the sincerity of the organisation's prosocial mission (SOPM).

We did not find a significant relation between TPM and ITB, meaning that we must reject our first hypothesis. We must reject our second hypothesis, too, as the relation between SOPM and ITB is not significant either. However, SOPM does positively moderate the relation between TPM and ITB, which confirms our third hypothesis. In other words, our results show that just seeing the firm's mission as sincere or being prosocially motivated alone is not enough to promote ITB, but when teams both display high levels of prosocial motivation and see the overall mission as sincere, innovative behaviour is higher.

In the following chapter, Section 5.1 discusses the study's theoretical contributions and Section 5.2 presents our limitations and directions for future research.

**5.1 Theoretical contributions**

Our findings offer several important theoretical contributions to existing understanding of innovative behaviour, prosocial motivation and the sincerity of organisational missions in mission-driven organisations.

First, our study contributes to a research field which, to the best of our knowledge, is still in its infancy, namely, how prosocially motivated teams' perception of the sincerity of the organisation's prosocial mission affects innovative team behaviour. We find that prosocial motivation indeed relates positively to enhanced innovative team behaviour when teams perceive the firm's prosocial mission as sincere. Regarding the interaction effect, we uncovered that innovative behaviour is increased only when prosocially motivated teams have a *very* strong belief in the prosocial mission's sincerity. When the team is highly prosocial but either their faith in the mission is lacking, meaning that they see the stated mission as mere greenwashing, or they are indifferent to the sincerity of the mission, then innovative behaviour is negatively affected. Moreover, the finding that team prosocial motivation – a trait-based construct – coupled with the team's perception of the organisation's prosocial mission as sincere – capturing the presence of state-like prosocial motivation – strengthens innovative

behaviour at the team level constitutes new insight into the interplay between trait- and state-like prosocial motivation as called for by Bolino and Grant (2016).

Second, our study is responding to Grant and Berg's (2011) call for research on prosocial motivation at the team level. Previous research on the relation between prosocial motivation and innovative behaviour has to a large degree been done at the individual level and is divided between finding a positive relation (Grant, 2007; Grant & Berg, 2011; Grant & Berry, 2011; Jaekel, 2017; Simonton, 1989) and finding a negative relation (Bendell, 2017; Kibler et al., 2019). The positive moderating effect of sincerity constitutes new empirical knowledge about innovative behaviour at the team level, even if the direct relation between team prosocial motivation and innovative team behaviour is inconclusive. Mission-driven organisations often attract prosocially motivated employees (Grant & Sumanth, 2009), and, according to our results, these employees need the right contextual conditions to promote innovative behaviour. Perceived sincerity of organizational prosocial mission can serve precisely as this context.

Considering that we conducted the present study in an organisation driven by the mission 'helping save lives', implying that performing well at work already serves a prosocial purpose without the need to innovate, it would have been plausible had we found that core business tasks crowd out innovative behaviour. Bendell (2017) makes a similar argument upon finding that business owners with higher prosocial motivation are less likely to adopt an environment-friendly innovation. He suggests the prosocial owners refraining from innovative behaviour are actually trying to do what they think will benefit other people. Bendell's research is especially relevant to our study as innovation for lifesaving and innovation for the environment can both be characterised as prosocial purposes (Grant & Sumanth, 2009). Hence, prosocially motivated teams might collectively feel that spending time on innovative activities rather than striving to perform their given tasks inadvertently harms the prosocial mission. Delivering on goals set by the mission-driven organisation, on the other hand, is directly 'helping save lives' and thus is seen by the prosocial team as more important than innovation.

Third, we do not find significant evidence that faith in the sincerity of the mission alone could contribute to innovative behaviour in teams. A possible explanation for this can be drawn from the ambiguous, albeit scarce empirical research on these constructs. It is possible that faith in the sincerity of the organisation's prosocial mission leads employees to prioritise performance over innovation. Spending time on innovation would mean spending less time on core business tasks, work that within the organisation is recognised as benefiting the mission.

Fourth, our study contributes new knowledge to the innovation literature, as called for by Scott and Bruce (1994). Most innovative behaviour literature focuses on the individual and the organisational levels of analysis (Anderson, Alvaro & Nielsen, 2014). Further, as pointed out by Anderson, Alvaro and Nielsen (2014), as organisations continue to move towards team-based structures, research on innovative behaviour among work teams is growing increasingly valuable. As such, our study enriches the scarcely investigated, yet greatly important literature on innovative behaviour in teams.

## 5.2 Limitations and future directions

Our thesis is subject to various limitations that could be addressed in further research. First, we applied a time-lagged design, collecting data on two different occasions to avoid common method bias (Podsakoff et al., 2003). However, an experiment or a longitudinal design could provide more accurate results in terms of causal relations. Further, even if the risk of monomethod bias was reduced as much as possible by combining a supervisor assessment of employee innovative behaviour with employee assessment of the independent variables, it must be stressed that it remains an issue in this study as all data were collected in one organisation using the same response formats.

A second limitation of our study concerns the generalisability of our findings to other types of organisations, in particular, organisations with other types of mission. Although two of our constructs are based on validated scales and our direct relation has been researched by others, the overall model could be tested in other settings. Our study looked at teams across a multinational firm driven by a prosocial health- and life-saving-related mission; further research should study a broader spectre of missions as boundary conditions for the model.

Third, in our survey, we used self-report measures on trait-like team prosocial motivation and state-like sincerity of organisational prosocial mission. We did this by including as an antecedent the prosocial motivation construct adapted from Bolino and Grant (2016) and validated through empirical investigations capturing trait-like prosocial motivation as well as the newly developed construct SOPM, which was aimed at capturing prosocial motivation as a state. This approach raises questions in relation to the team's responses in terms of whether their prosocial motivation and their perceived SOPM reflect states, or traits, or both (e.g., Amabile et al., 1994).

With our variable SOPM, we intended to capture the team's perception of the sincerity of the organisation's mission. However, we acknowledge that assuming that this perception translates

into motivation or action is not necessarily justified. Granted, organisational missions are intended to motivate employees (Rey and Bastons, 2018), and prosocial missions might serve as a context that triggers a state of prosocial motivation in employees (Bolino & Grant, 2016). Additionally, our variable SOPM is a new construct; it is neither tested in other settings nor validated through research. We therefore suggest that further research should validate this variable in another sample and include additional items or constructs in order to better capture the extent to which the individual or team is *influenced* by the mission's sincerity.

Fourth, as ITB represents a multi-stage process, from idea generation to idea realisation, there might be other predictors that we were not able to control for in this study. For example, team tenure (Schaubroeck et al., 2007) and individual prosocial motivation (Hu & Liden, 2015) could be relevant to include as control variables, as average team tenure may positively affect team performance (Schaubroeck et al., 2007) and controlling for individual prosocial motivation would allow future researchers to identify potential individual motivational forces (Hu & Liden, 2015).

Fifth, as we aggregated our data from the individual level to the team level, the initial team scores were based on an average of subjective individual scores. The aggregation therefore makes it challenging to understand accurately whether the teams' responses are from the team as a whole or driven by some team members. The results from our aggregation, as presented in Section 3.5.2, revealed that only one of our variables, SOPM, had an ICC(2) value above the threshold value of 0.7. These results indicate that our variables TPM and ITB exhibit low reliability with regards to the mean rating across group members (Bliese, 2000). To illustrate, team prosocial motivation could emanate from the team as a whole or from some team members more than others. Future research should therefore strive to compute studies that include a more objective measure of these variables for the team as a whole.

**5.3 Practical implications**

Arguably, our findings regarding prosocial motivation and innovative behaviour at the team level have important practical implications for all mission-driven organisations. Mission-driven organisations attract and employ highly prosocially motivated individuals and, in doing so, benefit from research on how to best harness their potential. In addition, considering innovation's importance for overall organisational performance and survival (Anderson, Potočnik & Zhou, 2014), research on the facilitation of innovative behaviour should be of universal value. Finally, teams in multinational organisations have members collaborating

across borders and time zones to solve complex challenges; the creativity and the viability of the solutions developed by these collaborations are of great importance to the competitiveness and success of their organisations. Organisations, indeed, are increasingly using teams to facilitate innovation (Wuchty et al., 2007), and our study contributes to filling research gaps on both prosocial motivation and innovative behaviour at the team level.

Seeing as we find prosocial motivation to inhibit innovative behaviour at the team level under conditions of doubt or even just indifference about the sincerity of the organisation's mission, striving to minimise any such indifference or doubt would be of the utmost importance for mission-driven organisations. Managers should put effort into making sure that the organisation's formally expressed mission statement is perceived as coherent, authentic and having integrity (Rey and Bastons, 2018). First, to ensure authenticity, the mission needs to inform hiring processes, meaning that whether or not employees actually believe in and are motivated by the mission should be given weight. If they do not already, mission-driven organisations should also include measures of prosocial values and motivation in their screening processes so as to hire prosocially motivated employees, as these, provided they have faith in the mission, will contribute positively to their team's innovative behaviour.

Moreover, when establishing innovation-related teams based on the current employee pool, the likelihood of high levels of prosocial motivation and perception of the mission as sincere among team members could be increased by allowing employees to self-select into the team in question (Raveendran et al., 2021), based on a thorough description of the motivation and the commitment to the mission that are required of the team. Consider the example of our case company, described in Section 3.1, whose prosocial mission is 'helping save lives'. In this scenario, such self-selection could deter employees from choosing to take part in the team if they are under the impression that the mission is 'just a lot of talk' and that the company is 'really about making money just like everyone else' (see Section 3.4 for measures used for the sincerity variable).

In order to ensure integrity, the tasks and activities that individuals and teams experience as constituting their work need to be aligned with their motivation. Managers should thus be wary of teams in which members feel that the practicalities of their workday lack relevance to the prosocial values by which they are motivated. Should managers detect any teams harbouring such a feeling of detachment, increased beneficiary contact could be explored as an option (Grant, 2007). Finally, coherence requires alignment between the formal mission statement and the reward systems and overall culture in the organisation. Management should be conscious

of how the organisational prosocial mission gives rise to expectations among teams about the work they will do and the kinds of behaviour that are valued and rewarded at work. Successfully avoiding having teams doubting or being indifferent towards the prosocial mission should, according to our results, cause innovative behaviour to increase among prosocially motivated teams.

# 6 Conclusion

Overall, our results show that managers tasked with spurring on innovative behaviour among their teams at any level in mission-driven organisations should strive to simultaneously shape the organisational context to channel the importance and sincerity of the firm's prosocial mission as well as encouraging the hiring, retaining, and grouping into teams of prosocially motivated employees. In facilitating innovative behaviour, the firm is giving teams the potential to expand their opportunities to do good for others, satisfying their prosocial motivation. Our study is furthering research on prosocial motivation and innovative behaviour at the team level by finding perceived sincerity of organisational prosocial mission to significantly moderate the relation between the two. Given the importance of innovation and the increasing attention paid to prosocial motives and actions by organisations, we reiterate the call for more investigations into the ways in which prosocial motivation arises, as well as how it affects innovative behaviour.

# 7 References

Alsos, A., Ljunggren, G. E., & Hytti, U. (2013). Gender and innovation: state of the art and a research agenda. *International Journal of Gender and Entrepreneurship*, *5*(3), 236–256. https://doi.org/10.1108/IJGE-06-2013-0049

Amabile, T. M. (1988). A model of creativity and innovation in organizations. In B. S. Cummings (Ed.), *Research in organizational behaviour*, Vol. 10 (pp. 123–167). JAI Press.

Amabile, T. M., Hill, K. G., Hennessey, B. A., & Tighe, E. M. (1994). The work preference inventory: Assessing intrinsic and extrinsic motivational orientations. *Journal of Personality and Social Psychology*, *66*, 950–967.

Amabile, T. M., Schatzel, E. A., Moneta, G. B., & Kramer, S. J. (2004). Leadership behaviours and the work environment for creativity. *Leadership Quarterly*, *15*(1), 5–32.

Amanatullah, E. T., Morris, M. W., & Curhan, J. R. (2008). Negotiators who give too much: Unmitigated communion, relational anxieties, and economic costs in distributive and integrative bargaining. *Journal of Personality and Social Psychology*, *95*, 723–738.

Amar, A. D., & Mullaney, K. (2017). Employee ability to innovate: How can organizations recognize it. *Procedia Computer Science*, *122*, 494–501.

Anderson, N. R., Potočnik, K., & Zhou, J. (2014). Innovation and creativity in organizations: A state-of-the-science review, prospective commentary, and guiding framework. *Journal of Management*, *40*(5), 1297–1333.

Anderson, U., Alvaro, C., & Nielsen, B. (2014). From the Editors: Explaining interaction effects within and across levels of analysis. *Journal of International Business Studies*, *45*, 1063–1071. https://doi.org/10.1057/jibs.2014.50.

Arieli, S., Grant, A. M., & Sagiv, L. (2014). Convincing yourself to care about others: An intervention for enhancing benevolence values. *Journal of Personality*, *82*, 15–24.

Bantel, K., & Jackson, S. E. (1989). Top management and innovations in banking: Does the composition of top team make a difference? *Strategic Management Journal*, *10*, 107–124.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*, 1173–1182.

Bart, C. K., & Tabone, C. T. (1999). Mission statement content and hospital performance in the Canadian not-for-profit health care sector. *Health Care Manage Review*, *24*(3),18–29. doi: 10.1097/00004010-199907000-00003.

Bartkus, B. R., & Glassman, M. (2008). Do firms practice what they preach? The relationship between mission statements and stakeholder management. *Journal of Business Ethics*, *83*(2), 207–216. https://doi.org/10.1007/s10551-007-9612-0.

Batson, C. D. (1987). Prosocial motivation: Is it ever truly altruistic? In L. Berkowitz (Ed.), *Advances in experimental social psychology*, Vol. 20 (pp. 65–122). Academic Press.

Batson, C. D. (1998). Altruism and prosocial behavior. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), The handbook of social psychology (4th ed., Vol. 2, pp. 282–316). New York: McGraw-Hill.

Bellé, N. (2013). Experimental evidence on the relationship between public service motivation and job performance. *Public Administration Review*, *73*, 143–153.

Bendell, B. L. (2017). I don't want to be green: Prosocial motivation effects on firm environmental innovation rejection decisions. *Journal of Business Ethics*, *143*, 277–288.

Bergeron, D. M., Shipp, A. J., Rosen, B., & Furst, S. A. (2013). Organizational citizenship behaviour and career outcomes: The cost of being a good citizen. *Journal of Management*, *39*, 958–984.

Berry, W. D. (1993). Understanding regression assumptions. Sage.

Biemann, T., Cole, M. S., & Voelpel, S. (2012a). Within-group agreement: On the use (and misuse) of rWG and rWG(J) in leadership research and some best practice guidelines. *Leadership Quarterly*, *23*(1), 66–80. https://doi.org/10.1016/j.leaqua.2011.11.006.

Biemann, T., Cole, M. S., & Voelpel, S. (2012b). Excel tool for computing within-group agreement and interrater reliability. Retrieved 28 April 2021 from http://www.sbuweb.tcu.edu/mcole/articles.html.

Birkinshaw, J., Foss, N. J., & Lindenberg, S. (2014). Combining purpose with profits. *MITSloan Management Review*, *55*(3), 49–56.

Bliese, P. D. (1998). Group size, ICC values, and group-level correlations: A simulation. *Organizational Research Methods*, *1*(4), 355–373. https://doi.org/10.1177/109442819814001.

Bliese, P. D. (2000). Within-group agreement, non-independence, and reliability: Implications for data aggregation and analysis. In K. J. Klein & S. W. J. Kozlowski (Eds.), *Multilevel theory, research, and methods in organizations: Foundations, extensions, and new directions* (pp. 349–381). Jossey-Bass.

Bolino, M. C., & Grant, A. M. (2016). The bright side of being prosocial at work, and the dark side, too: A review and agenda for research on other-oriented motives, behaviour, and impact in organizations. *Academy of Management Annals*, *10*(1), 599–670.

Bolino, M. C., & Turnley, W. H. (2005). The personal costs of citizenship behaviour: The relationship between individual initiative and role overload, job stress, and work family conflict. *Journal of Applied Psychology*, *90*, 740–748.

Bolino, M. C., Hsiung, H. H., Harvey, J., & LePine, J. A. (2015). 'Well, I'm tired of tryin'!' Organizational citizenship behaviour and citizenship fatigue. *Journal of Applied Psychology*, *100*, 56–74.

Bonett, D. G., & Wright, T. A. (2015). Cronbach's Alpha reliability: Interval estimation, hypothesis testing, and sample size planning. *Journal of Organizational Behaviour*, *36*, 3–15.

Braun, S., Wesche, J. S., Frey, D., Weisweiler, S., & Peus, C. (2012). Effectiveness of mission statements in organizations: A review. *Journal of Management & Organization*, *18*(4), 430–444. https://doi.org/10.1017/S1833367200000687.

Brewer, M. B., & Kramer, R. M. (1986). Choice behaviour in social dilemmas: Effects of social identity, group size, and decision framing. *Journal of Personality and Social Psychology*, *50*, 543–549.

Brickson, S. L. (2007). Organizational identity orientation: The genesis of the role of the firm and distinct forms of social value. *Academy of Management Review*, *32*, 864–888.

Brislin, R. W. (1970). Back-translation for cross-cultural research. *Journal of Cross-Cultural Psychology*, *1*(3), 185–216. https://doi.org/10.1177/135910457000100301.

Brock, J. M., Lange, A., & Ozbay, E. Y. (2013). Dictating the risk: Experimental evidence on giving in risky environments. *American Economic Review*, *10*3, 415–437.

Carden, S. W., Holtzman, N. S., & Strube, M. J. (2017). CAHOST: An Excel Workbook for Facilitating the Johnson-Neyman Technique for Two-Way Interactions in Multiple Regression. Frontiers in Psychology, 8(1293), 1–7.

Carpenter, J., & Gong, E. (2016). Motivating agents: How much does the mission matter? *Journal of Labor Economics*, *34*(1), 211–236. https://doi.org/10.1086/682345.

Chen, G., Mathieu, J. E., & Bliese, P. D. (2004). A framework for conducting multilevel construct validation. *Research in Multi-level Issues: The Many Faces of Multi-level Issues*, *3*, 273–303.

Clegg, C., Unsworth, K., Epitropaki, O., & Parker, G. (2002). Implicating trust in the innovation process. *Journal of Occupational and Organizational Psychology*, 75(4), 409–422.

Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). Applied multiple regression/correlation analysis for the behavioural sciences (3rd ed.). Erlbaum.

Coldwell, D., Billsberry, J., Meurs, N., & Marsh, P. (2008). The effects of person–organization ethical fit on employee attraction and retention: Towards a testable explanatory model. *Journal of Business Ethics*, *78*(4), 611–622.

De Dreu, C. K. W. (2006). Rational self-interest and other orientation in organizational behaviour: A critical appraisal and extension of Meglino and Korsgaard (2004). *Journal of Applied Psychology*, *91*(6), 1245–1252. https://doi.org/10.1037/0021-9010.91.6.1245.

De Dreu, C. K. W., & Nauta, A. (2009). Self-interest and other-orientation in organizational behaviour: Implications for job performance, prosocial behaviour, and personal initiative. *Journal of Applied Psychology*, *94*(4), 913–926. https://doi.org/10.1037/a0014494.

De Dreu, C. K. W., Nijstad, B. A., & Van Knippenberg, D. (2008). Motivated information processing in group judgment and decision-making: Effects of process accountability on information processing and decision quality. *Journal of Experimental Social Psychology*, *43*(4), 539–552. https://doi.org/10.1016/j.jesp.2006.05.010.

De Spiegelaere, S., Van Gyes, G., & Van Hootegem, G. (2014). The concept of innovative work behaviour: Definition and orientation. *Gedrag & Organisatie*, *27*(2), 139–156.

DeVaus, D. A. (2014). *Surveys in social research* (6th ed.). Routledge.

Edmondson, A. (1999). Psychological safety and learning behaviour in work teams. *Administrative Science Quarterly*, *44*, 350–383.

Fairfax, L. M. (2006). The rhetoric of corporate law: The impact of stakeholder rhetoric on corporate norms. *Journal of Corporation Law*, *31*(3), 675–718.

Flynn, F. J. (2003). How much should I give and how often? The effects of generosity and frequency of favor exchange on social status and productivity. *Academy of Management Journal*, *46*, 539–553.

French, J. R. P., Jr., Caplan, R. D., & Van Harrison, R. (1982). *The mechanisms of job stress and strain*. Wiley.

Gelman, A., & Hill, J. (2007). Data analysis using regression and multilevel/hierarchical models. Cambridge University Press.

Grant, A. M. (2007). Relational job design and the motivation to make a prosocial difference. *Academy of Management Review*, *32*(2), 393–417. https://doi.org/10.5465/AMR.2007.24351328.

Grant, A. M. (2008a). Does intrinsic motivation fuel the prosocial fire? Motivational synergy in predicting persistence, performance, and productivity. *Journal of Applied Psychology*, *93*(1), 48–58.

Grant, A. M. (2008b). The significance of task significance: Job performance effects, relational mechanisms, and boundary conditions. *Journal of Applied Psychology*, *93*, 108–124.

Grant, A. M., & Berg, J. M. (2011). Prosocial motivation at work: When, why, and how making a difference makes a difference. In K. Cameron & G. Spreitzer (Eds.), *Oxford handbook of positive organizational scholarship* (pp. 28–44). Oxford University Press.

Grant, A. M., & Berry, J. W. (2011). The necessity of others is the mother of invention: Intrinsic and prosocial motivations, perspective taking, and creativity. *Academy of Management Journal*, *54*, 73–96.

Grant, A. M., & Sumanth, J. J. (2009). Mission possible? The performance of prosocially motivated employees depends on manager trustworthiness. *Journal of Applied Psychology*, *94*, 927–944.

Grant, A. M., Campbell, E. M., Chen, G., Cottone, K., Lapedis, D., & Lee, K. (2007). Impact and the art of motivation maintenance: The effects of contact with beneficiaries on persistence behaviour. *Organizational Behaviour and Human Decision Processes*, *103*, 53–67.

Gideon, L. (2012). Handbook of survey methodology for the social sciences. Springer.

Guo, R., Tao, L., Li, C. B., & Wang, T. (2017). A path analysis of greenwashing in a trust crisis among Chinese energy companies: The role of brand legitimacy and brand loyalty. *Journal of Business Ethics*, *140*, 523–536.

Hackman, J. R. (2002). *Leading teams: Setting the stage for great performances*. Harvard Business School Press.

Hayes, A. F. (2018). Introduction to mediation, moderation, and conditional process analysis: A regression-based approach (2nd ed.). The Guilford Press.

Hill, R., Griffiths, W., & Lim, G. (2018). *Principles of econometrics* (5th ed.). John Wiley & Sons.

Hu, J., & Liden, R. C. (2015). Making a difference in the teamwork: Linking team prosocial motivation to team processes and effectiveness. *Academy of Management Journal*, *58*(4), 1102–1127. https://doi.org/10.5465/amj.2012.1142.

Hülsheger, U. R., Anderson, N., & Salgado, J. F. (2009). Team-level predictors of innovation at work: A comprehensive meta-analysis spanning three decades of research. *Journal of Applied Psychology*, *94*, 1128–1145.

Ilies, R., Scott, B. A., & Judge, T. A. (2006). The interactive effects of personal traits and experienced states on intraindividual patterns of citizenship behaviour. *Academy of Management Journal*, *49*(3), 561–575. https://doi.org/10.5465/AMJ.2006.21794672.

Jaekel, T. (2017). Innovative behaviour and prosocial motivation of Russian civil servants. HSE Working papers, National Research University Higher School of Economics.

Jafri, M. H. (2010). Organizational commitment and employee's innovative behaviour: A study in retail sector. *Journal of Management Research*, *10*(1), 62–68.

Janssen, O. (2000). Job demands, perceptions of effort-rewards fairness and innovative work behaviour. *Journal of Occupational and Organizational Psychology*, *73*(3), 287–302.

Johnson, P. O., & Neyman, J. (1936). Tests of certain linear hypotheses and their applications to some educational problems. *Statistical Research Memoirs*, *1*, 57–39.

Kanter, R. (1988) When a thousand flowers bloom: Structural, collective, and social conditions for innovation in organizations. In B. M. Staw & L. L. Cummings (Eds.), *Research in Organizational Behaviour*, Vol. 10, (pp. 169–211). JAI Press.

Kibler, E., Wincent, J., Kautonen, T., Cacciotti, G., & Obschonka, M. (2019). Can prosocial motivation harm entrepreneurs' subjective well-being? *Journal of Business Venturing*, *34*(4), 608–624.

Kim, M. G. (2000). Multivariate outliers and decompositions of mahalanobis distance. *Communications in Statistics: Theory and Methods*, *29*(7), 1511–1526.

Klein, K. J., & Kozlowski, S. W. J. (Eds.) (2000). Multilevel theory, research, and methods in organizations: Foundations, extensions, and new directions. Jossey-Bass.

Koh, H. C., & Boo, E. H. Y. (2001). The link between organizational ethics and job satisfaction: A study of managers in Singapore. *Journal of Business Ethics*, *29*(4), 309–324.

Korsgaard, M. A., Meglino, B. M., & Lester, S. W. (1996). The effect of other-oriented values on decision making: A test of propositions of a theory of concern for others in organizations. *Organizational Behaviour and Human Decision Processes*, *68*, 234–245.

Kozlowski, S. W. J., & Bell, B. S. (2003). Work groups and teams in organizations. In W. C. Borman, D. R. Ilgen & R. J. Klimoski (Eds.), *Handbook of psychology: Industrial and organizational psychology* (pp. 333–375). Wiley.

Krawczyk, M., & Lec, F. L. (2010). 'Give me a chance!' An experiment in social decision under risk. *Experimental Economics*, *13*, 500–511.

LeBreton, J. M., & Senter, J. L (2008). Answers to 20 questions about interrater reliability and interrater agreement. *Organizational Research Methods*, *11*(4), 815–852. https://doi.org/10.1177/1094428106296642.

Liu, D., Jiang, K., Shalley, C. E., Keem, S., & Zhou, J. (2016). Motivational mechanisms of employee creativity: A meta-analytic examination and theoretical extension of the creativity literature. *Organizational Behaviour and Human Decision Processes*, 137, 236–263.

Lyon, T. P., & Maxwell, J. W. (2011). Greenwash: Corporate environmental disclosure under threat of audit. *Journal of Economics & Management Strategy*, *20*(1), 3–41.

McLachlan, G. J. (1999). Mahalanobis Distance. *Resonance* 4, 20–26. https://doi.org/10.1007/BF02834632

Margolis, J. D., & Walsh, J. P. (2003). Misery loves companies: Rethinking social initiatives by business. *Administrative Science Quarterly*, *48*, 268–305.

Meglino, B. M., & Korsgaard, A. (2004). Considering rational self-interest as a disposition: Organizational implications of other orientation. *Journal of Applied Psychology*, *89*, 946–959.

Mitchell, T. R., & Daniels, D. (2003). Motivation. In W. C. Borman, D. R. Ilgen, & R. J. Klimoski (Eds.), *Handbook of psychology: Vol. 12. Industrial and organizational psychology* (pp. 225–254). John Wiley.

Morgeson, F. P., & Hofmann, D. A. (1999). The structure and function of collective constructs: Implications for multilevel research and theory development. *Academy of Management Review*, *24*, 249–265.

Moynihan, D. P., DeLeire, T., & Enami, K. (2015). A life worth living: Evidence on the relationship between prosocial values and happiness. *American Review of Public Administration*, *45*, 311–326.

Mumford, M. D, & Gustafson, S. B. (1988). Creativity syndrome: Integration, application, and innovation. *Psychological Bulletin*, *103*(1), 27–43. https://doi.org/10.1037//0033-2909.103.1.27.

Nunnally, J. (1978). *Psychometric theory*. McGraw-Hill.

O'Reilly, C. A., Chatman, J., & Caldwell, D. F. (1991). People and organizational culture: A profile comparison approach to assessing person–organization fit. *Academy of Management Journal*, *34*(September), 487–516.

Orth, M., & Volmer, J. (2017). Daily within-person effects of job autonomy and work engagement on innovative behaviour: The cross-level moderating role of creative self-efficacy. *European Journal of Work and Organizational Psychology*, 26(4), 601–612. https://doi.org/10.1080/1359432X.2017.1332042.

Perry, J. L., & Hondeghem, A. (2008). *Motivation in public management: The call of public service*. Oxford University Press.

Perry, J. L., & Wise, L. R. (1990). The motivational bases of public service. *Public Administration Review*, *50*(3), 367–373.

Pett, M. A., Lackey, N. R., & Sullivan, J. J. (2003). Making sense of factor analysis. Sage.

Pinder, C. C. (2008). *Work motivation in organizational behaviour* (2nd ed.). Psychology Press.

Podolny, J. M., Khurana, R., & Hill-Popper, M. (2005). Revisiting the meaning of leadership. In B. M. Staw & R. Kramer (Eds.), *Research in organizational behaviour*, Vol. 26 (pp. 1–36). JAI Press.

Podsakoff, P. M., MacKenzie, S. B., Jeong-Yeon., L., & Podsakoff, N. P. (2003). Common method biases in behavioural research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *88*(5), 879–903.

Raveendran, M., Puranam, P., & Warglienc, M. (2021). Division of labor through self-selection. *Organization Science* (online). https://doi.org/10.1287/orsc.2021.1449.

Rey, C., & Bastons, M. (2018). Three dimensions of effective mission implementation. *Long Range Planning*, *51*(4), 580–585. https://doi.org/10.1016/j.lrp.2017.07.002.

Riggio, R. E., & Taylor, S. J. (2000). Personality and communication skills as predictors of hospice nurse performance. *Journal of Business and Psychology*, *15*, 351–359.

Russo, M. V. (2020). Crafting the mission-driven organization: The human dimension. In *Companies on a mission* (pp. 77–100). Stanford University Press. https://doi.org/10.1515/9780804774284-007.

Salas, E., Cooke, N. J., & Rosen, M. A. (2008). On teams, teamwork, and team performance: Discoveries and developments. *Human Factors*, *50*(3), 540–547.

Sandvik, A. M., Stein, C., & Whiting, S. (2017). Team pro-social motivation, the 'mission driven' organization, and team performance: The downsides of a pro-socially derived mission. Accepted for presentation at 77th Annual Meeting of the Academy of Management, 4–8 August, Atlanta, Georgia, USA.

Sandvik, A. M., Whiting, S., & Larsen, A. S. (2019). Hvordan 'mission' motiverer ansatte til gode prestasjoner. *Magma*, *7*, 71–76.

Saunders, M., Lewis, P., & Thornhill, A. (2016). *Research methods for business students* (7th ed.). Pearson Education.

Schaubroeck, J., Lam, S. S., & Cha, S. E. (2007). Embracing transformational leadership: Team values and the impact of leader behaviour on team performance. *Journal of Applied Psychology*, *92*, 1020–1030.

Schmitt, L. (2019). The importance of persistence: Building an innovation system for the long-term. Inovo.

Schneider, B. (1987). The people make the place. *Personnel Psychology*, *40*, 437–453.

Schwepker, Jr, C. H. (2018). Strengthening customer value development and ethical intent in the salesforce: The influence of ethical values person–organization fit and trust in manager. *Journal of Business Ethics*, *159*, 913–925. https://doi.org/10.1007/s10551-018-3851-0.

Scott, S. G., & Bruce, R. A. (1994). Determinants of innovative behaviour: A path model of individual innovation in the workplace. *Academy of Management Journal*, *37*(3), 580–607.

Simonton, D. (1989). The swan-song phenomenon: Last-Works Effects for 172 classical composers. *Psychology and Aging*, *4*(1), 42–47.

Singh, J., & Fleming, L. (2010). Lone inventors as sources of breakthroughs: Myth or reality? *Management Science*, *56*(1), 41–56. https://doi.org/10.1287/mnsc.1090.1072.

Somech, A., & Drach-Zahavy, A. (2013). Translating team creativity to innovation implementation: The role of team composition and climate for innovation. *Journal of Management*, *39*(3), 684–708. https://doi.org/10.1177/0149206310394187.

Stern, P. C., Dietz, T., & Kalof, L. (1993). Value orientations, gender, and environmental concern. *Environment and Behaviour*, *25*(5), 322–348.

Thompson, J. A., & Bunderson, J. S. (2003). Violations of principle: Ideological currency in the psychological contract. *Academy of Management Review*, *28*(4), 571–586. https://doi.org/10.5465/AMR.2003.10899381.

Treviño, L. K., & Nelson, K. A. (2004). Managing business ethics: Straight talk about how to do it right. Wiley.

Vallerand, R. J. (1997). Toward a hierarchical model of intrinsic and extrinsic motivation. In M. P. Zanna (Ed.), *Advances in experimental social psychology*, Vol. 29 (pp. 271–360). Academic Press.

Verplanken, B., & Holland, R. W. (2002). Motivated decision making: Effects of activation and self-centrality of values on choices and behaviour. *Journal of Personality and Social Psychology*, *82*, 434–447.

Viswesvaran, C., Deshpande, S. P., & Joseph, J. (1998). Job satisfaction as a function of top management support for ethical behaviour: A study of Indian managers. *Journal of Business Ethics*, *17*, 365–371.

Vives, M.-L., & FeldmanHall, O. (2018). Tolerance to ambiguous uncertainty predicts prosocial behaviour. *Nature Communications*, *9*. https://doi.org/10.1038/s41467-018-04631-9.

Walker, K., & Wan, F. (2012). The harm of symbolic actions and green-washing: Corporate actions and communications on environmental performance and their financial implications. *Journal of Business Ethics*, *109*, 227–242.

West, M. A., & Farr, J. L. (1990). Innovation and creativity at work: Psychological and organizational strategies. Wiley.

Williams, L. (2008). The mission statement: A corporate reporting tool with a past, present, and future. Journal of Business Communication (1973), 45(2), 94–119. https://doi.org/10.1177/0021943607313989.

Woodman, R., Sawyer, J., & Griffin, R. (1993). Toward a theory of organizational creativity. *Academy of Management Review*, *18*(2), 293–321. https://doi.org/10.2307/258761.

Wuchty, S., Jones, B. F., & Uzzi, B. (2007). The increasing dominance of teams in production of knowledge. *Science*, *316*(5827), 1036–1039.
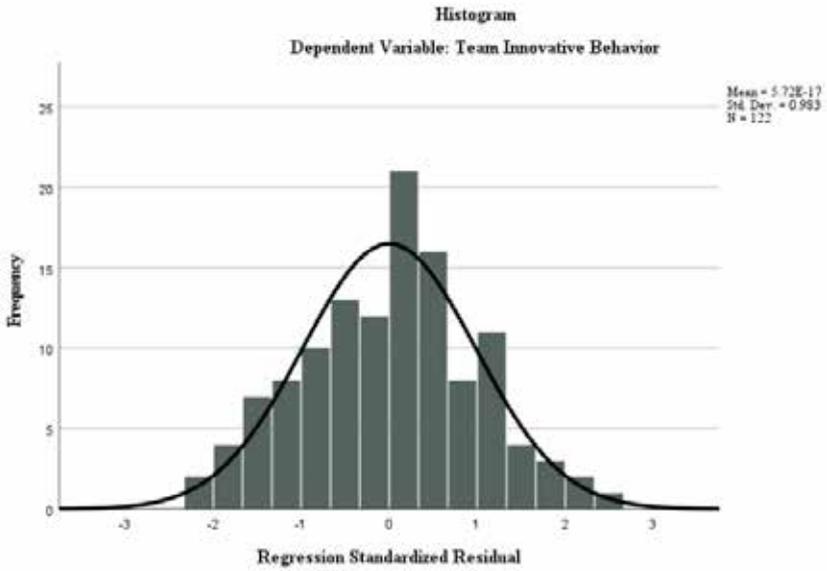
# 8 Appendix



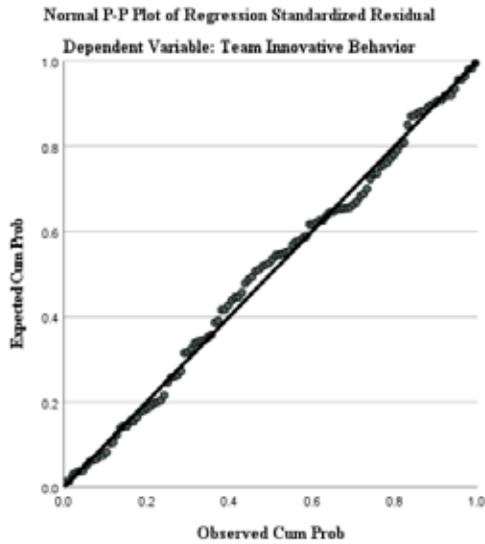*Figure 4: Normality distribution*



*Figure 5: P-P Plot*

Little is known about how mission-driven organisations can facilitate innovative behaviour in prosocially motivated teams. We seek to understand how the sincerity of a firm's prosocial mission, as it is perceived by employees, moderates the impact of prosocial motivation on innovative behaviour in teams. To test our model, we conduct hierarchical ordinary least squares (OLS) regression analyses in a multinational mission-driven organisation. With a sample of 122 employee teams and supervisors in a multinational health corporation, we find that neither prosocial motivation nor perceived sincerity alone is sufficient to promote innovative behaviour at the team level. Interestingly, however, the key finding of our study is that when teams simultaneously display high levels of prosocial motivation and perceive the prosocial mission as sincere, the level of innovative behaviour is higher. Our results have practical implications for recruitment and selection processes as well as internal activities within organisations to promote innovative behaviour.

# SNF

## Samfunns- og næringslivsforskning AS

Centre for Applied Research at NHH