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Professional Self-Reflection in the Digital Age: Technological Tools for Managerial Development

Thorsten Eidenmüller^{1*}, Peter Plavcan¹, Marc Weber¹, Rafael P. Humpert¹, Lydia Beernink¹, Isabel Kampmann¹, Damon Ajiri²

¹Danubius University, Richterova 1171, 925 21 Sladkovicovo, Slovakia.

²Comenius University in Bratislava, Odbojarov 10, 820 05 Bratislava, Slovakia.

***Corresponding Author**

E-mail: T.eidenmueller@googlemail.com

ABSTRACT

This paper examines the role of professional self-reflection among middle-level managers, particularly emphasizing how digital tools can support this process. The aim is to explore how self-reflection contributes to managerial self-development, decision-making, and leadership effectiveness in modern, technology-supported organizational environments. A quantitative survey was conducted with 103 middle-level managers using an anonymized questionnaire distributed electronically and in person. The survey investigated their understanding of self-reflection, the frequency of its practice, perceived risks, preferred methods, and interest in further education on the topic.

90% of managers consistently engage in self-reflection, and more than half use the results in their job. But very few people actively seek education in this field. Time limits, excessive self-criticism, emotional subjectivity, and a lack of confidence are all major obstacles to self-reflection. Although digital technologies like audio/video recordings have the potential to be useful, managers still mostly rely on observation, notebooks, and feedback. Professional self-reflection is universally accepted as essential, yet there is still a lack of systematic implementation and practice integration. Organizations may encourage reflection, lower psychological obstacles, and boost productivity by investing in technology-enhanced tools and systematic self-reflection training. Future studies should concentrate on the long-term impacts of digitalized self-reflection techniques on organizational success and managerial effectiveness.

Keywords: Professional self-reflection, Managerial development, Leadership strategies, Self-assessment techniques, Organisational growth.

Introduction

Self-reflection is a crucial skill not only for the continued development of successful professional practice but also for the development of personal qualities that are reflected in the individual's personal life. Self-reflection is conscious self-knowledge or self-evaluation, thanks to which the individual creates a relationship with themselves, reflects on themselves, and looks back at the past and his actions. The individual strives to summarize a specific section of his life or behavior (Prucha, 2009).

Self-reflection is also conscious self-knowledge, self-limitation, and self-evaluation, based on which the individual forms a relationship with himself. Self-reflection also includes awareness of one's thoughts, opinions, feelings, attitudes, relationship with oneself, behavior, evaluation, appreciation of oneself, etc. These aspects are part of the self-system (Svec *et al.*, 2002).

Self-reflection is the awareness of the content of one's consciousness and personality characteristics, as well as the results of actions in the background in confrontation with moral norms or images of the ideal self. Given the above, we can say that it is generally conscious self-knowledge (Al-Mubarak *et al.*, 2023; Ansari *et al.*, 2023; Alshukairi *et*

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al., 2024; Belaldavar & Angadi, 2024; Cantile *et al.*, 2024; Chauhan *et al.*, 2024; Gu, 2024; Thamm, 2024; Wang *et al.*, 2024; Xue *et al.*, 2024; Zhou *et al.*, 2024; Saleh, 2025), self-definition, and self-evaluation based on which an individual's relationship to themselves arises (Smekal, 2002).

The individual reflects on themselves, on the peculiarities of his personality, and looks back at his actions, thoughts, attitudes, feelings, and emotions. They recapitulate a particular section of their own life or their behavior and decision-making in situations that are important to them. The goal is to evaluate themselves, decide what and how to change, and choose a strategy for the future (Prucha *et al.*, 2009).

Self-reflection is a simple way to delve deeper into one's feelings, thoughts, and work styles and discover why something did not work as optimally as we imagined. Managerial self-reflection is essential to finding new and alternative approaches by which a manager can influence his subordinates and the entire organization (Vartiak *et al.*, 2025).

By professional self-reflection, we mean a manager reflects on individual aspects of his managerial activity (Elshorbagy *et al.*, 2022; Sabar *et al.*, 2022; Akbari, 2023; Sari *et al.*, 2023; van der Linden *et al.*, 2023; Awidi & Klutsey, 2024; Daff *et al.*, 2024; Mohammad *et al.*, 2024; Verevkina *et al.*, 2024; Castellanos, 2025; Humlum, 2025). Most often, it concerns set goals and their fulfillment. Professional self-reflection reflects organizational communication (i.e., how subordinates react, how this communication was experienced, etc.). The manager reflects on his relationship with subordinates and superiors and his communication with other partners (Hupkova, 2006).

Professional self-reflection (İlhan *et al.*, 2022; Yoong *et al.*, 2022; Bratt & Fagerströmm, 2023; Fullan *et al.*, 2023; Weerakoon, 2023; Barnes *et al.*, 2024; Sung *et al.*, 2024; Trevisan *et al.*, 2024; Wolderslund *et al.*, 2024), mainly for managers, enables a retrospective analysis of managerial activities, communication, and relationships within an organization (Garbarova & Vartiak, 2022).

Professional self-reflection is a manager's retrospective look at his work and actions in the organizational environment (Chatterjee & Khan, 2022; Roy *et al.*, 2022; Lentferink *et al.*, 2023; Nakamura & Milner, 2023; Padma *et al.*, 2023; Abou Hashish & Alnajjar, 2024; Doddapanen *et al.*, 2024; Obisesan & Egbetokun, 2024; Tenschert *et al.*, 2024; Wang, 2024), as well as his thoughts, attitudes, emotions, and actions related to other activities (Svec, 1999).



Functions of Self-Reflection

Each of us constantly experiences ourselves alongside the stimuli of objective reality and continually assesses ourselves. Self-reflection can be unconscious–spontaneous (a natural part of performing the profession of a manager) or intentional–purposeful, systematic, which allows the manager to thoroughly know their activities and look for opportunities for innovation (Syslova & Horka, 2011).

Intentional self-reflection plays an essential role because it prevents the stereotyped nature of the manager's work. It allows them to verify new methods, teaches them to anticipate possible consequences, contributes to self-education, and stimulates their professional growth. Intentional self-reflection is understood as a controlled, evaluative reflection in the process of communication and evaluation of results, which takes place based on the interpretation of records of one's activities–video, audio, written documentation and self-diagnostic data–information obtained from other workers, data from questionnaires, etc., to increase one's professional competencies, i.e., supporting one's professional development (Hrabal & Pavelkova, 2010).

Self-reflection is vital as a skill that extends beyond personal growth and significantly influences professional success (Vartiak, 2015; Jankalova & Vartiak, 2017). This conscious evaluation process fosters a deeper connection with oneself and provides opportunities to refine personal and managerial practices (Cannistra *et al.*, 2022).

Self-reflection is a necessary requirement for a manager's work on themselves. It allows them to critically assess their action and analyze it, interpret and evaluate it in relation to the defined aims, consider the implications, and conceptually reflect on practical experience. A manager can consider and analyze what is behind their actions, including their thoughts, attitudes, values, beliefs, biases, and experiences (Hrabal & Pavelkova, 2010).

It focuses on assessing past activities and connecting them with future objectives (Vartiak & Garbarova, 2024). This method improves an individual's capacity to recognize strengths and opportunities for progress (Jaseckova *et al.*, 2022; Das *et al.*, 2023). However, in order to do these actions, a manager must be open to themselves, have certain work

experience, and have psychological and management understanding (Kopac *et al.*, 2022; Svec, 2025). They must be willing to deal with themselves, to alter their attitudes, and to use self-reflection techniques (Syslova, 2013).

Methods and Techniques of Self-Reflection

Several methods and techniques are used to achieve the functions of self-reflection. It is important to note that only theoretical knowledge of these methods and techniques' procedures is insufficient for effective use. Only after practical experience does a manager develop all the necessary skills (Hyland & Yost, 1995). The basis of self-reflection of a manager's activities is asking self-reflective questions. Answering them is possible through available methods (techniques). Several methods and strategies lead to the self-diagnosis of a manager.

A Self-Reflective Journal

In managerial work, a self-reflective journal is the most frequently mentioned tool for self-reflection. In a self-reflective journal, managers continuously record their knowledge, feelings, and experiences from various work situations (especially problem-solving) (Fialova *et al.*, 1996).

A journal is particularly beneficial for a novice manager, but more experienced managers can also appreciate its meaningfulness. Translating the contents of thoughts into a concrete, written form is advantageous for several reasons: in particular, it requires the manager to name the situation and problems (Bennett, 2024; L'Enfant, 2024; Nepal *et al.*, 2024). Naming the problem identifies a specific moment of the reflected situation, an essential prerequisite for further work and searching for a more suitable solution (Hyland & Yost, 1995).

Another advantage of a journal is that a manager can repeatedly return to individual entries and use them over time; the entries can subsequently be helpful when solving a similar situation that has already been solved in the past. There are several ways in which a manager can process the journal (Hyland & Yost, 1995). It is advisable to regularly make entries in the self-reflective journal, preferably after each activity or at the end of working hours (Kyriacou, 2004).

Techniques such as self-reflective journals, questionnaires, and observation play crucial roles in the self-reflection process, providing structured frameworks for identifying blind spots and opportunities for growth (Garbarova & Vartiak, 2022).

A Self-Reflective Questionnaire

A self-reflective questionnaire is a valuable tool for obtaining insights into one's work activities through structured questions tailored to specific organizational contexts. These questions can be closed, semi-open, or open-ended, enabling managers to explore various aspects of their roles. The content of such questionnaires should address critical dimensions such as workplace situations, decision-making processes, leadership styles, team dynamics, and personal challenges. Properly designed, these tools allow managers to gain a deeper understanding of their strengths, areas for improvement, and the impact of their actions on their teams and organizations (Syslova, 2013).

An essential advantage of self-reflective questionnaires is their flexibility and adaptability to different managerial needs. For instance, questionnaires can focus on evaluating communication patterns, goal-setting strategies, and responses to organizational challenges (Garbarova *et al.*, 2017). Open-ended questions are particularly effective for exploring attitudes and behaviors, as they encourage managers to provide thoughtful and elaborate responses, fostering self-awareness and critical thinking (Hyland & Yost, 1995).

Moreover, self-reflective questionnaires can be a benchmarking tool, allowing managers to compare their current practices with their long-term goals. Combined with regular feedback sessions, these questionnaires can help identify trends, track progress, and pinpoint areas for professional development (Kyriacou, 2004). Research also suggests that these tools are handy for determining cognitive and emotional blind spots, thereby promoting personal and organizational growth (Hupkova, 2006).

Audio and Video Recording

Audio and video recording is considered an interesting technique, which is a good helper in analyzing one's activities because we manage to capture a given situation in all its richness. Thanks to audio and video recording analysis, we can record all verbal and nonverbal characteristics of the interaction between a manager and a subordinate. Especially in emotionally and cognitively tense situations, we can obtain valuable knowledge from the recordings, which we can return to and analyze in their original form. These situations are not affected by the process of forgetting or distortion



of memories by the attitudes and emotions of the manager (Hyland & Yost, 1995; Ubreziova *et al.*, 2023). When using this method, we must reflect on several basic rules. For example, recordings can be procured mainly with the conscious consent of all participants (Wilson *et al.*, 2022).

However, recording devices can be disruptive not only to the manager themselves but also to clients. In this regard, we can talk about the limitations of this self-reflection method (Hyland & Yost, 1995).

Other objections to the use of video and audio recordings include concerns about how the manager will appear in the recording and, therefore, uncertainty about their abilities and competencies, as well as concerns that the recording will not be authentic because the awareness that the manager is being recorded affects the specific situation of those involved (Wilson *et al.*, 2022).

Observation

Observation is the oldest psychological method based on monitoring other people's behavior. It is always selective and focused on certain people's activities or the circumstances of these activities. Observation is subjective, i.e., influenced by the observer, his attention, etc. (Hartl & Hartlova, 2010). Observation is considered one of the oldest methods of collecting data about reality in an organization (Chraska, 2007).

There are various ways to categorize observation, such as based on the length of time spent observing (e.g., short-term or long-term observation), the observer's perspective (introspection and extrospection), whether the observer directly encounters the object of observation (direct and mediated observation), the degree of systematicity and control (standardized and non-standardized observation), whether the observer is a member of the observed group (participating and non-participating), etc. (Hartl & Hartlova, 2010).

In observation combined with self-reflection, the most crucial aspect is determining the goal of the observation. For self-reflection, it is possible to use the observation of colleagues, which allows the manager to give them feedback. Still, at the same time, the observed activities can be used to reflect on their approaches and management concepts. Providing feedback should not be a list of good and bad aspects of the observed activity but should be a description of their behavior (Mintzberg, 1998; Syslova, 2013).



Materials and Methods

The paper concerns professional self-reflection from the perspective of middle-line managers. We also address managers' knowledge of this topic and their attitudes towards the actual implementation of self-reflection or training in it.

The paper aims to determine what managers understand by the term professional self-reflection and what risks they encounter when implementing it.

Partial objectives of the paper:

1. To find out what obstacles exist that make managers afraid to implement self-reflection.
2. To find out what managers understand by the term professional self-reflection.

Data collection was carried out using a questionnaire survey. A questionnaire is a method of asking questions and obtaining written answers. It is a set of pre-prepared and carefully formulated questions that the respondent thoughtfully arranges and answers in writing. In our survey, the questionnaire was sent out electronically and was a completely anonymous form of data collection.

Since a quantitatively oriented survey is considered a classic survey, it is also the most suitable means of obtaining the necessary data for our needs. We understand a quantitatively oriented survey as a method that verifies existing knowledge from practice.

The questionnaire method is one of the essential empirical research methods. It is a written form of a guided interview, one of the exploratory methods. The questionnaire is designed to allow for the collection of data in bulk. This data concerns a large number of respondents. Therefore, the questionnaire is one of the economic research tools and represents an opportunity to quickly obtain a large amount of information. It is also preferred over other research methods.

Results and Discussion

One hundred three respondents, all middle-level managers, participated in the survey. Questionnaires were sent to them electronically and in person and processed electronically using Microsoft Excel.

The age of the surveyed managers was distributed as follows:

- from 20 to 30 years old - 33 respondents (32.04%),
- from 31 to 40 years old - 41 respondents (39.81%),
- from 41 to 50 years old - 25 respondents (24.27%),
- over 50 years old - 4 respondents (3.88%).

Regarding the length of management experience of the respondents, the results are as follows:

- up to 10 years - 69 respondents (66.99%),
- from 10 to 20 years - 31 respondents (30.10%),
- from 21 to 30 years - 2 respondents (1.94%),
- from 31 to 40 years - 1 respondent (0.97%).

The survey findings revealed that the majority of the managers polled understood the term of professional self-reflection to refer to the essence of self-reflection, as articulated in the introduction to this study. They describe it as a personal reflection on one's managerial actions, which does not end with self-awareness and activity performance but also has consequences for the future in the form of rectifying one's own mistakes and opening oneself up to change. Respondents also define this notion as knowing and being aware of one's own strengths and capabilities, asking oneself self-reflective questions, and being able to recognize one's own flaws and be ready to improve them.

Some respondents understand professional self-reflection not only as professional development but also as personal development. Respondents also stated that they know professional self-reflection as self-evaluation, often confused with self-reflection. Respondents usually perceive professional self-reflection as work evaluation. At the same time, 101 respondents consider self-reflection highly important, and only two consider it unimportant.

It is positive that as many as 90 respondents stated that they engage in self-reflection regularly, and only 13 respondents said that they do not practice self-reflection.

The next question followed the previous one and monitored how often respondents self-reflect. The survey results showed that almost a third of managers (32.04%) approach self-reflection after each activity and less than a fifth of respondents (18.45%) once a week and when a problem arises. Approximately 11.65% of respondents said they do it once a month and at the end of the calendar year. Only a few respondents said they do not practice self-reflection (3.88%). The above shows that most respondents do it regularly, as evidenced by the survey results.

When observing the way self-reflection is carried out, we found that most respondents carry it out systematically (53.40%) and subconsciously (42.72%).

Another question examined whether managers use the results of self-reflection in practice. It is striking that only more than half of the respondents (54.37%) use them, and only 38.83% use them occasionally. Only a tiny part of the respondents (6.80%) stated that they do not use the results of self-reflection in practice. Nevertheless, it would be appropriate to increase the number of managers who would use self-reflection results in practice, which would also improve the quality of the decision-making process and better cooperation with subordinates.

As the survey results show, the most common risk associated with self-reflection is decreased self-confidence. Managers being too critical in self-reflection can lead to a decrease in self-confidence, but this depends on the individual being able to carry out self-reflection correctly; if this is not the case, they can move on to self-questioning, which closes the way to new procedures and approaches.

In addition to a decrease in self-confidence, respondents also reported an increase in self-confidence, which can lead to the manager not showing interest in further education.

Another risk is the subjectivity of self-reflection, where respondents believe that self-reflection leads to a one-sided view, a subjective overview of the problem that has arisen, which is influenced by emotions, mood, etc.

Another risk is considered to be excessive demands. Often, due to significant self-criticism, exaggerated demands on oneself, anxiety, and an effort to have everything done ideally can arise. The demands that managers place on



themselves cannot be managed. Burnout is also considered a serious risk of self-reflection. It leads to excessive criticism, and the manager becomes reluctant to do anything further and focuses only on the negative aspects. This can lead to burnout.

Another risk is frustration, mainly demotivation and disappointment with their work despite the manager trying to improve things. It is also the influence of psychological problems, which include stress and depression, and also lack of rest or restlessness when the manager does not create a situation where he sees progress forward.

Another risk was cited by respondents as a loss of time since, in their opinion, the implementation of thorough self-reflection cannot be tracked in time. Respondents also noted a lousy result of self-reflection as a serious risk. This risk occurs when the manager evaluates the situation incorrectly and takes inappropriate measures to which self-reflection has led them. However, less than a tenth of respondents said that they did not believe there were any risks associated with self-reflection.

In the penultimate question, respondents commented on the methods of self-reflection with which they are familiar. The results were as follows:

- feedback from superiors - 21 respondents (20.39%),
- feedback from subordinates - 18 respondents (17.48%),
- a self-reflective journal - 15 respondents (14.56%),
- strategic analysis - 13 respondents (12.62%),
- self-assessment of activities - 13 respondents (12.62%),
- observation - 12 respondents (11.65%),
- Audio and video recording - 11 respondents (10.68%).

The last question examined whether respondents were interested in the field of self-reflection and whether they were educated in it. Most respondents (54.37%) stated that they are not interested in the field of self-reflection and education in it. More than a third of respondents (35.92%) said they are interested in and educated in it. Less than a tenth of respondents (9.71%) are interested in it only occasionally.

It follows from the above that they are not interested in it because of its associated risks. Still, the profession of a manager is demanding, and education in this area is time-consuming, which may cause respondents to be disinterested in self-reflection.

The findings highlight an encouraging recognition of the importance of self-reflection yet reveal gaps in its application and understanding, which are essential to address to enhance managerial efficiency and professional development.

The survey results reveal a strong appreciation of self-reflection among the respondents, with 101 out of 103 managers acknowledging its importance. This finding underscores the universal understanding of self-reflection as a critical personal and professional growth tool. Most respondents (90) reported practicing self-reflection regularly, and a significant proportion engaged in it systematically (53.4%). These practices align with the literature that underscores self-reflection as essential for recalibrating managerial strategies, enhancing decision-making processes, and fostering self-awareness (Prucha, 2009; Hrabal & Pavelkova, 2010).

The data suggest that self-reflection among managers is not merely theoretical but operational, with many using systematic and intentional methods. However, the extent to which these practices lead to actionable insights varies. While 54.37% of respondents apply self-reflection outcomes in practice, a notable percentage (38.83%) do so only occasionally. This disparity indicates room for improvement in leveraging self-reflection as a consistent organizational and personal benefit tool.

The study outlines numerous dangers related to self-reflection that may prevent its successful adoption. The most significant danger reported by respondents is a possible decline in self-confidence, which is frequently caused by too critical self-evaluation. This phenomenon, defined in the literature as a road to self-doubt, emphasizes the value of systematic and constructive self-reflection procedures (Svec, 2005). Furthermore, subjectivity in self-assessment, increased by mood and emotions, can result in skewed findings, leading to misjudgment and improper choices.

Excessive demands on oneself and the possibility of burnout were also mentioned. Managers frequently confront high expectations, and without sufficient supervision, self-reflection can exacerbate anxiety and tension rather than ease it. These findings emphasize the need for providing managers with training in appropriate self-reflection approaches to



reduce these hazards. Structured frameworks, such as guided self-reflective diaries or assisted feedback sessions, can channel self-reflection into a productive process, decreasing emotional and cognitive overload.

The report also identifies time restrictions as a key impediment to in-depth self-reflection. Managers frequently regard self-reflection as time-consuming with no immediate, measurable results, leading to its deprioritization. This dilemma represents a larger organizational issue, as short-term outputs sometimes overwhelm long-term developmental initiatives.

The methods managers employ for self-reflection vary widely, with feedback from superiors and subordinates, self-reflective journals, and observation being among the most utilized. While audio and video recordings provide a comprehensive view of managerial interactions, they are less frequently employed, possibly due to privacy concerns and discomfort with the recording process. The findings suggest that managers are generally more inclined to use low-barrier, introspective techniques over methods requiring technological or procedural complexity.

Despite the availability of these tools, only a minority of managers (35.92%) express interest in self-reflection education. This lack of interest likely stems from the perceived risks and challenges outlined earlier. Promoting awareness of the benefits of professional self-reflection, particularly in mitigating workplace stress and enhancing decision-making, could encourage greater adoption of such practices.

The results of this study have significant implications for managerial training programs. Organizations must prioritize training middle-level managers in effective self-reflection techniques to harness their full potential. Emphasizing the balance between constructive criticism and self-appreciation can help managers maintain confidence while identifying areas for improvement.

Moreover, integrating self-reflection into routine managerial practices through structured programs can alleviate concerns about time investment. For instance, organizations can adopt reflective workshops, peer feedback sessions, or digital platforms for guided self-reflection, making it a seamless part of professional activities.

While the surveyed managers recognize the value of professional self-reflection, its implementation remains inconsistent due to risks, challenges, and a lack of education in this area. Addressing these barriers through structured training, fostering a culture of constructive self-assessment, and embedding self-reflection practices within organizational workflows can significantly enhance managerial effectiveness. Future research should focus on longitudinal studies to assess the long-term impact of self-reflection training on managerial performance and organizational outcomes. This would provide deeper insights into optimizing self-reflection as a core professional development component.

Conclusion

The study emphasizes the importance of professional self-reflection in refining management practices, encouraging personal growth, and improving decision-making processes. While most respondents saw self-reflection as a useful technique, regular application and integration into everyday management routines remain difficult. The study found that, whereas 90 out of 103 middle-level managers engage in self-reflection on a regular basis, only approximately half consistently apply the results to inform their professional practices. This gap highlights the urgent need for organized techniques to assist managers in effectively utilizing self-reflection for organizational and personal advantages.

Key barriers to effective self-reflection include the potential decrease in self-confidence due to overly critical assessments, subjectivity influenced by emotions, excessive demands on oneself, and time constraints. These challenges underscore the importance of equipping managers with the necessary training and tools to engage in constructive and balanced self-reflection. Additionally, risks such as burnout, frustration, and demotivation further emphasize the need for guided practices to ensure self-reflection leads to positive, actionable outcomes rather than adverse effects.

The methods most commonly employed, such as feedback from superiors and subordinates, self-reflective journals, and observation, are accessible and widely understood. However, the less frequent use of advanced audio and video recording techniques suggests a missed opportunity to capture comprehensive insights into managerial interactions. Privacy concerns and discomfort with recordings likely contribute to this reluctance. Addressing these concerns and promoting their value in self-reflection could enhance their adoption.



Future research should delve deeper into the longitudinal impact of self-reflection training on managerial performance and organizational outcomes. Studies could examine how consistent self-reflection influences long-term decision-making quality, team dynamics, and leadership development. Additionally, exploring the role of organizational culture in fostering or hindering self-reflection practices can provide valuable insights. Research into digital tools and platforms designed to facilitate self-reflection, especially those integrating artificial intelligence or machine learning, could also prove beneficial in modernizing and streamlining this critical practice.

Finally, integrating self-reflection training into professional development programs and fostering a culture that values continuous self-assessment and growth can address many identified barriers. By doing so, organizations can empower managers to leverage self-reflection as a cornerstone of effective leadership and organizational success, paving the way for sustainable improvements in individual and collective performance.

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