

# **Unlocking the Potential of Prosocial Motives in Fostering Environmental and Social Innovation: The Roles of Creativity-Relevant Skills and Business Moral Values**

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# **Unlocking the Potential of Prosocial Motives in Fostering Environmental and Social Innovation: The Roles of Creativity-Relevant Skills and Business Moral Values**

## **Abstract**

**Purpose** -While prosocial motives are found to be conducive to unique manager behaviors, the literature lacks empirical evidence on the relationships between prosocial motives and managers' willingness to engage in environmental and social innovation (ESI) in business-to-business (B2B) firms and the boundary conditions that shape these relationships. This research endeavors to unlock the potential of prosocial motives in fostering ESI, while investigating the mediating roles of creativity-relevant skills and the moderating influence of business moral values.

**Design/Methodology/Approach** -Employing a quantitative survey approach, we gathered insights from 242 managers within Australia's food and beverage industry. We tested our hypotheses by adopting a covariance-based Structural Equation Modeling (SEM) approach.

**Findings** -First, prosocial motives drive the ESI behaviors of managers in B2B firms. Second, creativity-relevant skills act as the critical bridge connecting prosocial motives with ESI within the realm of B2B firms. Third, business moral values emerge as potent moderating, positively influencing the relationship between prosocial motives and "managers' willingness to engage in social innovation" within B2B firms.

**Originality/Value** -To the best of the authors' knowledge, this is the first study examining the relationship between prosocial motives and social and environmental innovation and how this relationship is influenced by creative-relevant skills and business moral values.

## **Keywords**

Prosocial motives; environmental innovation; social innovation; creativity-relevant skills; food and beverage industry

## 1. Introduction

Business-to-business (B2B) research has increasingly emphasized the role of B2B firms in contributing to environmental and social sustainability, particularly in light of contemporary challenges such as climate change, social unrest, and external disruptions (Bai *et al.*, 2022; Du *et al.*, 2022; Inigo *et al.*, 2020). With growing demands from stakeholders, including investors, consumers, and regulatory bodies, there is mounting pressure for firms to demonstrate their commitment to sustainable practices. A cornerstone of sustainability within B2B markets is managers' utilization of environmental and social innovation (ESI) (Adams *et al.*, 2016; Babu *et al.*, 2020; Hsu *et al.*, 2019; Mariadoss *et al.*, 2011), which has become increasingly important as 69% of B2B buyers express a desire for transparency regarding the carbon footprint of the products and services they acquire (VML, 2023). ESI encompasses initiatives aimed at improving environmental practices, enhancing social well-being, and engaging with communities through responsible operations. Consequently, a deeper understanding of how B2B firms can implement and leverage ESI is not only critical for fostering long-term sustainability but is also vital for their ability to navigate and thrive amid global challenges and evolving market expectations.

However, the sources of ESI within B2B firms remain underexplored. One source can be prosocial motives, defined as "a concern for the welfare of other people or the health of ecosystems" (Gkargkavouzi *et al.*, 2019). Prosocial motives that managers hold in for-profit B2B firms can be an important source of ESI that such firms adopt (Shepherd, 2015). Recently, B2B research has paid increased attention to prosocial motives (e.g., Christopher & Machado, 2019; Dai & Zhang, 2019; Savary *et al.*, 2015). Nonetheless, despite the recognized importance of prosocial motives, there is a notable research gap in understanding how these motives specifically drive ESI within B2B firms. Existing studies have primarily focused on general organizational

outcomes, leaving the role of prosocial motives in shaping targeted ESI initiatives underexplored. Understanding the relationship between prosocial motives and ESI within B2B contexts is vital for leveraging altruistic intentions to drive tangible sustainability outcomes (Sekhon & Armstrong Soule, 2020), enabling organizations to strategically harness these motives for positive environmental and social impact.

Likewise, the mechanisms through which prosocial motives are translated into positive behaviors and outcomes remain unexplored. Prosocial motives have often been emphasized to play an instrumental positive role in individuals and organizations (Rofcanin *et al.*, 2019). However, little is known about the way in which the influence of prosocial motives on ESI is manifested. Motives being just motives in their own virtue, it is highly likely that prosocial motives entail capability-related or behavioral mediating mechanisms like *creativity-relevant skills*, i.e., “the ability to think creatively (e.g., to generate alternatives, think outside the box, suspend judgment)” (Perry-Smith & Shalley, 2003), to be manifested and realized in the pursuit of a greater good like ESI. Creativity-relevant skills are critical to thinking imaginatively around important issues, such as environmental and social sustainability, and generating new and original ideas in support of sustainability goals. They can be instrumental in applying prosocial motives toward sustainability and unlocking its potential to enhance ESI. As such, there is a need for further research examining the potential mediating role of Creativity-relevant skills in linking prosocial motives and ESI in B2B firms.

Moreover, research explaining the boundary conditions (i.e., moderating influences) that render prosocial motives either more or less relevant to ESI is lacking (Bendell, 2017; Jeong & Alhanaee, 2020). As such, identifying boundary conditions that enhance or inhibit the effectiveness of prosocial motives in fostering ESI could empower managers to create supportive

environments conducive to ESI, fostering a more sustainable future for B2B firms and society at large. As an increasingly critical element of the business world, *business moral values (BMVs)* – “the personal moral values held by individuals who are engaged in business interactions” (Jiang *et al.*, 2011)- can be a pivotal boundary condition in amplifying or inhibiting the role of prosocial motives in managers’ inclination to engage in ESI. Without accounting for the mediating mechanisms and boundary conditions of the linkage between prosocial motives and ESI, the understanding of this linkage is limited. The link between prosocial motives and ESI can be better illuminated when the how and when questions involved in this link are answered.

The purpose of this research is to unlock the relationship between prosocial motives and ESI in B2B firms and explore the role of creativity-relevant skills and BMVs in explaining this linkage. Accordingly, we ask the following research question “*How and when do prosocial motives enhance managers’ willingness to engage in environmental and social innovation in B2B firms?*” To achieve this, we use the theory of reasoned action, which posits that an individual's behavioral intentions are shaped by their attitudes toward the behavior and subjective norm that together influence their likelihood of performing that behavior, to carefully examine how creativity-relevant abilities and BMVs both express and condition the influence of prosocial motives on managers' ESI behaviors" in B2B companies. In so doing, we draw on a sample of B2B companies in the “Australian food and beverage industry (AFBI)”.

Our research makes several noteworthy contributions to B2B, sustainability, and innovation research. First, we link prosocial motives to ESI. We find that prosocial motives can, in fact, foster ESI behaviors by managers in B2B firms, and managers who possess prosocial motives are better positioned to engage in such innovative behaviors. Second, we examine the mediating role of creativity-relevant skills in linking prosocial motives to ESI. We find that

creativity-relevant skills connect prosocial motives and ESI in B2B firms and help materialize prosocial motives by helping those motives to be channeled toward ESI through relevant skills managers possess. Third, we also scrutinize how BMVs serve as a moderating factor. To illustrate, our study explores whether BMVs accentuate or alleviate the role of prosocial motives and explains the interactions between BMVs and prosocial motives in explaining managers' willingness to engage in ESI in B2B firms. Finally, by focusing on B2B firms in the AFBI, we highlight the role of the food and beverage industry (FBI) and supply chains in understanding environmental and social sustainability. Considering the profound role of the FBI in people's everyday activities and pressing environmental and social challenges (Golgeci *et al.*, 2022), we believe our findings are relevant to promoting "ESI" behaviors in businesses and supply chains involved in food and beverage production. We further detail these theoretical implications in the latter part of the manuscript, along with relevant managerial takeaways.

## **2. Literature review and theoretical background**

### ***2.1. Environmental and social innovation in B2B firms***

Innovation and innovation networks are important domains of research in B2B research (Babu *et al.*, 2020; Hsu *et al.*, 2019; Inigo *et al.*, 2020; Mariadoss *et al.*, 2011). Innovation in B2B markets centers around meeting the complex needs and demands of organizational customers and collaborative efforts toward finding innovative problems to complex problems. The B2B context is often seen as an important context for innovation to take place and be applied (e.g., Du *et al.*, 2022; Inigo *et al.*, 2020; Najafi-Tavani *et al.*, 2018; Shree *et al.*, 2021). B2B innovation frequently involves adopting and integrating cutting-edge technologies to deliver economic and societal value (Hsu *et al.*, 2019; Schweitzer *et al.*, 2015). Likewise, as B2B markets often involve complex supply chain networks with multiple stakeholders, innovation in B2B markets is crucial for optimizing

marketing channels, providing advanced solutions, fostering sustainability, and enhancing overall efficiency (Inigo *et al.*, 2020; Najafi-Tavani *et al.*, 2018).

Innovation applied and utilized toward environmental and social ends is typically considered ESI. That said, it is important to highlight that ESI does not occur in a vacuum. It is practiced by employees and managers in relevant positions within the firms. Thus, the role of managers in driving ESI cannot be overstated, as they serve as catalysts for change and innovation within their organizations (Babu *et al.*, 2020; Mariadoss *et al.*, 2011). ESI by managers is a fundamental pillar of sustainability in B2B markets (Adams *et al.*, 2016; Babu *et al.*, 2020; Hsu *et al.*, 2019; Mariadoss *et al.*, 2011).

The managers can find inspiration for ESI from a range of sources. Different situations and conditions, both internal and external to innovating managers, can encourage executives to develop new ideas or deter them from pursuing innovative ideas (Hsu *et al.*, 2019; Najafi-Tavani *et al.*, 2018). To illustrate, Najafi-Tavani *et al.* (2018) suggested that collaborative innovation networks are important facilitators of new product innovation. Likewise, Hsu *et al.* (2019) note that openness to technology adoption and top management support can be important precursors of ESI.

A growing body of research examines the antecedents of ESI in the pursuit of sustainable outcomes (Adams *et al.*, 2016; Awan *et al.*, 2021; Golgeci *et al.*, 2022; Schweitzer *et al.*, 2015). For example, Adams *et al.* (2016) summarize external domain experts, existing innovation capabilities, interorganizational linkages, innovation culture, and ambidextrous skills as fundamental enablers of ESI. Likewise, Awan *et al.* (2021) find that “investment in environmental management fully mediates the relationship between buyer-driven knowledge transfer activities and green process innovation, and knowledge acquisition capability partially mediates the relationship between buyer-driven knowledge transfer activities and green product innovation” (p.

1283). Furthermore, Schweitzer *et al.* (2015) highlight technological reflectiveness as a key enabler of ESI. In this context, managers' motives and values emerge as critical drivers of ESI, influencing the direction and extent of innovation efforts within B2B firms. Managers may develop an innovative culture that transcends traditional boundaries by linking their activities with sustainability goals and societal values, resulting in real transformation and long-term impact in the pursuit of environmental and social sustainability.

## ***2.2. Prosocial motives***

As noted above, managers may have a variety of motives for their work and behaviors in the workplace (Gkargkavouzi *et al.*, 2019; Rofcanin *et al.*, 2019). In this research, we concentrate on prosocial motives, as we believe they are inextricably intertwined with environmental and social sustainability and ESI, in particular, in B2B firms. Prosocial motives refer to a desire to promote the well-being of coworkers and societal stakeholders at large (Gkargkavouzi *et al.*, 2019). Despite its caveats and resource-intensive nature (Rofcanin *et al.*, 2019), prosocial motives are the imperative ground upon which positive and socially-contributive behaviors are manifested. In fact, “people with a prosocial orientation seek to maximize joint outcomes along with equality in outcomes” (Popa Sârghie & Pracejus, 2021).

Prosocially motivated managers are typically more inclined to care for society and the environment and help others toward their goals, with the eventual aim of contributing to their organization, social circle, and society at large (Grant, 2008). Hence, prosocially motivated managers are more likely to use the necessary skills and capabilities to contribute to society and follow innovative practices in so doing. With this in mind, a definitive drive and meaning of work for prosocially motivated managers is to support the functioning of the organization and society by helping others and empowering them in their pursuits (Bolino & Grant, 2016).

To date, a predominant share of research on prosocial motives has emphasized its positive influence on individuals and organizations (Rofcanin *et al.*, 2019). Also, in marketing, prosocial motives are often seen positively (Dai & Zhang, 2019; Popa Sârghie & Pracejus, 2021; Sekhon & Armstrong Soule, 2020). Scholars typically highlight the enabling and supportive role of prosocial motives in achieving various business outcomes, including those related to environmental and social sustainability. For example, prosocial motives are found to be common among consumers who buy green products (Sekhon & Armstrong Soule, 2020). Likewise, scholars noted that prosocial motives enhance the possibility of paying relatively higher prices for sustainable products (Popa Sârghie & Pracejus, 2021), stimulate reciprocity, and improve the possibility of building and upholding interorganizational relationships (Septianto *et al.*, 2020). Thus, extant research shows that prosocial motives are important phenomena and can be closely linked to various positive organizational and marketing-related outcomes, including environmental and social sustainability goals firms pursue.

### ***2.3. Managerial skills and values***

Creativity-relevant skills are “cognitive pathways in which an individual can explore new ways of looking at problems by using a set of heuristics to generate novel ideas” (Gilmartin, 1999). They denote a particular cognitive style, applying heuristics to explore novel cognitive pathways and methods of working (Thuan, 2020). Thus, they are often conceptualized as a key capability (Perry-Smith & Shalley, 2003) and cognitive mechanisms (Thuan, 2020) that bridge people’s motives and behaviors. Managers with a high degree of creativity-relevant skills can effectively assess the value of new ideas and solutions and better detect the root causes of problems and challenges (Thuan, 2020).

Especially when ESI is in question, the degree to which managers can employ creativity-relevant skills is often critical to performing innovative tasks and engaging in innovative behaviors (Gilmartin, 1999). In B2B research, creativity has been examined mostly in relation to boundary spanners -managers who link their organization with external stakeholders, including customers and supply chain partners (Gligor *et al.*, 2021). Creativity-relevant skills have received relatively less attention, with an emphasis on creative thinking as a cognitive ability (Griffiths-Hemans & Grover, 2006). As such, drawing on the findings and arguments of management research on creativity-relevant skills (Gilmartin, 1999; Perry-Smith & Shalley, 2003; Thuan, 2020), we conceptualize creativity-relevant skills as a linking pin between prosocial motives and ESI in B2B firms.

We concentrate on corporate moral principles as a potential boundary condition to the relationship between prosocial motivations and ESI, in addition to creativity-relevant abilities. BMVs are derived from the study surrounding “personal moral values” (e.g., Schwartz, 2005), and they refer to the personal moral principles that managers uphold in their interactions and relationships with customers and suppliers (Jiang *et al.*, 2011). Managers from diverse industries use specific criteria to evaluate the morality of business decisions made inside or beyond the walls of their firm while interacting with employees or partners in the workplace or the supply chain (Jiang *et al.*, 2011).

BMVs build on four major dimensions: “(1) personal integrity and truthful communication; (2) upholding one’s own rights and not meddling with others’ rights; (3) respecting life and acting responsibly; and (4) abiding by rules and principles of justice” (Golgeci *et al.*, 2022). Fairness, responsibility, compassion, respect, and citizenship are, therefore, essential components of corporate moral standards, according to Schwartz (2005). Alternatively, managers who do not hold

sufficient levels of BMVs in B2B relationships may sacrifice their individual and organizational integrity, take refuge in opportunism, and hurt the welfare of their colleagues and societal stakeholders. As such, BMVs reflect an important ethical component of interorganizational relationships and can be an important hedge against opportunism, which can be a major inhibitor of success and innovation in B2B settings (Sharma *et al.*, 2022). BMVs also interact with prosocial motives in a way that prosocial managers “perceive other people primarily in terms of their morality (e.g., good/bad, honest/dishonest)” (Popa Sârghie & Pracejus, 2021). Consequently, BMVs are important, even though at times overlooked, aspects of B2B firms and interorganizational relationships, and they can be a relevant boundary condition for prosocial motives.

#### **2.4. Theory of Reasoned Action**

The Theory of Reasoned Action (TRA) provides a valuable lens that can help explain the relationships of interest (Ajzen & Fishbein, 1980). Anchored in social psychology, the theory proposes that subjective norms regarding behavior and attitudes toward that behavior serve to predict the intention to engage in a behavior (Ajzen & Fishbein, 1980). TRA’s explanatory power is underlined by the fact that, since its inception, TRA has been dominated research exploring the link between attitudes and behaviors (Langdrige *et al.*, 2007). Meta-analytic reviews have provided evidence regarding TRA’s key predictions. To illustrate, Sheeran (2002) revealed that intention explained, on average, 28% of the variance in behavior across 422 studies. In the same vein, subjective norm and attitude together helped explain between 30% to 50% of the variance in intention. The theory has been used to explain behavior and willingness to engage in certain behaviors in various contexts. It has been used to predict alcohol and drug use (Laflin *et al.*, 1994), to understand student intention toward student events (Harb *et al.*, 2021), to understand the

consumption of organic food (Singh & Verma, 2017), attitudes, willingness to purchase, and actual behavior toward organic foods (Kumar *et al.*, 2023), or as it specifically relates to our framework, managers' corporate social responsibility behavioral intentions (Mi *et al.*, 2018). TRA has also recently been adopted in B2B marketing to explain how attitudes are linked to engagement in a behavior (Rong *et al.*, 2021).

Regarding our model, Fitzmaurice (2005) incorporated individuals' motivations into TRA by linking motivations to their willingness to engage in certain behaviors. He focused on self-expressive involvement, hedonic involvement, and self-concept congruity as three variables that reflect motivations. As such, given its extensions, TRA helps understand individuals' behaviors by investigating their underlying motives for performing the behavior (Doswell *et al.*, 2011). According to the theory's tenets, an individual's decision to engage in a certain behavior is determined by the outcomes that the individual expects will occur as a consequence of engaging in the behavior (Fishbein, 1979). That is, TRA highlights the importance of considering and understanding one's motives when attempting to understand one's behavioral intentions. Given that TRA research has specifically revealed motivations as drivers of individuals' willingness to engage in certain behaviors (Fitzmaurice, 2005), the theory provides the theoretical impetus for investigating the impact of prosocial motives on ESI.

### **3. Hypotheses**

Past research has found a strong causal relationship between motives and behavior in various settings (Chen, 2012). Individuals' motives, for example, influence one's willingness to engage in various behaviors, such as browsing the internet (Chen, 2012) or attending a sporting event (Koo & Hardin, 2008). Management research has also linked specific manager motives to certain

behaviors, further reinforcing that managers' willingness to engage in certain behaviors is influenced by their motives (Martí *et al.*, 2009).

The nature of one's motive is closely related to the nature of the behavior one is willing to engage in. Studies have consistently shown that prosocial motives lead individuals to behave in a way that's cognizant of the welfare of society (Pavey *et al.*, 2011). That is, prosocial motives positively influence prosocial behavior (Kil *et al.*, 2021), which can be described as behavior/actions intended to benefit others (Konrath *et al.*, 2016). Examples of prosocial behavior include helping, giving, sharing, cooperating, and comforting others (Konrath *et al.*, 2016).

Further, in line with research linking certain motives to specific behaviors, studies have found prosocial motives to be conducive to unique manager behaviors. For example, Zhu and Akhtar (2014) found that prosocial motives amplify prosocial behavior in firm employees. Research shows that as employees' prosocial motives are fostered, individuals' behaviors of helping their coworkers increase, while interpersonal deviance decreases (Zhong *et al.*, 2022). Similarly, Choi and Moon (2016) reinforced that prosocial motives strongly impact helping behavior among employees. In this vein, prosocial motives have been found to lead individuals to engage in organizational citizenship behavior (Takeuchi *et al.*, 2015). In other words, prosocial motives lead individuals to behave in a way that enhances and maintains the psychological and social context that supports task performance within organizations. Moreover, prosocial behavior has been found to foster innovative behavior in employees (Miao *et al.*, 2018). Prosocial motives are likely to positively influence managers' willingness to engage in ESI, given that prosocial behavior encourages innovation and that prosocial behavior positively influences managers' willingness to engage in behaviors that benefit their coworkers and firms.

In particular, given B2B firms often operate within long-term relationships characterized by high levels of mutual dependence (Roseira *et al.*, 2010) B2B relationships provide a fertile ground for prosocial motives to influence decision-making, as managers are motivated not only by profit but also by the long-term success of their partners and the broader ecosystem. The interdependent nature of B2B relationships (Roseira *et al.*, 2010) means that firms are more likely to engage in innovations that both benefit themselves and enhance the environmental and social sustainability of their entire supply chain. This may create a strong impetus for managers in B2B firms to leverage prosocial motives as a driving force for environmental and social innovation, thereby fostering sustainable practices across interconnected business networks. Thus, consistent with these theoretical arguments and with TRA's logic linking motives to willingness to engage in certain behaviors, we explore the following:

**H1:** *“Prosocial motives positively influence a) managers' willingness to engage in environmental innovation in B2B firms and b) managers' willingness to engage in social innovation in B2B firms”.*

While prosocial motives can give managers the impetus to engage in ESI, managers must also be able to successfully engage in this type of behavior. It is not sufficient to possess the motivation to engage in certain behaviors. One must also possess the ability to do so (Hambrick *et al.*, 2015). For instance, Clary and Orenstein (1991) found that prosocial motives are insufficient to facilitate employees helping others; firms must also offer employees standardized, effective work procedures that allow them to achieve efficacy in helping others. Similarly, Choi and Moon (2016) showed that it is not enough for employees to possess the proper motives to help others. They must also possess task-relevant skills to ensure the effectiveness of help. In the case of ESI,

there are theoretical reasons to believe that managers must possess creativity-relevant skills to ensure their prosocial motives translate effectively into ESI-related behavior.

Creativity-relevant skills allow individuals to investigate novel approaches to problems and generate innovative ideas as much as they've been referred to as the fuel of innovation (Gilmartin, 1999). These skills have been considered to provide the pathway from motives to innovative behavior as they allow managers to develop original ideas for challenges and opportunities that their firms might face (Thuan, 2020). In fact, "innovation is the successful implementation of creative ideas within an organization. In this view, creativity by individuals and teams is a starting point for innovation" (Amabile, 1996). This indicates that it is difficult for innovation to originate within organizations without managers with creativity-relevant skills.

Several studies have shown that creativity is needed for ESI (Mack & Landau, 2015; Stojcic *et al.*, 2018). To illustrate, Hoegl and Parboteeah (2007) found that innovative projects demand managers to possess 'creative-thinking skills' for software development teams. Furthermore, Amabile (2011) recognized that innovation is contingent on individuals being motivated to innovate (e.g., prosocial motives). However, this author also highlighted that possessing the motivation to innovate is insufficient and that individuals must also possess the skills required to innovate and consider these skills "analogous to an individual's creativity-relevant processes" (Amabile, 2011). In this vein, Roffe (1999) also highlighted that motivation enhances creativity, which in turn fosters innovation. Following this reasoning, it is plausible that creativity-relevant skills are also needed for managers seeking to engage in ESI, as managers might not consider engaging in these behaviors if they know that they don't possess adequate creativity-relevant skills as their endeavors might not be successful.

Furthermore, as B2B marketing typically involves high levels of innovation and customization (Babu *et al.*, 2020; Hsu *et al.*, 2019; Najafi-Tavani *et al.*, 2018), managers in B2B firms are often compelled to leverage creativity-relevant skills to navigate the intricacies of B2B interactions effectively. When managers possess strong creativity-relevant skills, they may be better equipped to translate prosocial motives into actionable strategies that align with the complex demands of B2B clients. This alignment will likely enhance their willingness to engage in ESI, as these innovations often require tailored solutions that meet the specific needs of other businesses while also addressing broader sustainability goals. As such, in the B2B context, creativity-relevant skills are likely to be crucial for bridging the gap between prosocial motives and the successful implementation of innovative practices. Therefore, there are theoretical grounds to take into account the mediating function of creativity-relevant abilities in the relationship between managers' prosocial intentions and their desire to engage in ESI to increase the explanatory breadth of our theory. Thus, we investigate the following:

**H2:** “*Creativity-relevant skills mediate the relationship between prosocial motives and a) managers’ willingness to engage in environmental innovation in B2B firms and b) managers’ willingness to engage in social innovation in B2B firms*”.

Research has provided ample evidence that individuals’ morals impact their behaviors in various settings (Owens *et al.*, 2019; Reynolds, 2008). For example, Afsar and Umrani (2020) found that in companies promoting corporate social responsibility, employees’ pro-environmental behavior is influenced by aspects of employees’ morals. In the context of information technology project work, Park *et al.* (2008) found that individuals’ personal morality influences aspects of their behavior. In their study on the behavior of business leaders, Sanders *et al.* (2018) also found that aspects of morality are a significant predictor of managers’ ethical behavior. Rai and Holyoak

(2013) further reinforced the strong relationship between individuals' morals and behavior by revealing that exposure to moral relativism compromises moral behavior. As such, it can be argued that certain morals can exacerbate certain behaviors.

The moral principles that people engaging in business transactions uphold are called corporate moral values (Jiang *et al.*, 2011). Managers use their BMVs to determine whether their business-related behaviors are morally right or wrong. To illustrate, it was found that BMVs impact employees' organizational commitment (Jiang *et al.*, 2011). Managers who uphold strong ethical standards in their company activities are frequently eager to actively participate in efforts that favorably affect both the environment and society, in contrast to managers whose corporate beliefs are less in line with ethical considerations. In particular, given the complexity and interdependence inherent in B2B transactions (Roseira *et al.*, 2010), managers in these firms are likely to consider the ethical implications of their decisions for their own firm and their entire supply chain and stakeholders. As a result, BMVs in B2B firms can amplify the effect of prosocial motives by aligning these motives with broader organizational and industry norms, leading to a stronger commitment to ESI. It is therefore plausible that managers' BMVs will increase the favorable impact of their prosocial motivations on their readiness to engage in ESI by the theoretical considerations outlined above. To empirically investigate this argument, we explore the following:

**H3:** *“Business moral values positively moderate the relationship between prosocial motives and H3a) managers' willingness to engage in environmental innovation in B2B firms, and H3b) managers' willingness to engage in social innovation in B2B firms”.*

## **4. Methodology**

### **4.1. Sampling and data collection**

The research presented in this study adheres to the positivist paradigm, utilizing observable and quantifiable data (Zikmund *et al.*, 2000). By adopting this philosophy, researchers can maintain an unbiased approach to data collection, ensuring that the findings are reliable (Zikmund *et al.*, 2013). The hypotheses of the study are theory-supported, guaranteeing a deductive research strategy. A survey instrument was chosen as the suitable data collection tool to answer the research questions. A widely cited procedure was followed to structure the survey questionnaire and conduct the sampling (Dillman, 2000). Data was gathered from B2B firms within AFBI, which have undergone significant changes due to global pandemic disruptions, particularly in the context of ensuring uninterrupted food supply while minimizing adverse societal and environmental impacts. AFBI, a major player in the domestic economy, exports premium food items to over 40 countries, emphasizing sustainability in response to media and consumer pressure. Existing literature highlights the pivotal role of managers in achieving environmental and social goals. Hence, we investigated Australian FBI B2B firms to assess the impact of prosocial motives on managers' engagement in ESI (Environmental and Social Initiatives). Additionally, we examined whether creativity-related skills and BMVs mediate the influence of these prosocial motives.

Previously established constructs and measures were used in this study, including “prosocial motives” (Grant, 2008); “creativity-relevant skills” (Birdi *et al.*, 2016); “BMVs” (Jiang *et al.*, 2011); “managers’ engagement in ESI” (Engelen *et al.*, 2018; Lai *et al.*, 2016). The measures of each construct were assessed at a 7-point Likert scale ranging from 1 = strongly disagree to 7 = strongly agree.

We used Qualtrics software to distribute 978 online surveys to CEOs of B2B enterprises within the jurisdiction of the Australian Federal Bureau of Investigation to collect the data for this study. A reputed broker in Australia was used to obtain the participants' email addresses and phone

numbers. In order to counteract social desirability bias, we reassured respondents that their answers would be kept private and highlighted that there were no right or incorrect answers. We received 210 genuine online replies despite sending four email follow-up reminders and multiple follow-up calls. We sent out 35 physical questionnaires to increase our response rate. To do this, one of the writers personally handed questionnaires, along with a brief letter of request and a business card, to the front desks of the selected companies. Consequently, we received 32 finished questionnaires, yielding a total of 242 useful responses.

Several ex-ante and ex-post metrics were used to control common method bias (CMB). Ex-ante measures included a variety of procedural safeguards, including making sure measurement items were taken from pre-existing scales, segmenting the questionnaire into different parts, separating the independent and dependent variables, and completely guaranteeing respondents' anonymity (Podsakoff *et al.*, 2003), such as ensuring measurement items were drawn from established scales, dividing the questionnaire into various sections, separating the independent and dependent variables, and fully guaranteeing respondents' anonymity. Additionally, it is argued that reverse-worded items and structures deviate from the CMB pattern (Jordan & Troth, 2020; Nunnally & Bernstein, 1994; Paulhus, 1991). As a result, we employed a construct called "BMV" and numerous items that were phrased in reverse (see Table II). According to the analysis, items, and constructs that were reverse worded had a negative correlation with other items and constructs. Two frequently used statistical analyses made up the ex-post measures. First, using Harman's single-factor test, we extracted five factors with eigenvalues greater than one (Harman, 1976). Any individual construct's average variance extraction was below the 50% cutoff point. Second, following earlier studies in the field (Ali *et al.*, 2022), we employed a Common Latent Factor (CLF) test in which all observed variables were assigned to a common latent factor. The model's

standardized regression weight was compared with and without CLF, and the results showed no statistically significant change ( $p > 0.05$ ). These measures confirm that CMB is not likely to be a problem in this study.

Next, in line with the recommendations of Armstrong and Overton (1977) and Collier and Bienstock (2007), *nonresponse bias* was investigated. The five model-based variables were used to compare early and late respondents. Early and late responders did not differ significantly in the independent sample t-test, showing that nonresponse bias was not a concern in this study.

#### ***4.2. Measurements' reliability and validity***

We performed confirmatory and exploratory factor analyses to assess the validity and reliability of the measures, as shown in Table II. Our initial analysis of each construct's internal consistency involved computing Cronbach's alpha ( $\alpha$ ) values, all of which were higher than the suggested cutoff point of 0.7 (Hair, 2010), confirming the reliability of the constructs. Second, factor analysis was conducted when all measures' factor loading was above the threshold value of 0.50 (Table II), and all items were loaded onto the corresponding latent variables or constructs. (Nunnally & Bernstein, 1994), thereby confirming convergent validity.

Third, the composite reliability (CR) and average variance extracted (AVE) were evaluated, with values exceeding the threshold values of 0.5 and 0.6 (respectively), indicating a satisfactory level of convergent validity. The discriminant validity of each concept was further supported by the fact that the AVE of each construct was higher than the squared correlation with all other constructs (Table I) (Fornell & Larcker, 1981). Fourth, the greatest VIF (test of variance inflation factor) was 2.731, significantly lower than the threshold value of 10 (Hair, 2010), suggesting no issues with multicollinearity.

**< Insert Table I about here >**

Finally, we established a measurement model linking all constructs and measures using SPSS with Amos 28. The analysis indicated that our model fit indices are within acceptable limits (Bentler & Chou, 1987; Hair, 2010):  $CMIN= 2.23$ ,  $CFI = .91$ ,  $TLI = 0.913$ ,  $IFI = .943$ ,  $GFI = .903$ ,  $RMSEA = .041$ ,  $P < .0001$ .

< Insert Table II about here >

#### **4.3. Structural model analysis: hypotheses testing**

Covariance-based Structural Equation Modeling (SEM), along with SPSS with Amos 28, was used to test the direct, indirect, and moderation effects in our model. First, we constructed a full model and ran it to check the model fit indices. The results indicated that our model fit indices are within acceptable limits (Bentler & Chou, 1987; Hair, 2010):  $CMIN= 2.11$ ,  $CFI = .91$ ,  $TLI = 0.923$ ,  $IFI = .953$ ,  $GFI = .913$ ,  $RMSEA = .041$ ,  $P < .001$ .

Next, we tested the direct and indirect (mediation) effects (Table III, Figure 1) following Baron and Kenny (1986) procedure, which has been used by several recent studies in the business management discipline (Adomako *et al.*, 2021; Miemczyk & Luzzini, 2018; Ye *et al.*, 2022). The procedure implies the following four conditions for the mediation test:

First, the independent and dependent variables should be statistically correlated. Consistent with this condition, our analysis indicated that prosocial motives have a significant positive influence on managers' willingness to engage in environmental ( $\beta = .292$ ,  $p < .01$ ) and social ( $\beta = .311$ ,  $p < .01$ ) innovation in B2B firms. Thus, H1a and H1b were supported.

The second condition suggests that the independent variable should be statistically correlated with the mediators. In this vein, our analysis revealed that prosocial motives have a significant positive ( $\beta = .211$ ,  $p < .05$ ) relationship with creativity-relevant skills.

The third condition implies that the mediator should be statistically correlated with the dependent variable. Consistent with this, our results suggested that creativity-relevant skills have a positive association with managers' willingness to engage in environmental ( $\beta = .201, p < .01$ ) and social ( $\beta = .242, p < .01$ ) innovation in B2B firms.

The fourth condition suggests that, with the inclusion of the mediator, if the impact of the independent variable on the dependent variable changes from significant to insignificant, full mediation is established. However, with the inclusion of the mediator, if the impact of the independent variable on the dependent variable statistically decreases, a partial mediation is established. In line with this condition, our results established that, with the inclusion of creativity-relevant skills as a mediator, the impact of prosocial motives on managers' willingness to engage in environmental ( $\beta = .039, p > .05$ ) social ( $\beta = .081, p > .05$ ) innovation in B2B firms has changed from significant to insignificant. As such, it is established that creativity-relevant skills fully mediate the relationship between prosocial motives and managers' willingness to engage in ESI in B2B firms. As such, H2a and H2b were supported.

Additionally, the bias-corrected bootstrapping confidence interval method, which has a stronger power to control type 1 error (Preacher & Hayes, 2008), was also used to assess the mediation effect. As a result, we chose 5000 as the sample size with a 95 percent confidence interval. The findings indicated that prosocial motivations are significantly positively correlated with managers' willingness to engage in environmental ( $p < .01$ ) and social ( $p < .01$ ) innovation. However, with the mediation of creativity-relevant skills, the effect of prosocial motives on managers' willingness to engage in ESI becomes insignificant ( $p > 0.05$ ), and no zero value was found between the lower and upper bound (95% CI: 0.17-0.58). Consistent with Preacher and

Hayes (2008), creativity-relevant skills fully mediate the link between prosocial motives and managers' willingness to engage in ESI.

**< Insert Figure 1 about here >**

Finally, the hypotheses on the impacts of moderation were then put to the test (Table III, Figure 1). Using SPSS's "record into different variable" function, we first re-coded (from negative to positive) the items of business moral importance. This was crucial since the business moral items were originally reverse-worded to control the CBM. To lower the likelihood of multicollinearity, the independent variables (prosocial motives and BMVs) were then mean-centered (Ali *et al.*, 2018; Ambulkar *et al.*, 2015). The interactive/moderation effects were then tested using a product term (prosocial motives x BMVs) (Ali *et al.*, 2018; Ambulkar *et al.*, 2015).

**< Insert Table III about here >**

The analysis, which included SEM and SPSS, revealed that BMVs act as a moderator with a positive but insignificant influence ( $=.063$ ,  $p > .05$ ) on managers' willingness to environmental innovation in B2B companies. As such, H3a was not supported. Alternatively, BMVs act as a moderator and have a significant positive impact ( $=.125$ ,  $p < .05$ ) on "managers' willingness to engage in social innovation" in B2B companies. H3b was therefore supported.

**< Insert Figure 2 about here >**

### **5.3 Robustness Tests**

To ensure the reliability and validity of our model, we employed multiple robustness checks: endogeneity test, alternate analysis method, competing models, etc. First, an endogeneity test is recommended to ensure no risk of omitted variables, reverse causality, or simultaneity in the model. The test enhances the robustness and validity of research findings by systematically

addressing and controlling for potential sources of bias in statistical analyses. As such, we employed multiple measures to ensure that endogeneity did not confound our analysis. Firstly, our hypothesized relationships are firmly grounded in the established literature and theory (i.e., theory of reasoned actions) that substantially reduce the chance of reverse causality (Antonakis *et al.*, 2014; Damali *et al.*, 2016). Secondly, given the satisfactory values of composite reliability and average variance extracted (AVE), the possibility of endogeneity stemming from measurement error is minimized (Ketokivi & McIntosh, 2017). Thirdly, we conducted the residual analysis to scrutinize the presence of unobserved factors, also known as omitted variables, which could introduce endogeneity (Hill *et al.*, 2021; Sande & Ghosh, 2018). This involved examining the correlation between the independent variable and residuals (error terms) in our model. Our analysis revealed non-significant ( $p > 0.05$ ) correlations between the independent variable and residuals (unobserved factors), thus reducing the likelihood of endogeneity (Hill *et al.*, 2021). To illustrate, since residuals capture unobserved factors like omitted variables, a non-significant relationship between residuals and the independent variable indicates minimal risk of omitted variables. Finally, a lack of common method bias, as evident in our analysis, also reduces the risk of endogeneity (Antonakis *et al.*, 2014; Guide Jr & Ketokivi, 2015). Given the multiple recommended measures, it appears that endogeneity is not an issue in this study.

Second, we conducted Ordinary Least Squares (OLS) regression to validate the relationships identified in our model. This analysis tested the direct effects of prosocial motives on managers' willingness to engage in environmental and social innovation ( $p < 0.01$ ), the mediation effect of creativity-relevant skills ( $p < 0.05$ ), and the moderation effect of BMVs, which was significant for social innovation ( $p < 0.01$ ) but not significant for environmental innovation ( $p$

> 0.05). The results from the OLS regressions were consistent with those obtained from SEM, confirming the robustness of our findings.

Third, to validate our model, we created and tested three competing models using SEM. In the first model, BMVs were the independent variable (IV), with prosocial motives as the moderator and creativity-relevant skills as the mediator; this model showed a poor fit ( $\chi^2/df = 6.31$ , GFI = 0.612, NFI = 0.529, CFI = 0.612, RMSEA = 0.149). The second model, where creativity-relevant skills were the IV and prosocial motives the moderator, also yielded an unacceptable fit ( $\chi^2/df = 7.312$ , NFI = 0.543, CFI = 0.621, RMSEA = 0.190). The third model, with managers' willingness to innovate as the IV and prosocial motives as the dependent variable, again demonstrated poor fit ( $\chi^2/df = 8.32$ , GFI = 0.721, NFI = 0.623, CFI = 0.721, RMSEA = 0.132).

Fourth, we also conducted multicollinearity checks using Variance Inflation Factor (VIF) analysis. The VIF values for all variables were within acceptable limits, indicating that multicollinearity is not a concern in our model. Along with the endogeneity tests and OLS regression, these additional checks confirm the reliability and validity of our findings across different aspects of model estimation.

In conclusion, our hypothesized model, where prosocial motives influence managers' willingness to engage in environmental and social innovation through the mediation of creativity-relevant skills and the moderation of BMVs, provided the best explanation for the observed phenomena.

## **5. Discussion and implications**

Innovation is emerging as a key strategy for achieving and maintaining corporate responsibility and contributing to environmental and social sustainability in response to the mounting push for these goals. The presence and significance of environmental and social sustainability are

particularly pertinent in the crucial FBI, where environmental and social concerns are of particular importance, and the sector greatly impacts people's quality of life. What drives social and environmental innovation is unclear, particularly within the FBI. As a result, our study targets academics and industry experts who are eager to investigate the circumstances behind ESI within the context of the FBI. We emphasize how important prosocial motivations are in fostering ESI, how creativity-relevant skills connect prosocial motivations and ESI, and how business moral principles serve as a crucial limiting factor in the relationship between prosocial motivations and social innovation.

Our results revealed several interesting findings. First, consistent with our theoretical prediction, we found prosocial motives to positively influence “managers’ willingness to engage in ESI”. This finding highlights the criticality of incorporating prosocial motives in the analysis and conceptualizations dealing with “ESI behaviors” and motives of individuals (managers) in B2B firms. Second, we further found that the creativity-relevant skills of managers mediate the relationship between prosocial motives and willingness to engage in ESI. Hence, creativity is critical in ensuring the motives and aspirations become reality. Third, the investigation of potential moderators yielded interesting findings. One intriguing discovery from our research pertains to the absence of evidence supporting the notion that BMVs play a moderating role in the connection between pro-social motivations and managers' inclination to participate in environmental innovation. However, at the same time, we found that BMVs moderate the relationship between prosocial motives and managers’ willingness to engage in social innovation. One potential explanation for unsupported moderating impact is that managers driven by pro-social motivations may already be intrinsically motivated to pursue environmental innovation, regardless of organizational business model values. In such cases, pro-social motivations might independently

influence managerial behaviors, reducing the incremental impact that BMVs could otherwise provide. For instance, in companies where sustainability is not embedded in the core business model, managers motivated by personal pro-social values may still actively pursue environmental initiatives. An example of this can be seen in firms within traditionally non-environmental sectors, such as manufacturing, where certain managers lead sustainability efforts based on personal convictions rather than explicit organizational mandates. Conversely, in organizations with established BMVs supporting sustainability, pro-social motivations might align closely with the company ethos, making the moderation effect of BMVs less pronounced.

Considering that our empirical sample is comprised of B2B firms operating in the FBI, these findings pinpoint the importance of context while theorizing issues such as prosocial motives and ESI. One may argue that managers tackle environmental innovation without only considering BMVs because increased awareness and, frequently, legal requirements have made it essential for many organizations. Conversely, social innovation is seen from that prism due to the more visible linkage with issues of ethics and morality and contributing to the larger society about social innovation. As such, while it appears that environmental innovation is increasingly adopted through instrumental and pragmatic approaches, moral approaches and moral values are still prevalent in the context of social innovation, possibly due to weaker perceived linkages between social innovation and instrumental outcomes.

Moreover, BMVs might not moderate the relation between pro-social motivations and managers' inclination to participate in environmental innovation because they might consider that environmental innovations would also benefit them indirectly. As such, regardless of their BMVs, they might support such innovations because they stand to benefit from it indirectly. On the other

hand, managers might consider that they are less likely to benefit from social innovations, so their moral values are more likely to influence the extent to which they would support such initiatives.

### ***5.1. Theoretical implications***

Our findings offer several theoretical implications. First, by offering empirical evidence for the positive impact of prosocial motives on managers' willingness to engage in ESI, our study further solidifies the work of Golgeci *et al.* (2022), where "ESI" were highlighted as vital for corporate support programs geared towards contributing to the larger society. Likewise, the current paper is one of the first to specifically introduce the concept of prosocial motives which has so far been examined mostly within the domain of management and organization studies (Bolino & Grant, 2016; Choi & Moon, 2016; Gkargkavouzi *et al.*, 2019; Rofcanin *et al.*, 2019; Zhong *et al.*, 2022). Our findings further establish criticality of prosocial motives for ESI in B2B context.

Second, our findings allow us to complement the stream of research exploring the consequences of prosocial motives. Past studies have shown that prosocial motives drive managers' willingness to support the organization, their time commitment, and work intensity (Tsachouridi & Nikandrou, 2020), affiliative citizenship behaviors (Grant & Mayer, 2009), organizational citizenship behavior (Halbesleben *et al.*, 2010), emotional exhaustion (Eissa & Lester, 2018), fairness judgments (Sherf & Liu, 2022), organizational commitment (Shao *et al.*, 2017), or idiosyncratic deals (i.e., mutually beneficial work arrangements made between employers and their employees) (Taser *et al.*, 2022), to name a few. We augment this research by revealing that prosocial motives also serve as a direct driver of managers' ESI.

Third, we make a noteworthy contribution by revealing the mediating role of creativity-relevant skills of managers in the relationship between prosocial motives and willingness to engage in ESI. Consequently, our findings support the works of prior scholars such as Amabile (1996,

2011) and Thuan (2020), where creativity was referred to as offering pathways from motives to innovative behaviors and outcomes. Based on this finding, we argue that creativity-relevant skills need to be incorporated in one way or another in research theorizing issues related to the prosocial motives of employees and ESI. They are instrumental in channeling and realizing positive motives toward positive ends.

Finally, contribute to the literature exploring the role of BMVs. Past studies have shown that managers' BMVs affect their subordinates' BMVs (Jiang *et al.*, 2011), employee effectiveness (Chauhan & Yazdani, 2022), organizational commitment (Dinc & Aydemir, 2013), and intellectual capital (Ullah *et al.*, 2021). We augment this stream of research by revealing that BMVs positively moderate the relationship between prosocial motives and managers' willingness to engage in social innovation in B2B firms.

## ***5.2. Practical implications***

A key takeaway for the practitioners from our findings relates to the vitality of creativity-relevant skills for developing and succeeding environmental and social initiatives in their organizations. In the context of ESI, creativity-relevant skills are especially relevant for managers and workers with high prosocial motives. Hence, an organizational environment where creativity is encouraged and fostered can lead to the realization of prosocial motives toward a greater good and the achievement of organizational goals (including financial ones) while at the same time supporting these innovative outcomes that offer both tangible and intangible benefits. For example, Salesforce's '1-1-1' model, dedicating 1% of product, equity, and employee time to social impact, empowers employees to pursue prosocial initiatives. This approach strengthens both employee engagement and Salesforce's market position by aligning social impact with business goals. This particular aspect has been highlighted in a recent Deloitte report as well (Deloitte, 2024), where several firm

examples of organizational thriving as a result of prosocial behavior have been presented. Managers in the B2B firms in FBI need to realize that firms in this sector have a significant potential for contributing to the larger society through creativity-relevant skills and prosocial motives, and this contribution will also bring benefits to them.

Furthermore, BMVs can be structured so that they are linked to innovative activities on both environmental and social sides. In this regard, environmental innovation should be viewed as going beyond compliance and regulatory requirements, as it can lead to several other organizational benefits, including a positive image (i.e., reputational advantages for the firm). It does not need to be reactionary, but it can be adopted as part of a proactive strategy by B2B FBI firm managers. Finally, although our empirical sample comprised B2B firms in AFBI, the findings apply to many B2B, especially concerning the vital role of creativity-relevant skills and prosocial motives.

In addition, we believe our findings provide managers with practical insights on how to integrate prosocial motives and creativity-relevant skills into their strategic decision-making processes. Managers should recognize that fostering a workplace culture that values and encourages prosocial behavior, creativity, and innovation can significantly enhance their environmental and social initiatives. In particular, managers in B2B firms should develop structured programs that not only support creativity but also align with employees' prosocial motives, as these factors can drive organizational innovation and sustainability. For example, such programs might include sustainability-focused innovation challenges or team projects that address environmental or social issues, allowing employees to apply their skills toward meaningful outcomes. This alignment not only enhances employee engagement and satisfaction but also drives innovative solutions that can make the organization more resilient and adaptable in a rapidly

changing market. Moreover, leadership development programs can focus on enhancing creativity-relevant skills among managers, ensuring that they are well-equipped to transform prosocial intentions into innovative actions that benefit both the organization and society. This approach positions B2B firms to better meet the challenges of a dynamic business environment, improving their competitive advantage while contributing to broader social and environmental goals.

Addressing policy implications, our findings underscore the importance of integrating prosocial motives, BMVs, and creativity-relevant skills into policy frameworks aimed at promoting environmental and social initiatives. Policymakers should launch initiatives that incentivize the development of creative skills (e.g., generating new ideas, identifying areas for innovation, and evaluating reliable solutions to looming problems) toward ESI. Additionally, policies should be designed to align BMVs with innovative activities, incentivizing firms to embrace ethical principles, standards, and beliefs that guide the conduct and behavior of individuals and organizations as a core aspect of their operations. Furthermore, policymakers can facilitate collaboration between government, industry, and civil society to promote innovation ecosystems that drive sustainable development and address pressing societal challenges. By enacting policies promoting creativity, sustainability, and social responsibility, policymakers can create an enabling environment for organizations to thrive while advancing the broader goals of economic prosperity, environmental stewardship, and social equity.

### ***5.3. Limitations and future research directions***

Our study has several limitations that are common to academic research. Firstly, our empirical sample is restricted to B2B firms operating in AFBI, limiting generalizability. However, our analysis underscores the crucial links between ESI, business ethics, and creativity, offering avenues for future research. Exploring the FBI in diverse global regions to assess comparability is

a promising avenue for further investigation, providing a comprehensive view of these elements within the FBI context. In this vein, because we focused on B2B firms, it would be interesting for future studies to test the relationship between prosocial motives and ESI in the context of B2C firms, as certain differences could exist in this area between B2B and B2C firms.

Moreover, future studies can thoroughly examine creativity-relevant skills, differentiating between functional-level and strategic-level dimensions. This analysis will clarify the roles and limitations of various creativity aspects in ESI, revealing their multifaceted impact on innovation and sustainability outcomes. Additionally, while this study provides important insights into the relationship between prosocial motives and managers' engagement in environmental and social innovation (ESI) in B2B firms, the limited number of prior studies on this specific topic presents a constraint. Due to the pioneering nature of this research, there are few comparable studies that could help to extend, replicate, or further validate our findings across different industries or cultural contexts. Future research is encouraged to build upon this study to establish broader evidence base and enhance the generalizability of our results.

An additional avenue for future research involves conducting experimental studies to investigate causal relationships within this domain. Experimental designs could manipulate variables such as prosocial motives, ethical perceptions, and creativity-relevant skills, thereby offering deeper insights into how these factors influence ESI outcomes. Such controlled studies could help validate and extend our findings by isolating specific effects and clarifying the mechanisms through which prosocial motivations impact ESI engagement, particularly in comparison between B2B and B2C contexts.

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**Table I.** Convergent and discriminant validity of the variables

Parameters	1	2	3	4	5
1. PM	<b>.75</b>				
2. EI	0.02	<b>.81</b>			
3. SI	0.03	0.31	<b>.78</b>		
4. CS	0.02	0.06	0.057	<b>.82</b>	
5. BMV	0.01	0.01	0.018	.205	<b>.71</b>

Note: AVE = diagonal values in bold

**Table II.** Reliability and validity of constructs and measures

Construct	Measures	Factor loading
<b>Prosocial motives</b>	$\alpha = 0.87, AVE = .75, CR = .89$	
	PM1: "Because I care about benefiting others through my work"	.828
	PM2: "Because I want to help others through my work"	.905
	PM3: "Because I want to have a positive impact on others"	.881
	PM4: "Because it is important to me to do good for others through my work"	.844
<b>Creativity-relevant skills</b>	$\alpha = 0.91, AVE = .82, CR = .95$	
	CS1: "Thinking up new ways of doing things"	.872
	CS2: "Coming up with new ideas"	.931
	CS3: "Finding new areas for improvement"	.883
	CS4: "Finding new opportunities for innovation"	.902
	CS5: "Generating more than one solution to a problem"	.903
	CS6: "Finding out the root cause of a problem"	.901
	CS7: Being able to pick the best option from a number of solutions to a problem	.961
<b>Business moral values</b>	$\alpha = 0.84, AVE = .71, CR = .96$	
	BMV1: "Not exposing a supervisor's illegal behavior in the company"	.892
	BMV2: "Not exposing a colleague's illegal behavior in the company"	.882
	BMV3: "Giving gifts or benefits to a supplier to garner favorable treatment"	.923
	BMV4: "Currying favor with the employee of a competitor to acquire information that benefits only you"	.785
	BMV5: "Gossiping, dozing off, or being absentminded during working hours"	.722
	BMV6: "Procrastinating and not doing your best to accomplish your work"	.919
	BMV7: "Doing work carelessly in order to leave early"	.815
	BMV8: "Taking credit for a subordinate's work"	.751
	BMV9: "Attributing your faults to colleagues"	.816
	BMV10: "Starting rumors and calumniating those colleagues you think may want your position"	.779
	BMV11: "Using company time for personal business"	.802
	BMV12: "Copying corporate software for personal use"	.845
	BMV13: "Appropriating corporate resources (i.e., other employees, money, and objects) for personal use"	.887
	BMV14: "Using cheaper components for a supplier's order instead of those requested to be used in the contract"	.886
BMV15: "Concealing minor quality problems in order to deliver the merchandise"	.897	
<b>Managers' willingness to engage in environmental innovation</b>	$\alpha = 0.91, AVE = .81, CR = .94$	
	EI1: "I would be highly engaged in generating new solutions for my idea to develop an environment-friendly new product"	.900
	EI2: "I would create new ideas and develop an actual product that causes little to no pollution to natural resources (water, land, air)"	.902
	EI3: "I would search out new work methods, techniques, or instruments to push my idea and develop an actual product that causes little to no greenhouse gas emissions and waste"	.895
	EI4: "I would transform my innovative idea into useful actual applications and products which have the least negative impact on climate"	.905
<b>Managers' willingness to engage in social innovation</b>	$\alpha = 0.92, AVE = .78, CR = .95$	
	EI5: "I would evaluate the utility of my innovative idea for the natural environment"	.896
	SI1: "I would be highly engaged in generating new ideas to address social problems (unemployment, income inequality, education, and healthcare)"	.850
	SI2: "I would be highly engaged in generating new ideas to support the community"	.875
	SI3: "I would search out new work methods, technologies, or instruments and develop a product that is beneficial for the current and future generations"	.877
	SI4: "I would focus on developing a new product that supports public health"	.891
	SI5: "I would transform my innovative idea into useful actual applications and products that positively impact society"	.906
SI6: "I would be engaged to create new processes and routines that meet social needs better than the existing solutions of community development"	.896	
SI7: "I would evaluate the utility of my innovative idea for society"	.897	

**Table III.** Results of hypotheses

Hypotheses	$\beta$	$p$ -value	Results
<b>Direct effects</b>			
PM -> EI	.292	.007	Supported
PM -> SI	.311	.004	Supported
<b>Moderation</b>			
PM x BMV -> EI	.063	.087	Not supported
PM x BMV -> SI	.125	.005	Supported
<b>Mediation analysis</b>			
Hypotheses	Direct effect without the mediator $\beta$ ( $p$ -value)	Indirect effects with the mediator $\beta$ ( $p$ -value)	Results
PM -> CS -> EI	.138 (.031)	.039 (.575)	Supported
PM -> CS -> SI	.170 (.007)	.081 (.246)	Supported

PM = prosocial motives, EI = environmental innovation, SI = social innovation, BMV = business moral values, CS = creativity-relevant skills.

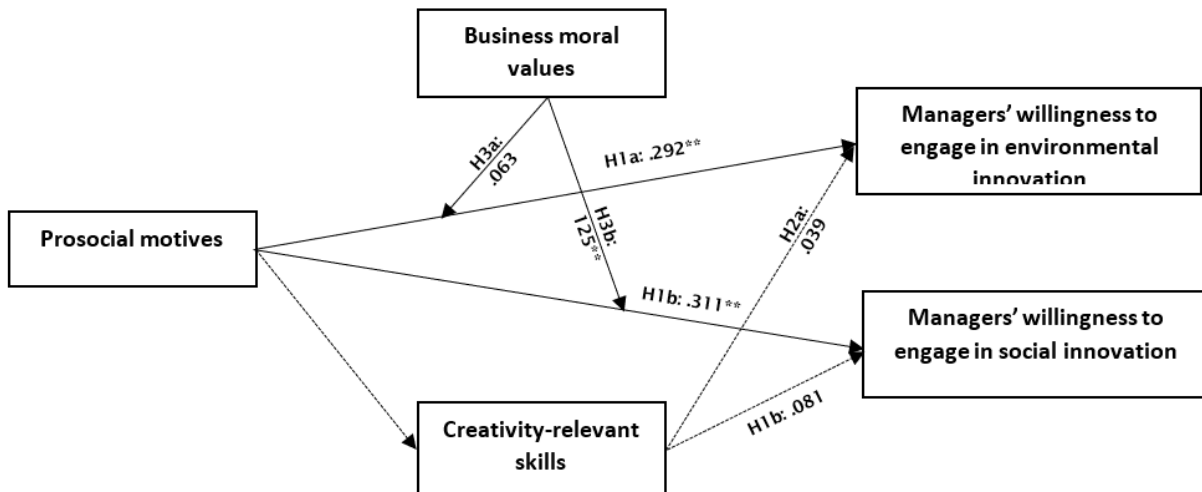
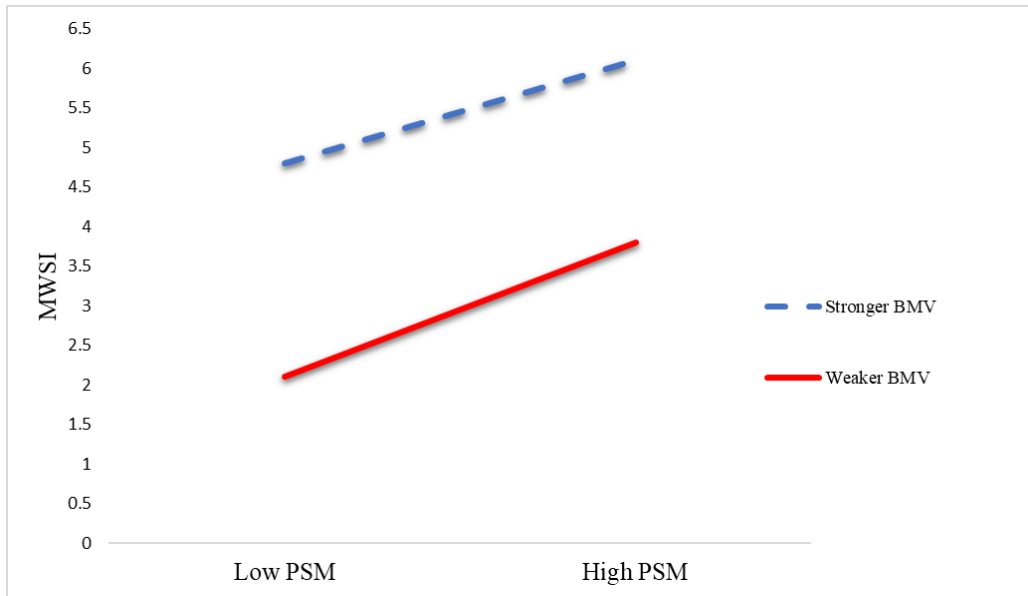


Figure 1. A statistically validated model with all hypothesized relationships

a)



b)

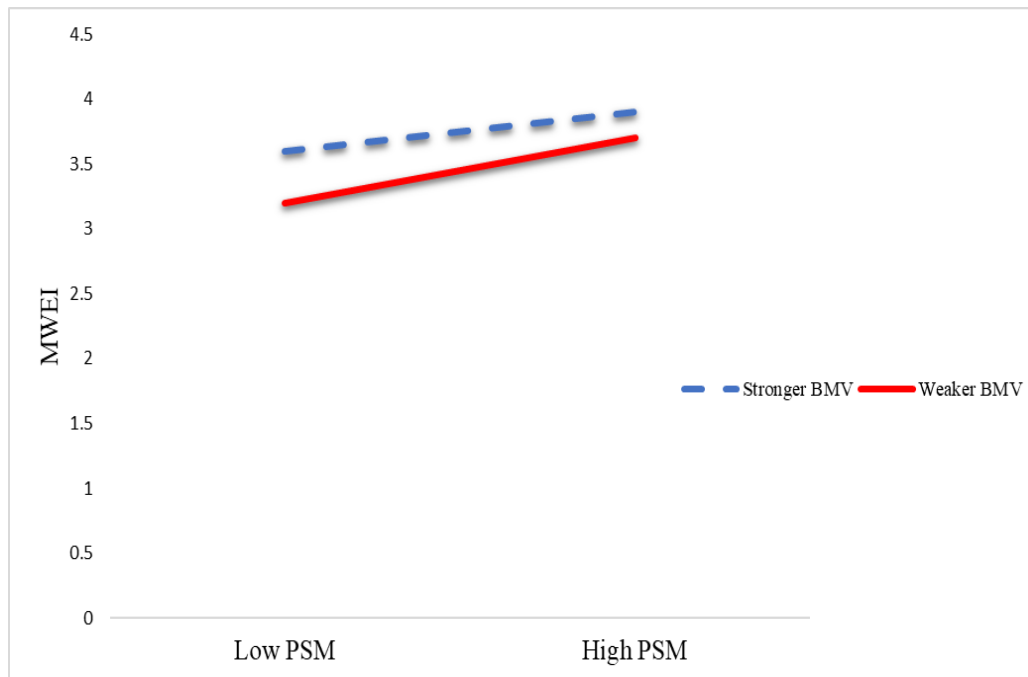


Figure 2. Interaction plot showing the moderating effect of BMV on MWSI (a) and MWEI (b)