# An integrative learning approach: combining improvement methods and ambidexterity

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## Abstract

**Purpose** – This paper aims to explore whether the principles behind improvement methods and the underlying learning orientations of ambidexterity have the potential to support the managing of ideas for implementation.

**Design/methodology/approach** – By combining improvement methods and ambidexterity, this study presents a pragmatic framework for innovative working with a scientific underpinning linked to organizational learning.

**Findings** – The descriptive stages in the plan-do-check-act method for improvement are instructive in their focus on progress and helpful in untangling the more explanatory nature of ambidexterity to frame innovative working.

**Research limitations/implications** – Although the framework's usefulness for innovative working is subject to future studies, the implementation, validation and results of the framework in pilot research may contribute to the body of knowledge.

**Practical implications** – The proposed framework can be used in teaching the key role of strategic leadership to explore and exploit over time. The framework has the potential to guide innovative working in practice by making better use of the employees' tacit knowledge in such a way that they are empowered to explore new ways of defining problems and searching for solutions to improve organizational performance. The results of the implementation will impact the employees' quality of life.

**Originality/value** – This study advances the current understanding of how the seemingly contradictory activities of exploration and exploitation can model an integrative learning approach.

**Keywords** Innovative working, Organizational learning, Knowledge, Ambidexterity, Improvement methods, Exploration and exploitation

**Paper type** Conceptual paper

## 1. Introduction

It has been argued that all learning in work to some extent is innovative in that it introduces change, in terms of behaviour change or cognitive development, which acknowledges the close relationship between innovating and everyday practice-based work, knowledge use and learning (Ellström, 2010; March, 1991; Seely-Brown and Duguid, 1991; Tanggaard and Wegener,

2016). Evidently, the ideas and actions of individual employees are of crucial importance for improving efficiency, effectiveness or competitive advantage, but ideas need to be put forth and developed to be implemented into a practical proposition (Jong and Hartog, 2010) through, e.g. team learning (Batt-Rawden *et al.*, 2019), capacity development (Andersson and Berggren, 2015; Brix, 2019; Palm, 2020), human resource management-systems (Shipton *et al.*, 2005), leadership (Chen and Hou, 2016; Havermans *et al.*, 2015; Hughes *et al.*, 2018; O'Reilly and Tushman, 2008; Van de Ven, 2017) and organizational culture and values (Patterson *et al.*, 2009). This suggests that organizations must apply a comprehensive approach when selecting interventions and tools intended to enhance innovative working in practice (Argote and Miron-Spektor, 2011).

This conceptual study examines whether innovative working can be successfully supported to manage ideas for implementation by integrating the principles behind improvement methods and the underlying learning orientations of ambidexterity: exploration and exploitation. A starting point will be the plan-do-check-act (PDCA) method for continuous improvement. PDCA provides a simple and effective approach for solving problems and managing change in complex systems and is useful for testing improvement and innovative ideas on a small scale before updating procedures and working methods (Moen and Norman, 2009). However, scholars recognize certain limitations with the practical application of PDCA, such as limited area of use (Gupta, 2006), oversimplification, scientific rigour and fidelity (Reed and Card, 2016; Taylor *et al.*, 2014). The explorative aspect, which is so vital to innovative working, is often compromised in the planning phase to quickly exploit a solution (Deming, 1994; Gupta, 2006).

Ambidexterity entangles the notions of *exploration* and *exploitation*. Inherent is the capability of organizations to balance between exploring new opportunities and exploiting existing competencies to improve organizational performance (March, 1991). The essence of exploration is experimentation, which involves the search for new knowledge and solutions; the essence of exploitation is the use of existing knowledge to form well-functioning structures and more predictable performance. Crossan *et al.* (1999) describe the tension between exploration and exploitation as a dynamic interplay between feed-forward and feedback processes of learning, whereas Ellström (2010) refers to the different learning modes as *creative* and *adaptive* learning. The interplay between different learning orientations is argued to be fundamental for sustainable development and organizational learning (Crossan *et al.*, 1999; Ellström, 2010; March, 1991), but the findings are ambiguous on how organizations should manage these contradictory approaches (Brix, 2019; Cunha *et al.*, 2019; Farjoun and Fiss, 2022; Gupta *et al.*, 2006; O'Reilly and Tushman, 2008; Raisch *et al.*, 2009). Exploration tends to lead to more exploration and exploitation to more exploitation (Gupta *et al.*, 2006), and the differences in logic tend to hinder simultaneous execution (March, 1991). There tends to be "a bias in favor of exploitation with its greater certainty of short-term success", but exploration is needed to ensure future viability (O'Reilly and Tushman, 2013, p. 325).

The study is a response to the call for research on how to involve managers and employees in exploration and exploitation activities (Havermans *et al.*, 2015) and contributes to research on integrative learning approaches (Brix, 2019; Cunha *et al.*, 2019; Farjoun, 2010). In the following, the paper presents PDCA and defines the notions of exploitation and exploration. A framework for innovative working is conceptualized and visualized in an elaborated loop of learning and reflection. The concluding discussion addresses some implications for improving innovative working practice.

## 2. Theoretical background
### 2.1 The plan-do-check-act method for continuous improvement
The PDCA method, which also is known as plan-do-study-act, seeks to improve work processes through a continuous loop of planning, doing, checking (or studying) and acting (Figure 1).
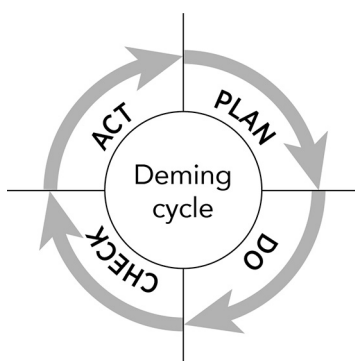
PDCA has a modest presence in the literature, and other improvement methods such as total quality management, lean and six sigma are much more common, but it has been suggested that the same principles are integrated into all these methodologies (Gupta, 2006; Reed and Card, 2016). The method was initially introduced in the production process as a scientific method in three steps to acquire knowledge: making a hypothesis, carrying out an experiment and testing the hypothesis (Mauléon and Bergman, 2009). In the 1950s, the method was modified with a fourth step: re-designing through marketing research, emphasizing the importance of learning from following variations in practice. Since then, it has also been referred to as the deming circle/cycle/wheel with wide acceptance in most sectors (ibid.).

The epistemological tenets of PDCA are tied to pragmatism (Mauléon and Bergman, 2009) and experimental learning (Reed and Card, 2016). Pragmatism as a theory of knowledge is action-orientated and concerns change and consequences through the notion of *experience* (Dewey, 1910). Deviations in work trigger the need to examine, define and transform these experiences into learning and knowledge that may inform us how to deal with similar experiences in the future. Thus, a deviation – or, as the pragmatic philosopher Dewey (ibid.) would say, *doubt* – motivates our thinking and urges us to eliminate the uncomfortable feeling of not mastering the situation by finding a solution. Accordingly, an important function of the PDCA method is its ability to prevent error recurrence and variation by establishing standards and modifying them continuously (Moen and Norman, 2009; Mauléon and Bergman, 2009 for an overview of PDCA). Despite the emphasis on continuously monitoring the results and re-designing the process accordingly, Gupta (2006, p. 46) recognizes the limitation of applying PDCA on other "than a process to produce a product with specified limits for the process to work". Others would argue that the method's problem lies not in its limitations but in its oversimplification and fidelity of application (Reed and Card, 2016; Taylor *et al.*, 2014). "People have a weakness to short-circuit this step" (referring to the explorative planning phase) to quickly exploit a solution (Deming, 1994, p. 132). The pragmatic approach undoubtedly creates great challenges to using PDCA appropriately, but the focus on progress in its stagewise description of testing improvements is instructive.

### 2.2 Ambidexterity and its notions of exploration and exploitation
The paradox between exploration and exploitation has ever since March's (1991) seminal paper been used to understand how organizations can manage contradictory tensions between operational functions of their work and their development work to improve organizational performance (Brix, 2019). But it was actually Duncan (1976) who coined the

term *organizational ambidexterity* to describe the dual structures that need to be in place to manage activities that involve different time spans and managerial capabilities.

Scholars agree that exploration refers to learning and innovation, but there is no corresponding consensus on the meaning of exploitation (Gupta *et al.*, 2006, p. 693). However, leaning on March's (1991) logic, all activity to some extent involves learning, which suggests that this also is true for exploitation and exploration. Exploration and exploitation are different activities and require quite different abilities within an organization. The tension between the two is described as a dynamic interplay between feed-forward and feedback processes of learning (Crossan *et al.*, 1999). The feedback process of learning relates to using what has been learnt (exploitation). This knowledge makes up organizational culture in the form of systems, structures, norms and strategies and shows considerable tacit knowledge in its praxis (Eraut, 2000a; Nonaka, 1991). The feed-forward process, in contrast, concerns assimilating new learning (exploration). It relates to learning that eventually, over time, becomes embedded in culture (Crossan *et al.*, 1999) and symbolizes "the way things are done around here" (Spender, 1996, p. 68). Although these two learning logics often compete for resources (March, 1991), they support each other in learning (Ellström, 2010; Gibson and Birkinshaw, 2004).

### 2.3 Current research on ambidextrous leadership
Ambidexterity has been claimed to prompt innovation at an organizational level, but ambidextrous behaviour is also motivated on a practice-based level because leaders and staff need to be efficient and flexible in catering to the various needs of consumers and stakeholders (Brix, 2019; Cunha *et al.*, 2019; Luu, 2017; Mom *et al.*, 2009). Ambidextrous describes someone who is equally skilful at using both hands. Dexterous originates from the Latin word dexter, meaning "on the right side" and the prefix ambi- means "both". The ability to adapt, recombine and integrate organizational knowledge, skills and resources to match a challenging and changing environment concerns an organization's *dynamic capabilities* and emphasizes the key role of strategic leadership to reconfigure assets for sustainable competitive advantages (O'Reilly and Tushman, 2008, p. 188).

Rosing *et al.*'s (2011) ambidextrous leadership model offers two types of leadership behaviours that are seen as effective in promoting innovation processes. Opening leadership behaviour describes aspects such as allowing errors and different ways of accomplishing a task, taking risks, encouraging employees to acquire new knowledge and providing time for experimentation. Opening leadership also encourages internal and external communication, which has been found to be one of the strongest predictors of team creativity and innovation overall (Patterson *et al.*, 2009). Closing leadership behaviour involves monitoring and controlling goal attainment, establishing and following up routines and roles, taking corrective action and sticking to plans (Rosing *et al.*, 2011). Thus, in ambidextrous leadership practice, exploration involves increasing the complexity of responses by involving others by, e.g. stimulating group discussion and encouraging boundary spanning, whereas exploitation implies delimiting the complexity by redirecting efforts to deliver management expectations, enforce rules and minimize involvement and discussions (ibid.; Havermans *et al.*, 2015).

In all, the literature suggests that organizations need to balance exploration and exploitation to improve organizational performance and learning. Too strong a focus on exploration may disrupt well-functioning structures at the workplace, whereas too much emphasis on exploitation risks undermining the staff's creativity and motivation. O'Reilly and Tushman (2008) hold on to their claim that separate subunits, business models and distinct alignments that are held together by a common strategic plan can enable exploration and exploitation to be executed simultaneously. Gupta *et al.* (2006) suggest that temporal cycling between long periods of exploitation and short bursts of exploration is a balancing mechanism, which makes

quality improvement measures interesting in relation to more radical change processes. Later studies conceptualize integrative ambidexterity and synergies between exploration and exploitation (Brix, 2019; Cunha *et al.*, 2019; Farjoun, 2010). However, O'Reilly and Tushman (2013) find that the current state of research on organizational ambidexterity remains quite unknown about the role of senior teams and leadership in managing the contradictory demands of exploration and exploitation.

*2.4 Conceptual boundaries*
A full account of aligning concepts such as innovation and improvement is beyond the scope of this study. However, there is a need to comment on conceptual boundaries.

A common understanding is that innovation is the introduction of something new, representing a discontinuity from the past (Brown and Osborne, 2005). In the public sector, innovation creates new public value for individuals and for society. Continuous or quality improvement, on the other hand, is a process to improve systems and processes with the intention of improving outcomes Batalden, 1992; Deming, 1994. Aligning concepts such as creativity or change are often substituted for either innovation or improvement. However, innovation is distinguished from creativity – the mere generation of ideas – by the implementation (Amabile *et al.*, 1996; Anderson *et al.*, 2014; Hughes *et al.*, 2018; Rosing *et al.*, 2011). Change may be seen as a result of innovation, suggesting that many innovations are better characterized as evolutionary or as a continuum of change and that the novelty comes from combining and applying existing resources and solutions in new ways (Sanger and Levin, 1992; Tanggaard and Wegener, 2016).

There tends to be excessive enthusiasm towards the novelty aspects of innovation, which overshadows the potential of old ideas and past experience as drivers of change. It is more likely that innovation arises from evolutionary exploits such as processes of trial and error and experimental learning (Sanger and Levin, 1992; Tanggaard and Wegener, 2016). These evolutionary exploits may evaluate and use both internal and external knowledge, although it is argued that exploiting and assimilating outside sources of knowledge is critical to the innovation process (Cohen and Levinthal, 1990). So, the boundaries between the concepts are not that clear, suggesting that innovation may emerge from quality improvement. It is also reasonable to suggest that the quality improvement paradigm has been a forerunner and parallel management model of innovation (Cole, 2002). Finally, innovative is defined as "using new methods or ideas" (Cambridge Dictionary, 1999), which also concerns "having new ideas about how something can be done" (Merriam-Webster, 1996).

## 3. Towards a framework for innovative working
Building on the theoretical stance used in this study, innovative working is here addressed as a reciprocal learning process through which an organization transforms ideas into better value. A basic assumption is that different forms of knowledge are created and used through processes of learning. In line with this, learning is understood as transformation and interplay between explicit and tacit knowledge.

*3.1 A tentative framework*
Table 1 proposes a framework for innovative working. It is structured into seven steps of inquiry, which are divided into an explorative and an exploitative phase and includes impeding obstacles and knowledge sources related to each step. The scaffolding suggested in Table 1 is merely a blueprint. It should not be seen as a linear process, nor should its lines be seen as inflexible delineators; rather, the table assumes a basis for innovative working and acknowledges the role of knowledge use and learning.

Table 1.
A tentative
framework for
innovative working

| Steps of inquiry | Obstacles | Knowledge sources |
|---|---|---|
| *Explorative phase* | | |
| 1. How do we work today? | *Everyday learning helps us to quickly establish certain habits and behaviours; these become institutionalized knowledge and make us take cognitive shortcuts that affect our judgments, which can result in us making less well-founded decisions.*<br>Lack of innovative culture<br>Risk-minimizing services<br>Implicit learning processes | Anderson *et al.*, 2014; Argote and Miron-Spektor, 2011; Avby, 2015; Brown and Osborne, 2005 Chen,2014; Crossan *et al.*, 1999; Dewey, 1910; Gibson and Birkinshaw, 2004; Havermans *et al.*, 2015; Palm, 2020; Rosing *et al.*, 2011; Spender, 1996 |
| 2. Why do we work as we do? | *Stimulating creativity and innovative working poses a number of risks to employees, such as exposing them to criticism for questioning existing work methods or assumptions.*<br>Tacit working processes<br>Lack of courage to visualize working processes<br>Leaders lack understanding of responsibility for organizing learning | Eraut, 2000a, 2000b; Farjoun and Fiss, 2022; Nonaka, 1991; Nonaka and von Krogh, 2009 |
| 3. How can we work instead? | *Practice-based (tacit) knowledge is context-specific, readily available and applicable; knowledge from outside the practice setting, such as research or best practice, can be abstract, difficult to access and often not applicable without prior adjustments.*<br>Conflicting views on knowledge<br>Limited boundary-crossing activities<br>Lack of motivators (internal/external)<br>Lack of strategies that identify and promote individual and team innovativeness | Amabile, 1993; Amabile *et al.*, 1996; Anderson *et al.*, 2014; Batt-Rawden *et al.*, 2019; Cohen and Levinthal, 1990; Crossan *et al.*, 1999; Dewey, 1910; Kjellström *et al.*, 2017; Mumford, 2000; Patterson *et al.*, 2009; Schön, 1983; Shipton *et al.*, 2005; Uhl-Bien and Arena, 2018 |

| Steps of inquiry | Obstacles | Knowledge sources |
|---|---|---|
| *Exploitative phase*<br>4. Propose a new way of working | *Without a realistic action plan, change efforts tend to stagnate. An undeveloped plan is difficult to correctly execute and learn from.*<br>Lack of vision<br>Undeveloped plan<br>Insufficient background exploration | Deming, 1994; Crossan *et al.*, 1999; Langley *et al.*, 2009; O'Reilly and Tushman, 2008; Taylor *et al.*, 2014 |
| 5. Try the new way of working | *The right conditions for trying a new idea, such as skilful and courageous leadership, have not been given enough thought, and resources have not been allocated.*<br>Leadership lacks the necessary dynamic capabilities<br>Inadequate management and support to follow through<br>Insufficient resources and competence<br>Lack of motivators (intrinsic/external)<br>Non-functioning team communication | Amabile, 1993; Avby *et al.*, 2019; Brown and Osborne, 2005; Eraut, 2000b; Deming, 1994; Dewey, 1910: Greenhalgh *et al.*, 2004; Kjellström *et al.*, 2017; Mumford, 2000; Rosing *et al.*, 2011; Shipton *et al.*, 2005 |
| 6. Follow up the new way of working | *Change efforts may be abandoned prematurely before it is possible to measure actual effects during the process.*<br>Lack of relevant performance measurements to enable systematic learning<br>Lack of leader engagement and feedback | Argote and Miron-Spektor, 2011; Avby and Kjellström, 2019; Cole, 2002; Dewey, 1910; Hughes *et al.*, 2018; Martin *et al.*, 2018; Moen and Norman, 2009 |
| 7. Decide on how to continue working | *Change efforts tend to fall at the finishing line, and the learning is difficult to consolidate into the organization's systems, structures and routines if there has been the little interplay between the venture and everyday work.*<br>The gap between the new way of working and existing work processes<br>Inability to define an end to the process | Crossan *et al.*, 1999; Deming, 1994; Ellström, 2010; Eraut, 2000b |

**Table 1.**

### 3.2 A guiding seven steps of inquiry

Next, the framework is visualized in an elaborated loop of learning, comprising the seven steps of inquiry (Figure 2). The underlying learning orientation can be understood as a process and a solution to contradictions that develop gradually as a result of an interplay between tacit and explicit knowledge (Engeström, 2011). At first glance, the steps may appear easy to follow, but as Van de Ven (2017, p. 40) argues, an innovation journey is a nonlinear cycle that often begins in random transitions to chaos and ends in logical patterns of behaviour. Thus, the figure must be understood as incorporating a reciprocal process.

*Step 1* is triggered by a disturbance of the habitual course of action or by intuiting new insights and offers a learning opportunity (Chen, 2014; Crossan *et al.*, 1999; Dewey, 1910). Our routinized way of doing things does not work or is insufficient, which causes us to hesitate and doubt. What follows is an inadequate relationship between the individual and their surroundings. We begin to scrutinize prevailing routines and processes, questioning: *How do we work today?* Leaders have an important role to encourage and embrace this questioning to unleash the creativity in the organization (Havermans *et al.*, 2015; Rosing *et al.*, 2011) and to visualize and define the system within which people work to recognize the nature of its innovative behaviour (Argote and Miron-Spektor, 2011). The organizational setting is the silent social order of an organization and influences an individual's behaviour and motivation to contribute and share knowledge (Anderson *et al.*, 2014; Kjellström *et al.*, 2017; Chen, 2014; Eraut, 2000b; Gibson and Birkinshaw, 2004; Nonaka, 1991; Spender, 1996). Many services may be framed by rigorous safety regulations, relevant especially in welfare organizations, which are recognized as hindering the risk-taking behaviour often found in innovative environments (Anderson *et al.*, 2014; Brown and Osborne, 2005 Palm,2020).

*Step 2* examines the problem more closely. We start interpreting what has caused our hesitation, which allows us to identify the mechanisms behind the way we work. Tacit knowledge is externalized, and through the transformation and interplay between tacit and explicit knowledge, practitioners may discover new ways of defining problems and searching for solutions (Eraut, 2000a, 2000b; Nonaka, 1991; Nonaka and von Krogh, 2009).
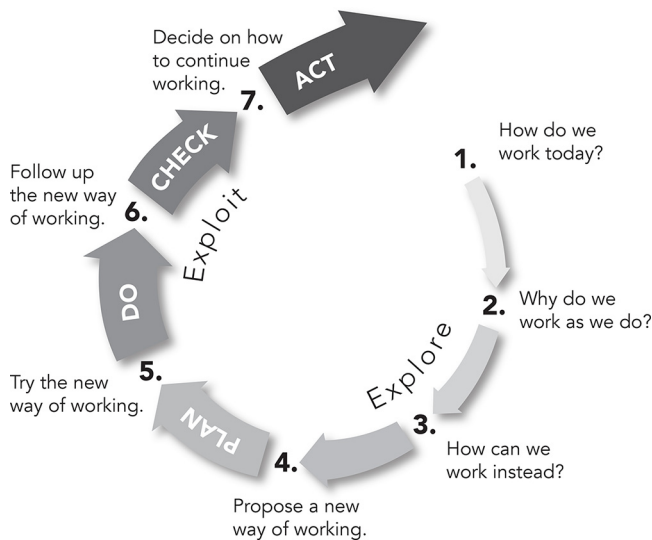


**Figure 2.**
An elaborated loop of learning, comprising seven steps of inquiry

We become aware of differences and work towards creating a common understanding of possibilities and challenges. Thus, contradictions play an important role in driving change and fostering renewal (Farjoun and Fiss, 2022). This step unavoidably needs to engage the entire staff to minimize the risk of emerging defensive behaviour at the workplace when questions on how work is done arise. The risk of not involving the workforce in the initial steps of a change effort is immense because more "hidden" defensive actions may evolve during a later stage in the process, hindering the implementation of new ideas. In the questioning of working processes – *Why do we work as we do?* – some resistance is to be expected, because the questioning evokes taken-for-granted assumptions that often give meaning to our lives. The process of interpreting takes place in relation to the environment and takes unique local conditions into account to fully grasp how and why the work is done as it is (Crossan *et al.*, 1999, p. 525).

*Step 3* broadens the perspective on knowledge and uses not only internal but also external knowledge posing the question: *How can we work instead?* A receptive capacity to reflect new viewpoints and integrate new knowledge into the organization provides potential opportunities for learning and favours innovativeness (Andersson and Berggren, 2015; Cohen and Levinthal, 1990; Dewey, 1910). Thus, by sharing knowledge and transcending boundaries of the individual or team knowledge, the organization can become more innovative (Nonaka, 1991; Nonaka and von Krogh, 2009). Before deciding on what to do next, it is worthwhile devoting work time to searching and developing new ideas to predict and explore the generation of ideas at the employee level (Andersson and Berggren, 2015; Batt-Rawden *et al.*, 2019; Patterson *et al.*, 2009; Uhl-Bien and Arena, 2018). However, exceeding social practice entails personal risks, costs and rewards, which pressures leaders to find ways to motivate and enable employees to actually make an effort (Brix, 2019; Nonaka and von Krogh, 2009). Cross-functional teams are among the topmost effective resources for facilitating idea generation and implementing innovative solutions (Amabile *et al.*, 1996; Anderson *et al.*, 2014; Crossan *et al.*, 1999), as is the use of motivators (Amabile, 1993; Amabile *et al.*, 1996). Studies find that a combination of extrinsic motivation from an outside source or incitement such as feedback, praise from others, awards or remunerations, can have a reinforcing effect on intrinsic motivation to yield high levels of creativity and performance (Amabile, 1993; Kjellström *et al.*, 2017; Mumford, 2000; Shipton *et al.*, 2005). The manager's ability to govern change towards targeting professional values and intrinsic motivation tends to be vital for innovating (Kjellström *et al.*, 2017). This third step is highly interactive and allows individuals to jointly develop their knowledge. Thus, articulated tacit knowledge has the potential to transform old truths into new knowledge. The ability to value and integrate external knowledge improves if the organization becomes conscious of its own practice-based knowledge (Andersson and Berggren, 2015).

The learning in the first three steps is about variation, in contrast to standardized processes that reduce variation. It symbolizes the explorative phase, posing questions that are crucial for thoroughly framing the problem and coming up with new ideas on how to tackle the problem at hand. The employees actively convert the problematic situation to a defined problem to make sense of the complexity and uncertainty at hand (Dewey, 1910; Schön, 1983), which reduces the risk of jumping to a predetermined solution.

*Step 4* enters the exploitation phase. It is time to switch structures from organic to mechanistic (O'Reilly and Tushman, 2008). Firstly, the knowledge gathered from previous steps is analysed and formulated into a working hypothesis ready for testing. Conflicting parts are synthesized into a feasible solution, and necessary actions are identified. The venture must align with a vision that, in turn, is aligned with the organizational strategy (ibid.). The vision describes the purpose of the change and gives an idea of what the change

will lead to, clarifying its benefits and value and avoiding confusion among the people who will be affected by the change. The shared understanding of possibilities and challenges will be visible in the coordinated actions taken (Crossan *et al.*, 1999). This step is considered as the planning phase of PDCA and properly developed; it will enable execution and learning (Reed and Card, 2016; Langley *et al.*, 2009). It is completed when a proposition of the new conduct, including measures on how to follow the testing, is designed together with an action plan for implementation (Taylor *et al.*, 2014).

*Step 5* involves testing the new way of working. It is not until an idea is tested in practice that it is possible to establish its feasibility (Dewey, 1910). At this stage, adequate resources are a critical premise. Without adequate resources, there is an imminent risk of provoking people's frustration. If competence to realize the plan is lacking, people will become uneasy, if the time schedule is scarce, people will be annoyed and if other resources such as money, structure and tools are missing, the trial will most likely be abandoned. Resources must be in place to realistically test the plan. An additional critical premise is a leadership. A successful change leader possesses the knowledge, personality and persuasive power can convey the meaning of the change (Deming, 1994) and encourages employees to experiment and take the necessary actions (Brown and Osborne, 2005; Greenhalgh *et al.*, 2004). Also, a sound climate for internal and external communication and learning and change integrated into the work process itself support progression (Eraut, 2000b). Rosing *et al.* (2011) verify that the need for a more directive leadership behaviour increases when moving innovation towards implementation. The manager has an important role to ensure that focus is maintained throughout the cycle and to create the necessary conditions for the endeavour. A wide array and combination of intrinsic and extrinsic incentives for encouraging employees' efforts can support employees' willingness to try (Kjellström *et al.*, 2017; Amabile, 1993; Mumford, 2000; Shipton *et al.*, 2005).

*Step 6* is about learning from the actions taken. At this point, we can get an indication of whether the venture works. Although the new way of working may still be quite novel, it is important to follow up and access preliminary results. Some form of underpinning for comparing measures is needed, such as the use of metrics. Measurements are thus not only about controlling and governing work; they are also valuable for capturing tacit and explicit knowledge and learning (Argote and Miron-Spektor, 2011; Deming, 1994; Hughes *et al.*, 2018; Martin *et al.*, 2018). Measurements give us feedback from practice, make the processes of everyday work visible and help us make necessary adjustments during the course of action. When a change journey is initiated, it is impossible to predict exactly what needs will surface (Van de Ven, 2017). The needs need to be met on an ongoing basis; thus, learning from both what does and does not work may help us overcome hinders during the change processes (Cole, 2002; Dewey, 1910; Moen and Norman, 2009).

*Step 7* entails consolidating the new practice or, if relevant, abandoning the new way of working. As the new practice is consolidated and institutionalized, the individual's and group's learning becomes embedded in the organization's systems, structures and routines (Crossan *et al.*, 1999). The more integrated the testing of the new practice has been in the existing work processes, the easier the merge will be (Ellström, 2010; Eraut, 2000b). This step implies an end of the initiated process and informs a new cycle (Deming, 1994).

## 4. Discussion

Opportunities for improvement as well as innovation exist in every organization, job and work process, but different organizations and strategic objectives provide widely different contexts for innovative working. The main argument for combining an improvement method and ambidexterity is the unexplored potential to offer a pragmatic framework for innovative working with a scientific underpinning linked to organizational learning.

"Models reinforcing integration and emphasizing the interdependence of learning modes" are scarce (Cunha *et al.*, 2019, p. 427). The framework offered illustrates temporal cycling between exploration and exploitation that assumes transformations and interplay between explicit and tacit knowledge.

To improve innovative working in practice, there are some implications. Firstly, it is important to acknowledge the institutional perspective, as the organizational culture and values are among the most important organizational factors that enhance innovative work (Patterson *et al.*, 2009) and influence an individual's behaviour and motivation to contribute and share knowledge (Anderson *et al.*, 2014; Argote and Miron-Spektor, 2011; Kjellström *et al.*, 2017; Chen, 2014; Eraut, 2000b; Gibson and Birkinshaw, 2004; Nonaka, 1991; Spender, 1996). Research has shown that organizations with a culture of working with improvements more readily are able to scale up their innovative working (Avby *et al.*, 2019). The proposed framework, starting with questioning how and why we work as we do, can make visible contextual factors; these have been noted to be partly unexploited in the PDCA method (Batalden, 1992; Langley *et al.*, 2009; Reed and Card, 2016).

Secondly, emphasis is on the collective. By applying a shared purpose and collective task, learning may be enhanced, and the potential to find new patterns of action may be increased (Batt-Rawden *et al.*, 2019). Sharing knowledge and expanding the previous boundaries of the individual or team knowledge can help an organization to become more innovative (Nonaka, 1991). Another significant aspect of bringing the process to a group level is that the diversity and differences among individuals have the potential to increase group performance, as more knowledge is available in the group (Cohen and Levinthal, 1990). Moreover, the contradictions that may be visualized in the knowledge-sharing process may serve as an engine for renewal and transformation (Farjoun and Fiss, 2022).

Thirdly, leaders play an important role to facilitate the organization's ambidextrous spirit by developing and practising skills in learning, leading and steering through the change process (Avby and Kjellström, 2019; Patterson *et al.*, 2009; Rosing and Zacher, 2017; Shipton *et al.*, 2005; Van de Ven, 2017). Leaders shape the working environment, resource allocation and the nature of work tasks. They influence employee behaviour by the way they lead, especially by their ability to engage employees in contributing to its success and sustainability. Although there is an increasing interest in the leadership approach to innovation and leadership effects on innovativeness (Anderson *et al.*, 2014; Chen and Hou, 2016; Hughes *et al.*, 2018; Patterson *et al.*, 2009; Rosing *et al.*, 2011; Zacher and Wilden, 2014), few leaders have formal skills in creativity or innovation (Brown and Osborne, 2005; Greenhalgh *et al.*, 2004). Leaders must encourage experimentation by devoting specific time to developing new ideas, offering feedback and engaging in creative goal-setting (Patterson *et al.*, 2009). Furthermore, managers are often unaware of the possibilities of using enablers, such as performance management and design tools such as the proposed framework, for improving and organizing creativity and learning (Martin *et al.*, 2018).

Fourthly, by becoming knowledgeable of the organization's knowledge base, we can avoid drawing invalid inferences from the learning that takes place in practice (Nonaka, 1991). Many practitioners have difficulty to recognize and articulate their knowledge basis (Eraut, 2000a; Nonaka, 1991; Spender, 1996), and which unnoticed might create ambiguity in service delivery (Avby, 2015). Organizational learning processes should be conscious, although sensibly, managed to make better use of the employees' tacit knowledge, especially as much everyday work proves considerable tacit knowledge (Eraut, 2000a; ibid.). Also, the framework's explorative steps help individuals and teams to linger a bit longer in the problem-framing phase and thereby carefully make sense of the complexity and uncertainty at hand to reduce the risk of a predetermined solution (Dewey, 1910; Schön, 1983).

*4.1 Limitations*

Of course, there may be other relevant factors and processes that influence an organization's innovative working, such as effective data capture systems and other environmental factors that have been mentioned only briefly here. This review has inevitably been limited and selective. What should be clear, however, is that the framework for innovative working may prevent organizations from missing out on employees' ideas because it supports the structuring and managing of tacit knowledge that otherwise is understood to be difficult to recognize and articulate. Furthermore, it balances the identified shortcomings of the PDCA method by explicating prerequisites before action. The framework proposed in this study is similar to Brix's (2019) innovation capacity-building framework insofar as it also uses literature from different fields but differs in that it provides a synthesis of exploration and exploitation using the principles behind improvement methods. Although it is not without difficulty to combine a normative method such as PDCA with an explanatory theory such as ambidexterity, an argument in favour is that ambidexterity theory has the potential to highlight the often missing or overlooked stage of exploring found in PDCA, and thus, reinforces the pragmatic vein of knowledge and learning in work. Limitations of the present framework relate to the use of terms such as exploration and exploitation in relation to learning, behaviour and action, and the logic of production and development without thoroughly considering environmental aspects. Another limitation lies in the careless use of the terms: innovation, improvement and creativity, which generally are likely to be treated as distinct constructs in the literature. Finally, empirical research on the framework's usefulness for innovative working is subject to future studies.

## 5. Concluding remarks

One of the paradoxes of innovating is to achieve a balance between new and old; structure and chaos; control and creativity; standardization and flexibility; clear and unclear tasks. Differences in logic tend to hinder a simultaneous execution of exploration and exploitation activities because they compete for limited resources. Orchestrating an organization's resources and employees' skills requires leaders to focus on the quality of everyday interactions and dialogue among employees. The proposed framework can be used as a pragmatic tool for leaders to accumulate knowledge into innovative change processes integrated with everyday systems and processes. It explores new ways of defining problems and searching for solutions to improve organizational performance. Through its focus on process, leaders can continuously encourage employees' efforts and overcome obstacles that may surface during the journey. Albeit exploratory in nature, this conceptual study intends to provide a pragmatic approach for further empirical validation of how innovative working may be nurtured and organized in practice. The implementation, validation and results of the framework in pilot research may contribute to the body of knowledge, and the results will impact the quality of life of employees. Finally, the study advances the current understanding of how the seemingly contradictory activities of exploration and exploitation can model an integrative learning approach.

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