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**Business not as usual: Understanding the drivers
of tacit knowledge-sharing behavior in
teleworking modality**

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BUSINESS NOT AS USUAL: UNDERSTANDING THE DRIVERS OF TACIT KNOWLEDGE-SHARING BEHAVIOR IN TELEWORKING MODALITY

by

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To my parents. I could write many paragraphs with the various reasons why I would like to thank them, but I will limit myself to writing only that without them, I obviously wouldn't be here. Their love and dedication will always be an example of the kind of parent I want to be one day.

I'm so grateful to my wife for her love and patience throughout this year and for always motivating me to go the extra mile. Dedicating time to writing a thesis also means sacrificing family time and she couldn't have been more supportive.

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ABSTRACT

In recent years, companies have differentiated themselves from their competitors through their intellectual capital, an essential resource for survival. As such, tacit knowledge gives companies leverage when it comes to obtaining a competitive advantage, as it originates in personal actions or attitudes, making its formalization, sharing, and expression very difficult, which in turn results in a big challenge for competitors who want to appropriate it when compared to explicit knowledge.

Applying the theory of planned behavior and extending it to individual and organizational factors, this study aims to examine the drivers of employees' tacit knowledge-sharing behavior for workers that are in traditional, hybrid, and teleworking modalities, which is the current norm in the corporate world.

This research begins with a brief review of the context of the COVID-19 pandemic in organizations and people. The literature review allows studying the concepts of organizational knowledge creation and sharing, tacit knowledge, telework, and the theory of planned behavior. Our research model is based on a sample where, surprisingly, almost 80% of respondents work remotely for at least half of their time and data analysis was performed using the partial least squares technique, supported by SmartPLS. The results demonstrate that the proposed factors can explain more than 40% of employees' tacit knowledge-sharing behavior variation.

KEYWORDS

Tacit knowledge; knowledge sharing; knowledge creation; COVID-19; theory of planned behavior, organizational factors, individual factors

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LIST OF ABBREVIATIONS AND ACRONYMS

ATT	Attitude
BEH	Behavior
CLI	Organizational climate
COVID-19	Coronavirus disease 2019
ENJ	Enjoyment
ICT	Information and communication technologies
INT	Intention
KM	Knowledge management
KSB	Knowledge sharing behavior
PBC	Perceived behavioral control
REC	Reciprocity
REW	Organizational reward
SUB	Subjective norm
TKS	Tacit knowledge sharing
TPB	Theory of planned behavior
TRA	Theory of reasoned action
TRU	Trust

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1. INTRODUCTION

In the last 20 years, innovations brought by information and communication technologies (ICT) have enabled more and more companies to migrate to remote work environments in such a way that the physical location of the workplace is gradually losing importance (Garro-Abarca et al., 2021). However, a global crisis in almost every industry caused by the COVID-19 pandemic has swiftly caused far-reaching changes, such as the requirement for social distancing, sharply reducing population mobility, and increasing job insecurity levels. Despite the hope that many have, based on the global hunt for new ways to overcome the virus, new waves and variants are still a concern for many countries as they may bring challenges that have not yet been identified.

Companies' ability to adopt knowledge management practices has been crucial to differentiate themselves from their competitors and gain a competitive edge (Chen & Liang, 2016; Darroch, 2005; Kogut & Zander, 1992; Marqués & Garrigós-Simón, 2006). However, the success rate of knowledge management initiatives was already low (Chua, 2009) even before the COVID-19 pandemic, resulting in financial costs and negative impacts on organizational performance (Chen & Liang, 2016). With today's massive adoption of teleworking, it is essential to examine how tacit knowledge-sharing (TKS) intention and behavior has been influenced during a global crisis.

To empirically test our research model, we collected data through an anonymous survey, resulting in 206 valid responses. Surprisingly, almost 80% of respondents are currently working remotely for at least half of their working days. We performed our data analysis using the partial least squares technique, supported by SmartPLS.

This study makes three contributions to the literature: First, it empirically examines only one of the two dimensions of knowledge, commonly known as tacit knowledge, through a framework that extends the theory of planned behavior (TPB), proposing that TKS can be understood from combined individual and organizational perspectives. To the best of the author's knowledge, relatively few have done so during a crisis setting, choosing to investigate knowledge sharing as a single element (Jeon et al., 2011; Ranasinghe & Dharmadasa, 2013; So & Bolloju, 2005). Second, by collecting data through a survey during a period in which many companies worldwide are experimenting with teleworking for the first time, this research further enriches the literature, paving the way for future studies examining the phenomenon from a broader perspective, for instance, meta-analysis studies. Third, this study allows companies to better understand the importance of the factors examined, thereby improving their ability to adopt tacit knowledge-sharing behaviors and, consequently, create value and gain competitive advantage.

1.1. MOTIVATION

The COVID-19 pandemic presents an extreme challenge to public health, food systems, and the economy, and although some countries have managed the crisis better than others, "working-hour losses in 2020 were approximately four times greater than during the global financial crisis in 2009" (International Labour Organization, 2021). Not surprisingly, a report from Eurofound (Ahrendt et al., 2020) found that 8% of those who worked for an employer had become unemployed since the onset of the pandemic.

Although some countries have managed the crisis better than others, allowing them to balance the restrictions within acceptable limits, companies were forced to adapt quickly, implementing teleworking practices, regardless of whether they were technologically, financially, or legally prepared for these changes. The new scenario has made the teleworking model the norm in the corporate world, changing how and where most of us work.

Therefore, many employees are facing challenges or barriers never experienced before, such as: requiring a reliable internet connection, a quiet place to work, remote collaboration, or managing informal conversations with their co-workers (Deloitte, 2021). These are not even the most worrisome challenges these individuals are facing: In the United States, “one-third of Americans (33%) have experienced high levels of psychological distress at some point during the extended period of social distancing undertaken to slow the spread of COVID-19” (Pew Research Center, 2020), while in the United Kingdom the levels of happiness and anxiety in late 2020 were significantly worse than when compared to pre-pandemic levels.

1.2. OBJECTIVES

Due to the COVID-19 pandemic, the frequency of communication between employees has increased with the inability to go to the office and benefit from the face-to-face interaction it promotes (Defilippis et al., 2020), yet many companies have struggled to maintain their previous levels of engagement, a key component in driving productivity, and commitment, with nearly half of employees feeling insufficiently recognized or not recognized at all (Achievers, 2020).

With so many recent changes in people's daily work routine, it is not surprising that the importance given by people and organizations to knowledge management has also changed. Hence, based on the theory of planned behavior, the purpose of this study is to explore some antecedents of TKS behavior during the period in which many companies were experimenting with teleworking as one of the containment measures imposed by governments to reduce the epidemiological curve during the COVID-19 pandemic.

We examine individual and organizational factors underlying TKS behaviors, contributing to companies with practical applications derived from the findings of this research, as well as to academic research with a deeper understanding of TKS during COVID-19 with empirical data. The present study focuses on the transmission of knowledge from one individual to another through social interactions, rather than the codification of tacit knowledge into explicit. To reach this research goal, the following intermediate objectives were defined:

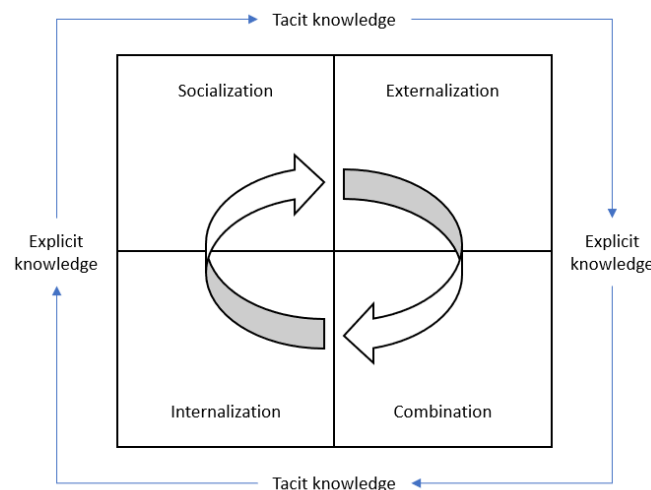
- Define what knowledge sharing is and why it is important to organizations.
- Differentiate between tacit and explicit knowledge and clarify the relevance of the former.
- Explore the existing literature for the existence of theories and research models related to factors that influence employees' TKS behavior.
- Explore the existing literature for factors commonly related to the COVID-19 pandemic that might extend the selected theory and create a research model as a result.
- Determine whether and how the factors selected influence employees' TKS behavior.

2. THEORETICAL BACKGROUND

2.1. KNOWLEDGE CREATION AND SHARING

Knowledge has been a centerpiece in any society, is directly associated with the economic development process, as well as a preeminent resource in companies (Grant, 1996), making it easy to understand why the existing literature is so vast. Even so, there is no consensus in the literature on the definition of knowledge sharing (Afshar-Jalili, 2019), and several terms such as knowledge exchange or knowledge diffusion have been applied (Dixon, 2000). Thus, Nonaka & Takeuchi (1995) coined knowledge conversion as the process by which knowledge transformation occurs. They conceptualized the continuous process of knowledge conversion in their SECI model, based on the "adaptive character of thought" model (Anderson, 2013), representing the four stages in which it occurs.

Figure 1 SECI model (Nonaka & Takeuchi, 1995)



SECI represents a spiraling process of sharing and reflection, composed of socialization (TKS between individuals), externalization (to articulate tacit knowledge in explicit concepts), combination (to combine different explicit knowledge entities), and internalization (to embody explicit knowledge into tacit knowledge). After undergoing these stages, organizational knowledge is transformed into group or individual knowledge through internalization and socialization, while the opposite occurs through externalization and combination. In other words, knowledge “becomes” or “amplifies”, and the process reaches a “new level”, thus the metaphor for a knowledge creation spiral. In this journey from “being to becoming” (Nonaka et al., 2000), employees enhance their capacity to engage in a situation or challenge in their organizations and apply their knowledge to act on or resolve the conundrum by interacting and sharing their knowledge.

Many authors in the knowledge management community have widely accepted the SECI model, both in conception and application (Dyck et al., 2005; Schulze & Hoegl, 2006; Von Krogh et al., 2000). However, its validity has also been questioned, with claims that “new knowledge comes about not when the tacit becomes explicit, but when our skilled performance is punctuated in new ways through social interaction” (Tsoukas, 2002). Likewise, other authors (Goswami & Agrawal, 2021) also emphasize the association of employees with knowledge creation, suggesting that deriving knowledge from information requires human judgment and is based on context and experience.

Knowledge creation and sharing can then be defined as a learning process in which there is propagation and assimilation of ideas and the factors that make employees willing to share knowledge play an important role in how successful knowledge management can be achieved (Han & Anantatmula, 2007). What then makes knowledge creation and sharing such a challenge in organizations? We found several reasons such as the fact that TKS happens through free will, and cannot be mandated (Li et al., 2020; Polanyi, 1966). Likewise, Tsoukas (2002) argues that we do not need to operationalize tacit knowledge and that we would not be able to do so even if we wanted to, but rather “find new ways of talking, fresh forms of interacting, and novel ways of distinguishing and connecting”. Szulanski (1996) presents several reasons, such as the lack of absorptive capacity of the recipient, the individual’s poor communication skills, the uncertainty about the effect of the knowledge being transferred, lack of shareable knowledge, and an arduous relationship between the source of knowledge and the recipient. Serenko (2019) however found that more than 40% of the individuals interviewed had been involved in counterproductive knowledge behaviors, many of them repeatedly, such as disengagement from knowledge sharing, knowledge sharing ignorance, partial knowledge sharing, knowledge hoarding, counter-knowledge sharing, and knowledge hiding. These counterproductive factors often lead to negative effects on task (Singh, 2019) and team (Y. Wang et al., 2019) performance, as well as on individual and team creativity (Dong et al., 2017).

2.2. TACIT KNOWLEDGE

The literature makes a clear distinction between two dimensions of knowledge, commonly known as explicit and tacit (Hedlund, 1994; Nonaka & Takeuchi, 1995; Van Den Berg, 2013). Explicit knowledge (knowing-that) is the knowledge that can be easily articulated, codified, transmitted in formal, systematic language, and often takes the form of processes, presentations, manuals, and other types of documents. By contrast, tacit knowledge (knowing-how) is knowledge embedded in the human mind, and therefore highly personal and difficult to articulate, and which can be acquired without any intention to learn or awareness of having learned, and is deeply rooted in actions, routines, ideals, values, beliefs, and emotions (Nonaka et al., 2000). Thus, tacit knowledge tends to be contextual, intangible, and personal. It is found in gut feelings, insights, hunches, intuitions, and know-how, and can be acquired only through individual processes such as learning, reflection, and experience.

Due to this difference, although organizational knowledge resides in organizational-specific routines (Szulanski & Jensen, 2004), those associated with explicit knowledge are considered fundamentally distinct from those associated with tacit knowledge (Boisot, 1999). As such, the ease of replicating explicit knowledge does not apply to tacit knowledge, and although this characteristic can result in efficiency gains, it can also expose organizations to the risk of their competitors gaining access to key information. Due to its intangible nature, though not impossible, the appropriation of tacit knowledge becomes more difficult and is the reason why, among other characteristics, the literature associates it with sustainable competitive advantage (Harlow, 2008; Lecuona & Reitzig, 2014).

The term tacit knowledge, like explicit knowledge, is originally attributed to Michael Polanyi (1958), who declared “I shall reconsider human knowledge by starting from the fact that we can know more than we can tell” (Polanyi, 1966) and, since then, the term and its conceptualization has been the subject of research between two contradictory groups: While one side claims that it is possible to elicit tacit knowledge (Nonaka & Takeuchi, 1995), the other argues that it is an integral component of any activity performed by an individual and that it cannot be clearly measured or defined (Tsoukas, 2002).

Despite any disagreements, knowledge creation stems from socialization (Nonaka & Toyama, 2003). Likewise, tacit knowledge can be learned through social practices (Nonaka & von Krogh, 2009), and involves collective action and the intrinsic motivation of individuals (Bock et al., 2005). Therefore, the key to successful tacit knowledge transfer is “the willingness and capacity of individuals to share what they know and use what they have learned” (Holste & Fields, 2010).

2.3. CHALLENGES OF TELEWORKING FOR KNOWLEDGE SHARING

Telework, also known as telecommuting, remote working, working from home, remote job, or working from anywhere, is usually referred to as a professional activity facilitated through ICTs, and performed in locations other than their primary office (Biron et al., 2022). Long before ICTs allowed us to transform public spaces and our homes into "virtual offices", predictions already existed on telework becoming the main mode of work (Toffler, 1984), yet only around 2% of employees were teleworking mainly from home in the European Union in 2017 (Parent-Thirion et al., 2017). With the outbreak of the pandemic, and the containment measures implemented by governments to curb the spread of the virus, this has suddenly changed for many workers across the world. Recent surveys (Ahrendt et al., 2020; Eurostat, 2019) shows us a major shift driven by the lockdown in the EU: 48% of employees worked remotely at least part of the time during the pandemic, showing a considerable increase in telecommuting during the lockdown, creating a new scenario where workers are unlikely to return to the same pre-pandemic level of teleworking when the pandemic finally ends.

Due to its varied implications for societies, organizations, and individuals, teleworking has been a topic of growing interest for scholars and managers. What began as a solution to problems arising from life in contemporary society, quickly became an object of desire for companies and individuals, through the promises of increased productivity (Nakrošienė et al., 2019) and employee engagement (Felstead & Henseke, 2017), talent acquisition and retention (Soroui, 2021), lower levels of stress (Fonner & Roloff, 2010), shorter commuting time (Tremblay & Thomsin, 2012) and better balance between work and family life (Aguilera et al., 2016).

This however does not mean that the topic is free from contradictions in the literature (Aguilera et al., 2016; Cerqueira et al., 2020; Tenailleau et al., 2021). The most important, considering the present study, are: first, the lack of social interaction and the inevitable distractions in most home environments (Holden, 2020), which can vastly undermine trust formation (Kuo & Yu, 2009), a strong enabler for knowledge sharing (Chow & Chan, 2008; Hall & Africa, 2021; Hau et al., 2013); and second, “no technical interface can fully replace face-to-face interaction, which is a necessary precondition for an informal organizational culture in the workplace, for their team spirit and above all for the communication of tacit knowledge” (Pyöriä, 2009). By fostering organizational culture, individuals learn the subjective norms valid in that environment and how activities, including knowledge sharing, should work (Yang et al., 2018).

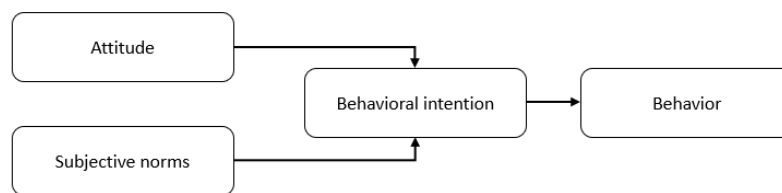
2.4. THEORY OF PLANNED BEHAVIOR

By reviewing the literature, we found that the most common theories used by authors concerning knowledge-sharing intentions, behaviors, and practices are the theory of reasoned action (TRA) and the theory of planned behavior (TPB) as they provide a theoretical framework that has been considered the fundamental backbone for examining the psychological factors that drive knowledge-sharing behavior (KSB) (Nguyen, Nham, & Hoang, 2019).

The TRA, developed by Fishbein & Ajzen (1975), is one of the most widely accepted and prominent theories of behavior change and has been used in studies of knowledge sharing (Hau et al., 2013; Ho et al., 2009; Nguyen, 2020; Tsai et al., 2011). In TRA, the beliefs that precede behavioral intentions are divided into two conceptually distinct sets: behavioral (the underlying influence on an individual's attitude toward performing the behavior) and normative (influence of the individual's subjective norm about performing the behavior). The theory is often used to predict how individuals will behave based on their pre-existing attitudes and behavioral intentions, stating that if someone has a positive attitude or thinks they are expected to perform a behavior, they will have the intention to do so and will be more likely to exhibit the expected behavior (Fishbein & Ajzen, 1975).

In other words, the theory states that: the more favorable one's attitude toward a behavior, the stronger the intention to engage in the behavior; the greater the subjective norm (SUB), the stronger the intention to perform the behavior; and the stronger one's intention to engage in a behavior, the more likely one will be to perform it. While "attitude" refers to the degree of favorable evaluations or appraisals of a behavior, SUB refers to the perception that an individual has regarding whether people important to that individual believe that he or she should or should not perform a particular behavior. Figure 2 presents the chain of these constructs as stated by the theory.

Figure 2 Theory of reasoned action (Fishbein & Ajzen, 1975)

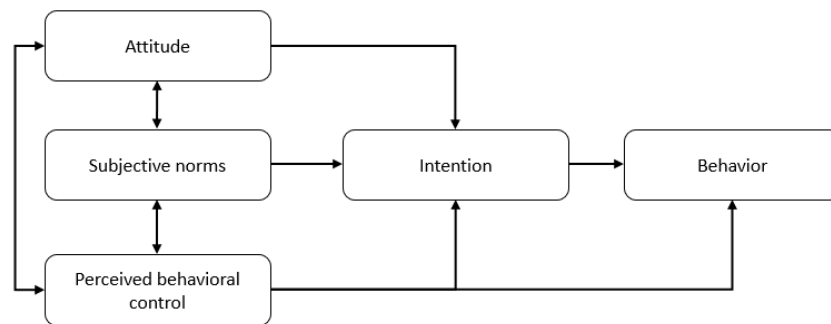


Behavioral intention, however, does not always lead to behavior (Norberg et al., 2007). Given that it cannot be the exclusive determinant of behavior when people have incomplete volitional control (Ajzen, 2011), Ajzen developed the theory of planned behavior (TPB) as an extension of the TRA to improve its predictive power, and since then it has been used in various domains, including knowledge management in business settings (Chennamaneni et al., 2012; Ranasinghe & Dharmadasa, 2013; So & Bolloju, 2005). The theory states that human behavior is guided by beliefs divided into three conceptually distinct sets: behavioral (produces a positive or negative attitude toward the behavior), normative (the normative expectations of other people or subjective norm), and control (originates the perceived behavioral control, the individual's perception of how easy or difficult it will be to perform the behavior of interest). Although the first two are already known in the TRA, the last one exists only in the TPB (Ajzen, 1991).

The perceived behavioral control (PBC) was added for providing information about potential constraints and/or enablers on actions (as perceived by the individual) that can prevent or help the performance of the behavior, despite the individual's intention concerning that behavior, and because it "should become increasingly useful as volitional control over behavior decreases" (Ajzen, 1991). According to TPB, behavioral achievement can be predicted through the combination of behavioral intention and PBC. Ajzen rationalizes this statement on two grounds: First, if two individuals have strong intentions to act (behavioral intention), and both try to perform it, the one who has more confidence in the ability to perform it (PBC) has a greater chance of being successful (behavioral achievement) compared to the other whose confidence level is lower. Second, while the measure of

how accurate or not PBC is can be questioned, when realistic, it can be used to predict the probability of a successful behavioral attempt as a substitute for a measure of actual control. Figure 3 presents the chain of these constructs as stated by the theory.

Figure 3 Theory of planned behavior (Ajzen, 1991)



3. RESEARCH MODEL DEVELOPMENT

3.1. INDIVIDUAL FACTORS

3.1.1. Enjoyment

Csikszentmihalyi (1975), one of the first psychologists to study enjoyment, emphasized that some activities are performed by individuals just for the sake of enjoyment derived from doing them. Helping others can be enjoyable in itself, and it also provides opportunities for individuals to learn and grow (McLure Wasko & Faraj, 2000). The enjoyment of helpful behavior is related to altruism, but altruism differs from reciprocity in that it involves helping others without any expectation of getting something in return (Jeon et al., 2011). Jeon et al. (2011) argue that the pleasure of helping others exerts a greater influence on the attitude toward knowledge sharing compared to reciprocity.

Individuals' enjoyment of helping others significantly influences their behavioral attitudes toward knowledge sharing (Chennamaneni et al., 2012; Hau et al., 2013; Jeon et al., 2011; Lin, 2007b). Chennamaneni et al. (2012), when theoretically and empirically examining motivational factors to knowledge sharing, argued that "organizations should raise the level of knowledge workers' perceptions of the enjoyment in helping others by publicizing the positive outcomes of knowledge sharing" to reduce employees' fear of losing power as a result of knowledge sharing. Therefore, our first hypothesis is as follows:

H1: Enjoyment in helping others positively influences employees' attitudes toward TKS intention.

3.1.2. Reciprocity

According to Linton (2000), relationships are perceived as being more valuable when there is reciprocity, compared to those in which there is only one-way communication. Likewise, Brann & Foddy (1987) have found that as the relationships between individuals become closer, the more motivated they are to perform in ways that benefit each other. Other authors argue that reciprocity positively affects individuals' intentions and attitudes toward knowledge sharing (Chennamaneni et al., 2012; Hau et al., 2013; Lin, 2007b). Lin (2007b), in his empirical study with 50 large organizations in Taiwan, argues that employee attitudes towards knowledge sharing are shaped by expectations regarding the reciprocal benefits of knowledge sharing and that reciprocal relationships should be encouraged in order to create and maintain positive knowledge sharing culture in organizations. Therefore, the following hypotheses are proposed:

H2: Reciprocity positively influences employees' attitudes toward TKS intention.

H3: Reciprocity positively influences employees' subjective norms toward TKS intention.

3.1.3. Trust

Trust is defined by Lewicki & Bunker (2012) as "a critical success element to most business, professional, and employment relationships", which is perhaps the reason why the literature is so replete with associations of the term with knowledge sharing. Previous studies have argued that trust is a strong enabler for knowledge sharing (Chow & Chan, 2008; Hall & Africa, 2021; Hau et al., 2013),

to the point that the levels of risk and uncertainty associated with TKS (Foos et al., 2006) are reduced by the presence of a high level of trust (Roberts, 2000).

Inkpen & Tsang (2005), when investigating knowledge acquisition using a social capital framework, found that an atmosphere of trust should contribute to the free exchange of knowledge. Likewise, Roberts (2000) states that “the exchange of knowledge, and particularly tacit knowledge, is not amenable to enforcement by contract. Hence the importance of trust in the exchange of knowledge”. Therefore, the following hypothesis is proposed:

H4: Trust among employees positively influences attitude toward TKS intention.

H. K. Wang et al. (2016) associate trust with subjective norms when arguing that “trust implies expectations toward intention and behavior of others”. Likewise, Kelley & Stahelski (1970) argue that the better one individual knows the other, the more accurately what the other will do can be predicted. Therefore, the following hypothesis is proposed:

H5: Trust among employees will positively influences subjective norms toward TKS intention.

3.2. ORGANIZATIONAL FACTORS

3.2.1. Organizational climate

Organizational climate is “the shared values, norms, meanings, beliefs, myths and underlying assumptions within an organization” that guide the individuals’ behavior by conveying to them what behavior is appropriate and desirable (Chennamaneni et al., 2012). Chennamaneni et al. (2012) also argue that SUBSs are formed when members internalize and evaluate organizational values and norms.

The organizational climate is a critical knowledge-sharing factor, positively influencing an individual's subjective norms (Ajzen & Fishbein, 1980; Bock et al., 2005; Huber, 2017; Joseph & Jacob, 2011) and intention toward knowledge (Joseph & Jacob, 2011). Therefore, the following hypotheses are proposed:

H6: Organizational climate positively influence employees’ attitudes toward TKS intention.

H7: Organizational climate positively influence employees’ subjective norms toward TKS intention.

An organizational climate that promotes collaboration and innovativeness can enhance the employee’s ability to share knowledge with others (Sveiby & Simons, 2002). Therefore, the following hypothesis is proposed:

H8: Organizational climate positively influence employees’ perceived behavioral control toward TKS.

3.2.2. Organizational rewards

Associations between rewards and knowledge sharing have generated extensive discussions in the literature. Several researchers differentiated the term between extrinsic rewards (such as payouts and promotions) and intrinsic rewards (such as respect and reputation enhancement), and while some suggest that extrinsic rewards motivate knowledge sharing (Kankanhalli et al., 2005; Kwok & Gao, 2005), others argue that this type of incentive has the opposite effect (Hau et al., 2013; Hau & Kim,

2011), or even no significant effect (Chennamaneni et al., 2012; Hung et al., 2011; Lin, 2007b; Seba et al., 2012).

Bock & Kim (2002), when investigating the factors affecting the employees' KSB in business organizations, found that expected rewards discourage the formation of a positive attitude toward knowledge sharing, arguing that "when employees compete for a limited number of incentives, they will very likely be to see each other as competitors to their success", and "for every person who wins, there are many others who feel they have lost". Likewise, Chennamaneni et al. (2012) argued that "the promise of rewards is manipulative and obstructs teamwork, cooperation, creativity and risk-taking among employees".

Hau et al. (2013) provided a relevant distinction, having found that the positive effect of organizational rewards is very small on explicit knowledge-sharing intentions, and negative on tacit, given that "the very nature of organizational rewards rubs against the 'voluntary giving' nature of TKS whose intention frequently forms based on trust and collegiality". These divergences in the literature suggest that more empirical studies are needed. Therefore, the following hypothesis is proposed:

H9: Organizational rewards negatively influence employees' attitude toward TKS intention.

3.3. DETERMINANTS OF BEHAVIOR

Nguyen et al. (2019) found that attitude is the construct having the strongest association with intention, and that intention has the strongest association with KSB (therefore, the best predictor of KSB). Although it has a weaker association with KSB than intent, the PCB also plays an important role because when two individuals have the same intentions, the one who most trusts their abilities is more likely to share knowledge. Nguyen et al. (2019), as well as other authors (Bock & Kim, 2002; Cabrera & Cabrera, 2005), claim that TPB, as defined by Ajzen, provides good predictability of KSB.

Subjective norms, as a social factor, are determined by perceived social pressures and by the normative beliefs that arise from others for an individual to behave or not to behave in a certain manner, complying with those people's views. Therefore, people endeavor to influence behavior through their impact on individual intentions (Rivis & Sheeran, 2003). Perceived behavioral control is defined as the perception of one's abilities and sense of control to perform a behavior and it is assumed to reflect past experiences as well as anticipated impediments or obstacles (Ajzen, 1991). Therefore, it refers to the presence or absence of the required resources and opportunities for a particular behavior to be enacted. According to Ajzen (2011), "attitudes, subjective norms, and perceptions of behavioral control are assumed to feed into and explain behavioral intentions". Likewise, studies that have investigated knowledge sharing using TPB reaffirm these three elements as determinants of intention (Bock et al., 2005; Chennamaneni et al., 2012; Jeon et al., 2011; Joseph & Jacob, 2011). Therefore, the following hypotheses are proposed:

H10: Employees' attitudes toward TKS positively influence TKS intention.

H11: Employees' subjective norms positively influence TKS intention.

H12: Employees' perceived behavioral control positively influence TKS intention.

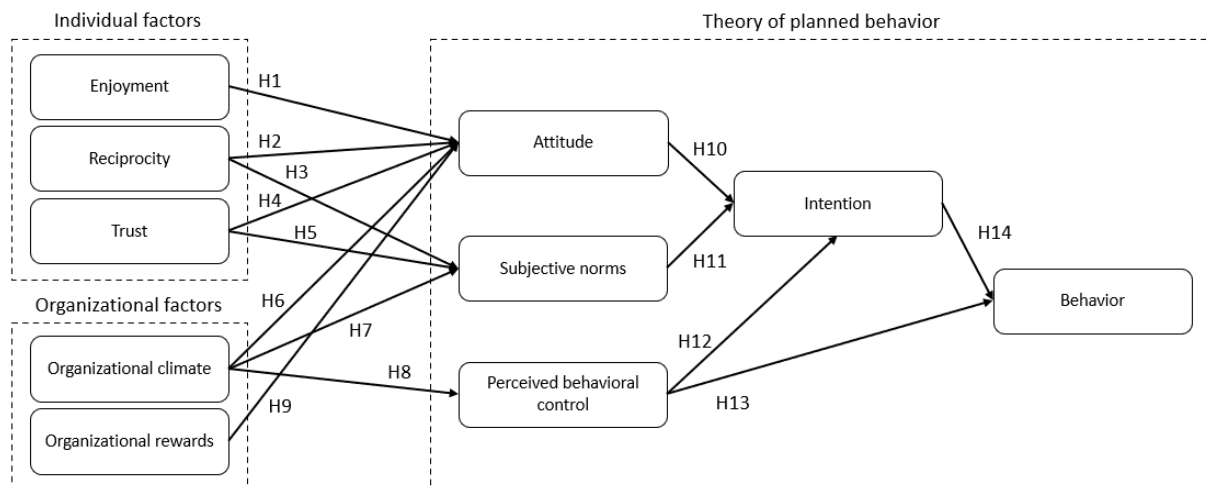
According to TPB, behavioral achievement can be predicted through the combination of behavioral intention and PBC (Ajzen, 1991). Therefore, our last set of hypotheses is as follows:

H13: Perceived behavioral control positively influence employees' TKS behavior.

H14: Intention positively influence employees' TKS behavior.

Individual and organizational factors and the constructs from the theory of planned behavior are represented in Figure 4.

Figure 4 Research model



4. METHODOLOGY

4.1. MEASUREMENT

To empirically test the proposed research model, we collected data through an anonymous survey shared online with a wide group of individuals. This allowed the detailed analysis required to explore the relationship between teleworking and tacit knowledge in organizations, during the COVID-19 pandemic. Considering the proposed objective, the questionnaire was made available in two languages: English and Portuguese.

A seven-point Likert scale was used for all survey items, apart from demographics, ranging from 1 (“Strongly disagree”) to 7 (“Strongly agree”) to measure respondents’ agreement with each statement. All questions were adapted from several authors, with slight adjustments to better fit the context of this dissertation, with 3 being defined for each of the 10 constructs: Attitude (ATT), behavior (BEH), enjoyment (ENJ), intention (INT), perceived behavioral control (PBC), reciprocity (REC), organizational climate (CLI), organizational reward (REW), subjective norm (SUB), and trust (TRU). The questionnaire items are shown in Appendix A.

4.2. DATA

To validate the questionnaire before distributing it widely, we shared a pilot version with a sample of 30 individuals to determine its validity and ease of interpretation, as well as its fluidity, duration, and reliability. Having received no feedback that would result in changes to the questionnaire, we carried out a broader collection of responses through emails and social networks. The questionnaire was live from 16 March to 24 May, 2022, and received a total of 206 valid responses.

As shown in Table 1, our demographic analysis indicates that our sample of 206 respondents is mostly composed of those aged between more than 26 and less than 57 years old (82%), located in Europe (56.1%), with a master's degree (51%), having been in the company between 1 and 5 years (40.8%), in organizations between 1,000 and 4,999 people (24.8%), in the private sector (73.3%). Concerning teleworking frequency, almost 80% of our sample works remotely for at least half the time.

Table 1 Sample characteristics (ordered by percentage)

Measure	Item	N	Percentage
Age	18 - 25 years old	16	7.8
	26 - 33 years old	40	19.4
	34 - 41 years old	40	19.4
	42 - 49 years old	49	23.8
	50 - 57 years old	40	19.4
	>57 years old	17	8.3
	Prefer not to answer	4	1.9
Location	Africa	10	4.8
	Asia	17	8.2
	Australia	3	1.4
	Caribbean Islands	1	0.5
	Europe	115	56.1
	North America/Central America	39	18.9
	Pacific Islands	4	1.9
	South America	17	8.2
Education	Bachelor's degree	68	33
	High school	7	3.4

	Master's degree	105	51.0
	Other	13	6.3
	Ph.D. or higher	11	5.3
	Prefer not to answer	2	1.0
Time in the organization	Less than a year	48	23.3
	Between 1 and less than 5 years	84	40.8
	Between 5 and less than 10 years	37	18.0
	Between 10 and less than 15 years	17	8.3
	Between 15 and less than 20 years	7	3.4
	20 years or more	10	4.9
	Prefer not to answer	3	1.5
Organization size	< 99	38	18.4
	100 - 499	35	17.0
	500 - 999	24	11.7
	1,000 - 4,999	51	24.8
	5,000 - 9,999	11	5.3
	10,000 or more	38	18.4
	Prefer not to answer	9	4.4
Organization type	Not-for-profit sector	14	6.8
	Private sector	151	73.3
	Public sector	30	14.6
	Other	7	3.4
	Prefer not to answer	4	1.9
Remote work frequency	Every day	66	32.0
	Most days	65	31.6
	About half the time	32	15.5
	Rarely	29	14.1
	Never	14	6.8

4.3. RESULTS

To assess our research model, we performed our data analysis using the partial least squares technique because of its “disregard for the constraint of multivariate normality of data distribution and its ability to appropriately estimate the error variances of the latent constructs measured by only one or two items” (W. T. Wang & Hou, 2015). PLS includes a two-step approach through the assessment of measurement and structural models, and while the measurement model establishes the reliability and validity of the construct, the structural model verifies the significance of hypothesized relationships. Our analysis was supported by SmartPLS v.3.3.9, a statistical software that assesses the psychometric properties of the measurement model and estimates the parameters of the structural model.

4.3.1.Measurement model

First, we evaluated our outer model (measurement model) to determine how well the items load on the constructs. Thus, we performed a confirmatory factor analysis to examine the validity and reliability of the constructs, using the procedure outlined by Fornell and Larcker (1981). The reliability of the measures for the constructs was first tested by examining the individual Cronbach's alpha coefficients, which are all greater than the recommended level of 0,7 (W. W. Chin et al., 2003), except for PBC (0,549). We examined the items loadings and considered them acceptable only when 0,60 or greater (Henseler et al., 2009). PBC01 (0,231) and REW03 (0,536) were the only items that did not meet the acceptance condition, being dropped. Thus, the Cronbach's alpha coefficient for all constructs became acceptable, as shown in Table 2.

Having gone through these initial steps, two other measures were used to further evaluate the internal consistency and convergent validity: composite reliability (CR), considered acceptable only when 0,70 or greater (Henseler, 2017), and average variance extracted (AVE) estimates, considered acceptable

only when 0,50 or greater (Fornell & Larcker, 1981). While internal consistency assesses the correlation between multiple items in a test that is intended to measure the same construct, convergent validity refers to the extent to which a measure corresponds to measures of related constructs. As shown in Table 2, all CR values are above the acceptable threshold, as are those for the AVE.

Table 2 Cronbach's Alpha, CR, AVE, and factor loadings

	Cronbach's Alpha	CR	AVE	Items	Factor loadings
ATT	0.881	0.926	0.808	ATT01	0.913
				ATT02	0.907
				ATT03	0.876
BEH	0.761	0.862	0.676	BEH01	0.829
				BEH02	0.862
				BEH03	0.774
CLI	0.831	0.899	0.750	CLI01	0.756
				CLI02	0.921
				CLI03	0.910
ENJ	0.867	0.917	0.787	ENJ01	0.878
				ENJ02	0.899
				ENJ03	0.884
INT	0.718	0.843	0.642	INT01	0.739
				INT02	0.882
				INT03	0.776
PBC	0.754	0.890	0.802	PBC02	0.905
				PBC03	0.886
REC	0.702	0.830	0.620	REC01	0.781
				REC02	0.832
				REC03	0.747
REW	0.939	0.970	0.941	REW01	0.963
				REW02	0.978
SUB	0.776	0.871	0.694	SUB01	0.842
				SUB02	0.894
				SUB03	0.757
TRU	0.872	0.921	0.796	TRU01	0.915
				TRU02	0.879
				TRU03	0.882

Next, we examined the discriminant validity of the measurement model by employing three criteria. Discriminant validity refers to the extent to which a measure is unrelated or negatively related to measures of distinct constructs. For acceptance, the diagonal elements (square roots of AVEs) should be greater than the correlation between the constructs (Fornell & Larcker, 1981). Then, the loads of each indicator should be greater than all cross loads (W. Chin & Marcoulides, 1998). Finally, the Heterotrait-monotrait ratio of correlation (HTMT) is examined (Henseler et al., 2015). As shown in Table 3, the constructs are more strongly related to their respective indicators than to the other constructs in the model. Likewise, as shown in Table 4, the patterns of loadings are greater than the cross-loadings, which indicates that both measures of discriminant validity are satisfied. When an Heterotrait-monotrait ratio of correlations (HTMT) value is below 0,90, it provides evidence that a discriminant validity has been established on a construct pair (Henseler et al., 2015). As shown in Table 5, all values satisfy this condition.

Table 3 Fornell-Larcker criterion

	1	2	3	4	5	6	7	8	9	10
(1) ATT	0.899									
(2) BEH	0.581	0.822								
(3) CLI	0.153	0.324	0.866							
(4) ENJ	0.588	0.599	0.343	0.887						
(5) INT	0.456	0.600	0.342	0.616	0.801					
(6) PBC	0.244	0.371	0.477	0.389	0.251	0.896				
(7) REC	0.158	0.115	0.188	0.148	0.159	0.195	0.787			
(8) REW	-0.050	0.054	0.094	-0.032	0.002	-0.042	0.361	0.970		
(9) SUB	0.131	0.212	0.291	0.209	0.233	0.325	0.291	0.178	0.833	
(10) TRU	0.120	0.070	0.465	0.269	0.256	0.293	0.267	-0.045	0.274	0.892

Table 4 Cross-loadings

	ATT	BEH	CLI	ENJ	INT	PBC	REC	REW	SUB	TRU
ATT01	0.913	0.515	0.144	0.499	0.449	0.198	0.202	0.041	0.108	0.101
ATT02	0.907	0.538	0.112	0.536	0.406	0.206	0.113	-0.071	0.100	0.110
ATT03	0.876	0.514	0.156	0.552	0.375	0.252	0.111	-0.105	0.146	0.112
BEH01	0.607	0.829	0.136	0.505	0.421	0.272	0.089	0.074	0.130	0.015
BEH02	0.508	0.862	0.240	0.557	0.483	0.310	0.141	0.114	0.118	0.049
BEH03	0.345	0.774	0.388	0.419	0.553	0.322	0.057	-0.042	0.257	0.098
CLI01	0.137	0.208	0.756	0.274	0.248	0.303	0.153	0.069	0.207	0.410
CLI02	0.158	0.345	0.921	0.311	0.340	0.464	0.156	0.077	0.283	0.391
CLI03	0.104	0.271	0.910	0.306	0.291	0.450	0.183	0.098	0.259	0.421
ENJ01	0.490	0.546	0.316	0.878	0.509	0.399	0.173	-0.074	0.219	0.307
ENJ02	0.613	0.586	0.274	0.899	0.621	0.269	0.045	-0.055	0.157	0.139
ENJ03	0.431	0.437	0.336	0.884	0.487	0.393	0.208	0.060	0.188	0.304
INT01	0.270	0.453	0.338	0.409	0.739	0.267	0.135	-0.031	0.181	0.288
INT02	0.409	0.533	0.300	0.585	0.882	0.196	0.116	-0.020	0.157	0.189
INT03	0.407	0.453	0.190	0.475	0.776	0.150	0.135	0.054	0.224	0.150
PBC02	0.225	0.353	0.444	0.390	0.228	0.905	0.115	-0.011	0.318	0.280
PBC03	0.211	0.309	0.409	0.303	0.221	0.886	0.240	-0.067	0.261	0.243
REC01	0.099	0.102	0.019	0.053	0.073	0.064	0.781	0.335	0.197	0.099
REC02	0.210	0.143	0.286	0.207	0.220	0.247	0.832	0.131	0.253	0.417
REC03	0.026	0.003	0.078	0.050	0.040	0.108	0.747	0.472	0.230	0.019
REW01	-0.042	0.052	0.120	-0.012	0.008	-0.028	0.359	0.963	0.194	0.002
REW02	-0.054	0.052	0.069	-0.047	-0.003	-0.051	0.344	0.978	0.156	-0.079
SUB01	0.056	0.153	0.192	0.099	0.171	0.219	0.303	0.216	0.842	0.132
SUB02	0.096	0.225	0.237	0.186	0.193	0.296	0.275	0.222	0.894	0.180
SUB03	0.167	0.148	0.290	0.227	0.212	0.288	0.154	0.017	0.757	0.355
TRU01	0.084	0.054	0.409	0.207	0.199	0.234	0.227	-0.032	0.267	0.915
TRU02	0.094	0.047	0.398	0.254	0.222	0.253	0.213	-0.073	0.237	0.879
TRU03	0.143	0.087	0.438	0.262	0.266	0.299	0.274	-0.016	0.229	0.882

Table 5 Heterotrait-monotrait ratio of correlations (HTMT)

	1	2	3	4	5	6	7	8	9	10
(1) ATT										
(2) BEH	0.723									
(3) CLI	0.180	0.381								
(4) ENJ	0.659	0.727	0.409							
(5) INT	0.569	0.799	0.443	0.764						
(6) PBC	0.299	0.483	0.591	0.490	0.347					
(7) REC	0.183	0.162	0.215	0.203	0.200	0.247				
(8) REW	0.088	0.111	0.110	0.078	0.053	0.050	0.486			

(9) SUB	0.155	0.265	0.355	0.253	0.312	0.419	0.393	0.217	
(10) TRU	0.137	0.089	0.553	0.325	0.331	0.361	0.294	0.065	0.325

Two criteria were used to assess the potential threat of common method bias. First, we examined our inner model for the occurrence of a variance inflation factor (VIF) greater than the threshold of 3.3, proposed as an indication of collinearity, and if the model could be contaminated by common method bias (Kock, 2015). In our study all VIFs are below the threshold. Then, we assessed the correlations between the aforementioned constructs and a theoretically unrelated construct, the marker variable JAZZ (Lindell & Whitney, 2001). In this second analysis, a common method bias can only exist when all (or most) constructs are highly correlated, including the marker variable, in the correlation matrix. In our study, the correlations of the marker variable were low, ranging from -0.183 to 0.188, thereby suggesting a lack of common method bias.

Table 6 Variance inflation factor (VIF)

	1	2	3	4	5	6	7	8	9	10
(1) ATT					1.066					
(2) BEH										
(3) CLI	1.393					1.000			1.283	
(4) ENJ	1.167									
(5) INT		1.067								
(6) PBC		1.067			1.172					
(7) REC	1.279								1.083	
(8) REW	1.203									
(9) SUB					1.122					
(10) TRU	1.395								1.333	

4.3.2. Structural model and hypothesis testing

After determining that the measurement model meets the required criteria, we proceed to evaluate the PLS-SEM results by assessing the structural model. The structural model reflects the paths hypothesized in the research framework, being assessed based on the coefficient of determination (R^2), the blindfolding-based cross-validated redundancy measure (Q^2), and the statistical significance and relevance of path coefficients (β). The model path coefficient was measured with bootstrapping t-statistics, derived from standard error with 5,000 iterations of resampling (Hair et al., 2022).

We also examined our outer model for the occurrence of a VIF equal to or greater than 5 (Hair et al., 2022), which would bias the regression results. In our study, all constructs are below the recommended threshold. The final model is shown in Figure 5. The goodness of the model is determined by the strength of each structural path determined by the R^2 value for the dependent. R^2 values can range from 0 to 1, with higher values indicating greater explanatory power, and should be equal to or greater than 0.1 to be deemed acceptable (Falk & Miller, 1992). In our study, all R^2 values are over this threshold, ranging from 0.154 to 0.412. Thus, the predictive capability is established.

Q^2 is a metric based on the blindfolding procedure that removes single points in the data matrix, imputes the removed points with the mean, and estimates the model. When Q^2 values are above 0, the predictive relevance of endogenous constructs is established (Hair et al., 2022). Our results show that there is significance in the prediction of the constructs. Furthermore, the model fit was assessed using SRMR. The value of SRMR is 0.075, below the recommended value of 0.10, indicating an

acceptable model fit (Hair et al., 2022). Table 7 presents the model results with the path coefficients (β), the coefficient of determination (R^2), t-values, and the confidence intervals.

Based on the R^2 value of dependent variables, the model explains 36% of the variation in attitude towards TKS (ATT), 15% of the variation in subjective norms regarding TKS behavior (SUB), 22% of the variation in perceived TKS control (PBC), 25% of the variation in TKS intention (INT), and 41% of the variation in TKS behavior (BEH).

To explain attitude, enjoyment ($\beta=0.598$, $t=5.252$, $p<0.001$) is statistically significant, but reciprocity ($\beta=0.119$, $t=1.823$, $p=0.068$), trust ($\beta=-0.057$, $t=0.749$, $p=0.454$), organizational climate ($\beta=-0.042$, $t=0.701$, $p=0.484$), and organizational reward ($\beta=-0.072$, $t=1.207$, $p=0.227$) are not. Thus supporting hypotheses H1, but not H2, H4, H6, and H9.

To explain subjective norms, reciprocity ($\beta=0.221$, $t=2.607$, $p=0.009$) is statistically significant, but trust ($\beta=0.126$, $t=1.361$, $p=0.174$) and organizational climate ($\beta=0.191$, $t=1.787$, $p=0.074$) are not. Thus supporting hypothesis H3 but not H5 and H7.

Organizational climate ($\beta=0.477$, $t=6.735$, $p<0.001$) is statistically significant in explaining PBC, thus supporting hypothesis H8.

To explain intention, attitude ($\beta=0.409$, $t=2.860$, $p=0.004$) and subjective norm ($\beta=0.148$, $t=2.176$, $p=0.030$) are statistically significant, but perceived behavioral control ($\beta=0.111$, $t=1.336$, $p=0.181$) is not. Thus supporting hypotheses H10 and H11 but not H12.

Both intention ($\beta=0.542$, $t=6.017$, $p<0.001$) and perceived behavioral control ($\beta=0.232$, $t=3.473$, $p=0.001$) are statistically significant in explaining BEH, thus supporting hypotheses H13 and 14.

Figure 5 Results of hypothesis testing. Note: Dashed lines = non-significant paths. * (p-value < 0.1), ** (p-value < 0.05), *** (p-value < 0.01)

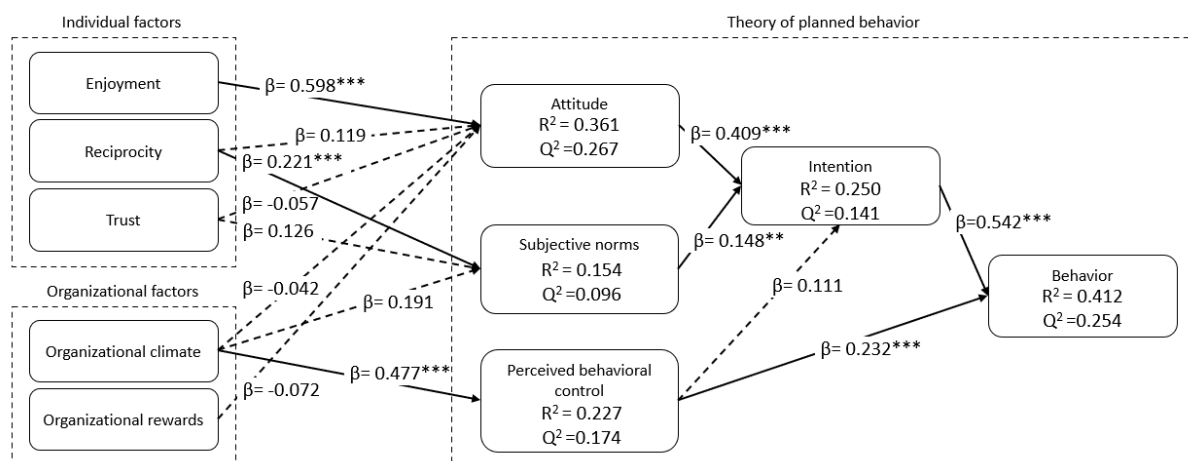


Table 7 Summary of hypothesis testing, β , R^2 , Q^2 , t-values, and confidence intervals

Hypothesis	Relationships	Supported?	β	STDEV	T Statistics	P Values	2.5%	97.5%
H1	ENJ -> ATT	Yes	0.598	0.114	5.252	0.000	0.346	0.793
H2	REC -> ATT	No	0.119	0.065	1.823	0.068	-0.016	0.233
H3	REC -> SUB	Yes	0.221	0.085	2.607	0.009	0.032	0.365
H4	TRU -> ATT	No	-0.057	0.075	0.749	0.454	-0.19	0.107
H5	TRU -> SUB	No	0.126	0.093	1.361	0.174	-0.071	0.301
H6	CLI -> ATT	No	-0.042	0.059	0.701	0.484	-0.16	0.071
H7	CLI -> SUB	No	0.191	0.107	1.787	0.074	-0.019	0.394
H8	CLI -> PBC	Yes	0.477	0.071	6.735	0.000	0.321	0.601
H9	REW -> ATT	No	-0.072	0.060	1.207	0.227	-0.178	0.049
H10	ATT -> INT	Yes	0.409	0.143	2.860	0.004	0.128	0.678
H11	SUB -> INT	Yes	0.148	0.068	2.176	0.030	0.028	0.29
H12	PBC -> INT	No	0.111	0.083	1.336	0.181	-0.044	0.285
H13	PBC -> BEH	Yes	0.232	0.067	3.473	0.001	0.104	0.371
H14	INT -> BEH	Yes	0.542	0.090	6.017	0.000	0.355	0.705
R_2		Q_2						
ATT	0.361	0.267						
BEH	0.412	0.254						
INT	0.250	0.141						
PBC	0.227	0.174						
SUB	0.154	0.096						

5. DISCUSSION

Companies in different industries and locations have been operating in a turbulent, complex, and highly uncertain scenario since the beginning of the COVID-19 pandemic. As if these difficulties were not enough, a war between Russia and Ukraine broke out, bringing even more political and social challenges to several countries, whose economies were already impacted. Thus, given the importance of companies' ability to adopt knowledge-sharing behaviors to create value and gain a competitive edge, the research goal of this study is motivated by a genuine interest in understanding some individual and organizational factors underlying TKS behaviors, expanding the existing literature on the role of these factors on employee's behavior in TKS. Therefore, the present study focuses on the transmission of knowledge from one individual to another through social interactions, rather than the codification of tacit knowledge into explicit.

As expected, the results of the present study suggest that enjoyment is the strongest driver for an individual's attitude toward TKS, while organizational rewards have no significance. These findings are consistent with previous studies whose results suggest that intrinsic motivation has a positive effect on a person's attitude toward knowledge sharing, while extrinsic motivations undermine this effect (Zhao et al., 2016). This can be explained by the following: First, enjoyment has been found to be the most representative variable of intrinsic motivation, along with self-efficacy (Nguyen, Nham, Froese, et al., 2019). Second, when an external motivation is exerted on an individual, such as goals or rewards, this may be understood as an external interference that inhibits self-determination. Thus, the affected person may feel that their involvement and competence are not valued, and their interests are not acknowledged, which can decrease their self-esteem, and consequently their opportunity to demonstrate their interest (Deci & Ryan, 2012; Frey & Jegen, 2001).

The influence of reciprocity on the attitude of TKS was not proven in this study, having only supported subjective norms. This can be explained through employees' expectations of mutual reciprocity about their invested time and efforts, and a strong sense of fairness associated with this, which leads to the creation of a knowledge transfer debt between the parties involved (Chang & Chuang, 2011; Lin, 2007b; Schulz, 2001). Therefore, knowledge sharing is facilitated by strong reciprocity and carried out with expectations of return.

Our findings show that attitude has the strongest effect on the intention to share tacit knowledge, followed by subjective norms. This is not surprising, as tacit knowledge sharing stems from individual experience and action, happens through free will, and cannot be mandated, although it is shaped by the demand for knowledge sharing created by the people of relevance in the workplace (Castañeda Z, 2015; Li et al., 2020; Polanyi, 1966). Therefore, while social norms often direct individuals and encourage individual intention to share knowledge (Nguyen, Nham, & Hoang, 2019), our study empirically demonstrates that individuals will play a more important role when it comes to the intention to share tacit knowledge.

Contrary to our expectations, our hypotheses concerning the influence of trust on attitude and subjective norms, the PBC on the intention to share tacit knowledge and organizational climate on attitude and subjective norm, were not proven, although supported by previous research in the knowledge sharing field where TPB was used sharing (Afshar Jalili & Ghaleh, 2020; Dhanaraj et al., 2004). This is obviously worthy of further research. To the best of the author's knowledge, a few reasons can be suggested to support these results. First, based on a sample of 206 respondents, we

were able to obtain significant results, but a larger and more diverse sample would have given us better statistical opportunities. Second, almost 75% of our sample is composed of respondents from Europe and North America/Central America. Nations that have higher collectivism report a much stronger effect of PBC on the intention to share knowledge. (Nguyen, Nham, Froese, et al., 2019). However, cultures in North America and Western Europe tend to be individualistic. Third, most studies that support these relationships do not separate explicit from tacit knowledge, investigating knowledge sharing as a single element (Jeon et al., 2011; Ranasinghe & Dharmadasa, 2013; So & Bolloju, 2005). Finally, almost 80% of our sample works remotely for at least half the time. Although teleworking is widely known, many professionals worked remotely for the first time only during the pandemic, thereby facing previously unknown challenges.

5.1. THEORETICAL IMPLICATIONS

This research empirically examines employees' TKS behavior. Although previous research has discussed the importance of knowledge sharing using the TPB, we extend it to find additional determinants of attitude, subjective norms, and perceived behavioral control. Although previous researchers (Abdelwhab Ali et al., 2019; Rohim & Budhiasa, 2019) have already provided empirical evidence of the influence of several factors on knowledge sharing using TPB, to the best of the author's knowledge, relatively few have done so during the COVID-19 pandemic, choosing to investigate both dimensions of knowledge sharing rather than just the tacit (Jeon et al., 2011; Ranasinghe & Dharmadasa, 2013; So & Bolloju, 2005). Thus, by developing a framework that extends the TPB and collecting data through a survey during a pandemic, this study is believed to further enrich the literature and pave the way for future studies in the field.

We propose that TKS behavior can be understood from individual and organizational perspectives. The results demonstrate that these two groups of factors can explain more than 40% of the variance in employees' behavior of TKS, and encourages future researchers to investigate the impact of other factors on the two groups we investigated.

5.2. PRACTICAL IMPLICATIONS

The primary implication of this study is that managers and employees should invest efforts in nurturing TKS behavior in the workplace by understanding the importance and impact of the individual and organizational factors examined in the research model. We also believe that this research can be used as a recommendation for organizations to measure the effect of each factor on behavioral achievement, either as the research model stands now or by adding other factors, as they deem relevant. Based on our findings in the context of TKS, we propose some experiments that managers should consider concerning positively influencing TKS behaviors.

First, organizations can elevate the enjoyment of TKS in the workplace by identifying employees whose intrinsic motivation is associated with TKS. Once identified, organizations can develop mechanisms that promote social interaction among employees, allowing those intrinsically motivated employees to collaborate with others, strengthening bonds via communities of practice or innovation projects such as hackathons, at the team or organizational level. However, special attention should be paid to the risk of participants falling into "cooperation bias" and overestimating their tendency to share knowledge (Afshar Jalili & Ghaleh, 2020).

Second, organizations can strengthen employees' reciprocity towards TKS by diagnosing the diverse social relationships in their work environment through social network analysis and publicly recognizing employees or teams that exhibit reciprocity behavior, demonstrating approval for their contribution and the expectation of others doing the same. According to Nguyen et al. (2019), individuals are more likely to share their knowledge when they know it will bring more value to the group.

Alternatively, managers can encourage employees to share their knowledge without expecting anything in return. As with the technique used by marketers and salespeople, it is likely that the sense of reciprocity is triggered in these knowledge recipients.

5.3. LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

Although this study provides a valuable contribution to the field of knowledge management, there are several limitations worth considering in future research. First, the number of valid responses could have been higher, lacking people interested in participating in the questionnaire or in completing it, due either to the number of questions or for other unidentified reasons. There was no feedback during the pilot that indicated reasons for leaving the questionnaire before answering all the questions.

Second, although valid responses were obtained from eight different locations, almost 75% of the total respondents are concentrated in Europe and North America/Central America. It would be interesting to see the result of this study when replicated with more responses in different locations and cultures since the cultural aspect could represent an underlying dimension impacting the results.

Third, it is widely known that workers have faced significant threats to physical and mental health during the COVID-19 pandemic. Future studies may include them as moderators to analyze the extent to which individuals' attitudes and perceived behavioral control are affected. Another example that would be interesting to examine is the moderating role of gender: According to Connelly & Kelloway (2003), women tend to be hesitant to share knowledge for fear of losing knowledge-sharing power.

Fourth, the present study drew on literature written in English and Portuguese as our limitations did not allow us to extend our research to studies written in other languages. Although the existing literature in these languages is quite extensive, we believe that there are similar studies written in other languages of equal or greater value that could have enriched this study.

Fifth, there may be other factors that influence TKS behavior, especially when company-specific contexts are considered. Our study did not examine their potential effects, so future studies could expand the model further and examine what influences they may have on employees' behavior.

Lastly, knowledge sharing is comprised not only of its transmission but also of receiving it. However, this study was based only on the former. Therefore, future research can extend the research model to address both aspects of TKS while combining individual and organizational factors to positively influence the behavior of TKS.

6. CONCLUSIONS

This research reinforces the importance of examining the antecedents of TKS behavior in organizations, especially in times of crisis, and encourages organizations and managers to focus their energy on a few factors to improve the likelihood that employees will share their much-valued tacit knowledge.

Our main purpose was to identify and understand key drivers of employees' TKS behavior during the COVID-19 pandemic, considering individual (enjoyment, reciprocity, and trust) and organizational (organizational climate and organizational reward) factors. For that, a research model was created extending the original TPB to find additional determinants of attitude, subjective norms, and perceived behavioral control. TPB is one of the most widely accepted and prominent theories of behavior change and has been used in various domains, including knowledge management in business settings (Chennamaneni et al., 2012; Ranasinghe & Dharmadasa, 2013; So & Bolloju, 2005). Therefore, this study contributes to the field of knowledge management in several ways, through the findings presented.

It was found that enjoyment, reciprocity, and organizational climate positively affect attitude, subjective norm, and perceived behavioral control, respectively. Organizational rewards, in the form of providing economic benefits, such as salary increase or promotion, or achieving greater job security, were found to harm attitude towards TKS behavior. In this context, it is contrary to many other existing studies in the knowledge-sharing literature and worthy of further research.

Particularly, the results indicated that companies that support the creation of a healthy organizational climate or social structure that promotes social interaction and engagement through both formal and informal channels, such as hackathons, workshops, coffee breaks, dinners, and chats among colleagues, can benefit from value creation and thereby gain a competitive edge, much desired by any organization.

Finally, we sincerely hope that our findings in this research will encourage researchers to carry out further studies in the field of TKS and that companies and individuals will benefit from them when there is a need to redesign their organizations, especially in times of crisis.

7. REFERENCES

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8. APPENDIX

Table 8 List of questions and references

Construct	Indicator	Question	Adapted from
Attitude	ATT01	My tacit knowledge sharing with other colleagues is valuable.	(Lin, 2007b)
	ATT02	My tacit knowledge sharing with other colleagues is beneficial.	(Lin, 2007b)
	ATT03	My tacit knowledge sharing with other colleagues is the right thing to do.	(Ng, 2020)
Behavior	BEH01	I share my know-how or work experience with other members of my organization.	(Ng, 2020)
	BEH02	I share tacit knowledge acquired through my education or training with other members of my organization.	(Ng, 2020)
	BEH03	I engage in tacit knowledge-sharing activities in my organization.	(W. T. Wang & Hou, 2015)
Enjoyment	ENJ01	Tacit knowledge sharing with colleagues is an enjoyable experience.	(Bock et al., 2005)
	ENJ02	It feels good to help someone by sharing tacit knowledge.	(Lin, 2007b)
	ENJ03	Sharing tacit knowledge with colleagues is pleasurable.	(Lin, 2007b)
Intention	INT01	I intend to be involved in gathering tacit knowledge and experiences from others in my organization.	(Razi et al., 2019)
	INT02	I intend to share tacit knowledge with my colleagues if it will be helpful to the organization.	(Chatzoglou & Vraimaki, 2009)
	INT03	I intend to share tacit knowledge with my colleagues if they ask.	(Chatzoglou & Vraimaki, 2009)
Organizational climate	CLI01	In my organization, during a group discussion, each of us tries to find out each other's opinions, thoughts, and knowledge.	(Ganguly et al., 2019)
	CLI02	In my organization, all members are encouraged to actively share their experiences formally or informally	(Ganguly et al., 2019)
	CLI03	My organization encourages its members to discuss their thoughts with each other to ensure there is a shared understanding of a topic.	(Ganguly et al., 2019)
Organizational reward	REW01	I expect to receive a salary increase in exchange for sharing tacit knowledge with my colleagues.	(Lin, 2007a)
	REW02	I expect to receive a promotion in exchange for sharing tacit knowledge with my colleagues.	(Lin, 2007a)
	REW03	I expect to be rewarded with increased job security in return for sharing tacit knowledge with my colleagues.	(W. T. Wang & Hou, 2015)
Perceived behavioral control	PBC01	It is mostly up to me whether or not I share tacit knowledge with others.	(Chatzoglou & Vraimaki, 2009)
	PBC02	I am able to share tacit knowledge with my colleagues easily.	(Hashmi et al., 2021)
	PBC03	I have the resources and the ability to share my experience with my colleagues.	(So & Bolloju, 2005)
Reciprocity	REC01	When I share tacit knowledge, I expect someone to do the same for me when I need it.	(Ganguly et al., 2019)
	REC02	I know my colleagues will share their tacit knowledge with me when I need it, so it's only fair to do the same for them.	(Hau et al., 2013)
	REC03	When I share tacit knowledge, I also expect to receive some at that very moment in return.	(Lin, 2007b)
Subjective norm	SUB01	People who influence my behavior (e.g., colleagues and managers) expect me to share my tacit knowledge.	(Chedid et al., 2019)
	SUB02	People who are important to me (e.g., colleagues and managers) expect me to share my tacit knowledge.	(Chedid et al., 2019)

	SUB03	People whose opinions I value (e.g., colleagues or managers) would approve of my sharing tacit knowledge with others.	(Chatzoglou & Vraimaki, 2009)
Trust	TRU01	I believe colleagues in my organization are honest and reliable.	(Choi et al., 2008)
	TRU02	I believe that colleagues in my organization are knowledgeable and competent in their field.	(Choi et al., 2008)
	TRU03	I believe colleagues in my organization will act in the best interest of the organizational goals.	(Choi et al., 2008)

