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INNOVATION IN SILOED ENVIRONMENTS: FOSTERING INTRAPRENEURSHIP AMONG MILLENNIALS IN THE IT INDUSTRY

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Abstract
The Information Technology industry, marked by its rapid evolution and diverse talent pool, has become a focal point for fostering innovation and intrapreneurial spirit. However, this pursuit is often hindered by the prevalence of siloed environments within organizations. This study investigates the intricate interplay between innovation, intrapreneurship, and silo mentality, with a specific focus on millennials, the dominant demographic in the IT workforce. Through a comprehensive analysis of organizational dynamics, communication channels, and collaborative practices, this research sheds light on the challenges and opportunities of driving innovation in siloed IT environments. By examining the role of innovation and intrapreneurship as a potential catalyst for breaking down silos, this study offers practical insights for organizations seeking to harness the full creative potential of their millennial workforce. Using descriptive mean analyses and correlational hypotheses tests, the results proved insightful in understanding current context within the IT industry of Sri Lanka. In terms of silo mentality, while collaboration efforts were appreciated, challenges existed, especially in knowledge sharing between departments. The study identified a strong enthusiasm for innovation, with employees valuing practical support from peers; however, a gap in consistent problem-solving methods was evident. In the realm of intrapreneurship, employees displayed proactive attitudes toward organizational improvement but faced obstacles in influencing crucial management decisions. Noteworthy findings of the study elucidated significant relationship between construct of silo mentality, innovation, and intrapreneurship. Addressing these nuanced challenges is essential for fostering a collaborative, innovative, and empowered workforce. These findings serve as a vital foundation for future explorations, delving into the underlying factors such as organizational culture, leadership styles, and communication practices, particularly within the unique context of the IT industry in Sri Lanka.
Keywords: Silo Mentality, Innovation, Intrapreneurship, Millennials

Introduction

In today's rapidly evolving business landscape, innovation has become a cornerstone of success for organizations across various industries. It is now beyond staying competitive; it's about survival (Tidd & Bessant, 2018). The Information Technology sector stands as a shining

example of the relentless pursuit of innovation. It's an industry where technological advancements occur at breakneck speed, and companies are in a constant race to develop the next ground-breaking solution (Chesbrough, 2003; Haque et al., 2014; Pambreni et al., 2019). However, amidst this fervour for innovation, one demographic group has taken centre stage in recent years: millennials.

Millennials, typically born between 1981 and 1996, represent a significant portion of the global workforce (Deloitte, 2019). Their presence within organizations is both a driving force and a unique challenge. Raised in the digital age, millennials bring with them a distinct set of skills, perspectives, and expectations (Alsop, 2008). They are known for their adaptability, tech-savviness, and a strong desire for meaningful work (Twenge, Campbell, Hoffman, & Lance, 2010). Yet, they also operate in a world characterized by shifting career priorities, constant connectivity, and evolving workplace dynamics.

Within the IT industry, where innovation isn't just a buzzword but a necessity for survival (Tidd & Bessant, 2018), understanding how to harness the potential of millennials is paramount. This generation has the capacity to propel ground-breaking advancements (Rigby & Zook, 2002; Tarofder et al., 2017; Udriyah et al., 2019), but it also faces its own set of challenges within the sector. One of the most significant obstacles millennials encounter is the prevalence of siloed environments in IT organizations (McGregor, 2007).

Siloed Environments: Barriers to Innovation

Siloed environments are characterized by the division of an organization into isolated departments or groups, each operating independently with little collaboration or knowledge sharing (Hickok, 2007). Within these silos, employees become excessively focused on their own tasks, goals, and priorities, often to the detriment of broader organizational objectives (Cohen & Bailey, 1997). Silos hinder communication, impede innovation, and can lead to inefficiencies and redundancies (Lawrence, 1997).

While the phenomenon of siloed environments isn't unique to the IT industry, its impact is particularly significant in this context. Information technology thrives on cross-functional collaboration, rapid knowledge sharing, and agile responses to market changes (Sundgren, 2003). In this regard, silos pose a substantial obstacle. They stifle creativity, slow down project delivery, and impair an organization's ability to adapt swiftly to evolving tech landscapes (Chesbrough, 2003).

The Millennial Perspective

Millennials entering the IT workforce are, in many ways, the harbingers of change. They are accustomed to agile, interconnected work styles and expect organizations to embrace similar principles (Pew Research Center, 2010). They thrive on collaboration, appreciate open communication, and seek purpose in their work (Twenge et al., 2010; Tham et al., 2017; Rachmawati et al., 2019). However, they also find themselves navigating hierarchical structures and entrenched silos, often leading to frustration and disillusionment (Alsop, 2008).

The clash between the millennial mindset and siloed organizational structures within the IT industry raises a critical question: how can organizations foster a culture of innovation and intrapreneurship among millennials while dismantling the barriers created by silo?

Intrapreneurship: A Path to Innovation

Intrapreneurship, a concept borrowed from entrepreneurship, refers to the practice of employees within an organization proactively identifying opportunities for innovation and taking ownership of projects to drive change (Burgelman, 1984). It embodies the entrepreneurial spirit within a corporate setting (Pinchot, 1985). In the context of the IT industry, intrapreneurship offers a promising avenue for breaking down silos and unleashing the creative potential of millennials (Kuratko, Hornsby, & Covin, 2014).

By encouraging millennials to become intrapreneurs—innovators and change-makers within their organizations—IT companies can transform the challenges of siloed environments into opportunities for growth. Intrapreneurs are more likely to bridge gaps, seek out cross-functional collaborations, and challenge traditional norms, all of which are essential for fostering innovation (Guth & Ginsberg, 1990).

This article is structured to provide a comprehensive understanding of the interplay between innovation, intrapreneurship, and siloed environments. It will delve into the challenges millennials face, the potential of intrapreneurship as a solution, and the strategies organizations can adopt to nurture a culture of innovation.

In subsequent sections, we will review relevant literature, present empirical findings from our research, and discuss the implications of our findings for both academia and industry practitioners. Additionally, concluding by offering actionable recommendations for IT organizations seeking to embrace intrapreneurship and thrive in an era of rapid technological change.

Innovation in the IT industry is no longer optional—it is imperative (Tidd & Bessant, 2018). This article aims to provide valuable insights that can help organizations harness the creative potential of millennials, break down silos, and drive innovation forward in this dynamic sector (Rigby & Zook, 2002; De Silva et al., 2017; Maghfuriyah et al., 2019).

Literature Review

Silo mentality is a pervasive issue in organizations that hinders collaboration, communication, and overall efficiency. It refers to the phenomenon where different departments or teams within an organization operate in isolation, focusing solely on their own goals and objectives, often to the detriment of the larger organization. This literature review explores the concept of silo mentality, its causes, consequences, and potential strategies for overcoming it.

One of the primary causes of silo mentality is organizational structure. Traditional hierarchical structures can inadvertently promote the formation of silos. When departments or teams are organized vertically, with limited interaction between them, it becomes easier for each unit to develop its own set of priorities and objectives. This separation can lead to a lack of understanding and cooperation between different parts of the organization (Kerzner, 2003; Nguyen et al., 2019; Kuruwitaarachchi et al., 2019). Furthermore, organizational culture plays a significant role in fostering or mitigating silo mentality. A culture that values competition between departments rather than collaboration can encourage silo thinking. Employees may be more inclined to protect their own interests and information rather than sharing it for the greater good of the organization (Denison, 1990; Dewi et al., 2019; Katukurunda et al., 2019).

Many organizations continue to uphold such hierarchical structures and a culture that compartmentalize functions and interactions mechanically (Lepore, 2022), fostering fragmented thinking that hampers organizational advancement. In today's fiercely competitive business environment, the prevalence of silos significantly impacts both employees and overall organizational performance. The peril of silo mentality lies in its inadvertent development, remaining unnoticed until its detrimental consequences emerge (Laoyan, 2022). Therefore, organizations must proactively raise awareness and implement preventive measures against silo formation. For long-term organizational sustainability, promoting organizational learning and encouraging knowledge exchange among members are crucial. This process enables members to identify and rectify errors, leading to sustained high-performance outcomes. Organizational learning becomes even more vital in complex, dynamic, and turbulent environments, where it is fundamental to success (Waal, Weaver, Day, & Heijden, 2019).

Moreover, recent literature affirms that silo mentality can significantly decrease productivity and innovation within hierarchical structures (Billings-Harris, 2019). Despite advancements in management theories, silo mentality endures, driven by factors like specialized functions and inter-departmental rivalries, hindering cross-functional cooperation (Li & Liu, 2019; Zhang & Li, 2020). Contemporary studies underscore its detrimental impact on organizational effectiveness, creativity, and employee satisfaction (García-Santos & Marimon, 2021; Barik & Rae, 2019).

The consequences of silo mentality are multifaceted and can have far-reaching effects on organizational performance. One of the most immediate impacts is reduced communication. When departments operate in isolation, information flow becomes restricted, leading to miscommunication, duplication of efforts, and inefficiencies (Patterson, Grenny, McMillan, & Switzler, 2012).

Silo mentality can also stifle innovation and creativity within an organization. When employees are isolated in their respective silos, opportunities for cross-functional collaboration and the exchange of diverse ideas are limited. This can result in missed opportunities for innovative solutions to complex problems (Thompson, 2003). Employee morale and engagement can suffer as a consequence of silo mentality. When employees perceive that their work is disconnected from the broader organizational mission and that their contributions go unnoticed, they may become disengaged and less motivated to perform at their best (Harter, Schmidt, & Hayes, 2002).

Overcoming the silo mentality requires a concerted effort from organizational leaders. One effective strategy is to create a culture of collaboration. Leaders should emphasize the importance of working together toward common goals rather than promoting competition between departments. Encouraging open communication and recognizing and rewarding cross-functional teamwork can help shift the culture (McKinsey & Company, 2019). Another strategy is to redesign organizational structures to facilitate greater interaction and cooperation between departments. This may involve flattening hierarchies, creating cross-functional teams, or implementing matrix structures that encourage employees to work across departments (Galbraith, 2009).

Technology can also play a role in breaking down silos. Implementing collaboration tools and software that facilitate information sharing and communication across different parts of the organization can help bridge gaps and improve collaboration (Chua, Goh, & Lee, 2019).

Silo mentality is a common challenge faced by organizations, but it is not insurmountable. By understanding its causes and consequences and implementing strategies to promote collaboration and open communication, organizations can break down these barriers and foster a more cohesive and efficient work environment. Overcoming silo mentality is essential for achieving organizational success in today's complex and interconnected business landscape.

Above speculated literature highlights the link between the prevalence of silo mentality in the organization and organizational performance. In efforts to address this link, previous researchers have attempted to suggest strategies to continue business processes despite prevailing silos.

In the ever-evolving landscape of the Information Technology (IT) industry, innovation stands as a driving force propelling business towards success. Innovations in IT, spanning from advanced software development methodologies to cutting-edge artificial intelligence applications, are reshaping the way companies operate and engage with their customers (Smith, 2018). This transformation is not just a luxury but a necessity; businesses must innovate to stay competitive, adapt to changing consumer demands, and navigate the complexities of the digital age (Jones & Ramanathan, 2019).

One of the pivotal roles of innovation in the IT sector lies in enhancing operational efficiency and reducing costs. Companies leverage innovative technologies to streamline their processes, automate mundane tasks, and optimize resource utilization (Mao, Ding, & Zuo, 2021). Such efficiency gains translate into increased productivity and cost savings, crucial factors for any organization's bottom line (Verhoef et al., 2020).

Moreover, innovation in IT extends beyond internal processes. It enables the creation of novel products and services, opening up new revenue streams and markets for businesses. These innovations often lead to the development of disruptive technologies that challenge traditional business models and redefine industry standards (Hanelt et al., 2019).

Innovation in the IT sector is not only about financial gains; it's also about enhancing customer experiences. User-centric innovations, such as intuitive user interfaces and personalized services, are becoming the norm. These innovations enhance customer satisfaction and loyalty, essential metrics for any business's long-term success (Mao, Ding, & Zuo, 2021). Furthermore, innovative IT solutions support sustainability efforts by enabling energy-efficient technologies and promoting eco-friendly practices (Van Eck et al., 2018). In essence, innovation in the IT industry is not just a competitive advantage; it's a strategic imperative. Businesses that embrace innovation are better positioned to adapt to the fast-paced digital world, deliver exceptional customer experiences, and drive sustainable growth.

In the IT industry, characterized by rapid technological advancements, innovation has become central to organizational success. This sector has evolved from a focus on delivering faster and cost-effective products and services to one driven by innovation and customization (Singhal, 2019). Companies in the IT industry now prioritize the development and incubation of innovative techniques to gain a competitive edge. The influx of millennials into this industry

has further accelerated the need for innovative thinking, shifting business models to prioritize superior infrastructure, and unique and customizable solutions (Singhal, 2019).

However, siloed organizational structures can impede innovation by creating barriers to collaboration, knowledge sharing, and innovative thinking. Employees working within silos often lack awareness of innovation opportunities, as they are disconnected from the broader organizational context (Reynaldo, 2018). To overcome the negative effects of silos, managers must cultivate a culture of innovation that encourages employees to break free from silo mentalities and collaborate on innovative solutions.

Intrapreneurship, an emerging concept rooted in entrepreneurship, refers to individuals with entrepreneurial mindsets within established organizations (Pinchot, 1985). These individuals transcend the boundaries of their job descriptions and actively seek ways to generate business benefits, thereby enhancing their firms' competitive advantage (Guerrero & Peña-Legazkue, 2013).

In today's fast-paced and ever-changing business environment, intrapreneurship is gaining recognition as a crucial element for organizational success. The IT industry, in particular, demands entrepreneurial thinking within organizations to remain agile and responsive to trends and opportunities (Stefanovici, 2012). As market conditions continue to evolve, all employees must possess an intrapreneurial mindset to align products and services with organizational goals effectively.

Intrapreneurship, the practice of cultivating an entrepreneurial spirit within an established organization, has emerged as a vital strategy for fostering innovation, creativity, and competitiveness, especially within the dynamic realm of the IT industry. Intrapreneurs are employees who exhibit entrepreneurial traits, taking initiatives, and innovating within the organizational structure (Bosma et al., 2019). In the IT sector, intrapreneurship plays a pivotal role in driving technological advancements, ensuring market relevance, and enhancing organizational agility (Antoncic & Hisrich, 2019).

Intrapreneurs, driven by a sense of ownership and creative freedom, often conceive and implement novel ideas. This innovation culture results in the development of groundbreaking technologies and solutions, keeping companies ahead of the curve (Schneider & Spieth, 2018). Moreover, intrapreneurship encourages a culture of continuous learning and experimentation, fostering adaptability in the face of rapidly changing technological landscapes (Bacq et al., 2020).

Intrapreneurial initiatives within IT firms are not only limited to technological innovations but also encompass strategic business innovations. Intrapreneurs identify new market opportunities, devise disruptive business models, and drive strategic partnerships, leading to diversified revenue streams and enhanced market presence (Covin et al., 2019). Furthermore, intrapreneurship promotes a culture of collaboration, as intrapreneurs often work across departments, fostering cross-functional synergies and knowledge exchange (Kuratko et al., 2019).

In the context of the IT industry, where startups and agile innovation are prevalent, intrapreneurship acts as a strategic tool for established companies to emulate the flexibility and innovation-driven spirit of startups (Sarpong et al., 2019). By empowering employees to think and act entrepreneurially, IT organizations can respond swiftly to market demands, identify

emerging technologies, and capitalize on new opportunities, ensuring sustained growth and relevance in a competitive landscape (Zott & Amit, 2018). Fostering intrapreneurship within the IT industry is not just a trend but a necessity. Embracing intrapreneurial initiatives empowers organizations to stay innovative, agile, and competitive, ensuring their longevity and success in an ever-evolving technological ecosystem. Recent studies have focused on identifying and measuring intrapreneurship within organizations. Proactive work behavior, the strategic renewal of job roles, and venture creation have been identified as key indicators of an intrapreneurial culture (Gawke, Gorgievski, & Bakker, 2019).

Silo mentality, a phenomenon that hampers communication and collaboration between different organizational units, has been studied extensively (Smith, 2019). However, its specific impact on the collaborative and innovative endeavours within Sri Lanka's IT industry remains understudied.

Innovation and intrapreneurship are pivotal for IT companies to stay competitive. Sri Lanka's IT sector, with its skilled workforce (World Bank, 2021), is poised for innovation. However, the extent to which silo mentality obstructs innovative practices, especially those driven by intrapreneurial employees, lacks in-depth exploration. A comprehensive study exploring the nexus between silo mentality, innovation, and intrapreneurship in Sri Lanka's IT sector is imperative. Investigating how silos hinder intrapreneurial initiatives and innovative thinking can provide valuable insights for organizational strategies (Ranasinghe & Gunawardana, 2019).

Bridging this research gap is vital for Sri Lanka's IT industry's sustainable growth. By delving into how silo mentality impacts innovation and intrapreneurship, this research aims to offer practical solutions, fostering a collaborative and innovative IT landscape in Sri Lanka.

Methodology

This study adopted a deductive approach to test existing theories conceptualized within the study setting. This approach aligns with the research paradigm, which aims to draw inferences from established theoretical foundations (Azam et al., 2021). However, beyond validating existing theories, this research also employs an inductive approach to identify additional factors that may emerge due to the varying environmental and cultural circumstances of the study population, thereby enriching the findings.

To achieve this, a quantitative strategy was employed to examine the multi-dimensional nature of silo mentality. The primary data collected for this study was cross-sectional, providing a snapshot of the prevailing silo mentality at a specific point in time. Consequently, the researcher's inference was minimal, and the study setting remained non-contrived.

The study population consisted of millennials in Sri Lanka, specifically those employed in the IT industry, with the individual employee as the unit of analysis for this cross-sectional study. The sampling design employed in this study ensures the validity and usefulness of data collection for drawing inferential conclusions regarding the study population (Azam et al., 2023). A probability sample design was used to ensure the generalizability of findings and mitigate potential bias.

The objective of this study was to comprehend the prevalence and implications of silo mentality among millennials in the Sri Lankan IT industry. The workforce employed in the IT industry

of Sri Lanka was identified through the latest verified national census data, serving as the overall population of 150,000 individuals (SLASSCOM, 2023) Subsequently, a sample population is determined based on the percentage of millennials within the total Sri Lankan population, which can be inferred as 41.46% (Index Mundi, 2019). To determine the sample size, a simple random sampling method was applied, as there were no available frameworks depicting the structure within the IT industry. Following Uma Sekaran and Bougie's (2016) guidance, a sample size of 382 was determined to adequately represent the total population, with a confidence interval of 95% and a margin of error of 5%.

The key objective of this study is to explore the prevalence of study facets in the IT industry of Sri Lanka. Derived from a comprehensive analysis of modern and foundational literature, this study aims to enhance our comprehension of strategic management by exploring three interconnected aspects: silo mentality, innovation, and intrapreneurship. Crafting a strong research tool involved a deep examination of the pivotal elements within each of these constructs in development of the study questionnaire.

Within the realm of silo mentality, the research was motivated by the necessity to grasp the collaboration, synergy, and integration of shared knowledge within the organizational framework. Its objective was to reveal the degree to which various departments or units in the organization either collaborated efficiently or functioned in isolation (Rainer, 2019). The focus was on understanding how knowledge and insights were effectively disseminated throughout the organizational domain.

Innovation, a critical driver of organizational success, has been extensively studied through various measures and frameworks. Scholars have delved into innovation from multiple angles, exploring its impact on business growth, competitiveness, and sustainability. Researchers have utilized diverse metrics to gauge innovation within organizations, including product innovation, process innovation, technological innovation, and organizational innovation (Damanpour, 2014; Dodgson, Gann, & Salter, 2018). Product innovation involves the development of new products or services, enhancing existing ones or introducing novel features to meet market demands (Huizingh, 2011). Process innovation, on the other hand, concentrates on optimizing internal operations and workflows, often leading to increased efficiency and reduced costs (Li & Huang, 2020). Technological innovation emphasizes the integration and advancement of cutting-edge technologies within an organization, fostering technological leadership and market advantage (Bharadwaj, El Sawy, Pavlou, & Venkatraman, 2013). Organizational innovation encompasses changes in management practices, business models, or strategies, paving the way for transformative shifts within the company (Damanpour, 2014).

Intrapreneurship, the cultivation of entrepreneurial spirit within established organizations, has garnered significant research attention in recent years. Scholars have utilized various study measures to understand the phenomenon deeply. Intrapreneurship often involves employees exhibiting entrepreneurial behaviors, such as proactivity, risk-taking, and innovation, within the corporate environment (Antoncic & Hisrich, 2003). Researchers have measured intrapreneurship through organizational support for innovation, resources allocated to innovative projects, and the encouragement of idea generation among employees (Rauch, Wiklund, Lumpkin, & Frese, 2009). Additionally, cultural factors within organizations, such as tolerance for risk and encouragement of creativity, have been pivotal in fostering

intrapreneurial activities (Bosma, Hessels, Schutjens, Praag, & Verheul, 2012). Studying intrapreneurship comprehensively involves evaluating both the individual traits and organizational environment, providing valuable insights into how entrepreneurial initiatives manifest within established corporate settings.

After enrichment through insights gained from an expert review process, the questionnaire underwent a pilot study involving 30 respondents. Modifications to the questionnaire were made based on the validity insights obtained from the pilot study. For this study, all questions in the survey instrument are scaled on a 5-point Likert scale to ensure fairness (Alreck & Settle, 1995). With 5 indicating strong agreement with the statement, and 1 indicate strong disagreement. However, select questions were negatively coded to test and mitigate acquiescence bias among respondents, further enhancing data validity (Sauro, 2011).

The data gathered from the deployed questionnaire were analysed and interpreted using various statistical techniques commonly employed in social science research, including univariate, bivariate, and multivariate analyses. Initial data analysis was conducted through SPSS (Statistical Package for Social Sciences) version 24. Cronbach Alpha and Factor Analysis were performed to ensure consistency and validity. The construct of Silo mentality proved a Cronbach Alpha value of 0.805 with 8 items and as for the constructs of innovation and intrapreneurship presented a value of 0.776 and 0.775, respectively, with 4 items each. These analyses aided in understanding the validating the observation from the study.

Findings

This section presents the results of the study, organized in alignment with the research objectives outlined. The study aimed to investigate the influence of an innovative culture and intrapreneurial behaviours on silo mentality among millennials in the Sri Lankan IT industry. The quantitative data collected through survey was analysed using various statistical techniques, including univariate, bivariate, and multivariate analyses, as described in the methodology section.

The study sample, consisting of 382 participants, was meticulously analysed to comprehend the demographic landscape. In terms of gender distribution, a significant majority, constituting 72%, were male. Age-wise, the majority fell within the younger brackets, with 46% aged between 24 and 29 years and 33% between 30 and 35 years. An additional 21% were in the 36 to 40 years age group. These findings align with global IT industry standards, where approximately 20% of IT employees are female, indicating a demographic pattern in Sri Lanka's IT industry consistent with global norms. This underscores the youthfulness of the IT sector, a characteristic attributed to its rapid growth and the influx of new companies, making it an attractive sector for young professionals and IT graduates.

Education-wise, 9% of participants held Certificate, Diploma, or Other Professional qualifications, while a significant majority (61%) possessed a First Degree. Additionally, 30% had Post Graduate qualifications, emphasizing the focus on education within the millennial workforce. This indicates a highly qualified millennial population in Sri Lanka's IT industry, with a majority possessing at least a first degree.

Examining job positions, the sample represented a diverse spectrum. Only 2% occupied high-ranking roles like Director/Vice President, whereas 17% were Senior Managers, and 29% held

positions as Manager/Assistant Managers. Senior Executives constituted 16%, and the largest segment, comprising 36%, were Executives. Concerning work experience, half of the participants (50%) had between 1 and 5 years of experience, while 23% had 6 to 10 years, and 25% fell into the 11 to 15 years category. Only a small fraction (2%) boasted more than 15 years of professional experience. These findings portray a dynamic and diverse workforce within Sri Lanka's IT industry, emphasizing the industry's youthful vigor and its attractiveness to skilled, educated millennials.

Descriptive statistics plays a pivotal role in further substantiating the sample findings by providing insights into the fundamental characteristics of the dataset. It encompasses two primary categories: measures of central tendency and measures of dispersion. Measures of central tendency delve into the mean values within the sample, as observed in this study, with the aim of comprehending the extent of each variable and how respondents have addressed each question. In contrast, measures of dispersion, notably the standard deviation, shed light on the range of responses to the questions. Collectively, these methods offer essential information to assess the constructs' validity.

The constructs, detailed in above section, were evaluated employing a Likert scale, ranging from 1 to 5, measuring the study populations attitudes and opinions. Participants rated from 1, strongly disagree, to 5, strongly agree. This allowed nuanced responses thereby capturing a wide range of opinions, enhancing data depth. Upon analysing the items within the silo mentality construct as outlined in Table 1, it becomes evident that employees within the organizations have varying perceptions regarding knowledge sharing and collaboration across functional boundaries. The mean value of 3.78 suggests a moderately positive response on average. Specifically, employees generally agree that knowledge sharing across functional boundaries (SM2) and transparency of information (SM5) are encouraged, although not exceptionally so, as indicated by their means of 3.93 and 3.81 respectively.

However, there are contrasting views on certain aspects. For instance, while there is an effort to encourage collaboration (SM3 and SM4) and form cross-functional teams (SM6), these efforts are perceived with slightly lower mean values (around 3.7). The most notable concern arises from items SM7 and SM8, indicating that the organization's structure hinders interaction and knowledge sharing (mean of 3.83) and knowledge resources are often not shared between departments (mean of 3.72).

Overall, the data suggests that there is room for improvement in fostering a more collaborative and open organizational culture. While some initiatives, like encouraging knowledge sharing and transparent information, have been moderately successful, there are challenges in breaking down silos, hindering the organization's ability to fully promote collaboration and knowledge exchange.

Indicator	Item	Mean	Std. Deviation
In my organization, knowledge sharing across functional boundaries are encouraged	SM2	3.93	0.74
My organization’s structure hinders interaction and knowledge sharing*	SM7	3.83	0.77

There is transparency of information across functional boundaries in my organization	SM5	3.81	0.64
My organization encourages collaboration between departments	SM3	3.78	0.69
Projects are often initiated through joint interaction between departments	SM4	3.76	0.64
Project teams are often formed with employee representation from other departments	SM6	3.73	0.61
Knowledge resources are often not shared between departments*	SM8	3.72	0.79
My organization structure promotes collective rather than individualistic behaviour	SM1	3.68	0.73
Overall Value		**3.78**	**0.7**
Notes: *SM7 & SM8 were negatively coded to prevent acquiescent bias and therefore were re-coded and reversed in SPSS before proceeding with statistical computations presented in in this table.			

Table 1 Items for Silo Mentality

In assessing the perception on innovation, below Table 2 presents the means and standard deviations for the construct items. The overall mean value of 3.82 suggests a generally positive attitude toward innovation within the organization. Specifically, employees feel that their co-workers provide practical support in the application of new ideas (INN3) and are consistently looking for innovative solutions to work challenges (INN1), as indicated by their means of 3.97 and 3.93 respectively. Additionally, there is a perception of an open culture for change in the organization (INN2), although slightly less enthusiastic with a mean of 3.91. However, there seems to be a concern reflected in item INN4, where the organization's encouragement to approach work-related challenges in a routine manner receives a lower mean value of 3.45. This implies that there might be resistance or lack of encouragement for employees to explore diverse methods when addressing challenges. It can be observed that while there is a generally positive attitude toward innovation and a supportive environment for new ideas, there is a need to foster a culture that actively encourages diverse approaches to problem-solving, ensuring that employees are not constrained by routine methods when addressing work challenges.

Indicator	Item	Mean	Std. Deviation
My co-workers provide practical support in the application of new ideas	INN3	3.97	0.8
I am always looking for innovative ways to address challenges in my work	INN1	3.93	0.72
In my organization, we have an open culture for change	INN2	3.91	0.86
My organization encourages my co-workers and I to look at addressing work related challenges the same way every time*	INN4	3.45	0.94

Overall Value	**3.82**	**0.83**

Notes:
*INN4 was negatively coded to prevent acquiescent bias and therefore was re-coded and reversed in SPSS before proceeding with statistical computations presented in this table.

Table 2 Items for Innovation

The data also highlights an opportunity for organizations to further align their practices with fostering innovation. The relatively neutral response to the item related to consistency in addressing challenges suggests that organizations might benefit from promoting more flexible and adaptive approaches to problem-solving, which are often associated with innovation. The findings reveal important insights into the relationship between innovation and the potential for breaking through silo mentality in the IT industry of Sri Lanka. Employees demonstrate a willingness to embrace innovative problem-solving approaches, and they perceive their organizations as open to change. Additionally, the support from co-workers in implementing new ideas is seen as a positive factor that can foster innovation. Key takeaways will be further explored in the discussion.

In assessing the responses for the construct of intrapreneurship, below Table 3 displays findings from employees' responses regarding their roles in contributing to the organization's success and their influence on management decisions. The mean value of 3.46 indicates a moderate level of agreement across these statements. A mean of 3.8 for INT3 illustrates that employees actively seek ways to enhance the organization's success, suggesting a proactive mindset. However, there is room for improvement in terms of efficiency and effectiveness, as indicated by the lower mean of 3.41 for INT2. This implies that employees might feel hindered in fully optimizing their work processes. While the organization provides opportunities for skill development, as depicted by the mean value of 3.35 for INT1, there is a notable concern expressed in item INT4, with a mean of 3.28. This indicates that employees feel they have limited influence on management decisions that significantly impact them, suggesting a potential gap in communication or decision-making processes. Findings across the construct's items depict that employees are eager to contribute to the organization's success but face challenges in terms of their influence on decisions and the efficiency of their work processes. Addressing these concerns could empower employees further, fostering a more proactive and influential workforce.

Indicator	**Item**	**Mean**	**Std. Deviation**
I actively look for ways to make the organization more successful	INT3	3.8	0.74
I look for ways to improve efficiency and effectiveness of my work	INT2	3.41	0.87
Working in this organization empowers me to gain skills and abilities that will benefit my work quality	INT1	3.35	0.96
I have little influence in management decisions that affect me in important ways*	INT4	3.28	0.98
Overall Value		**3.46**	**0.89**

Notes:
*INT4 was negatively coded to prevent acquiescent bias and therefore was re-coded and reversed in SPSS before proceeding with statistical computations presented in this table.

Table 3 Items for Intrapreneurship

The findings from the constructs of silo mentality (SM), innovation (INN), and intrapreneurship (INT) offer valuable insights into the organizational dynamics. Regarding silo mentality, employees generally appreciate collaborative efforts, as evidenced by mean scores. However, challenges persist, notably in knowledge sharing between departments. In terms of Innovation, employees exhibit enthusiasm for new ideas, with a strong inclination towards practical support from co-workers. Yet, a gap exists in embracing consistent methods for addressing work challenges. Regarding Intrapreneurship, employees display proactive attitudes in seeking organizational improvement, yet face obstacles in influencing crucial management decisions. Addressing these nuances is vital for fostering a collaborative, innovative, and empowered workforce. These findings set the stage for exploration that delve into the underlying reasons behind these challenges, considering organizational culture, leadership styles, and communication practices, especially given the context of IT industry in Sri Lanka.
In today's rapidly evolving IT industry, fostering innovation is crucial for staying competitive and breaking down organizational silos. This knowledge grounded the formation of the study's first hypothesis:

H1: There is a significant association between the level of innovation and silo mentality.

This hypothesis is grounded in existing literature that illuminates the vital role of innovation in promoting collaboration and knowledge sharing, thereby mitigating silo mentality (García-Santos & Marimon, 2021; Barik & Rae, 2019). It is highlighted that organizations fostering innovation are more likely to break down silos, promoting open communication and cross-functional cooperation (Ribeiro, Giacoman, & Trantham, 2016).
To test this hypothesis, Pearson correlation analysis was performed to reveal any significant correlations between study variables of SM and INN and is presented in below Table 4. The standard estimate (0.044) represents the strength and direction of the relationship between the variables. In this context, it suggests a positive association although the effect size is relatively small. Nevertheless, hypothesis H1 is supported because the p-value is below the significance level of 0.05. This suggests that there is enough statistical evidence to conclude that there is a significant association between the level of innovation and silo mentality in the given context.

		Evidence Std. Estimate (P-value)	**Conclusion**
H1	There is a significant association between innovation and silo mentality	0.044 (0.027)	Supported

Table 4 Hypothesis 1

This finding is essential as it not only contributes to the theoretical understanding of organizational behaviour but also provides practical insights for IT industry leaders to promote innovation as a strategy for dismantling silos. In practical terms this implies that as innovation efforts increase, there might be a tendency for negative influence of silo mentality to decrease. This finding resonates with existing theoretical frameworks that discuss the complexities of innovation implementation. Many studies have highlighted the challenges of integrating innovative practices without inadvertently creating barriers among organizational units (Brown & Duguid, 2001; Hansen, 1999).

In assessing the subsequent hypothesis of this study, the aim was to explore the relationship between intrapreneurship and silo mentality:

H2: There is a significant association between the level of intrapreneurship and silo mentality.

This hypothesis is rooted in contemporary research indicating that intrapreneurial behaviour, characterized by proactive problem-solving and innovation within organizational boundaries, fosters a culture of collaboration and knowledge sharing, countering siloed structures (García-Santos & Marimon, 2021; Barik & Rae, 2019). The hypothesis posits that organizations encouraging intrapreneurship are more likely to diminish silo mentality, promoting open communication channels and interdepartmental cooperation (Ribeiro, Giacoman, & Trantham, 2016).

To test this hypothesis, Pearson correlation analysis was again used to reveal any significant correlations between study variables of SM and INT and the result is shown in below Table 5. The standard estimate of 0.052 suggests a moderate association between intrapreneurship and silo mentality. This means that changes in intrapreneurial activities are related to changes in silo mentality. The p value of 0.045 indicates that the findings are statistically significant and thus H2 is supported. This means that there is evidence to suggest that as intrapreneurial activities within an organization change, there are corresponding changes in the presence or strength of silo mentality.

		Evidence Std. Estimate (P-value)	**Conclusion**
H2	There is a significant association between intrapreneurship and silo mentality	0.052 (0.045)	Supported

Table 5 Hypothesis 2

In practical terms, this finding indicates that organizations encouraging intrapreneurial activities might observe changes in how departments or units collaborate and share information. However, the moderate effect size suggests that while there is a significant association, it might not lead to drastic changes in organizational behaviour. These findings resonate with established theories (Brown & Duguid, 2001; Hansen, 1999). Intrapreneurship, promoting cross-functional collaboration and adaptability, counters silo isolation. This finding underscores the empowering impact of intrapreneurship, breaking down barriers and fostering an innovative, collaborative culture.

The above findings shed light on the intricate relationship between innovation, intrapreneurship, and silo mentality within organizations. The evidence suggests that both innovation and intrapreneurship activities have a statistically significant impact on the presence of silo mentality. While innovative practices can create bridges among organizational units, fostering collaboration and knowledge exchange, intrapreneurial initiatives empower employees to break through departmental barriers.

Discussion

In discussing the findings on the perception of innovation within the study population, they offer valuable insights into the workplace culture, particularly concerning problem-solving and change management. The generally positive attitude toward innovation aligns with prior research emphasizing the importance of fostering innovative climates in organizations (Amabile, 1998). The inclination of employees to seek practical support from colleagues and their proactive approach to addressing work challenges resonate with the collaborative spirit often associated with the IT industry, where teamwork and collective problem-solving are highly valued (Battistella et al., 2019). This cooperative mindset, characteristic of many millennials in the workforce, aligns with the collaborative ethos promoted by organizations aiming to harness the potential of this generation (Bauer & Erdogan, 2012).

However, the study also reveals a potential area for improvement: the perception that the organization encourages employees to approach work challenges in a routine manner. This finding raises concerns about a lack of encouragement for diverse problem-solving approaches. Emphasizing routine methods might stifle creativity and hinder the exploration of innovative solutions (Damanpour, 1991). For Sri Lanka's IT industry, an arena where cutting-edge solutions are vital, this aspect becomes particularly crucial. Encouraging employees to explore diverse methods can foster a culture of continuous learning and creativity, enhancing the organization's adaptability and responsiveness to market demands (Agarwal et al., 2010). In the context of millennials, known for their inclination toward creativity and exploration (Lyons et al., 2014), it is imperative for organizations to nurture an environment that not only supports innovation but actively encourages novel approaches to problem-solving.

The significant hypothesized relationship between innovation and silo mentality, as proved by the study findings can be attested by a wealth of theoretical and empirical findings. Innovative cultures prioritize open communication and collaboration (Amabile et al., 2004). This openness facilitates the sharing of information across departments, breaking down siloed communication barriers (Carmeli et al., 2013). Innovation-oriented environments nurture a culture of continuous learning (Damanpour, 1991). When employees are encouraged to learn and share knowledge, they are more likely to break out of their departmental confines (Li, Liu, & Zhang, 2018). Innovative cultures foster adaptability, allowing organizations to respond effectively to changing market demands. Flexible organizational structures, a hallmark of innovative environments (Koberg, Detienne, & Heppard, 2003), enable the rapid dismantling of silos when necessary, promoting interdepartmental collaboration and shared problem-solving.

In discussing the perceptions of the study population on intrapreneurship, the findings shed light on employees' roles in contributing to the organization's success and their influence on management decisions. Notably, the proactive mindset of employees was evident, indicating

their active engagement in seeking ways to enhance the organization's success. However, the data suggests areas for improvement. Findings indicated that employees might feel constrained in optimizing their work processes fully, pointing to potential inefficiencies within the organizational structure. While the organization provides opportunities for skill development, there is a significant concern highlighted in that employees perceive limited influence on management decisions that significantly impact them, indicating potential gaps in communication or decision-making processes.

These findings align with previous research indicating the importance of empowering employees in decision-making processes (De Spiegelaere et al., 2014). In the context of Sri Lanka's IT industry, where fostering innovation and agility is crucial (Samaranayake, 2018), bridging these communication gaps is vital. For millennials, who often seek workplaces where their voices are heard and ideas are valued (Alsop, 2016), addressing these concerns is pivotal. Enhancing communication channels and involving employees in decision-making processes can empower the workforce, fostering a proactive and influential environment conducive to intrapreneurship.

The significant hypothesized relationship between intrapreneurship and silo mentality, as proved by the study findings is supported by empirical and theoretical foundations. Intrapreneurship encourages employees to venture beyond their traditional roles, promoting collaboration across departments (Parker, 2011). Research by Katz (2003) demonstrates that intrapreneurs often form diverse teams, bridging siloed functions, and fostering innovative collaboration. This approach enables the sharing of knowledge and resources across organizational units, thereby breaking through silos. Intrapreneurship empowers employees to take ownership of their projects, enhancing their engagement and commitment to the organization's goals. Empowered employees are more likely to transcend departmental boundaries and collaborate freely (Guth & Ginsberg, 1990). Studies by Rauch, Wiklund, Lumpkin, and Frese (2009) and Fayolle, Liñán, and Moriano (2014) validate that intrapreneurship enhances employee engagement, leading to increased interaction across organizational silos. Additionally, Studies by Veciana, Aponte, and Urbano (2005) and Antoncic and Hisrich (2003) support the notion that intrapreneurs challenge bureaucratic barriers, leading to enhanced cross-functional collaboration.

These findings are in line with studies highlighting the significance of open communication and collaborative work environments in the IT industry (Huang et al., 2019). Successful IT companies often prioritize a culture that nurtures continuous learning, open communication, and cross-functional collaboration (Smith & Mazin, 2019). In the context of Sri Lanka, where IT companies play a pivotal role in the economy, addressing these challenges is crucial for fostering innovation and competitiveness (Srikantha & Wickramasinghe, 2020). In the local context, Sri Lanka's IT industry is increasingly gaining prominence globally due to its skilled and educated workforce (World Bank, 2021). To maintain this momentum, it's crucial for Sri Lankan IT organizations to align their internal practices with international standards. Embracing agile methodologies, for instance, which emphasize collaboration, could harmonize the global IT industry's practices with Sri Lanka's local culture (Sutherland et al., 2017).

Conclusion

The primary objective of this study was to underscore its significance and contributions by drawing conclusions, elucidating the findings related to each research objective, and offering recommendations for key stakeholders, industry practitioners, and researchers interested in investigating silo mentality's impact on organizational behaviour. This research is designed to explore the hypothesized causal factors or antecedents of silo mentality within the context of millennials employed in Sri Lanka's IT industry, as well as to gain insights into how silo mentality influences performance measures.

In the rapidly evolving landscape of the IT industry, overcoming the entrenched barriers of silo mentality is essential for fostering collaboration, innovation, and sustainable growth. This study explored the transformative potential of innovative culture and intrapreneurship, particularly among millennials, in breaking down silos within IT organizations of Sri Lanka.

The findings of this research accentuate the vital role that innovative culture plays in dismantling siloed structures. By cultivating an environment that nurtures creativity, encourages open communication, and values diverse perspectives, organizations can disrupt traditional hierarchies. Innovative culture not only sparks new ideas but also fosters a sense of ownership and empowerment among employees, motivating them to collaborate across departments and envision solutions beyond their immediate roles. Additionally, the study emphasizes the significance of intrapreneurship in challenging silo mentality. Intrapreneurial initiatives empower individuals to take ownership of their projects, experiment with novel ideas, and collaborate seamlessly across organizational boundaries. By promoting intrapreneurship, organizations tap into the entrepreneurial spirit of their workforce, enabling them to navigate complexities, adapt to change, and drive holistic innovation.

This research identifies theoretical and practical gaps that inform the research problem. To thrive in today's constantly evolving and competitive business environment, managers must secure their strategic positioning. This entails extracting optimal performance from their workforce, especially the millennial segment, which constitutes a significant portion of the working population. The findings of this study offer valuable insights and recommendations to assist managers in optimizing employee performance.

The findings reflect a nuanced perspective on collaboration and knowledge sharing within the organization. While certain aspects, such as encouraging knowledge sharing and transparent information, have garnered moderate success, challenges persist, particularly in breaking down silos and fostering extensive collaboration. Sri Lanka, with its deep-rooted collectivist culture, places immense value on harmony and consensus (Hofstede, 2021). These cultural factors profoundly influence the dynamics of knowledge exchange and collaboration within organizations, often shaping hierarchical structures and communication patterns (Abeysekera, 2017). In the global IT industry, characterized by rapid technological advancements and a relentless pursuit of innovation, collaboration and the free flow of ideas are not just beneficial but are fundamental to survival (Huang et al., 2019).

The identified gaps point toward the need for targeted interventions. Implementing strategies to enhance interdepartmental communication, encouraging interdisciplinary teamwork, and fostering a culture of knowledge sharing can contribute significantly (Alshamaila et al., 2020). Emphasizing agile methodologies, which inherently promote collaboration and adaptability, could serve as a model (Sutherland et al., 2017). Addressing the challenges highlighted by the

study becomes pivotal not only for individual organizations but also for Sri Lanka's standing in the global IT arena. By fostering a culture that amalgamates global best practices, local cultural values, and the specific needs of the millennial workforce, Sri Lanka's IT industry can create a robust ecosystem that nurtures innovation, fosters collaboration, and ensures sustainable growth in the ever-evolving global IT landscape.

While this study provides valuable insights, several avenues for future research are worth exploring; a longitudinal study could be undertaken to understand how the relationship between silo mentality, innovation, and intrapreneurship evolves over time to understand the long-term effects of breaking down silos. Future researchers can also conduct comparative studies across different industries or regions to identify contextual factors that influence the relationship between silo mentality and innovation. Findings from this study will also help propel the research effective strategies for organizations to combat silo mentality and promote innovation and intrapreneurship and help organizations harness the creative potential of their millennial workforce and remain competitive in today's dynamic business landscape.

In conclusion, the integration of innovative culture and intrapreneurship stands as a potent strategy for overcoming silo mentality in the IT industry. However, it is not a one-size-fits-all solution; rather, it demands a nuanced approach tailored to the specific organizational context. Successful implementation requires visionary leadership, a commitment to fostering a culture of innovation, and investment in employee development. By embracing these principles, IT organizations can transcend the constraints of silo mentality, paving the way for collaborative synergy, continuous innovation, and enduring success in the digital age.

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