

Evaluating the Present: The Impact of Project Management on Fostering Innovation and Facilitating Knowledge Transfer ^{1, 2}

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Short Abstract

Promoting innovation and knowledge transfer are two fundamental processes that drive the growth and development of organizations in the information age. Innovation, whether it's new products, services, or processes, is a key driver of competitiveness and long-term success. Knowledge transfer, on the other hand, involves the dissemination of skills, experiences, and information within an organization.

Project Managers (PMs), with their unique skills in terms of leadership, relationship management, and implementation strategies, are uniquely positioned to ease both innovation promotion and knowledge transfer. Through effective management of teams and projects, they can create an environment that encourages the sharing of ideas and the adoption of new practices.

However, promoting innovation and knowledge transfer are not without challenges. These can include resistance to change, communication barriers, and lack of adequate resources. Therefore, it is crucial for PMs to understand these challenges and develop effective strategies to overcome them.

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For this reason, the Department of Innovative Technologies (DTI) of University of Applied Sciences and Arts of Southern Switzerland (SUPSI), launched a study in September 2023, focusing on how the role of the PM can be a key player into these dynamics.

The expectations of this study are to provide a deeper understanding of the role of the PM in facilitating knowledge transfer and promoting innovation. We expect that the findings of this study may contribute to the existing literature on these topics and provide useful insights for practitioners in the field.

Keywords: knowledge sharing, innovation dynamics, human resources, business intelligence, transformation, machine learning, deep learning, AI

Paper type: Academic Research Paper

1. Introduction

In the current era, marked by a rapidly evolving global economic landscape and an increasing emphasis on innovation and digitalization, organizations face the challenge of continuously adapting to maintain and enhance their competitiveness. Against this backdrop, knowledge transfer and innovation promotion emerge as essential processes for organizational success. The paper "Evaluating the Present: The Impact of Project Management on Fostering Innovation and Facilitating Knowledge Transfer" delves into the pivotal role of PMs in these processes, exploring how their skills and methodologies can be employed to overcome barriers to change and encourage a culture of innovation within organizations.

An organization's ability to innovate developing new products, services, or processes not only boosts its competitiveness but also ensures its long-term survival in a constantly changing market. Similarly, knowledge transfer, which involves the dissemination of skills, experiences, and information within the organization, is critical for leveraging existing expertise and fostering the creation of new ideas. PMs, with their unique position within organizations, play a key role in both processes. Their skills in relationship management, leadership, and implementation strategies make them key agents in creating an environment that encourages the sharing of ideas and the adoption of new practices.

Recognizing the importance of these elements, the Department of Innovative Technologies (DTI) of the University of Applied Sciences and Arts of Southern Switzerland (SUPSI) began a study in September 2023 to thoroughly investigate how PMs can positively influence knowledge sharing and the adoption of innovative practices.

Through a targeted survey and interviews with corporate officials in Switzerland and Italy, the study aims to provide a detailed overview of the strategies, practices, and tools that PMs can use to overcome the challenges related to innovation and knowledge transfer.

Finally, the paper aims to highlight the essential role of PMs in navigating the complex landscape of innovation and knowledge transfer, while providing practical insights to enhance these dynamics within modern organizations.

2. Methodology

This chapter describes the methodology adopted and provides details on how the research was conducted, the tools used, and the expected results.

2.1 Design/methodology/approach

We developed our study through a survey, which targeted a selected group of companies located in Switzerland and Italy, which operate in multiple industries ranging from small, medium, large size with local and global distribution. Previous SUPSI Project Management graduates were also invited to participate in the survey.

We have chosen to focus our research in Ticino (southern Switzerland) and Lombardy Region (northern Italy) because these two regions constitute the catchment area of SUPSI DTI.

The survey was carried out through an online form of 15 questions. The answers were first analyzed through an overall overview and then analyzed in detail to focus on emerging themes. Some answers needed in-depth analysis as for significant differences that came up among distinct groups.

Moreover, we interviewed some executives from different and cross-category companies to explore and better match the survey results.

The survey design was inspired by Ken Wilber's integral theory approach. Specifically, we used the four quadrants model as an integrative tool to explore the different dimensions of the role of PMs in fostering innovation and facilitating knowledge transfer.

Ken Wilber model proposes that reality is composed of four interconnected dimensions, which are the interior and exterior of both the individual and the collective.

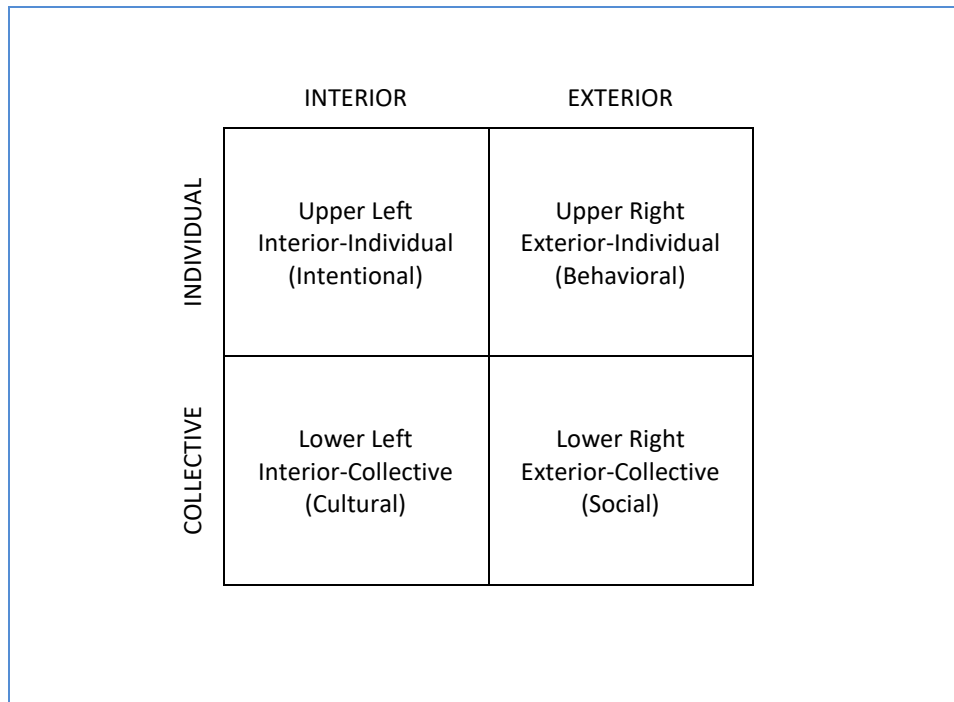


Figure 1 - Ken Wilber's four quadrants model

- **Interior-Individual:** The upper left quadrant refers to the interior and subjective aspect of the individual. This could relate to the mindset and attitude of PMs towards knowledge management, innovation, and continuous learning.
- **Exterior-Individual:** The upper right quadrant refers to the behaviors of individuals. This could relate to the practices adopted by PMs to manage their projects, which facilitate innovation and knowledge sharing.
- **Interior-Collective:** The lower left quadrant refers to shared values and culture within organizations. This could be related to the attitude of PMs to cultivate an environment of trust, fostering the culture of continuous learning and collaborative growth.
- **Exterior-Collective:** The lower right quadrant refers to the collective systems and structures within the organization. It includes the IT infrastructure supporting knowledge management, as well as the project management processes and frameworks implemented to promote innovation and knowledge sharing.

These quadrants provide a broad lens through which examine the role of PMs in fostering innovation and facilitating knowledge transfer.

More specifically, the research focuses on the following topics:

- **Identification:** Information about the context in which the participant operates, information about the company, its structure and how it integrates knowledge transfer policies into the company and the use of innovative tools such as AI, business intelligence.
- **Project Manager Behaviors:** The aim is to understand how PMs can encourage knowledge collection and sharing within their managed projects, and to identify actionable strategies PMs use to cultivate a culture of continuous learning and collaborative growth.
- **Tools and Technics:** Our objective is to explore how PMs can effectively oversee knowledge sharing within their organizations. We aim to identify innovative tools, including AI and Business Intelligence, that can be leveraged to optimize knowledge acquisition and sharing processes.
- **Processes:** This section delves into the crucial role played by PMs in generating value and instigating positive advancements in knowledge management within their organizations. It examines how PMs can actively contribute to shape up tools and processes aimed at cultivating the creation and dissemination of knowledge within project teams, ultimately fostering innovation throughout the organization.

2.2 Expectations and practical implications

The expectations of this study are to provide a deeper understanding of the role of the PM in facilitating knowledge transfer and promoting innovation. We expect that the findings of this study may contribute to the existing literature on these topics and provide useful insights for practitioners in the field.

The practical implications of this study could include:

- **Improving Project Management Strategies:** The findings could help PMs develop more effective strategies for facilitating knowledge transfer and promoting innovation within their teams.
- **Training and Development:** Organizations could use the insights gained from this study to train and develop their PMs, thereby enhancing their ability to manage innovative projects.
- **Organizational Policies:** The findings could influence organizational policies related to project management, knowledge transfer, and innovation promotion.
- **Use of standards:** Using shared and unambiguous standards will allow us not to have to create internal standards, but to rely on standardized policies shared with other entities. Furthermore, the adoption of standards can also allow benchmarking measures with other organizations that operate in the same market segment.

The Department of Innovative Technologies (DTI) of the University of Applied Sciences and Arts of Southern Switzerland (SUPSI), as a training and research institute, will therefore be able, on one hand, to define courses or study programs to fill these gaps; on the other hand, to continue to

disseminate useful information and content on the subject and to raise awareness in organizations of the importance of knowledge sharing in project management.

3. Results of the survey

This chapter will present and analyze the findings derived from the survey conducted.

3.1 Identification

This section examines the information about the context in which the participant operates, the company structure and how organization integrates knowledge transfer policies and the use of innovative tools such as AI, business intelligence.

3.1.1 Business industry in which the organizations operate

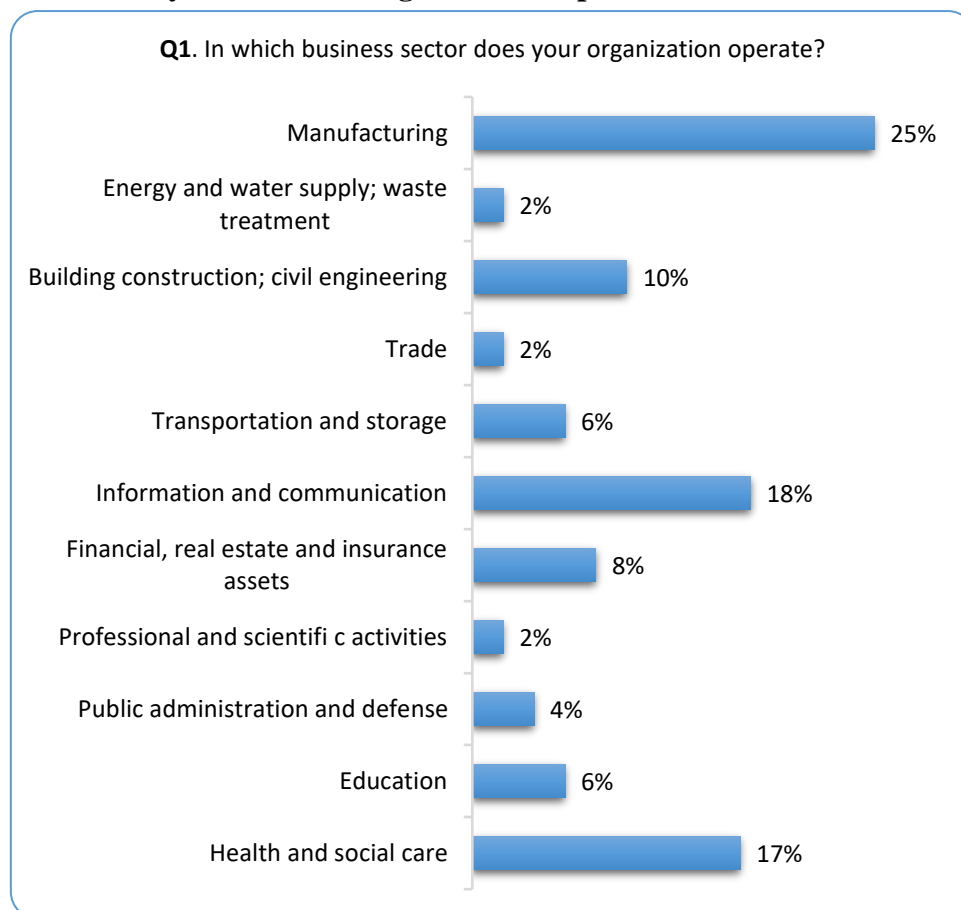


Figure 2

Three main sectors are mainly responding in the survey as for: manufacturing (25%), information and communication (18%) and health and social care (17%). This finding is aligned with the appropriate economic variables of the referring territory.

3.1.2 Size of the organizations

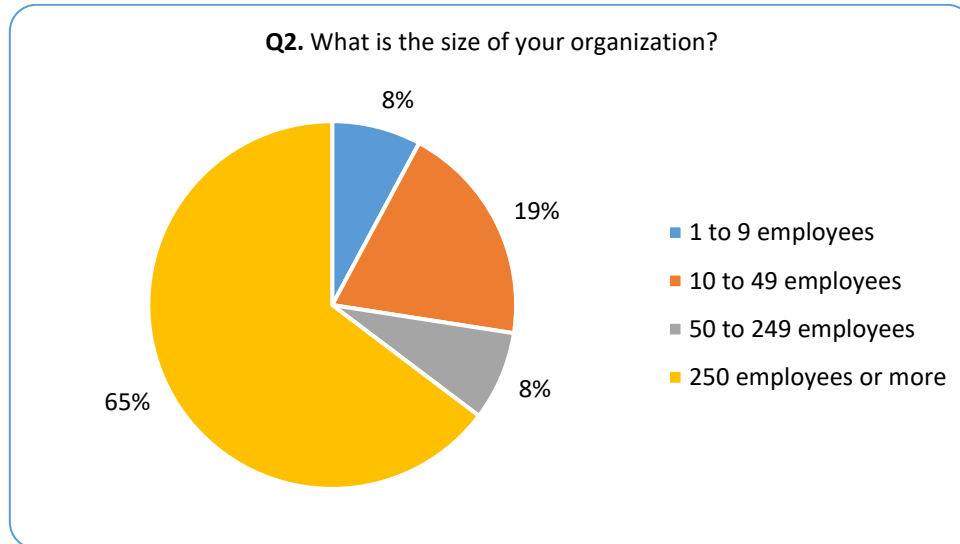


Figure 3

The majority of respondents work in large enterprise (65%) whereas only 19% in middle ones. This evidence means that PMs function is currently developed in large organization while middle and small ones has still to realize the central role of the function.

3.1.3 Scale in which organizations operate

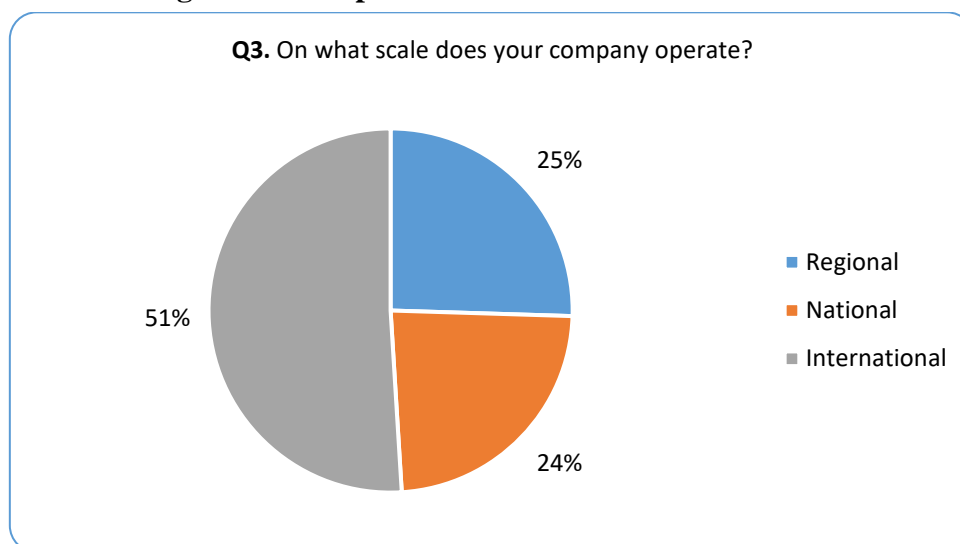


Figure 4

Most of the respondents work in companies that operate on an international scale (51%). We can see that the National scale and regional scale are similar with the 24% and 25% of respondents.

In spite of different distribution area, it seems that very local companies have same level of attention to PM's role as national ones.

3.1.4 What is your role within the organization?

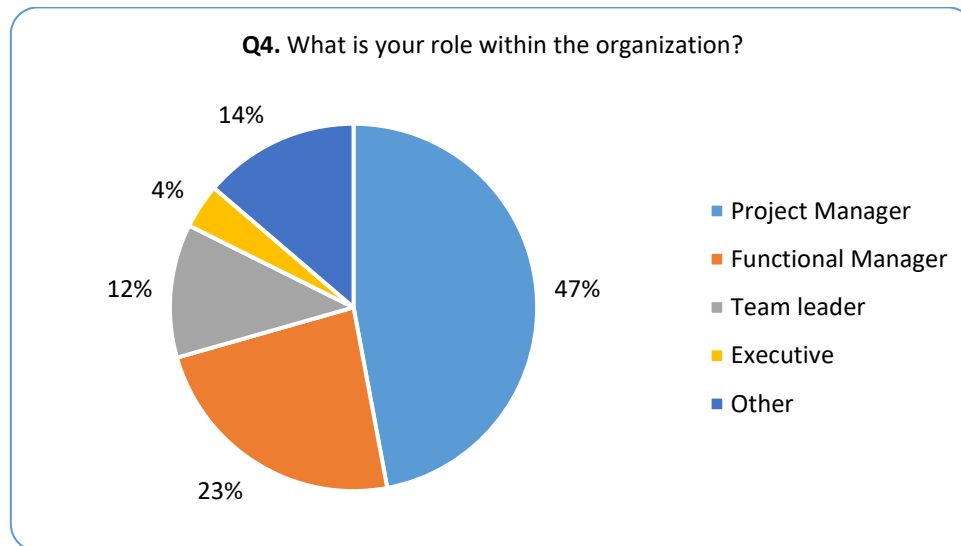


Figure 5

Most of the respondents are employed in the company as project managers. The 47% of the respondents belong to this category. We also see a good proportion of team leaders/functional managers 35%.

3.1.5 Knowledge management within organizations

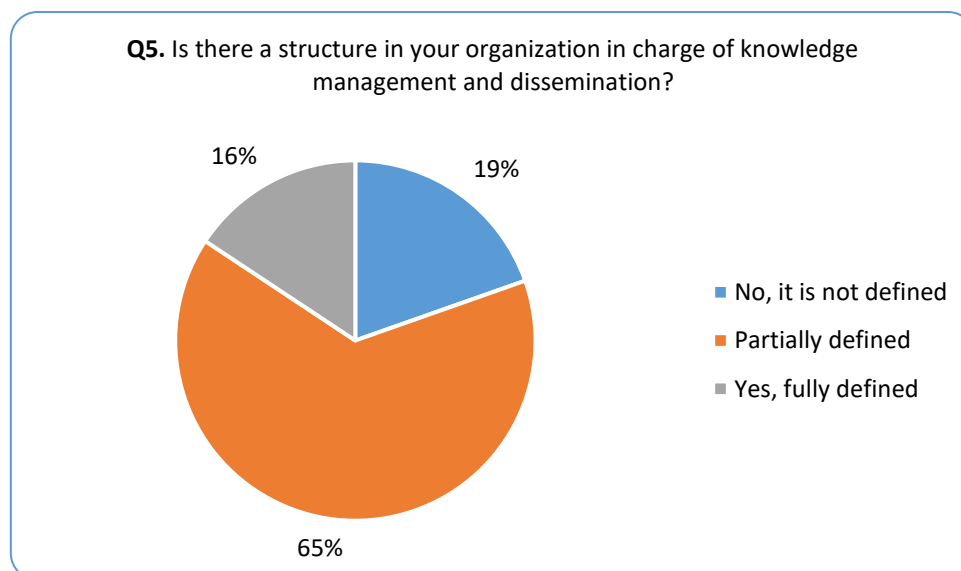


Figure 6

The majority of organizations have a partially defined knowledge management system (65%). As far as knowledge management is concerned only a small percentage (16%) has a knowledge system.

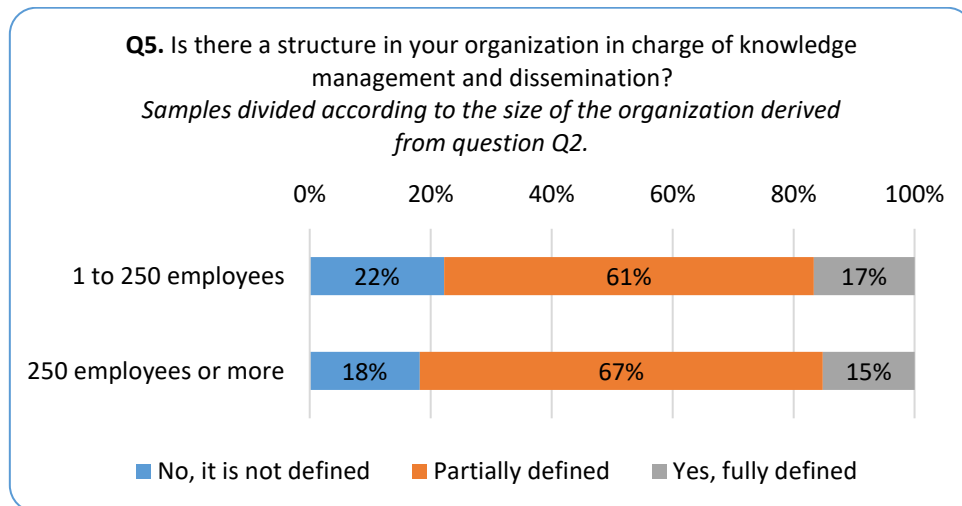


Figure 7

From the graph above, it can be seen the gap of knowledge systems developed between large and middle enterprise. Large organizations have a higher percentage on developing systems (67%) although middle ones have a lower rate (61%). It means that companies with more than 250 employees are fully aware of the importance to invest in coding knowledge to create value and continuous improvement.

3.1.6 Integration of Artificial Intelligence into business processes

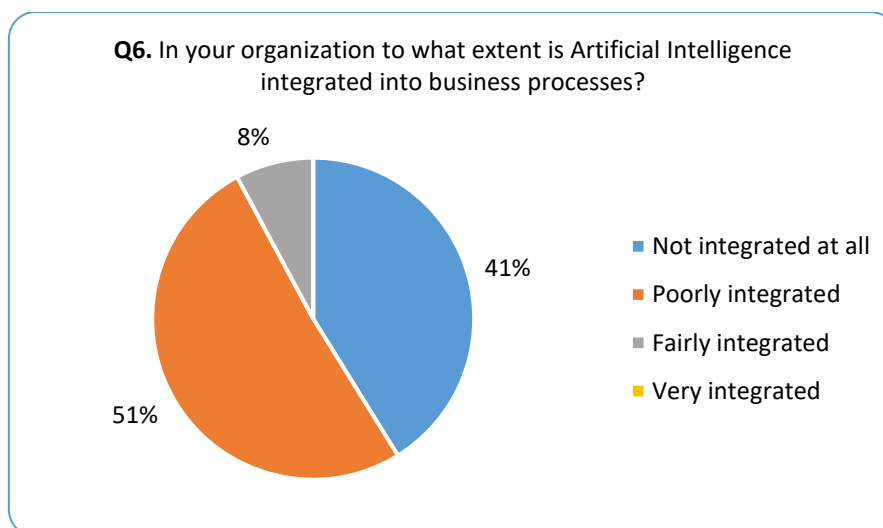


Figure 8

This picture unveils how employ of Artificial Intelligence is poorly integrated into business processes (51%); The 41% of participants stated their organizations do not integrate at all any kind of AI tools. This obviousness entails a huge gap on sensitivity and lack of skills and capabilities within the organizations system.

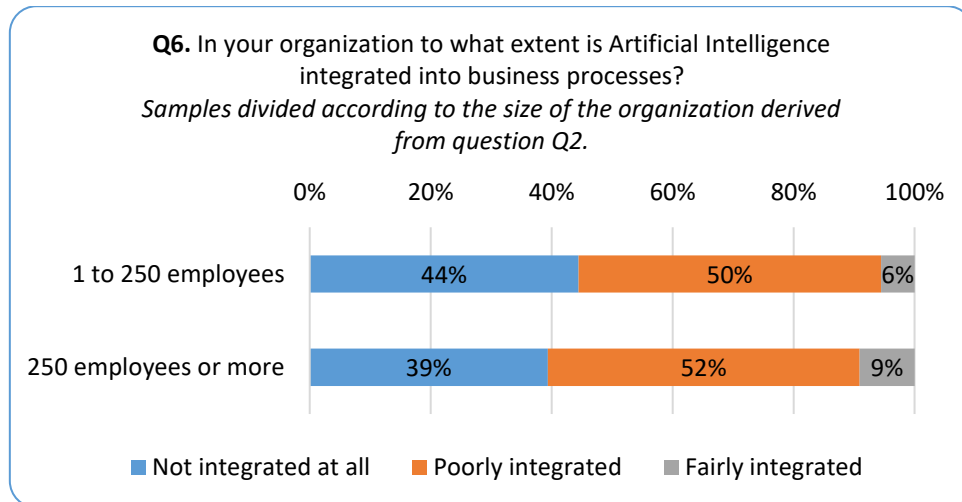


Figure 9

The graph above, shows as middle companies have to invest and fast running for a strong employ of AI instead of large companies that are more advantage as fairly and poorly integrated (61%). Once again large companies are more addicted to the importance of innovate through modern tools.

3.1.7 Integration of Business Intelligence into business processes

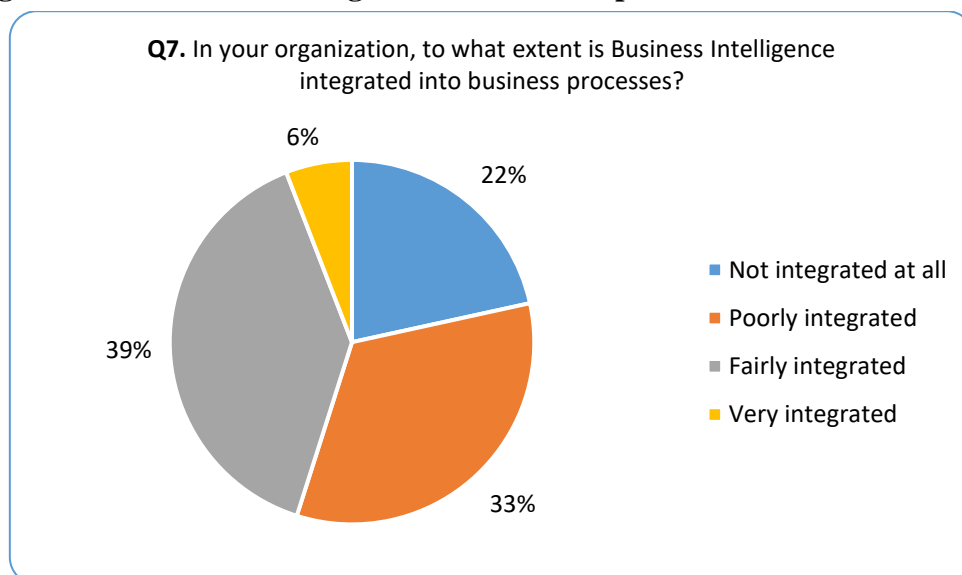


Figure 10

The employ of Business Intelligence is mainly fairly integrated into business processes (39%), this allows companies and their various stakeholders to exploit all the data available from the various systems in order to generate knowledge within the organization. We point out a small percentage of companies are full integrated (6%), while a relevant share has either not at all integration (22%) or light integration (33%) into processes.

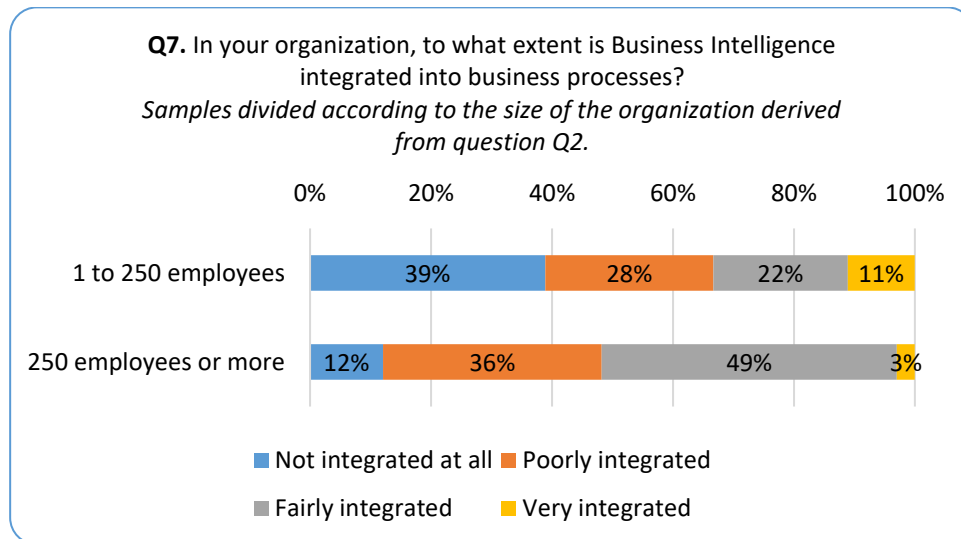


Figure 11

If we filter results showed in figure 10, we can state that middle enterprises do not at all integrate Business Intelligence (39%) compared to a lower rate referring to large organizations (12%).

On the other hand, very curious data is emerging from full integration rate where middle enterprises show a higher percentage (11%) versus a lower one on large enterprise (8%). We highlight there is a unusual gap between 2 different company’s sizes that unveils the strong current effort in fair integration from large sizes one while the middle ones are splitting in different level of state of the art. We remark the last ones are still finding they one way and only a small percentage find it.

3.2 Project Manager Behaviors

This section examines how PMs can encourage knowledge collection and sharing within their managed projects. We aim to identify actionable strategies PMs use to cultivate a culture of continuous learning and collaborative growth.

3.2.1 Activities that PMs undertake to foster knowledge collection and sharing



Figure 12

The activities used by PMs to encourage knowledge collection and sharing gave main evidence in promoting information sharing during meetings (75%) and adopting collaborative platforms (57%) to facilitate dissemination of their skills and value coming out from iteration within the team.

3.2.2 Strategies that PMs use to promote a culture of continuous learning.



Figure 13

The majority of the companies surveyed give most unanimous importance to all parts, demonstrating a great responsibility for creating environmental and continuous learning culture through training, feedback and informal exchange.

If we were to look at individual topics, environmental open to feedback is the one that is taken into consideration the most (57%) follow by promoting training session.

3.2.3 Practices that PMs use to contribute to knowledge creation, and to fostering innovation.

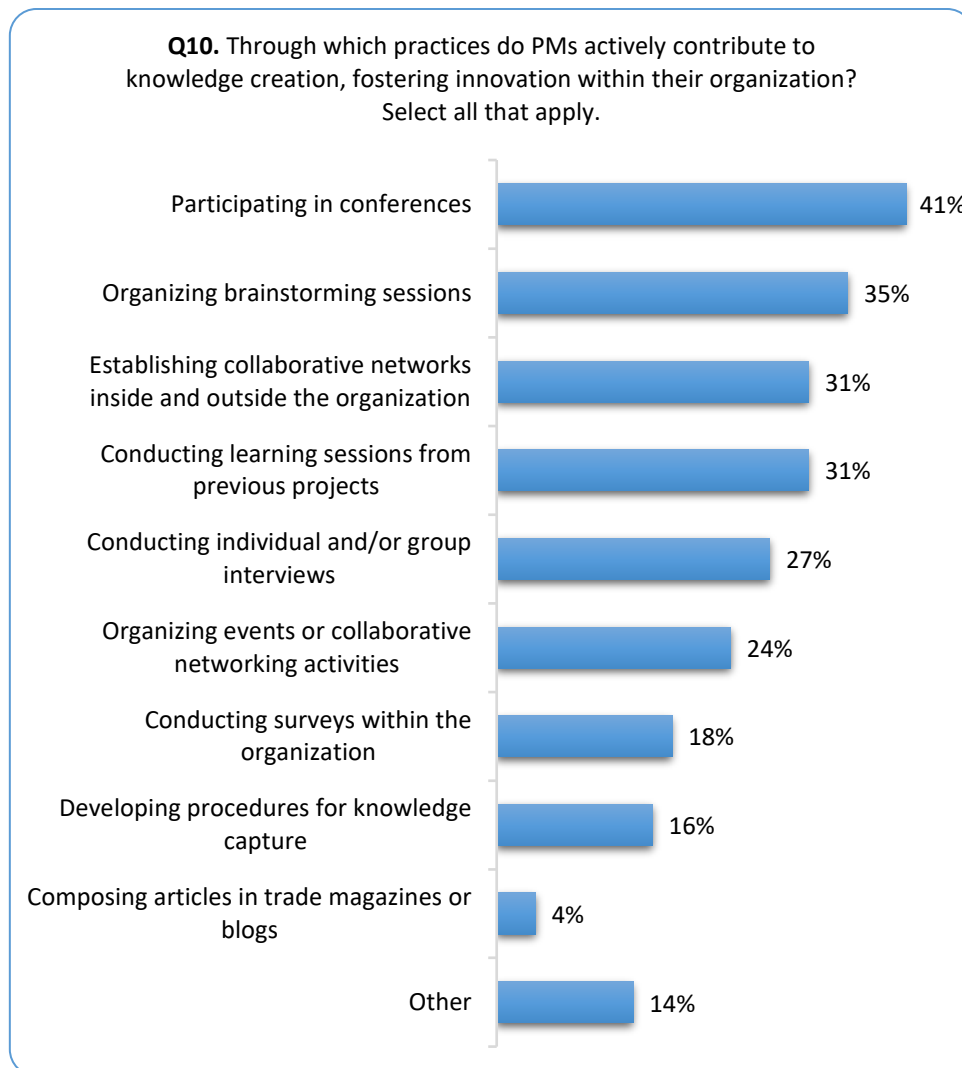


Figure 14

Within the survey area the 41% of the companies are visibly oriented towards participating in conferences as crucial factors in creating knowledge supporting at the same time a cohesive and motivated team. Nevertheless, following the relevance of feedback approach, the 35% of respondents underline the importance of set up a brainstorming as a simple way to both sharing competences and spread-out information. Moreover, 31% of the sample highlights the substantial activity of developing collaborative network as useful action to exchange ideas and stimulate to open mindset.

3.2.4 Strategies through which PMs promote creativity and innovation.

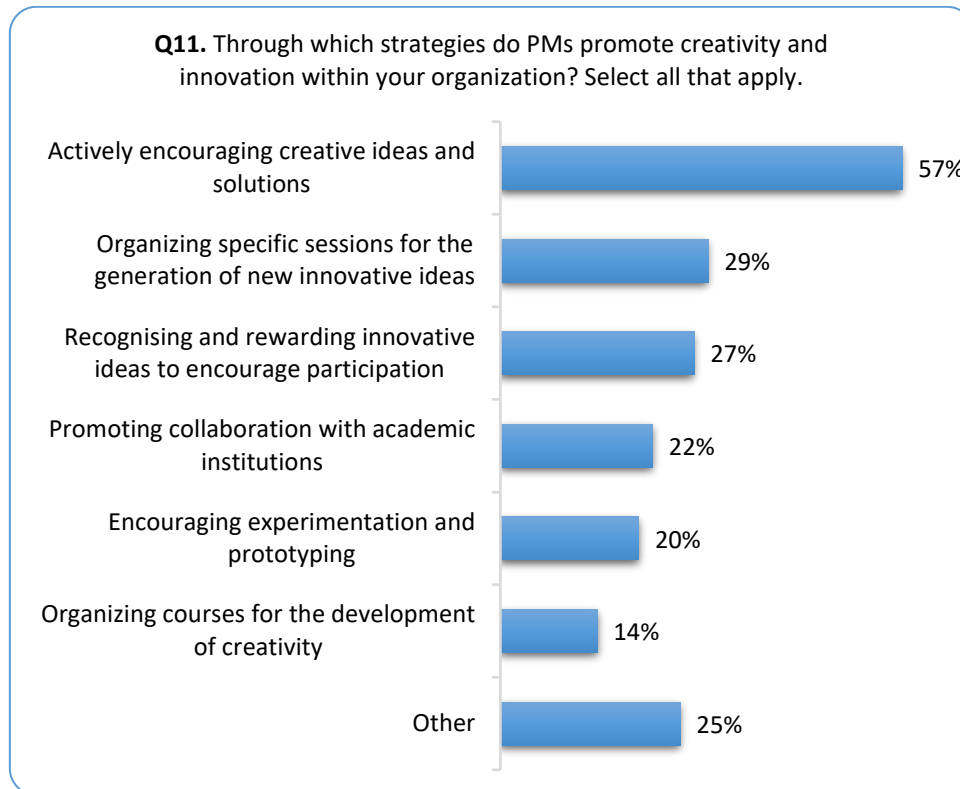


Figure 15

Picture above shows that in the most case, creativity is fostered by PMs (57%) and this could generate and takes place in specific sessions aimed at encourage innovative ideas (29%). On these occasions, employees are sharing everyone’s sight on new projects as to contaminate other’s thoughts. This is the best way to spread out value and build up systemic overview.

Companies surveyed seem not to hard fostering collaboration with academic institutions (22%) and we can perceive as they are too much involved in finding the right way by their own.

3.3 Tools and Technics

This section examines how PMs can effectively oversee knowledge sharing within their organizations. We aim to identify innovative tools, including AI and Business Intelligence, that can be leveraged to optimize knowledge acquisition and sharing processes.

3.3.1 Tools PMs use to manage knowledge sharing

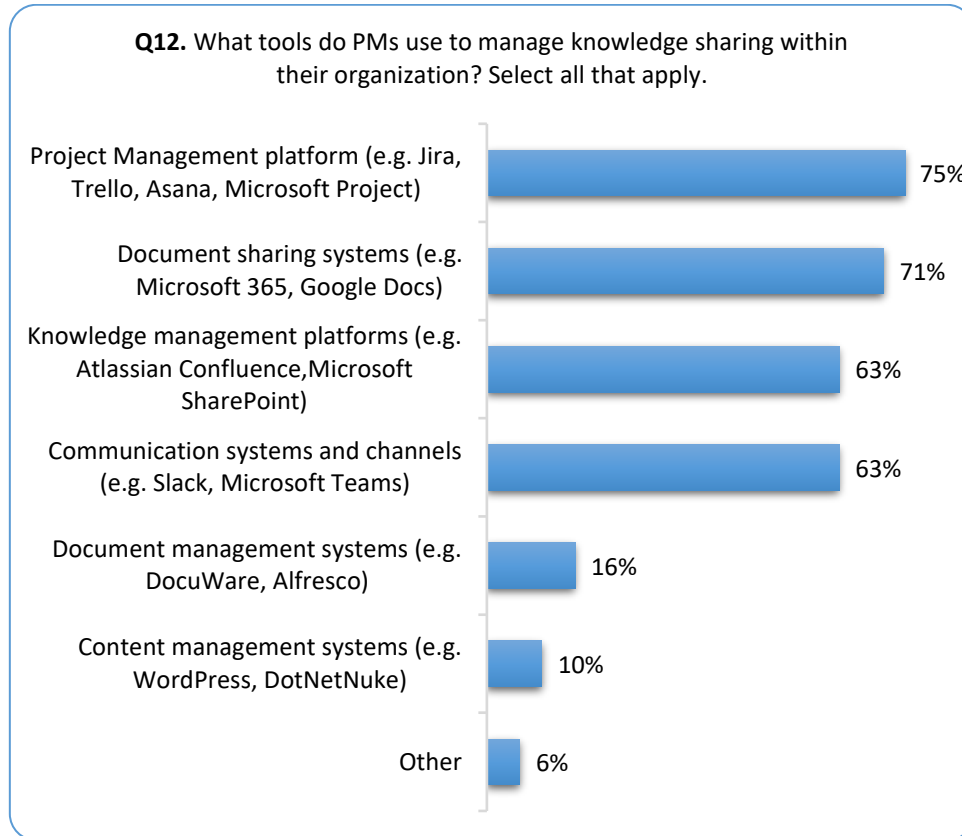


Figure 16

There are many tools that a company can adopt in cooperation with PMs in the development of activities, in order to manage knowledge sharing and gain solid engagement in the work team. As picture shows the majority of respondents (75%) states using standard tools such as Jira, Trello versus a 71% employing cloud office platforms (MS365, ...).

Specific knowledge management and communication platforms are adopted by a 63% of participants. This evidence unveils that a relevant number of companies are oriented to employ modern tools but the real issue is to acquire competences for better leverage sustaining a learning model system.

3.3.2 Integrated AI applications that PMs use for knowledge acquisition and sharing

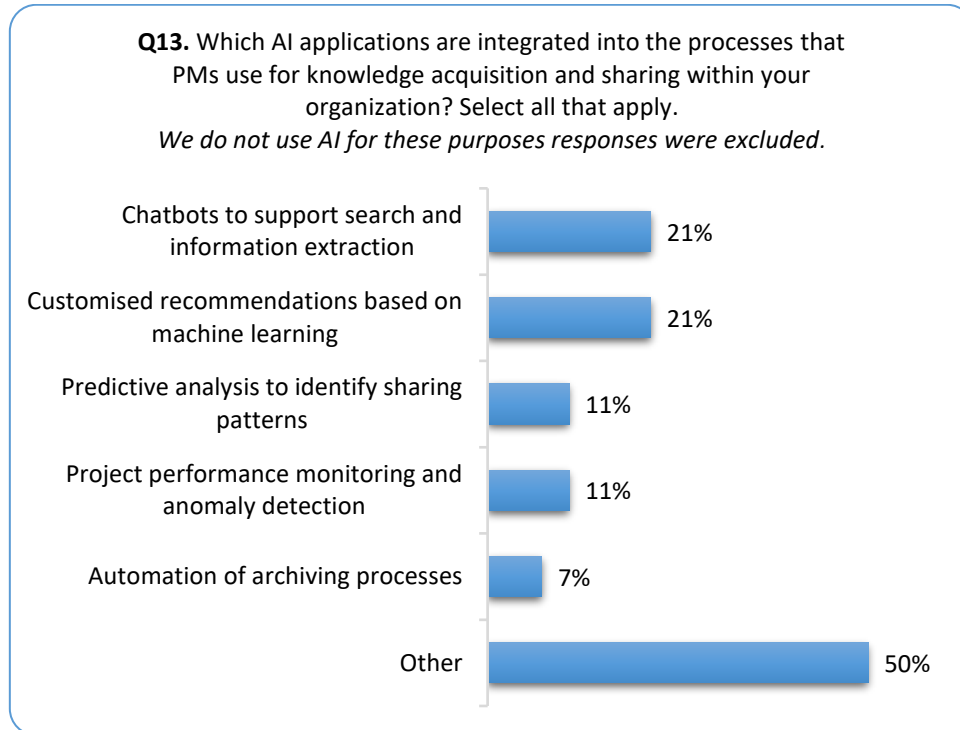


Figure 17

AI has become the best companies’ friend in order to take good decision and gather all data scattered all over the organization. Analyzing the sample surveyed we can remark that a low percentage is adopting predictive and performance applications by AI. The majority is employing chatbot and customized recommendations (42%) for sharing knowledge; this could be commented as PMs have a strong responsibility in gather and using date on current project outcomes but less commitment on monitoring future progress and ahead vision by AI.

3.3.3 How do PMs use Business Intelligence to improve knowledge sharing?



Figure 18

Equal percentage comes up from employing BI as for creation reports and querying data (51%) Both results reveal there is a consistent awareness in employing BI in managing data sharing in reports, on the other side we underline a low percentage addressed to identify trends and as well as set up metrics for measure the real sharing. This means once again that it seems there is low future vision in employing neither AI nor BI; we can recognize PMs role is facing a hard and current need to start embracing modern digital tools and methods arranging a solid foundation for a faster enhancement.

3.4 Processes

This section examines how PMs can actively contribute to the formulation of tools and processes aimed at cultivating the creation and dissemination of knowledge within project teams.

3.4.1 How do PMs contribute to the improvement of knowledge management tools and processes?

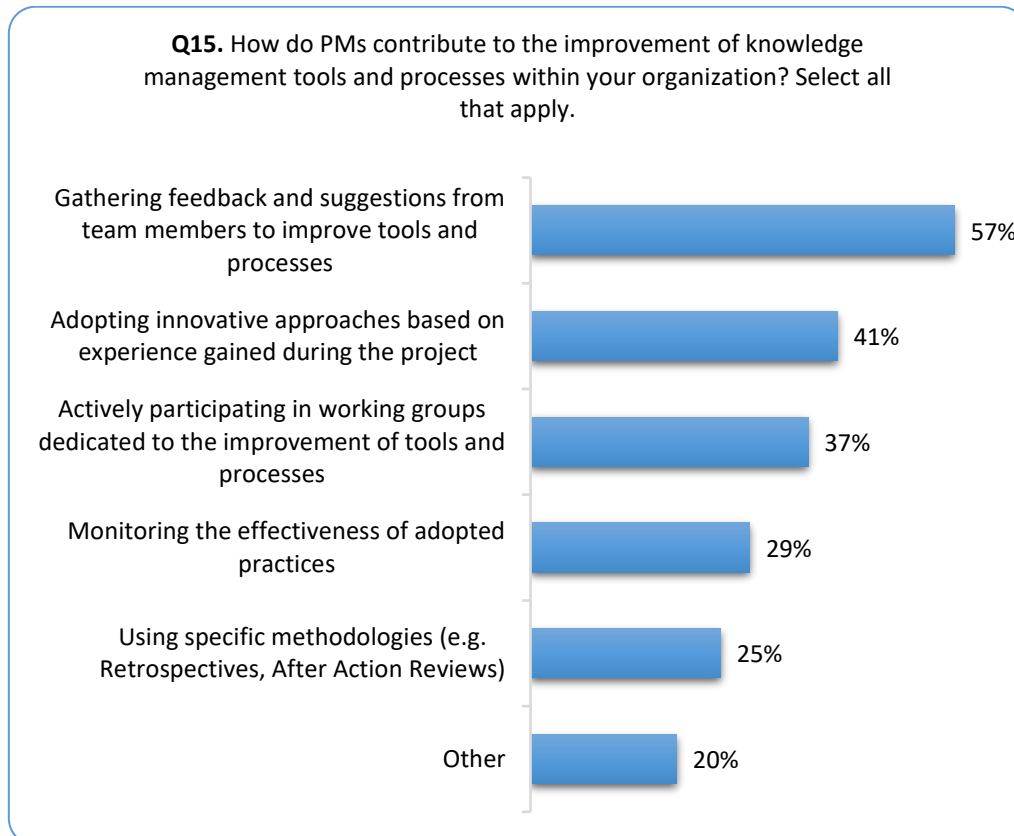


Figure 19

As pointed out in previous pictures, PMs role is supporting a wave of organization evolution system in which he is engaged in trying to reach the best way to collect data in the right procedure for better decision. The evidence coming out from survey states that 57% of respondents appreciate taking over feedback during team’s project activity. This is a relevant data confirming that during exploiting operation project, a real value on new generating competences and value added, is induced contributing for a solid knowledge.

To better confirmation you can see that 41% of participants gives evidence on learning lesson during exploiting project. This proves there is a high attention on value flows of project activities and on the commitment to a best collaborative way both for sharing and upskilling.

4 Interviews

To confirm the information collected from the survey, we asked some executives from the companies involved in the study to comment on the results.

4.1 Interview with Adriano Agustoni

We interviewed Adriano Agustoni, who now holds the position of "Human Resource Corporate Manager" at Sintetica SA, a company with around 400 employees, which operates worldwide in the Pharma sector.

“An effective and systematic transfer of knowledge fosters the alignment of people to objectives, streamlines the transfer of information, increases participation in the project, exponentially enhancing its results. The PM has a central function in this complex system of change, assuming a significant responsibility as a facilitator of the information flow and generation of value for the organization and people upskilling and reskilling.”

4.2 Interview with Denis Brusacoram

We interviewed Denis Brusacoram, who now holds the position of PM (Quartino plant) at ABB AG a leading company in the field of electrification and automation, with over 105,000 employees engaged internationally to accelerate industrial transformation.

“Despite the absence of a specific structure for knowledge management and dissemination, the integration of Artificial Intelligence and Business Intelligence into business processes is still limited. However, PMs promote a culture of continuous learning through the development of new products and proactive project and team management. Additionally, they foster innovation through idea exchange and rotation of assignments for each worker.

Company adopted Microsoft 365 as main tool for knowledge sharing.

Despite the current limited integration of AI and BI, PMs contribute to improving knowledge management tools and processes through visits and participation in trade fairs.”

4.3 Interview with Christian Burkhalter

We interviewed Christian Burkhalter, who now holds the position of "Global Head of Human Resources" at Casale Group, a company with more than 400 employees, which operates worldwide in the Chemical sector.

“The Casale Group positions itself as an evolving start-up which in its 100 years of history has always been capable of evolving. Evolution was and is today the way to be a company that thrives on innovation and that draws opportunities from every event that determines a radical change in the context.

To succeed and face new innovative challenges it is essential to have a corporate culture that allows this, Casale has defined its 5 mindsets of corporate culture to enable the behaviors and methodologies to be integrated into operational and strategic activities. (Think out of the box, don't fear failure, think as an outsider, be human centric, Be antifragile). It is not just a declaration of intent but in recent years Casale has invested in continuous training to allow all worldwide employees to understand these behaviors and understand the supporting methodologies.

The fruit of all this exercise translates into a greater open-mindedness in understanding how the application of continuous improvement models is fundamental to allow a company to face innovative challenges and exploit, for example, all the potential that today's different technologies such as AI can offer.

Thanks, for example, to AI, it is possible to eliminate routine activities by applying digital models and concentrating the real talent of the employees to allow new ideas for innovative improvement to flourish.

These actions are also possible thanks to the contribution of employees trained in the field of PM, today more than ever it is essential to acquire transversal skills in consideration of a T Shape model, where each function has its specificity (vertical line of the T) but which makes the its more integrated position in the company's operations thanks to transversal skills (horizontal line of the T). The practical example is the contribution of the HR function with PM skills to be able to manage large-scale projects, even worldwide.”

4.4 Interview with Monica Mannelli

We interviewed Monica Mannelli, who now holds the position of "Human Resources Director" at Lombardi Engineering, a company with over 900 employees, which operates worldwide in the engineering infrastructure sector.

“In the specific industry in which Lombardi Engineering operates, the sharing and transfer of know-how are fundamental pillars to ensure the continuity of the technical quality inherent to the Lombardi name.

The role of PM is crucial in this scenario: he represents the bridge between the external stakeholders and the Lombardi universe, thus becoming a leading sector in this two-way process of continuous exchange and learning. Investing in the development of the skills of our PM and in encouraging a profound awareness of their role is therefore essential to guarantee the stability and sustainable growth of the Lombardi Group but also of the civil engineering branch as a whole.”

4.5 Interview with Massimo Mistretta

We interviewed Massimo Mistretta, who now holds the position of "CEO" at Exentriq Ltd, a company with more than 50 employees, which operates worldwide in the Business Process Automation sector.

“In our experience, both small and large companies face challenges related to resistance to change. More structured and efficient organizations tend to experience greater friction compared to smaller, younger, or more modern companies. This observation aligns with the broader recognition that organizational agility often inversely correlates with size and legacy processes.

The rapid diffusion of generative artificial intelligence technologies is a testament to their ability to meet immediate and real needs of end users. These systems offer promising avenues for enhancing productivity, creativity, and decision-making processes. However, integrating such advanced AI tools into the collaborative workflows and specific operational processes of complex organizations is not straightforward. It necessitates a detailed and methodical approach, where the inclusion of the new capabilities offered by generative AI requires a thorough re-coding of individual processes in an end-to-end manner.

This integration challenge highlights the central role of PMs in navigating the complexities of adopting new technologies. PMs, acting as translators between business and technical departments, are uniquely positioned to lead this transformation by fostering a culture of continuous learning and adaptation. They can orchestrate the alignment of AI tools with organizational goals, ensuring that these technologies enhance rather than disrupt established workflows. Aligning strategic leadership with the technological and human factors involved, PMs can mitigate resistance and guide their organizations towards a more adaptable behavior and competitive future.”

4.6 Interview with Tomislav Sabljic

We interviewed Tomislav Sabljic, who now holds the position of PM at SBB CFF FFS the Swiss Federal Railways, a company operating in the public transportation sector, with a broad international scope. With over 35,000 employees and a turnover of 10.73 billion CHF in 2022, the organization stands out for its key role in rolling stock maintenance. Tomislav Sabljic is responsible for the industrialization of new products in this sector.

“Knowledge management and dissemination are supported by a robust IT infrastructure, featuring dedicated services such as computing platforms, Analytics for big data analysis, and Power BI for report creation. While artificial intelligence is not yet integrated into the specific sector of the PM, it is utilized in other business areas such as dynamic railway traffic control.

Knowledge sharing is facilitated by gathering points such as SharePoint and events like Shopfloor and Workshops, while a culture of continuous learning is promoted through corporate-based learning strategies. Innovation is encouraged, and innovative ideas are implemented through specific project management processes.

PMs promote creativity and innovation by encouraging staff to propose new ideas and fostering a psychologically safe work environment. Tools used to manage knowledge sharing include Intranet, Power BI, Shopfloor, Workshops, and other data-sharing platforms.

Although there are no specific AI applications in the rolling stock sector, the use of Business Intelligence contributes to improving knowledge sharing through customer data analysis and creating added value for customers. PMs play a crucial role in enhancing knowledge management tools and processes by identifying specific needs and developing customized solutions to promote a knowledge and innovation-oriented corporate culture.”

5 Conclusions

In this study, we examined the crucial role played by PMs in facilitating knowledge sharing and transfer within organizations. Effective and systematic knowledge transfer is critical for aligning individuals with objectives, simplifying information transfer, and improving project outcomes.

We have found that many organizations have only a partially defined structure for knowledge management and dissemination and may lack clearly defined policies or procedures to manage it effectively. However, PMs have demonstrated that they are able to fill this gap through a series of focused activities and strategies. PMs facilitate knowledge sharing and transfer through meetings, collaborative platforms and continuous learning strategies. They actively promote the exchange of ideas, organize training sessions, and encourage continuous improvement. Through a data-based approach and the implementation of appropriate tools, PMs foster collaboration and optimize knowledge transfer.

Several organizations have highlighted the importance of promoting a corporate culture focused on continuous learning and innovation. By providing a psychologically safe working environment, PMs play a crucial role in fostering creativity and innovation within organizations. The growing practice of integrating specific project management processes to implement innovative ideas emphasizes further the importance of project management in business innovation.

Furthermore, the findings underscore the importance of cultivating a knowledge-sharing culture within organizations, wherein PMs actively promote collaboration, facilitate communication channels, and encourage the exchange of ideas and best practices among team members. This not only enhances individual learning but also contributes to organizational innovation and performance improvement.

Moreover, it is evident that effective knowledge management relies heavily on robust IT infrastructure, including business intelligence (BI) and artificial intelligence (AI), to support these practices and processes. A solid IT infrastructure provides the necessary platforms, tools, and systems for storing, accessing, and disseminating knowledge across the organization. This includes collaborative platforms, document repositories, data analytics tools, and communication technologies that enable seamless sharing and transfer of knowledge.

Business Intelligence (BI) integration, while slightly better than Artificial Intelligence (AI), still lags behind in many organizations, indicating a need for improvement. Larger organizations seem to integrate BI more effectively into business processes compared to smaller ones, suggesting that ample financial and human resources, along with greater organizational maturity, facilitate this

integration. BI contributes to knowledge sharing by enhancing customer data analysis and value creation.

Artificial Intelligence (AI) integration in business processes remains limited, with most organizations reporting low or no integration, highlighting the need for better adoption. While not fully implemented in all sectors, there is a general recognition of AI's potential to optimize business processes and improve knowledge sharing.

Companies, especially those with more established structures, may encounter resistance to change when adopting new technologies. Interviews highlight the leadership role played by PMs in orchestrating organizational transformation towards a more innovative and change-oriented culture.

To be prepared for these new challenges, many organizations have invested in continuing learning. The focus is on acquiring cross-functional skills, particularly in project management, to effectively manage complex projects and contribute to business operations. Training emerges as a predominant activity to allow the acquisition of empowering skills at all company levels and in particular towards the figure of the PM.

In light of Wilber's theories, significant evidence emerges regarding the dynamics between the internal and external environment of organizations, highlighting the need to work on individuals to foster a shift in communicative paradigm. This approach aims to enable individuals to fully leverage innovative technologies and promote the innovation process.

Interestingly, on average, the companies that responded to the survey seem to primarily position themselves in the interior-individual and interior-collective quadrants in Wilber's matrix. This suggests that many organizations are focusing their efforts on internal transformation, concentrating on individual skill development and fostering an organizational culture oriented towards innovation.

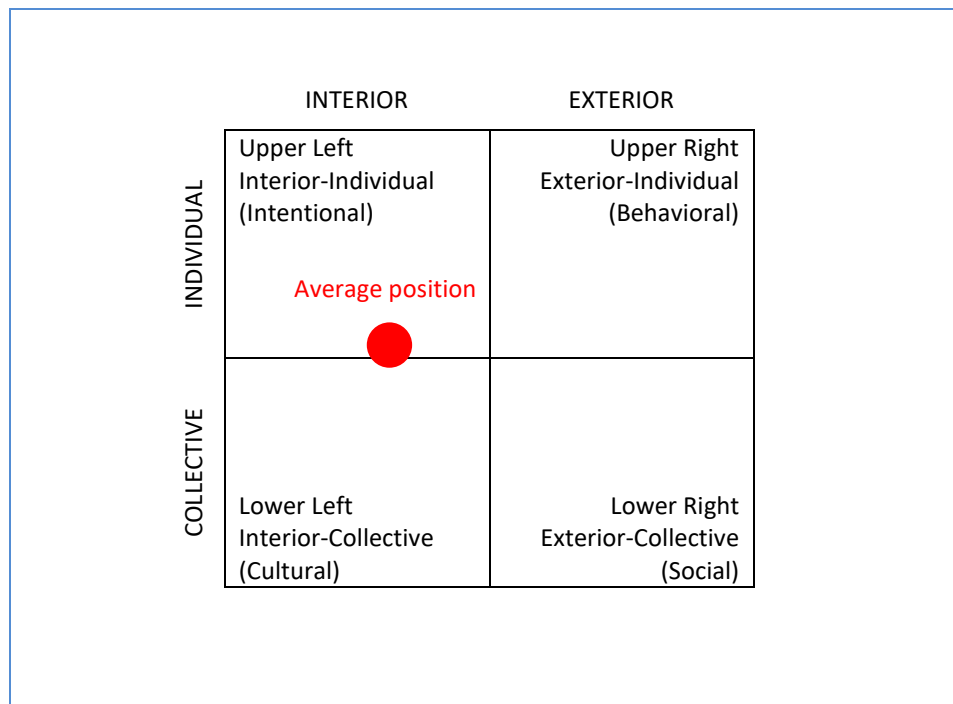


Figure 20 - Snapshot on current average position

However, the integration of innovative technologies such as Artificial Intelligence and Business Intelligence could open up new opportunities to move towards the quadrant of the exterior-collective, promoting greater interaction with the external context and better integration with the market and industrial ecosystem.

Therefore, working on both the individual and collective levels could be a crucial step in preparing organizations to fully harness the potential of emerging technologies and guide the innovation process towards new horizons.

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