



# Article The Impact of Knowledge Hiding on Entrepreneurial Orientation: The Mediating Role of Factual Autonomy

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Abstract: Knowledge plays a pivotal role as a strategic asset for organizations that aim to improve and sustain competitive advantage. Despite the implementation of knowledge management systems to promote knowledge sharing, many employees exhibit knowledge-hiding behavior, deliberately withholding crucial information in the workplace. In this context, the current study aims to investigate the impact of knowledge-hiding behavior on entrepreneurial orientation (EO) within organizations. Specifically, we seek to explore how knowledge hiding influences employees' inclination towards entrepreneurial behaviors such as innovation, risk-taking, and proactiveness. By examining the potential negative effects of knowledge hiding on entrepreneurial behaviors, we aim to identify barriers to innovation and risk taking in organizations. Furthermore, we examine the mediating role of factual autonomy in the relationship between knowledge hiding and entrepreneurial orientation. Understanding the mediating role of factual autonomy can provide valuable insights into the mechanisms through which knowledge hiding impacts entrepreneurial behavior. Additionally, we aimed to investigate the impact of knowledge hiding on organizational-level outcomes, specifically entrepreneurial orientation, and job autonomy. To investigate this phenomenon, we conducted a cross-sectional multilevel study involving 214 employees from 16 different companies in the Romanian business sector, including telecom, banking, retail, services, and IT&C. Our findings reveal that knowledge hiding has a significant impact on job autonomy and entrepreneurial orientation. The proposed model accounted for 45.9% of the variance in entrepreneurial orientation and 37.7% of the variance in job autonomy. These results have important implications for both theory and practice, highlighting the need for further exploration into how knowledge hiding impacts different aspects of organizational work design. The present examination serves as a valuable research platform for understanding the multidimensional irregularities within organizations and highlights the importance of addressing knowledge hiding behavior to foster a culture of innovation and risk-taking in organizations.

**Keywords:** knowledge sharing; knowledge hiding; knowledge management; factual autonomy; entrepreneurial orientation

## 1. Introduction

Effective knowledge management plays a crucial role in enhancing the performance of organizations and their employees. In recent years, there was a significant focus on the



Citation: Bratianu, C.; Mocanu, R.; Stanescu, D.F.; Bejinaru, R. The Impact of Knowledge Hiding on Entrepreneurial Orientation: The Mediating Role of Factual Autonomy. *Sustainability* **2023**, *15*, 13057. https://doi.org/10.3390/ su151713057

Academic Editor: Mário José Baptista Franco

Received: 12 July 2023 Revised: 31 July 2023 Accepted: 26 August 2023 Published: 30 August 2023



**Copyright:** © 2023 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https:// creativecommons.org/licenses/by/ 4.0/). impact of knowledge management in companies, with extensive research exploring the factors that either promote or hinder knowledge sharing. While most research emphasized positive methods of influence to encourage knowledge transfer, there is a lack of explicit investigation into how internal knowledge sharing within organizations affects their entrepreneurial orientation (EO) or factual autonomy [1,2].

Promoting open knowledge flows within organizations can be challenging, particularly when firms remain entrenched in their existing activities [3], depend on previous decisions [4], and disregard external indicators of the need for change [5]. Their decisionmaking processes may be hindered by complacency [6] or cognitive rigidity [7], for issues relevant to many companies, as they often lack internal resources to consistently renew perspectives or safeguards against complacency [8]. To understand how knowledge sharing plays a role in a company's entrepreneurial pursuits, it is important to delve deeper into the factors that facilitate open knowledge flow within the organization.

In particular, there is an absence of explicit understanding of how the mix of particular aspects of companies' internal work environments might influence employees' motivation to proactively and openly exchange knowledge with their colleagues [1]; and although numerous studies explored the effect of knowledge sharing on organizational performance, the potential consequences of employees concealing knowledge and its implications for limiting organizational success remain a notable research gap [9,10]. However, the practice of "knowledge hiding" often poses challenges to achieving desired outcomes in knowledge management [11].

The act of concealing knowledge among individuals within an organization can be attributed to the presence of mutual distrust, particularly when this motivation is pronounced, leading to detrimental effects on organizational effectiveness [12,13]. Despite the significance of knowledge hiding and its potential impact on organizational performance, there is a dearth of research examining the relationship between knowledge hiding and entrepreneurial orientation as significant drivers of organizational performance.

Studies conducted by Huo et al. [14] highlighted that employees are reluctant to share knowledge because of factors such as the need for knowledge ownership protection, dominance of expertise, and defensive awareness. Surprisingly, approximately 50% of employees intentionally withhold, mislead, or conceal their requested knowledge from colleagues [15,16]. This deliberate behavior, known as "knowledge hiding" [17], emerged as a concept distinct from knowledge sharing [18,19].

Knowledge hiding has the potential to hinder effective knowledge exchange, impede the generation of new ideas, and erode trust among team members [19]. This behavior increases the risk of knowledge loss and inhibits individual and team creativity [20,21].

The pandemic caused unexpected crises that had a significant impact on employees, leading to feelings of job insecurity, unemployment, role conflict, and knowledge hiding [22–24]. These challenges affect employee productivity, which eventually impacts business outcomes. Adjustments in organizational settings aimed at countering the pandemic effect and protecting the workforce [25] resulted in lower motivation and a major shift in employee work behavior. In such a stressful environment, organizations face intricacies in workforce management, which eventually lead to downsizing and negative business impacts [26].

The current hybrid work context emphasizes the significance of working independently, minimizing reliance on others for knowledge acquisition, and having the authority to make primary decisions regarding the location, method, and timing of work.

Recent studies suggest that firms often generate novel knowledge through entrepreneurial behavior [27,28], which is associated with entrepreneurial orientation (EO). Entrepreneurial orientation is a strategic attitude characterized by innovative action, risk-taking, and proactive behavior toward the market [29,30].

The growing trend towards diverse forms of employee autonomy raises tensions for organizations, as they strive to reconcile the delegation of control with the inherent desire of organizational leaders for greater control [31–33]. Numerous studies underscored the

importance of effectively utilizing autonomy, organizational structures, and entrepreneurial practices to achieve organizational performance [34].

Autonomy is an essential factor of entrepreneurial orientation (EO), as highlighted by Lumpkin and Dess [35], and refers to an individual's level of freedom in performing work tasks and having discretion over task completion and scheduling [36]. The direct association between factual autonomy and knowledge hiding can be explained by the potential of job autonomy to establish territoriality over knowledge and facilitate secretive work practices owing to its inherent independence [21]. Furthermore, employees with job autonomy may find it easier to justify knowledge hiding by feigning ignorance or rationalizing their concealment.

Managers in an autonomous work environment empower employees to handle problem-solving tasks independently [21]. This results in employees feeling a greater sense of responsibility for their work outcomes and actively seeking more efficient approaches to achieve their objectives [37]. This aligns with Gagné's argument [38] that autonomous jobs typically promote improved teamwork and communication to achieve performance goals as managers' instructions are minimized [32].

While different factors related to job characteristics, namely, job autonomy, task interdependence, and job demands, were studied in association with knowledge hiding, most often from the mediator effect perspective, (e.g., the effect on leadership, attitudes/motivations, working context, individual differences, and outcomes such as organizational performance, innovation, and creativity), our study attempts to show the extent to which knowledge hiding undermines the entrepreneurial orientation process (innovation, risk-taking, and proactiveness), and the effect of factual autonomy as a mediator in the relationship between knowledge hiding behavior and entrepreneurial orientation. Despite the existing research, there is a gap in the literature concerning knowledge hiding about entrepreneurial orientation and factual autonomy.

Building on the aforementioned arguments that address research directions and knowledge gaps in the study of knowledge hiding, the primary objective of the current research is to investigate the intricate relationships between knowledge hiding, entrepreneurial orientation, and factual autonomy. In this endeavor, we aimed to address the following research question:

**RQ.** How does knowledge-hiding behavior impact the entrepreneurial orientation process (innovation, risk-taking, and proactiveness), and to what extent does factual autonomy mediate the relationship between knowledge-hiding behavior and entrepreneurial orientation in organizations?

The subsequent sections of this paper are structured into four major components to achieve the objectives of this study. The first section extensively reviews the relevant literature, establishes the theoretical underpinnings that guide this research, and culminates in formulating a comprehensive set of hypotheses and conceptual models. The second section provides a detailed account of the methodological framework underpinning the empirical analysis. The third section presents the results obtained from the study and engages in an in-depth discussion of the findings. The concluding section encompasses the final remarks and implications for further research and proposes avenues for future research. The research objectives outlined at the outset of this study are as follows: (1) to assess the impact of knowledge hiding (KH) on entrepreneurial orientation (EO); (2) to evaluate the effect of knowledge hiding (KH) on the mediator factual autonomy (FA); and (3) to analyze the mediating role of factual autonomy (FA) in the relationship between knowledge hiding (KH) and entrepreneurial orientation (EO).

#### 2. Theoretical Background and Hypotheses Formulation

The phenomenon of knowledge hiding witnessed a rapid growth in research publications and their impact in the period between 2012, when the seminal paper was published [19], and then an increase in interest in late 2022. Early studies by Alter [39] highlight three distinct dimensions of the gloom of knowledge management: distortions, suppression, and misappropriation. Distortion involves the embellishment of specific aspects of knowledge to align with a preferred narrative, while suppression refers to barriers that impede access to knowledge management elements. Misappropriation includes behaviors such as theft, alterations in knowledge, and inappropriate disclosure.

According to Connelly et al. [17], knowledge hiding involves intentionally concealing knowledge from other people. This behavior creates a negative cycle in which knowledge sharing becomes challenging, as highlighted by Cerne et al. [40], Connelly et al. [17], and Hernaus et al. [41]. Several reasons contribute to employees hiding their knowledge, including busy schedules, time constraints, and heavy workloads, which limit their will-ingness to collaborate with others [42]. Unhelpful behaviors such as engaging in unrelated activities during meetings, impoliteness, incivility, social undermining, personal attacks, belittling others, and deception are frequently observed among employees in various organizations [43,44].

Social hiding is shown to thrive in contexts characterized by reduced social exchange, particularly when individuals are expected to master certain areas of knowledge domains for personal growth. This dynamic also affects the social relationships in the workplace. Knowledge hiding is often observed among peers but can also occur between supervisors and subordinates [45]. Moreover, knowledge hiding often thrives in environments characterized by high levels of competition, distrust, and organizational politics.

Recent research extended the exploration of knowledge hiding beyond the employee level to encompass managerial practices, shedding light on the consequences of top-down knowledge hiding on employee behavior. Leaders who exhibit favoritism and endorse knowledge concealment can significantly impede organizational citizenship behavior, erode trust among employees, and amplify their intentions to leave the organization [46]. Moreover, the detrimental effects of knowledge hiding are not confined to the targeted employees; individuals engaging in knowledge hiding may also exhibit reduced collaborative behaviors due to feelings of shame [47].

Knowledge-hiding behavior represents a violation of ethical norms and exerts adverse effects on both organizational performance and employee development. As demonstrated by Arain et al. [45], leaders' acquiescence or involvement in knowledge hiding negatively impacts employees' work attitudes and perceptions of empowerment. Arain's series of studies further confirmed that leader knowledge hiding diminishes employee trust and self-efficacy [45], while also undermining team interpersonal deviance and diminishing organizational effectiveness [48]. These findings underscore the significance of addressing knowledge hiding within the managerial context and its implications for organizational dynamics and employee well-being.

Knowledge hiding is three-dimensional and manifests as evasive hiding, rationalized hiding, and playing dumb. Rationalized hiding occurs when individuals provide explanations or justifications for their knowledge-hiding behavior, thereby alerting the other party to the act of concealment [17]. This form of hiding is considered the least deceptive because transparency about knowledge hiding is maintained. Evasive hiding, however, involves the dissemination of incomplete or misleading information, possibly accompanied by false promises to provide additional information at a later date. The last type of knowledge hiding is self-explanatory, in which individuals feign ignorance to avoid sharing information with those requesting it.

According to Labafi [49], knowledge hiding can also occur because of a lack of incentive to share knowledge. This viewpoint is supported by Wen and Ma [50], who highlight a lack of incentives as a possible cause of knowledge hiding. If employees feel that they lack recognition or rewards for sharing knowledge, they may be reluctant to participate in knowledge sharing and may instead choose to conceal their knowledge.

Nguyen et al. [51] suggest that knowledge hiding may be due to job insecurity. Researchers explain that workers who feel insecure about their job security resort to knowledge hiding as a mechanism to maintain a competitive advantage over others. It is important to note that the dynamics of knowledge hiding are not always straightforward; the context of the situation, the type of knowledge involved, and a person's personality and values can influence the extent to which someone is willing to share or hide their knowledge [52].

Knowledge hiding is a complex issue, and various factors, such as organizational climate, favoritism, double standards, scapegoating mentality, and ambiguous merit criteria, can influence behavior related to knowledge hiding [53]. However, fostering a culture that encourages knowledge sharing rather than knowledge hiding and hoarding can lead to faster problem solving, improved decision-making processes, and overall higher organizational performance [54,55].

Entrepreneurial orientation (EO) is a strategic inclination of companies characterized by their engagement in entrepreneurial activities, such as opportunity seeking, risk taking, and proactivity [56]. This signifies a company's ability to exploit knowledge-based resources and knowledge exploration to discover new opportunities and to reduce the absence of knowledge [2,57]. EO encompasses a company's inclination to pursue new market opportunities and revitalize existing business lines [58]. Companies that exhibit EO tend to foster climates that encourage innovation, risk-taking, and proactive pursuit of opportunities [35]. This entrepreneurial climate further moderates the relationship between knowledge-based resources and organizational performance [2].

Organizations with strong EO inspire learning and facilitate social integration within the organization, thereby promoting the effective application of organizational knowledge for innovation [59]. In the context of entrepreneurial orientation, knowledge plays a critical role as it provides the essential information, expertise, and insights required to identify and exploit opportunities [60]. Managing knowledge dynamics between knowledge sharing and knowledge hiding, and effective use of knowledge in entrepreneurial ventures contributes to improved business practices and increases the likelihood of business success [61].

Research shows that knowledge hiding has detrimental effects on organizational performance and innovation. Ali et al. [12] observed that knowledge hiding diminishes creativity and innovative behavior in teams, thus hindering entrepreneurial activities. Xiaolong et al. [13] pointed out the detrimental effects of knowledge hiding on knowledge sharing, which is fundamental to entrepreneurial orientation and organizational learning. When individuals hide knowledge, they restrict access to valuable information, thereby limiting their collective ability to develop and implement new ideas.

These findings highlight the negative consequences of knowledge hiding in the context of entrepreneurial orientation. By concealing knowledge, individuals can hinder the flow of valuable information, impede collaboration, and stifle innovation. Consequently, organizations must address knowledge-hiding concealment to foster an entrepreneurial climate that encourages knowledge sharing, collaboration, and innovative endeavors.

Based on these arguments, we thus infer that:

# **H1.** *Knowledge hiding (KH) is strongly related to negative outcomes in entrepreneurial orientation (EO), which directly impacts the entrepreneurial climate.*

Autonomy is a fundamental aspect of job design and is defined as the extent to which employees have significant freedom, independence, and discretion in scheduling and carrying out their work [62]. It grants individuals the liberty to choose how, when, and where to perform their job tasks [63]. According to the Job Characteristics Model, autonomy is one of the core job characteristics alongside skill variety, task identity, task significance, and feedback. These characteristics foster three critical psychological states (meaningfulness of work, responsibility for outcomes, and knowledge of results), which, in turn, influence individual outcomes [62]. Morgeson and Campion [64] expanded this model by incorporating social and contextual factors that shape the relationships within it. Both Morgeson and Campion and Hackman and Oldham [62] found a positive association between job autonomy and the critical psychological state of feeling more responsible for work outcomes.

Cabrera et al. [63] presented the positive effects of job autonomy on outcomes, such as knowledge sharing, performance [65], and creativity. However, knowledge hiding may have implications for individuals with high levels of autonomy in the workplace. Despite the positive relationship between autonomy and beneficial outcomes, individuals with high levels of autonomy may still exhibit knowledge-hiding behaviors. One reason for knowledge hiding among individuals with high levels of autonomy is the fear of losing perceived power or influence [66]. Employees with a considerable degree of autonomy often have specialized or expert knowledge.

In such cases, individuals may engage in knowledge hiding to maintain their perceived superiority and prevent others from gaining access to the same knowledge level. By withholding knowledge, they can reinforce their positions and protect their competitive advantage within the organization. Another reason for knowledge hiding among autonomous individuals may be the perception of limited resources or time constraints [67–69]. Despite having autonomy, individuals may still experience pressure related to deadlines, workloads, or competing priorities. Consequently, they may feel compelled to prioritize their tasks and goals over sharing knowledge with others.

In these situations, the perceived scarcity of resources or time can lead to knowledge hiding as individuals prioritize their own needs and goals, neglecting the broader organizational benefits that may arise from knowledge sharing [70,71]. Furthermore, autonomous individuals may engage in knowledge hiding because of instrumental or self-serving motives. They may believe that sharing knowledge exposes them to risks, such as colleagues taking credit for their ideas or using their knowledge against them in some way. Concerns about the potential negative consequences of knowledge sharing can lead to a reluctance to disclose data, information, or insights [72–74].

The absence of reciprocal behavior from colleagues can also contribute to knowledge hiding among individuals with high autonomy. When autonomous individuals observe a lack of knowledge sharing or cooperation from their peers, they may be less willing to share their knowledge. This behavior can be understood as a response to the perceived imbalance in knowledge exchange, where individuals are less inclined to share knowledge if they do not receive equivalent knowledge. The expectation of reciprocity in knowledge sharing can influence autonomous individuals to withhold their knowledge until they perceive a fair and equitable exchange [75].

The relationship between job autonomy and knowledge hiding can be understood through the following rationale: in work environments characterized by autonomy, managers empower employees to handle problem-solving tasks independently [12]. The propensity for knowledge hiding in such individuals can stem from motives such as the fear of losing perceived power, limited resources or time constraints, self-serving interests, and the absence of reciprocal behaviors.

Thus, there is a strong background for hiding knowledge among workers in terms of workplace autonomy, especially when remote or hybrid work is involved. The arguments presented allow us to formulate the following hypothesis to analyze the impact of knowledge hiding on factual autonomy behavior.

# **H2.** *Knowledge hiding (KH) has a direct effect on factual autonomy; therefore, job autonomy and demands are positively related to knowledge hiding.*

The primary objective of this study is to investigate the implications of knowledge hiding from the perspective of entrepreneurial orientation (EO) and the moderating role of factual autonomy (FA) in the relationship between knowledge hiding (KH) and entrepreneurial orientation (EO).

Entrepreneurial orientation became an important concept in the literature on strategic management and entrepreneurship, with many successful companies attributing their achievements to EO [76]. EO involves decision-making approaches that draw on entrepreneurial skills and capabilities, and enable companies to remain alert to new technologies, market trends, and potential opportunities. EO helps companies identify opportunities

and initiate new ventures by directing decision-makers' attention to industry changes and customer demand. Consequently, companies that exhibit strong EO generally achieve higher performance [77].

Lumpkin and Dess [78] propose the inclusion of autonomy as a dimension of entrepreneurial orientation (EO); the examination of autonomy as an element of EO was relatively limited in previous studies. This difference can be attributed to two factors. First, autonomy was not originally identified as one of the dimensions of EO according to Miller [29]; instead, it was developed by Covin and Slevin [79,80], who primarily focused on innovativeness, proactivity, and risk taking. Moreover, some scholars argue that autonomy should be considered a prerequisite for entrepreneurial behavior rather than an indispensable component of EO. Second, the adoption of the autonomy dimension was hindered by the scarcity of valid firm-level scales specifically designed to measure autonomy from an EO perspective. Although several autonomy scales were utilized in management research, only a few are suitable for assessing EO autonomy accurately. The lack of a comprehensive and well-established scale limited the investigation of autonomy as an integral aspect of EO in previous studies.

Organizations that rely on EO to create new value and foster growth must make additional efforts to encourage entrepreneurial behavior [81,82]. This often involves allowing organizational members, individuals, decision-makers, and teams, the freedom to act beyond existing norms and strategies, thus enabling independent thoughts and actions. Therefore, autonomy plays a critical role in leveraging an organization's existing strengths, identifying opportunities beyond current capabilities, fostering the development of new ventures, and improving business practices [83].

Numerous scholars believe that autonomy is a prerequisite for entrepreneurial initiatives to emerge and thrive and is a fundamental characteristic of entrepreneurial organizations [81,83,84]. From an EO perspective, autonomy refers primarily to strategic autonomy. Strategic autonomy refers to higher levels or dimensions of autonomy that enable a team or individual not only to solve problems, but also to define the problem and the goals required to solve it. These strategic autonomy levels can be compared to Hart's [85] generative mode of strategy formation, or Gulowsen's [68] qualitative goal autonomy. Hart's generative mode is based on the autonomous behavior of organizational members in the pursuit of innovation.

The role of top management in fostering innovation lies in facilitating experimentation and risk-taking through both organizational systems and informal processes at the individual and team levels [86]. Research suggests that the level of autonomy a team possesses is positively related to effective knowledge management, where higher levels of autonomy promote knowledge creation, transfer, and application [87,88]. As strategic autonomy increases, knowledge sharing and transfer also increase, leading to favorable entrepreneurial outcomes.

Therefore, for a company to achieve a high level of entrepreneurial orientation (EO), having strategic autonomy is crucial. While structural autonomy is essential for autonomy at the enterprise level, it may not be sufficient to enhance entrepreneurial performance. In organizations where bottom-up approaches often generate the best ideas for entrepreneurial ventures, promoting autonomous decision-making at the grassroots level requires special incentives and structural arrangements to encourage and support such initiatives [89]. However, in some organizations, even the most promising ideas may not be embraced by top management [90]. Whether entrepreneurial initiatives are encouraged or suppressed, it is often the autonomous efforts of key individuals acting outside the chain of command that yield entrepreneurial results [91]. Although autonomy, as a component of entrepreneurial orientation, was not extensively studied, its significance in promoting entrepreneurial behavior and supporting innovation should not be underestimated.

Drawing from the insights obtained from the literature, we formulate the following hypothesis:

**H3.** *Knowledge hiding (KH) has a direct effect on entrepreneurial orientation (EO) through the mediation of factual autonomy (FA).* 

The following conceptual framework was proposed based on the inferred relationships.

#### 3. Materials and Methods

The conceptual model presented in Figure 1 was constructed to analyze both the direct and indirect effects of knowledge hiding on entrepreneurial orientation. This model was developed based on research assumptions and served as the foundation for designing the data collection questionnaire. The primary purpose of this conceptual model was to test hypotheses *H*1, *H*2, and *H*3, which examine the relationships between knowledge hiding (KH construct) and entrepreneurial orientation (EO construct) while exploring the mediating role of factual autonomy (FA construct) in this relationship.



Figure 1. Conceptual model.

#### 3.1. Data Collection and Sample

The empirical investigation employed primary data collection through an online questionnaire distributed to participants across various business segments. The research sample for this study consists of 16 companies representing diverse industries, including the telecom sector (top four players), banking sector (four major banks), two major retailers, IT&C (two multinational and one local company), and three major service companies within the Romanian business sector. This study aimed to ensure the generalizability of the findings and capture the nuances of knowledge hiding and entrepreneurial orientation in various business contexts.

To achieve a comprehensive representation of different industries, a stratified sampling approach was adopted to select participating companies and their employees. Stratified sampling involves dividing a population into subgroups or strata based on relevant characteristics or factors that may influence research outcomes. In this case, subgroups were formed based on factors such as job role, department, and job title within each company.

By including organizations from diverse sectors, the researchers sought to capture a wide range of organizational cultures, structures, and practices that could potentially impact knowledge hiding and entrepreneurial orientation.

The questionnaire was distributed to employees at all levels of decision-making within the 16 participating companies. This approach aimed to gather insights from a diverse set of perspectives, ranging from non-executive employees to low-level, middle-level, and top-level managers. Involving participants from different hierarchical levels enabled researchers to gain a comprehensive understanding of knowledge hiding and its effects on entrepreneurial orientation across the organizational hierarchy. The researchers enlisted the support of key facilitators within the participating companies and utilized a snowball sampling technique to expand the sample size. Specifically, employees were encouraged to share the online questionnaire with their colleagues or personal contacts working in similar medium-large companies operating in fast-paced business segments. Overall, the study's research sample and sampling approach were designed to provide valuable insights into the relationship between knowledge hiding and entrepreneurial orientation in organizations operating in various industries and hierarchical structures. The inclusion of multiple sectors and employee levels allowed for a more holistic analysis of knowledge hiding behavior and its implications for entrepreneurial behaviors, thereby contributing to the robustness and applicability of this study's findings.

The study obtained a convenience sample of 214 participants, considering the profile of the targeted respondents and the response rate. Among the participants, 92.6% were aged between 30 and 55 years, 61.7% were female, and 52.3% had more than two years of experience in the field.

The questionnaire employed a 5-point Likert scale, ranging from 1 ("completely disagree") to 5 ("completely agree") to assess participant ratings on 45 items derived from the relevant literature (see Table 1). These items were designed to measure the three dimensions of the conceptual model: 12 items for knowledge hiding (including evasive hiding, playing dumb, and rationalized hiding), adapted from Connelly and Zweig's study [19]; 13 items for entrepreneurial orientation (proactivity, risk-taking, and organizational innovativeness), adapted from Covin and Wales [92]; and 10 items for factual autonomy (linked to organizational performance). The Factual Autonomy Scale (FAS) was developed to minimize subjectivity in assessing workplace autonomy by employing specific items focused on soliciting information rather than relying on general judgments (see Supplementary File).

Table 1. Measurement model: reliability and convergent validity.

<b>Constructs and Items</b>	Item Loadings	<b>Cronbach's</b> ά	CR	AVE
EO. Entrepreneurial orientation		0.909	0.930	0.686
EÔp. Proactivity	0.853			
EOr. Risk taking	0.806			
EOi. Organizational innovativeness	0.833			
KH. Knowledge hiding		0.902	0.921	0.713
KHe. Evasive	0.881			
KHp. Playing dumb	0.816			
KHr. Rationalized	0.872			
FA. Factual autonomy		0.900	0.925	0.720

The factual autonomy construct used in this research was adapted from Spector and Fox's work [93] and demonstrated satisfactory convergent validity through comparisons with reports obtained from managers, supervisors, and coworkers. The FAS comprises ten items, seven of which follow the prompt "In your present job, how often do you have to ask permission?" and the remaining three items follow the prompt "How often do the following events occur in your present job?" The response options for the first seven items include "Never, Rarely, Sometimes, Quite Often, Extremely Often, or Always" (where never = 1 and always = 5). The remaining three items offer response options of "Never, Once or twice, once or twice per month, once or twice per week, Every Day" (where never = 1 and every day = 5). Additionally, the questionnaire gathered personal information such as the respondent's gender, age, education level, job position, and years of work experience. The internal consistency (Cronbach's alpha) of the measure in this study was found to be 0.90 (see Table 1).

#### 3.2. Procedure and Measurement Model Assessment

In this study, data analyses were conducted using SPSS 26.0 (IBM Corporation, Armonk, NY, USA, 2019), which included the PROCESS macro for SPSS version 4.0, developed by Hayes and Jamovi 2.0.0.0 [94]. As the research relied on self-reported questionnaires, Harman's single-factor test was performed to examine the potential impact of common method bias [95,96]. To address this concern, all items corresponding to the selected variables were subjected to exploratory factor analysis, aiming to determine if one

factor could account for the majority of the variance. The findings revealed that the first factor explained only 34.31% of the variance, indicating that common method bias was not significantly pervasive.

To test and evaluate the multivariate causal relationships of the research hypotheses and explore the mediating role of factual autonomy in the association between knowledge hiding and entrepreneurial orientation, Partial Least Squares Structural Equation Modeling (PLS-SEM) was employed.

The recommended steps for the exploratory PLS-SEM analysis were followed to assess the research model. Initially, the measurement model and model fit were thoroughly evaluated prior to examining the structural model. The path coefficients and indirect effect of the knowledge hiding on entrepreneurial orientation were estimated through bootstrapping.

Assessment of the overall fit and measurement model (see Table 2) demonstrated that the PLS-SEM requirements were satisfied as follows: First, the value of the model-fit indicator, standardized root mean square residual (SRMR = 0.016), was below the recommended threshold of 0.08 [97], indicating an acceptable fit of the model. Second, the average variance extracted (AVE) values for the KH, EO, and FA constructs (0.560, 0.657, and 0.665, respectively) are above the minimum threshold of 0.5, thereby supporting convergent validity. Furthermore, the Cronbach's alpha coefficients for each construct (0.909, 0.902, and 0.900, respectively) surpassed the recommended threshold of 0.7, confirming the constructs' internal consistency. Finally, the composite reliability of each construct surpassed the desired value of 0.8 (see Table 1), further reinforcing the reliability and convergent validity of the measurement model [98].

Table 2. Fit indices.

		RMSEA 95% CI					
TLI	SRMR	RMSEA	Lower	Upper	RMSEA p		
1.00	0.016	0.000	0.000	0.090	0.811		

Means, standard deviations, and bivariate correlations for all the study variables are presented in Table 3. As can be observed, a series of significant correlations were identified. The composite score of entrepreneurial orientation is positively correlated with factual autonomy ( $\mathbf{r} = 0.261$ , p < 0.01). Moreover, all sub-scales of entrepreneurial orientation showed positive correlations with factual autonomy: proactivity ( $\mathbf{r} = 0.211$ , p < 0.01), risk-taking ( $\mathbf{r} = 0.171$ , p < 0.05), and organizational innovativeness ( $\mathbf{r} = 0.277$ , p < 0.01), Knowledge hiding negatively correlated with factual autonomy (rho = -0.146, p < 0.05), and with two of its subscales, namely evasive (rho = -0.167, p < 0.05) and playing dumb (rho = -0.167, p < 0.05). In addition, knowledge hiding showed significant correlations only with the risk-taking sub-scale of entrepreneurial orientation (rho = 0.138, p < 0.05). Risk taking also correlated with the rationalized sub-scale of knowledge hiding (rho = 0.157, p < 0.05).

**Table 3.** Descriptive statistics and inter-correlations of the study variables.

Constructs	Mean	SD	1	2	3	4	5	6	7	8
1. Proactivity	3.33	0.79	-							
2. Risk taking	3.20	0.78	0.542 **	-						
3. Organizational innovativeness	3.44	0.88	0.753 **	0.584 **	-					
<ol> <li>Entrepreneurial orientation</li> </ol>	3.34	0.72	0.906 **	0.749 **	0.828 **	-				
5. Evasive	1.81	0.95	0.026	0.103	-0.067	-0.021	-			
6. Playing dumb	1.81	1.00	0.027	0.066	-0.034	-0.008	0.628 **	-		
7. Rationalized	2.02	1.02	0.110	0.157 *	0.067	0.100	0.598 **	0.711 **	-	
<ol><li>Knowledge hiding</li></ol>	1.88	0.89	0.081	0.138 *	0.000	0.045	0.811 **	0.859 **	0.913 **	-
9. Factual autonomy	3.42	0.86	0.211 **	0.171 *	0.277 **	0.261 **	-0.167*	-0.167 *	-0.09	-0.146*

\*\*. Correlation is significant at the 0.01 level (2-tailed). \*. Correlation is significant at the 0.05 level (2-tailed).

To test the proposed mediation model, the PROCESS [94] macro for SPSS was used (version 4.0). In this regression analysis, knowledge hiding was used as a predictor, factual autonomy as a mediator, and entrepreneurial orientation as an outcome variable (Table 4).

Model	Coeff.	SE	t	р	CI (Lower)	CI (Upper)
Model without mediator						
$\rm KH \rightarrow EO$	0.1110	0.0560	1.980	0.0490	0.0005	0.2214
Model with mediator						
$\mathrm{KH}  ightarrow \mathrm{FA}$	-0.1751	0.0657	-2.664	0.0083	-0.3047	-0.0456
$FA \rightarrow EO$	0.2498	0.0665	4.420	0.0000	0.1384	0.3613
$\rm KH \rightarrow EO$	0.1547	0.0546	2.833	0.0051	0.0471	0.2624

Table 4. Regression results for the PROCESS mediation.

In the first step of the mediation model, the regression of the knowledge hiding on the entrepreneurial orientation, ignoring the mediator, was significant, F (1,209) = 3.92, p < 0.05, R2 = 0.018, b = 0.111, t (209) = 1.98, and p < 0.05. Furthermore, the second step showed that the regression of the knowledge hiding on the mediator, factual autonomy, was also significant, F (1,209) = 7.10, p < 0.01, R2 = 0.032, b = -0.175, t (209) = -2.66, and p < 0.01. The third step showed that the mediator (factual autonomy), controlling for knowledge hiding, was significant, F (2,208) = 11.90, R2 = 0.102, p < 0.01, b = 0.249, t (208) = 4.42, and p < 0.01 and finally, the last step of the process revealed that controlling for the mediator (factual autonomy), knowledge hiding was still a significant predictor of entrepreneurial orientation, b = 0.154, t (208) = 2.83, and p < 0.05.

To further investigate the mediator, the Sobel test was utilized to examine if factual autonomy significantly mediated the relationship between knowledge hiding and entrepreneurial orientation [94]. As suggested in Baron and Kenny [99], the Aroian version of the Sobel test was conducted and the results confirm that factual autonomy significantly mediates the relationship between knowledge hiding and entrepreneurial orientation (z = -2.240; p = 0.025). The same results were obtained for the Goodman version of the Sobel test (z = -2.326; p = 0.019).

#### 4. Structural Model Assessment and Results

Because in our study we are dealing with latent variables, with constructs rather than directly measurable variables, we decided to analyze our data with structural equation modeling (SEM), which allowed us to test our hypotheses while accounting for measurement error [100]. Due to the abnormal distribution of knowledge-hiding scores, estimates are reported as "weighted least squares".

The conceptual model is illustrated in Figure 1. To ensure a good model fit, we considered the following criteria: root mean square error of approximation (RMSEA) values less than 0.05–0.06 [101,102], Comparative Fit Index (CFI) values above 0.9 [103], and Tucker–Lewis Index (TLI) values greater than 0.9 [97]. The bootstrapping method was utilized to test the significance of the path coefficients and loadings, with 1500 bootstrap samples employed for analysis, as recommended by Davidson and Mackinnon [103] and Henseler, Ringle, and Sarstedt [98].

The tested model demonstrated the criteria for very good model fit [ $\chi$ 2 (3) = 1, 57 TLI = 1.000, CFI = 1.000, RMSEA = 0.000, CI (0.000, 0.090)], meeting the criteria proposed by different authors such as Bentler [104], Hu and Bentler [105], or Byrne [101] (see Table 2).

For model assessment, we considered the beta ( $\beta$ ) and the corresponding *p*-values along with 95% confidence intervals, as suggested by Chin, Peterson, and Brown [106] (see Table 5 and Figure 2).

Table 5. Parameters estimates.

		95% Confidence Intervals						
Dep	Pred.	Estimate	SE	Lower	Upper	β	Z	p
EO	FA	0.209	0.0565	0.0956	0.3130	0.322	3.70	< 0.001
EO	KH	0.275	0.0779	0.1024	0.4130	0.361	3.53	< 0.001



Figure 2. The structural model with path coefficients.

The structural model analysis, as presented in Figure 2, revealed that the model accounted for 45.9% of the variance in knowledge hiding within entrepreneurial orientation (KH: R square = 0.459) and 37.7% of the variance in factual autonomy (FA: R square = 0.377) (see Table 6). Consistent with hypotheses H1, H2, and H3, the results indicate that knowledge hiding has a direct effect on entrepreneurial orientation, influencing the overall entrepreneurial climate (KH  $\rightarrow$  EO:  $\beta$  = 0.560, t = 1.980, *p* < 0.001; H1 is accepted), and the factual autonomy is influenced by knowledge hiding (KH  $\rightarrow$  FA:  $\beta$  = 0.657, t = -2.664, *p* = 0.008; H2 is accepted). Furthermore, a direct effect exists in the relationship between factual autonomy and entrepreneurial orientation (FA  $\rightarrow$  EO:  $\beta$  = 0.565, t = 4.420, *p* < 0.001; H3 is accepted).

Table 6. R Square/model tests.

Cons	R Square	R Square Adj.
EO	0.459	0.448
FA	0.377	0.374

Path analysis revealed that both factual autonomy ( $\beta = 0.322$ , p < 0.001) and knowledge hiding ( $\beta = 0.361$ , p < 0.001) predicted entrepreneurial orientation (EO) (see Table 5). Moreover, the indirect effect (KH  $\rightarrow$  FA  $\rightarrow$  EO:  $\beta = 0.546$ , t = 2.833, and p = 0.051) demonstrates full mediation, indicating the mediating role of factual autonomy (FA) in the relationship between knowledge hiding (KH) and entrepreneurial orientation (EO).

Additionally, a multi-group analysis (MGA) was conducted to explore potential differences induced by individuals' characteristics, such as education field, education level, and experience, in the relationships between knowledge hiding (KH), factual autonomy (FA), and entrepreneurial orientation (EO). However, no significant differences were observed between the groups.

### 5. Discussion

This study undertook a comprehensive examination of the inferred relationships, thereby highlighting the statistical significance of the research hypotheses within the context of knowledge hiding. Specifically, the impact of knowledge hiding on entrepreneurial orientation proved to be a significant influencing factor in the process of knowledge sharing among organization members, especially related to proactivity, risk-taking, and opportunity-seeking behavior. These findings provide evidence that individuals who engage in knowledge-hiding behaviors are less likely to exhibit entrepreneurial behaviors, particularly those associated with risk taking and opportunity seeking.

This observation suggests that knowledge hiding may impede individuals' propensity to take risks and explore new opportunities, potentially limiting the entrepreneurial orientation of the organization. The significant correlation between knowledge hiding and the risk-taking subscale of entrepreneurial orientation indicates that individuals or organizations inclined toward risk-taking behavior may be more prone to engaging in knowledge hiding. This finding implies that risk-takers may perceive knowledge as a strategic resource and employ knowledge hiding as a means of maintaining a competitive advantage or protecting their innovative ideas against potential risks or challenges.

Furthermore, the correlation between risk taking and the rationalized component of knowledge hiding underscores the cognitive aspect of knowledge-hiding behavior. Risk takers may rationalize their knowledge-hiding actions by providing justifications or explanations for withholding information. This finding suggests that individuals or organizations involved in risk-taking activities may attempt to legitimize their knowledgehiding behaviors, possibly driven by concerns about negative outcomes or the desire to retain control over valuable knowledge.

The cumulative results collectively indicate that risk-taking has implications for both knowledge hiding and entrepreneurial orientation. While risk-taking can stimulate entrepreneurial behavior by fostering innovation and the exploration of new opportunities, it can also engender a propensity for knowledge hiding as individuals or organizations navigate uncertain and competitive environments. Overall, factual autonomy and entrepreneurial orientation emerged as significant contributors to the conceptual framework proposed in this study.

However, when examined individually, entrepreneurial orientation exerts a more substantial influence on the framework than factual autonomy, emphasizing the notion that while knowledge hiding exists in organizations at various levels, companies operating in fast-paced business sectors are particularly susceptible to its occurrence.

The first hypothesis *H1* posits that knowledge hiding affects entrepreneurial orientation, as employees' concealment of knowledge restricts their collective ability to generate and implement new ideas, thereby impeding the organization's entrepreneurial orientation, which is an assertion supported by prior research [12].

Similarly, in *H2*, knowledge hiding was found to exert a significant impact on factual autonomy. This finding implies that employees tend to hide knowledge to limit the availability of crucial information required by others to autonomously perform tasks using their knowledge to gain a competitive edge. Such behavior can be motivated by the desire to maintain power, control, or personal advantage. Consequently, knowledge hiding hampers individuals' autonomy by constraining their access to pertinent information necessary for independent decision making.

Moreover, knowledge hiding engenders an atmosphere of uncertainty and ambiguity within the organizational context. When critical knowledge is concealed, employees may lack the information necessary to fully comprehend the context of their work. Consequently, their ability to schedule tasks, determine appropriate procedures, and exercise factual autonomy is compromised. This negative impact of knowledge hiding on factual autonomy has significant implications for organizational dynamics. Factual autonomy is intricately linked to employee empowerment, job satisfaction, and overall organizational performance [62].

Employees with higher levels of factual autonomy experience a greater sense of control over their work and possess the flexibility to adapt their approaches to achieve optimal outcomes. By impeding factual autonomy through knowledge hiding, organizations risk undermining employee motivation, engagement, and overall effectiveness. In conclusion, the negative correlations between knowledge hiding and factual autonomy indicate that, as knowledge-hiding behavior increases, the level of factual autonomy decreases.

The findings of the mediation analysis supported hypothesis *H3* that factual autonomy mediates the relationship between knowledge hiding and entrepreneurial orientation. The present study revealed a negative correlation between knowledge hiding and factual autonomy, which in turn mediates the relationship with entrepreneurial orientation.

The mediating role of factual autonomy can be explained by the fact that knowledge hiding obstructs the flow of information and restricts employees' access to the knowledge

necessary for entrepreneurial behavior. When employees lack factual autonomy, they are less inclined to take risks, seek opportunities, and proactively engage in entrepreneurial activities.

These results are driven by the desire to avoid additional responsibilities or maintain a low profile. By feigning ignorance or incompetence, individuals can limit their involvement in decision-making processes and their ability to exercise factual autonomy, which consequently influences the mediating role of factual autonomy in the relationship between knowledge hiding and entrepreneurial orientation.

Another important aspect drawn from the results of the present research is related to the significant implications for sustainability and competitive advantage within organizations. The effects of knowledge-hiding behavior in conjunction with entrepreneurial orientation are related to reducing collaboration factors, which hinder important aspects such as innovation and problem solving. Furthermore, it impacts the condition of job autonomy by limiting the dissemination of critical information necessary for responsible and environmentally friendly practices, creating disparities in employee performance, career growth, and decision-making power, ultimately affecting the overall well-being of employees and the organization's social sustainability. In fact, our finding suggests that under conditions of low autonomy, as a result of poor task interdependence initiated, received, or reciprocal, the effect of EO is much reduced. Employees tend to hide knowledge to limit the availability of crucial information required by others to perform tasks autonomously. Consequently, valuable insights and lessons learned from past experiences may not reach those who need them, hindering the company's ability to leverage its collective knowledge and expertise. Therefore, it hampers the organization's ability to make informed decisions, develop innovative products and services, and respond effectively to changing market conditions, which is essential for driving sustainable practices.

Sustainable development requires continuous innovation and the effective transfer of knowledge and best practices. Aspects such as risk taking (climate), the imbalance between job demands (e.g., time pressure and work overload), and the resources that the individual has to deal with these demands will make individuals conserve their resources (especially specialized knowledge, as the results of the studies show that this is particularly true in competitive environments) and thereby hide knowledge more frequently. The relationship between knowledge hiding and sustainability engages in ongoing debates by touching on essential elements such as sustainable innovation, organizational learning, CSR, stakeholder engagement, ethical considerations, and sustainable culture and leadership.

In the context of science and integrated approaches to sustainable development, analyzing knowledge hiding about entrepreneurial orientation and job autonomy can shed light on the organizational dynamics that hinder or foster innovation and sustainable practices.

By understanding how knowledge hiding impacts these crucial constructs, organizations can identify barriers and opportunities for knowledge sharing and innovation, leading to more effective sustainable development initiatives.

#### 6. Conclusions

#### 6.1. Synthesis

The current empirical research endeavors to examine the interconnections and associations between knowledge hiding and other conceptual frameworks, as well as their implications and potential expansions. Specifically, this study centers on the influence of knowledge hiding on the most robust constructs manifested through managerial dispositions or organizational-level behaviors, namely entrepreneurial orientation and job autonomy [29,35,92,107]. The findings offer valuable insights for managers and policymakers who seek to address knowledge hiding and harness employee knowledge for organizational success. Knowledge hiding is linked to reduced work-related interactions among employees, diminished individual performance, and suboptimal decision making [108]. Recent literature also highlighted that antecedent factors related to individuals, organizations, and teams can enhance productivity, knowledge sharing, and overall performance [109]. The primary focus of this study was to explore the intricate dynamics of knowledge hiding (KH) and its implications for organizational performance, with particular attention given to the mediating role of factual autonomy (FA) and its relationship with entrepreneurial orientation (EO). The findings shed light on the factors influencing knowledgehiding behaviors, the impact of knowledge hiding on organizational outcomes, and the importance of fostering a supportive environment for knowledge sharing. The results emphasize the adverse consequences of knowledge hiding, such as diminished workrelated interactions, individual performance, and decision making quality. Furthermore, knowledge hiding was found to impede entrepreneurial behaviors, especially risk-taking and opportunity-seeking behaviors, which are critical for cultivating an innovative and exploratory culture.

The negative correlation between knowledge hiding and factual autonomy suggests that as knowledge-hiding behavior increases, the level of autonomy decreases. This compromises individuals' ability to make independent decisions and limits their access to relevant information necessary for optimal outcomes.

The study also reveals the significant mediating role of factual autonomy in the relationship between knowledge hiding and entrepreneurial orientation. Neither autonomy nor task interdependence exhibited a significant relationship with knowledge hiding. Thus far, it appears that respondents tend to hide knowledge regardless of the structure of their work, indicating that job design is not a determining factor in employee decisions to hide knowledge. Factual autonomy is perceived as critical for entrepreneurial behaviors; however, as long as individuals have limited access to information and decision-making authority, they are less likely to exhibit entrepreneurial traits or engage in proactive activities.

The withholding of knowledge causes individuals to feel a sense of control or maintain a competitive advantage, which ultimately undermines their willingness to take risks and explore new opportunities. Other factors that contribute to individuals disengaging from knowledge sharing include how they interpret information or actionable knowledge, their job security, the sense of safety within the organization, and most importantly, job engagement. Factors such as risk-taking tendencies play a role in knowledge hiding, particularly when influenced by job territoriality and knowledge-based psychological ownership.

Additionally, characteristics associated with proactivity and opportunity seeking are highlighted in this study. Factors such as job insecurity, mistrust, and task complexity determine whether individuals perceive knowledge sharing within the organization as a futile exercise. Moreover, these behaviors may be linked to an individual's reluctance to undermine their efforts and resources invested in learning or problem solving by sharing their "hard-earned" knowledge. Nevertheless, it is also plausible that the conducted analyses require greater granularity, as evidence suggests that relational job design, particularly concerning entrepreneurial orientation, has implications for employee prosocial behaviors [110] and may therefore mitigate motivations to hide knowledge. By comprehending, analyzing, and mastering these critical factors, organizations can prevent knowledge from being concealed before it becomes detrimental to them.

In conclusion, it is worth noting that knowledge hiding is not always intended to harm others, and in the short term, it may yield certain benefits. However, in the long run, it takes its toll. There are ample opportunities for organizations to modify their work design aspects to leverage the potential of employees and their knowledge for the betterment of the organization.

The results of this study have significant implications for future research and policymakers interested in these areas of study, particularly in fast-paced business segments. The study uncovered intriguing findings regarding the rationalized sub-scale of knowledge hiding, the risk-taking sub-scale of entrepreneurial orientation, and the impact of knowledge hiding on entrepreneurial behavior through factual autonomy. It indicates that factors such as internal competition, the desire to retain control, and job entitlement contribute significantly to knowledge-hiding behaviors. Conversely, organizational innovativeness does not emerge as a significant outcome of knowledge hiding. This aligns with macroinnovation research that extends beyond individual innovative behavior and focuses on team dynamics, resource allocation, and individual creative contributions [111,112].

While knowledge hiding may have negative implications for individual-level outcomes, such as reduced knowledge sharing and hindered entrepreneurial orientation, its impact on organizational innovativeness is not significant. This underscores the need for organizations to prioritize creating an environment that fosters collaboration, knowledge sharing, and team-based innovation to enhance organizational innovation.

#### 6.2. Research and Managerial Implications

From a managerial perspective, this study offers a fresh perspective on the potential for organizations to leverage factual autonomy as a catalyst for entrepreneurial orientation. It suggests that by understanding and addressing the factors that impede autonomy and contribute to knowledge hiding, managers can unlock their employees' innovative potential and foster an entrepreneurial culture. This can lead to improved organizational performance, competitiveness, and adaptability in today's dynamic and fast-paced business environment.

Knowledge hiding within firms can be effectively mitigated, as some organizations already demonstrated efforts to alleviate its prevalence by implementing specific techniques and policies. Furthermore, exploring strategies that foster a culture of knowledge sharing while actively discouraging knowledge hiding can significantly contribute to overcoming the negative outcomes associated with this behavior. In this regard, future research should delve deeper into understanding how companies can develop and implement effective strategies that not only promote a culture of knowledge sharing, but also discourage knowledge hiding within the organizational context.

In the field of knowledge hiding, there is a need for future researchers to explore the role of work and relational design in influencing knowledge-sharing behaviors within firms. Understanding the impact of these factors can shed light on how organizational structures and relationships can either facilitate or hinder knowledge sharing.

It is essential to emphasize that the current study represents an exploratory initiative, providing a foundation for further research to investigate the intricate correlations between various components related to knowledge hiding. Future research can contribute to a more comprehensive understanding of the implications and mechanisms of knowledge hiding within organizations.

Employing more advanced statistical techniques, such as structural equation modeling, is imperative to ensure a more accurate and nuanced depiction of the impact of knowledge hiding on entrepreneurial orientation and factual autonomy. Such advanced methods can offer greater insights into the complex relationships between these constructs and provide a more robust foundation for evidence-based decision making in organizational contexts.

### 6.3. Limitations and Further Research Directions

This study acknowledges the significant progress made in the field of knowledge hiding. However, it also recognizes the presence of several research gaps and limitations that warrant further exploration and investigation.

To enhance our comprehension of knowledge hiding, it is essential to undertake indepth comparative analyses to elucidate the connections and distinctions between knowledge hiding and related concepts, such as knowledge non-sharing, knowledge sharing hostility, counterproductive knowledge behavior, knowledge contribution loafing, knowledge hoarding, knowledge protection, and employee silence. Through these comparative analyses, researchers can gain a better understanding of the intricate nuances of knowledge hiding and its implications in organizational settings.

While existing studies delved into the impact of knowledge characteristics, individual factors, team-level and interpersonal factors, and organizational-level factors on knowledge hiding, there is still a need for more comprehensive investigations that explore the underlying mechanisms and coping strategies associated with knowledge hiding behaviors. By

delving deeper into these aspects, future research endeavors can uncover valuable insights that contribute to a more holistic understanding of knowledge hiding and its determinants.

Moreover, future research efforts would benefit from exploring additional mediators beyond organizational performance and job characteristics. Investigating other influential factors that shape knowledge-hiding behaviors will provide a more comprehensive view of the complex interplay between various constructs in the context of knowledge hiding.

In pursuit of a more holistic understanding of knowledge hiding, research designs must diversify beyond the current focus on individuals. Although previous studies predominantly examined individual effects, the complex nature of knowledge hiding necessitates investigations that encompass the individual, team/interpersonal, and organizational levels. Exploring the interplay between these levels can shed light on the multifaceted dynamics of knowledge hiding within organizations.

Furthermore, future research should consider integrating cultural, sectoral, and organizational factors to enrich the findings. Taking these contextual elements into account can provide valuable insights into how knowledge hiding manifests across diverse settings, enhancing the generalizability and applicability of research findings.

In conclusion, addressing these research gaps and limitations will contribute to a more comprehensive and nuanced understanding of knowledge-hiding behavior and its implications. By expanding the scope of the investigation and integrating diverse factors, future research can provide valuable insights to guide organizations in effectively managing and mitigating knowledge-hiding behaviors. In our perspective, it is through such a diverse array of approaches and exploration of various pathways, encompassing organizational-level outcomes as well as individual and team-level outcomes, that a comprehensive understanding of knowledge-hiding research can be achieved. This will enable scholars to better define research problems, innovate research theories and methodologies, and enrich field research with a robust framework.

**Supplementary Materials:** The following supporting information can be downloaded at: https://www.mdpi.com/article/10.3390/su151713057/s1.

**Author Contributions:** All the authors participating in each phase of the present paper: conceptualization, literature review, designing the research model, methodology, elaborating questionnaires, data collection and validation, data processing, interpretation and discussion, and writing the paper. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Informed Consent Statement: Not applicable.

Data Availability Statement: Data can be obtained by request.

Conflicts of Interest: The authors declare no conflict of interest.

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