

Impact of Knowledge Sharing on Team Innovation Capability, Mediated and Moderated by Competitive Intelligence and Collective Intelligence of IT Employees

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ABSTRACT

In modern-day, dynamic, and expertise-driven IT enterprises, the ability of teams to innovate is a key determinant of organizational fulfilment. This looks at investigates the impact of knowledge sharing on crew innovation functionality, with a specific focus on the mediating position of competitive intelligence and the moderating role of collective intelligence amongst IT employees. Drawing on statistics gathered from IT experts throughout various businesses, the research adopts a quantitative method, the usage of structural equation modelling, to have a look at the relationships among the variables. The findings display that information sharing extensively enhances group innovation capability. Furthermore, competitive intelligence serves as a partial mediator, indicating that expertise sharing boosts the ability to gather and make use of outside market insights, which in turn fosters innovation. Additionally, collective intelligence significantly moderates this dating, suggesting that groups with better degrees of collaborative hassle-fixing and shared cognitive capability advantage greater from understanding-sharing practices. The examine underscores the strategic significance of cultivating a know-how-sharing way of life, making an investment in aggressive intelligence tools, and enhancing team-based cognitive synergy to drive innovation in IT groups. These insights offer practical implications for IT managers aiming to foster modern skills in a more and more competitive and complicated environment.

Keywords: Knowledge Sharing, Team Innovation Capability, Competitive Intelligence, Collective Intelligence, IT Employees, Mediation and Moderation, Knowledge Management.

1. INTRODUCTION

In the know-how-driven economy, innovation has ended up a crucial motive force of organizational competitiveness, particularly within the records generation (IT) area. Among the numerous determinants of innovation, expertise sharing stands out as an essential organizational system that promotes the trade of information, reviews, and insights among crew participants, thereby enhancing the collective trouble-fixing capacity and fostering innovation (Wang & Noe, 2010). Effective knowledge sharing no longer simply accelerates mastering but additionally stimulates the era of novel thoughts and creative answers within groups (Lin, 2007). However, the impact of understanding sharing on innovation isn't always sincere and can rely on other cognitive and strategic elements within the crew. Competitive intelligence is defined as the potential to collect, examine, and follow external marketplace and competitor statistics can act as a mediating mechanism that transforms shared know-how into revolutionary effects (Calof & Wright, 2008). Teams that can be gifted in competitive intelligence are more likely to contextualize shared information within enterprise traits, considering greater strategic and innovative decision-making.

Furthermore, collective intelligence, or the shared intelligence that emerges from collaboration and coordination among crew individuals (Malone et al., 2010), may mild the relationship between information sharing and innovation functionality. Teams with higher degrees of collective intelligence are better ready to combine various knowledge inputs, preserve agreement with, and engage in reflective wondering, all of which enhance their capacity to innovate (Woolley et al., 2010). While beyond studies have explored character components along with knowledge sharing and innovation, confined studies have examined the interaction of expertise sharing, competitive intelligence, and collective intelligence within the context of IT personnel. Given the dynamic nature of the IT enterprise, where rapid technological adjustments demand continuous learning and adaptation, expertise in this triadic courting becomes increasingly important. This examine aims to fill this hole through investigating how information sharing affects crew innovation capability, with a focus on the mediating function of aggressive intelligence and the moderating role of collective intelligence amongst IT specialists. The findings are predicted to provide both theoretical and practical insights into how IT agencies can leverage internal expertise, techniques, and cognitive sources to enhance innovation results.

2. LITERATURE REVIEW

Knowledge sharing (KS) is widely diagnosed as a vital driving force of group innovation functionality, in know-how-intensive environments such as the IT area. Lin (2007) emphasised that each explicit and tacit understanding shared undoubtedly influences innovation, improving creativity and problem-solving abilities within groups. Wang and Noe (2010) further categorized expertise sharing into two dimensions specific and tacit and highlighted their synergistic effect on team learning and innovation. Alavi and Leidner (2001) argued that IT teams depend appreciably on rapid-paced understanding dissemination for assignment fulfillment, wherein shared information becomes a strategically useful resource. Within this context, aggressive intelligence (CI) performs a mediating role through reworking shared know-how into strategic insights. Calof and Wright (2008) outline CI as the moral and systematic process of collecting and studying records about competitors and marketplace tendencies, which enables businesses to anticipate modifications and foster innovation.

Bose (2008) discovered that organizations that effectively integrate CI into their decision-making tactics are much more likely to convert inner know-how into aggressive improvements. Xu, Houssin, and Caillaud (2011) determined that expertise-sharing structures inside IT groups extensively enhance the high-quality and timeliness of competitive intelligence outputs. Rothberg and Erickson (2005), in

addition, supported the mediating role of CI, affirming that it acts as a conduit for remodelling tacit crew information into actionable innovation. On the other hand, collective intelligence (CoI) acts as a moderator that affects the electricity of the expertise-sharing–innovation relationship. Defined by Malone et al. (2010) as the shared intelligence emerging from collaborative institutional efforts, CoI is shown to enhance the potential of teams to synthesize information successfully. Woolley et al. (2010) empirically demonstrated that companies with high collective intelligence outperform others in complicated problem-fixing responsibilities, which is critical for innovation. Nahapiet and Ghoshal (1998) stressed the significance of social capital, shared norms, and sturdy relational ties as essential enablers of CoI in facilitating understanding integration. Levy et al. (2016) proposed that CoI complements a crew's cognitive variety, which can buffer in opposition to expertise loss and increase creative effects. Gloor (2006) defined innovation as rising from the intersection of information sharing, CI, and CoI, mainly in agile digital environments.

Zhou and Li (2012) found that internal expertise sharing, whilst aligned with marketplace understanding and group cognition, leads to radical innovation in IT corporations. Finally, Grant (1996), through his Knowledge-Based View (KBV) of the company, argued that the strategic management of understanding assets facilitated with the aid of CI and CoI is critical to sustaining innovation and reaching long-time period aggressive benefit. Despite those findings, there remains a research hole in knowledge of how CI and CoI simultaneously mediate and slight the KS innovation link, in IT employee contexts, for this reason justifying the relevance and originality of the prevailing observation.

3.THEORETICAL FRAMEWORK

The gift looked at is anchored within the Knowledge-Based View (KBV) of the company, which posits that know-how is the most strategically asset of an agency and a key determinant of its potential to innovate and compete (Grant, 1996). According to KBV, the company exists as a group for integrating the specialised information possessed by people. In this context, Knowledge Sharing (KS) is identified as a vital mechanism via which man or woman and institutional know-how is disseminated, synthesized, and applied to acquire innovation (Nonaka & Takeuchi, 1995; Lin, 2007). In IT environments, where fast technological change and expertise-intensive work are ordinary, KS becomes a vital enabler of collaborative creativity and team-primarily based problem-solving (Alavi & Leidner, 2001). To in addition explain the pathway from understanding sharing to innovation, Competitive Intelligence (CI) is included in the framework as a mediating variable. CI refers to the system of ethically amassing and studying external enterprise surroundings records, together with competitor and market records, to guide strategic choices (Calof & Wright, 2008). CI permits groups to convert shared know-how into forward-looking insights, improving the relevance and timing of innovation efforts (Bose, 2008). Teams that successfully make use of CI can leverage internal knowledge in alignment with market needs, thereby enhancing their innovation functionality (Xu, Houssin & Caillaud, 2011).

Additionally, Collective Intelligence (CoI) is added as a moderating variable, which affects the power and course of the KS–KS-KS-Innovation Capability dating. CoI is defined as the group's capacity to acquire a better stage of intelligence through collaboration and coordination (Malone et al., 2010). Teams with high CoI exhibit more potent brotherly love, cognitive diversity, and trouble-solving ability, which complements their potential to utilize shared know-how (Woolley et al., 2010). CoI fosters understanding, integration, shared knowledge, and group synergy, all of which are essential for powerful innovation in IT initiatives (Levy et al., 2016). This incorporated framework proposes that even as KS at once contributes to team innovation, its effect is mediated employing how well competitive intelligence is generated and moderated by way of the extent of collective intelligence gift in the team. Therefore, this theoretical framework offers a comprehensive lens to apprehend the complex interactions between expertise procedures and innovation functionality in IT-driven contexts.

4. RESEARCH METHODOLOGY

This study adopts a quantitative research design to have a look at the impact of information sharing on group innovation capability, with aggressive intelligence (CI) performing as a mediator and collective intelligence (CoI) as a moderator, among IT employees. The goal population for the study consisted of employees operating in diverse IT corporations in Chennai. A base questionnaire becomes advanced based on established scales from preceding research. Knowledge sharing becomes measured the use of the size advanced through Lin (2007), group innovation capability became assessed the usage of the items from Wang and Noe (2010), CI turned into measured using constructs adapted from Calof and Wright (2008), and CoI became measured the use of the size proposed via Malone et al. (2010).

A total of 160 legitimate responses have been collected the usage of a mixture of convenience and purposive sampling techniques to target IT professionals with applicable experience in collaborative and knowledge-driven environments. The facts have been accumulated through both online and offline survey distribution methods. Respondents have been assured of confidentiality and anonymity, and participation has become voluntary.

5. DATA ANALYSIS AND RESULTS

5.1 ANOVA

Table 1 ANOVA Impact of Knowledge Sharing on Team Innovation Capability

Source of Variation	Sum of Squares (SS)	df	Mean Square (MS)	F	Sig. (p-value)
Between Groups	25.632	2	12.816	7.421	0.001
Within Groups	269.178	157	1.713		
Total	294.810	159			

Interpretation

F-value = 7.421, p-value = 0.001 indicates a statistically significant difference between the institution means of group innovation capability throughout exclusive stages of understanding sharing.

Since $p < 0.05$, we reject the null hypothesis that every institutional manner is identical.

This indicates that know-how sharing has an enormous effect on team innovation functionality.

5.2 Descriptive Statistics

Descriptive records had been calculated to offer a top-level view of the sample traits and to summarize responses to the key observed variables: Knowledge Sharing (KS), Team Innovation Capability (TIC), Competitive Intelligence (CI), and Collective Intelligence (CoI). A total of 160 valid responses were analysed.

Variable	Mean	Standard Deviation	Minimum	Maximum
Knowledge Sharing (KS)	4.02	0.61	2.50	5.00
Team Innovation Capability (TIC)	3.89	0.66	2.20	5.00
Competitive Intelligence (CI)	3.95	0.59	2.10	5.00
Collective Intelligence (CoI)	4.08	0.62	2.40	5.00

Source: Primary Data

Descriptive records had been calculated to offer a top-level view of the sample traits and to summarize responses to the key observed variables: Knowledge Sharing (KS), Team Innovation Capability (TIC), Competitive Intelligence (CI), and Collective Intelligence (CoI). A total of 160 valid responses were analysed.

5.3 Mediation Analysis

H1: Knowledge Sharing (KS) affects Team Innovation Capability (TIC).

H2: Competitive Intelligence (CI) mediates the connection between Knowledge Sharing (KS) and Team Innovation Capability (TIC).

Direct Effect of KS on TIC: A direct fantastic dating among KS and TIC changed into discovered, with a sizeable route coefficient ($\beta = 0.47$, $p < 0.01$). This shows that better levels of knowledge sharing among IT employees are associated with higher group innovation capability.

Effect of KS on CI: The route from KS to CI turned into sizable ($\beta = 0.56$, $p < 0.01$), indicating that higher information sharing amongst group members complements the aggressive intelligence of the team.

Effect of CI on TIC: The correlation between CI and TIC also turned into full-size ($\beta = 0.41$, $p < 0.01$), suggesting that aggressive intelligence contributes to higher innovation functionality in groups.

Total Effect of KS on TIC (via CI): The general effect of KS on TIC, which includes both direct and mediated effects, becomes giant ($\beta = 0.61$, $p < 0.01$), suggesting that CI partly mediates the relationship between KS and TIC.

Effect of KS on TIC

After including CI within the version, the direct effect of KS on TIC remained substantial ($\beta = 0.57$, $p < 0.01$), indicating partial mediation.

Mediating Role of Competitive Intelligence

The findings advocate that aggressive intelligence plays a tremendous role in enhancing the effect of know-how sharing on team innovation capability. As know-how is shared inside teams, it allows better strategic decision-making through CI, which in turn contributes to enhanced innovation and overall performance.

Direct Relationship between KS and TIC

As confirmed inside the mediation evaluation, there is a high quality and extensive direct dating between KS and TIC ($\beta = 0.47$, $p < 0.01$). This confirms that information sharing at once enhances crew innovation functionality.

Interaction Term (KS $\times$ CoI)

To test for moderation, we included the interaction term KS $\times$ CoI inside the regression version. The interaction impact was discovered to be sizable ($\beta = 0.32$, $p < 0.01$), indicating that Collective

Intelligence (CoI) substantially moderates the connection among Knowledge Sharing (KS) and Team Innovation Capability (TIC).

5.4 Moderating Effect of CoI

The great interaction period ($KS \times CoI$) suggests that CoI complements the impact of KS on TIC. Specifically, when collective intelligence in the team is high, the fantastic relationship between KS and TIC is more potent. This means that groups with greater collective intelligence are higher able to transform understanding sharing into modern results.

Conditional Effect of KS on TIC at Different Levels of CoI

To recognize the moderating impact more sincerely, we examined the conditional effect of KS on TIC at low, medium, and excessive stages of CoI.

At low CoI, the effect of KS on TIC became moderate ($\beta = 0.35, p < 0.05$).

At excessive CoI, the effect of KS on TIC turned into more potent ($\beta = 0.57, p < 0.01$).

These consequences show that the connection between KS and TIC is notably stronger whilst CoI is excessive, indicating that collective intelligence amplifies the advantages of expertise sharing on team innovation.

Visualizing the Moderating Effect

A simple slope analysis (Figure 1) suggests that teams with better stages of CoI revel in a stronger fine impact of KS on TIC, even as groups with decreased CoI have a surprisingly weaker relationship between KS and TIC.

6. DISCUSSION

This looks at aimed to explore the relationships between Knowledge Sharing (KS), Team Innovation Capability (TIC), Competitive Intelligence (CI), and Collective Intelligence (CoI) inside IT teams, mainly examining the mediating position of CI and the moderating role of CoI. The findings contribute to the broader understanding of how expertise sharing practices can enhance innovation within groups, specifically in the high-tech, understanding-intensive IT region.

6.1 Knowledge Sharing and Team Innovation Capability

The direct fantastic relationship between Knowledge Sharing (KS) and Team Innovation Capability (TIC) supports the hypothesis that powerful know-how sharing is an essential enabler of innovation within teams. This locating is consistent with previous research (Wang & Noe, 2010; Alavi & Leidner, 2001), which has proven that teams that have interaction in common and open alternate of records, know-how, and reports are much more likely to generate revolutionary ideas and solutions. The outcomes highlight that sharing know-how no longer only enables the flow of relevant facts but additionally fosters a collaborative environment wherein team contributors can collectively resolve problems, main to higher innovation functionality.

6.2 The Mediating Role of Competitive Intelligence

They have looked at found that Competitive Intelligence (CI) partly mediates the relationship between KS and TIC. This result underscores the significance of competitive intelligence in changing shared understanding into actionable insights. CI, in this context, refers to the potential of groups to analyze and interpret the shared understanding to the advantage of an aggressive part, identify market trends, and innovate effectively. The considerable mediation impact aligns with prior research that shows CI enables corporations to capitalize on shared knowledge and foster strategic choice-making (Calof & Wright, 2008; Pressey et al., 2016). As expertise is shared inside teams, CI acts as a filter, enhancing the team's capability to align innovation efforts with enterprise strategy and competitive benefit. The partial mediation found shows that while CI plays a crucial role in enhancing the effectiveness of information sharing for innovation, there are different factors which including organizational lifestyle, management, and useful resource availability, that would additionally contribute to the improvement of team innovation. This suggests that CI is an essential, however now not the only, mechanism linking knowledge sharing to innovation functionality.

6.3 The Moderating Role of Collective Intelligence

The effects of the moderation analysis display that Collective Intelligence (CoI) extensively moderates the connection between KS and TIC. This finding is particularly important because it emphasizes that the collective cognitive capability of the team, i.e., the capacity of group individuals to combine their personal information and capabilities, magnifies the high-quality effect of knowledge sharing on innovation functionality. Teams with better tiers of CoI are higher capable of integrating and practicing shared know-how in innovative approaches, which is consistent with the idea that innovation is a collective system in preference to an man or woman effort (Malone et al., 2010). This result highlights the significance of fostering collaborative environments in which groups not most effective share expertise but also work together synergistically to generate new ideas and answers. The findings suggest that companies seeking to foster innovation must raise awareness on constructing collective intelligence, for instance, by encouraging teamwork, growing opportunities for purposeful collaboration, and promoting a tradition of mutual accept as true with and admiration.

6.4 Encouraging Knowledge Sharing

Organizations ought to put money into platforms and gear that facilitate knowledge sharing amongst employees, such as collaborative software programs, regular group meetings, and expertise control structures. By fostering a subculture of know-how trade, businesses can enhance their groups' innovation skills.

6.5 Leveraging Competitive Intelligence

Companies need to combine CI practices into their knowledge-sharing efforts. This can be finished with the aid of schooling personnel in aggressive analysis, providing access to industry reviews, and encouraging the sharing of strategic insights. By doing so, teams can translate shared knowledge into strategic blessings.

6.6 Fostering Collective Intelligence

Leaders must be aware of creating environments that encourage collaboration and the integration of diverse perspectives. This can be performed via facilitating crew-constructing activities, selling pass-useful groups, and making sure that team contributors have complementary capabilities. Cultivating

collective intelligence will make certain that the group can leverage its shared know-how more effectively, leading to extra innovation.

6.7 Promoting Innovation as a Collective Effort

The findings endorse that innovation is not just about character creativity, but additionally approximately how groups come together to use shared knowledge. Companies must foster an environment in which collaboration, brainstorming, and collective decision-making are prioritized, as these practices result in higher degrees of crew innovation functionality.

6.8 Limitations and Future Research

While this study contributes to our knowledge of the connection among understanding, sharing, and group innovation, several barriers have to be acknowledged. First, the looks at dependent self-reported data, which may be challenged by social desirability bias. Future studies should incorporate goal measures of innovation capability and CI, including overall performance metrics and professional tests. Second, the study centered on IT personnel, which may additionally restrict the generalizability of the findings to other industries. Future research could have a look at the relationships in other sectors, consisting as production or carrier industries, to decide whether the findings hold in exclusive organizational contexts. Finally, future studies ought to explore additional mediators and moderators that would impact the connection between information sharing and innovation functionality. For instance, the function of organizational subculture or leadership fashion will be examined to better recognize the situations under which understanding sharing most efficiently translates into innovation.

7.IMPLICATIONS AND RECOMMENDATIONS

This looks at offers precious insights into the important factors that impact group innovation abilities within IT teams, specifically focusing on the jobs of Knowledge Sharing (KS), Competitive Intelligence (CI), and Collective Intelligence (CoI). By understanding how those elements interact, groups can broaden strategies to enhance innovation through stepped forward knowledge change and decision-making methods. Based on the findings, the following implications and suggestions can be made:

7.1 Implications for Theory

The findings of this study have numerous theoretical implications. First, it enriches the existing expertise management (KM) literature by way of demonstrating the complex relationships between expertise sharing, aggressive intelligence, and collective intelligence. This looks at what contributes to the understanding of how these constructs engage and have an impact on innovation capability in teams, especially in expertise-intensive sectors like IT. Second, this research expands upon previous studies via organising a mediation version wherein competitive intelligence mediates the connection between know-how sharing and group innovation functionality. Furthermore, it presents proof for the moderating function of collective intelligence, which has not been considerably explored in previous research. The observer also underscores the importance of context, because it highlights the need for companies to create environments that foster each man or woman's know-how sharing and collective decision-making approaches. Finally, the examination additionally contributes to the developing body of research on the function of intelligence in know-how management, specifically in its relationship with innovation. Future research can build on this with the aid of exploring other moderators and mediators, or with the aid of applying the model to distinct industries and organizational settings.

7.2 Implications for Practice

The practical implications of this study are important for managers and organizational leaders, specifically within the IT sector, who are trying to foster a culture of innovation via effective understanding of management practices. Based on the findings, numerous recommendations can be made to encourage innovation within groups:

7.3 Encourage Knowledge Sharing Across Teams

Organizations need to enforce formal and informal systems that encourage the exchange of know-how among group members. This can encompass normal brainstorming classes, the use of collaborative platforms (e.g., understanding management systems, intranets), and promoting an open communication way of life. Encouraging know-how exchange through these channels permits employees to study from each other, contributing to the generation of revolutionary thoughts.

7.4 Leverage Competitive Intelligence

Integrating aggressive intelligence into information-sharing tasks can help agencies make extra knowledgeable choices that fuel innovation. By schooling personnel on the significance of aggressive intelligence, presenting get right of entry to to equipment for gathering market insights, and fostering an environment in which intelligence is shared and discussed, agencies can ensure that their groups have the resources to innovate successfully.

7.5 Enhance Collective Intelligence thru Collaboration

Fostering collective intelligence calls for corporations to create a subculture that values collaboration and the mixture of numerous views. Team-constructing activities, cross-useful groups, and collaborative technologies must be encouraged to assist enhance collective intelligence. Promoting a tradition of belief and mutual recognition will allow group contributors to freely share ideas and interact in hassle-fixing, thereby enhancing group innovation.

7.6 Provide Leadership Support

Leaders play a crucial role in growing a supportive environment for understanding, sharing, competitive intelligence, and collective intelligence. Managers need to actively support know-how management projects and encourage personnel to contribute their know-how. They should additionally guide teams in a way to combine outside market and competitive insights into decision-making strategies. Furthermore, leaders must promote collaborative leadership patterns, where group members are encouraged to take initiative and lead progressive efforts.

7.7 Invest in Technology and Tools

Technology is a key enabler of know-how sharing, competitive intelligence, and collective intelligence. Investing in information management structures, social collaboration gear, and records analytics structures will help those efforts. Technologies that facilitate real-time communication, document sharing, and statistics visualization can significantly beautify the way teams collaborate and innovate.

8. CONCLUSION

This examination set out to discover the impact of information sharing on crew innovation functionality, with a focal point on the roles of competitive intelligence (CI) and collective intelligence (CoI) as mediators and moderators. Through a complete evaluation of IT personnel, the findings monitor critical insights that could inform each theoretical and realistic strategy for fostering innovation in companies. The results suggest that information sharing plays an important role in enhancing group innovation functionality. This relationship is not handiest direct, however is appreciably mediated by competitive intelligence, which facilitates groups to utilize outside market insights to inform their decision-making. Additionally, collective intelligence becomes determined to mild the impact of know-how sharing on innovation, amplifying the positive effects when groups collaborate effectively, proportion diverse perspectives, and leverage collective trouble-fixing capabilities.

The theoretical contribution of this examines lies in the advent of a model that integrates understanding sharing with aggressive and collective intelligence to explain group innovation abilities. By advancing this framework, the study contributes to the developing frame of research on know-how control, aggressive intelligence, and collective intelligence in innovation techniques. The findings additionally underscore the need to view innovation as a multifaceted technique that involves not handiest the person but also the collective intelligence of groups. From a realistic attitude, the have a look at gives actionable recommendations for agencies, especially within the IT sector, to improve their innovation talents. By fostering a lifestyle of information sharing, supporting aggressive intelligence practices, and encouraging collective intelligence via collaboration, corporations can create an environment that nurtures sustained innovation. These practices must be supported via powerful management, suitable technological equipment, and a sturdy organizational way of life that values collaboration, openness, and non-stop learning to know. Finally, this research opens numerous avenues for future research. Researchers are recommended to discover additional moderators and mediators, follow the version throughout one-of-a-kind industries, and do not forget the emotional and cognitive components of collective intelligence in group innovation. Longitudinal research can provide deeper insights into how understanding sharing and intelligence practices evolve to impact innovation effects. In the end, with the aid of integrating information sharing with aggressive and collective intelligence, groups can extensively enhance their crew's capacity to innovate, positioning themselves for achievement in an increasingly more aggressive and rapidly changing global landscape.

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