

Learning Beyond Formal Training: A Qualitative Exploration of Informal Learning and Double Loop Learning in the Banking Sector

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Abstract

Learning in the banking sector increasingly occurs beyond formal training, particularly in response to crisis and rapid digitalisation. This study explores how bank managers engage in informal learning and how such learning contributes to the development of knowledge, skills and attitudes (KSA) and to double-loop learning in a post-Covid-19 context. Guided by informal learning and experiential learning theories and Argyris and Schön's concept of double-loop learning, the study adopted a qualitative phenomenological design. Data were collected through semi-structured interviews and focus group discussions with 10 branch and head-office managers from a large Malaysian bank, selected using purposive sampling. Thematic analysis identified three main themes: (1) informal learning beyond formal training, including learning through observation, work experience and self-initiated exploration; (2) KSA development encompassing digital and banking knowledge, staff, work and communication management skills, and more reflective, flexible and open attitudes; and (3) the emergence of "constrained double-loop learning" in which managers questioned and revised underlying assumptions about control, flexibility and performance within regulatory and organisational limits. The study proposes a contextualised model of managerial learning in a highly regulated service setting and offers implications for human resource development and leadership practice in the banking sector.

Keywords: Informal Learning, Knowledge, Skills And Attitudes (KSA), Double-Loop Learning, Bank Managers, Pandemic Covid-19

Introduction

The Covid-19 pandemic created unprecedented disruption in the banking sector, forcing rapid shifts towards digital delivery, remote work arrangements, and new regulatory procedures in a compressed timeframe. Banks had to maintain service quality and compliance while managing heightened customer anxiety, supply chain instability and evolving policy directives. In Malaysia, bank managers found themselves at the frontline of these changes, simultaneously handling operational continuity, staff welfare and complex customer issues

such as loan moratoriums and digital banking adoption. These conditions exposed the limitations of traditional, centrally designed training programmes, which could not keep pace with the speed and specificity of the challenges managers were facing.

Within this context, everyday work became a critical site of learning. Managers reported relying heavily on informal learning processes such as observing peers, experimenting with new digital tools, solving real customer and operational problems, and engaging in peer consultation through channels like WhatsApp groups and online meetings. Informal and experiential learning literature suggests that such unstructured, work-embedded learning is often the primary driver of competence development, especially under conditions of uncertainty and change. However, there remains limited empirical understanding of how these informal learning processes operate among bank managers in emerging market settings, and how they contribute to broader changes in managerial thinking and practice.

At the same time, organisations facing turbulent environments require not only incremental adjustments but also deeper forms of learning that challenge taken-for-granted assumptions, norms and routines. Double-loop learning, as articulated by Argyris and Schön, occurs when individuals and organisations question and modify the underlying values, policies and mental models that guide their actions, rather than merely correcting errors within existing frameworks. Recent reviews highlight both the importance of double-loop learning for innovation and resilience and the difficulties of achieving it in practice, particularly in highly regulated and compliance-driven sectors. In banking, where risk management, standardisation and regulatory adherence are central, the space for questioning governing assumptions may be limited, potentially constraining the scope of double-loop learning even when reflective capacities exist.

Emerging evidence from this research indicates that, during and after Covid-19, Malaysian bank managers not only developed new knowledge, skills and attitudes (KSA) through informal learning, but also began to re-examine assumptions about physical presence, control, flexibility and performance. Some managers shifted from equating productivity with office-based supervision to relying more on output-based monitoring and trust; others reconsidered their approaches to customer management, staff scheduling and the use of digital tools. Yet these shifts unfolded within strong organisational and regulatory boundaries, suggesting a form of “constrained” double-loop learning where reflections and revised mental models translate into change, but only within certain permissible spaces.

Against this backdrop, this article aims to examine how learning beyond formal training occurs among bank managers in a post-Covid-19 context and how such informal learning supports the development of KSA and the emergence of double-loop learning within a highly regulated banking environment. Specifically, the study addresses three research questions:

1. What forms of informal learning do bank managers engage in when responding to post-Covid-19 challenges?
2. How does informal learning contribute to the development of managers’ knowledge, skills and attitudes?
3. In what ways do these informal learning processes and KSA developments trigger double-loop learning, and how is this learning shaped or constrained by the banking context?

By integrating informal learning and double-loop learning perspectives and drawing on qualitative data from Malaysian bank managers, the study contributes empirical insight into managerial learning in an under-researched context, proposes the notion of constrained double-loop learning in compliance-driven organisations, and offers practical implications for human resource development and leadership practice in the banking sector.

Literature Review and Conceptual Framework

Informal Learning at Work

Informal learning has been widely recognised as a central mode of competence development in contemporary workplaces characterised by complexity, time pressure and continuous change (Eraut, 2004; Marsick & Watkins, 1990; Tannenbaum & Wolfson, 2022). Marsick and Watkins conceptualise informal learning as largely unstructured, experiential and integrated with daily work, often initiated by learners in response to immediate problems rather than being organised by training departments (Marsick & Watkins, 1990, 2015). Their model of informal and incidental learning highlights how learning is triggered by a problem or trigger event, shaped by organisational context and social interaction, and frequently remains unplanned and unrecognised, even though it can significantly affect performance (Marsick & Watkins, 1990; Watkins & Marsick, 1992). Building on this, later work has emphasised that informal learning encompasses self-directed learning, networking, mentoring, coaching, trial-and-error and learning from others, blurring boundaries between individual and social learning processes (Eraut, 2004; Manuti et al., 2015; Van der Heijden et al., 2015).

A key strand of research focuses on the characteristics that distinguish informal learning from formal learning (Cerasoli et al., 2018; Marsick & Watkins, 2015). Informal learning is typically not curriculum-based, not assessed, and often not labelled as “learning” by participants; instead, it is embedded in everyday tasks, interactions and problem-solving (Eraut, 2004; Marsick & Watkins, 1990). Eraut, for example, describes informal learning as occurring through participation in work processes, learning from colleagues and feedback, and tackling challenging tasks, stressing its tacit and socially mediated nature (Eraut, 2004). While formal training is important for foundational knowledge, multiple reviews suggest that a substantial proportion of workplace learning, particularly for managers and professionals, occurs informally through work itself (Cerasoli et al., 2018; Tannenbaum & Wolfson, 2022; Van der Heijden et al., 2015). This is especially salient in environments subject to rapid technological and regulatory change, where formal programmes cannot easily keep pace with emerging needs (Marsick & Watkins, 2015; Eraut, 2004).

Informal learning has also been linked to specific outcomes such as competency development, employability and performance (Cerasoli et al., 2018; Van der Heijden et al., 2015). Research in various sectors shows that informal workplace learning can enhance employees’ knowledge, problem-solving, adaptability and career prospects, often mediated by factors such as learning orientation, leadership style and organisational learning culture (Noe et al., 2014; Manuti et al., 2015). A recent mixed-methods study in the Bhutanese financial sector, for instance, found that employees relied heavily on informal workplace learning when they had limited time for formal training, and that this informal learning contributed to competency development and employability in the face of digitalisation and changing customer demands (Pradhan, 2022). Such findings underscore the need to understand how informal learning operates in specific contexts, including banking, and how

it shapes not only individual skills but also broader ways of thinking and acting (Froehlich et al., 2015; Pradhan, 2022).

Informal Learning in Banking and Similar Sectors

Banking provides a particularly interesting context for studying informal learning because it combines high levels of regulation and standardisation with continuous product, process and technology innovation (Froehlich et al., 2015; Pradhan, 2022). Employees and managers must stay abreast of changing regulatory requirements, new financial products, risk management procedures and digital tools, often under intense performance and compliance pressure (Pradhan, 2022). Studies in financial and public sectors suggest that employees frequently learn “on the job” by dealing with real customer cases, interpreting new policies, and experimenting with systems, rather than primarily through formal classroom training (Eraut, 2004; Pradhan, 2022). During the Covid-19 pandemic, these pressures intensified as banks worldwide shifted rapidly to remote or hybrid work, expanded digital channels, and managed increased call volumes and customer support needs, compelling staff to learn new technologies and routines quickly and informally (Aamodt et al., 2025; Pradhan, 2022).

Empirical work on informal learning in banks remains relatively limited but growing (Froehlich et al., 2015; Pradhan, 2022). Froehlich and colleagues, examining informal workplace learning in Austrian banks, found that managers’ learning outcomes were significantly influenced by their learning approaches, experienced leadership style and organisational learning culture, indicating that both individual dispositions and contextual factors shape informal learning processes (Froehlich et al., 2015). Other studies in financial institutions highlight how frontline staff and managers construct workarounds and new practices when formal procedures lag behind evolving customer demands and technological innovations, with learning emerging through trial-and-error, peer support and reflective conversations (Manuti et al., 2015; Van der Heijden et al., 2015). These studies point to the centrality of informal learning for sustaining performance and innovation, yet they often focus on competency and employability outcomes rather than on deeper changes in assumptions and mental models (Cerasoli et al., 2018; Rashman et al., 2009).

This research adds to the literature by showing how Malaysian bank managers, during and after Covid-19, engaged in informal learning through multiple channels: observing peers’ online meeting practices, learning new collaboration tools (e.g. Zoom, Teams, Google Meet and Google Drive), dealing with loan moratorium procedures, resolving supply chain disruptions and experimenting with new communication and monitoring routines. Managers also reported learning through self-initiated exploration, such as studying product features ahead of virtual client meetings, creating shared document platforms and scanning e-marketplaces for alternative suppliers. These experiences illustrate the multi-faceted nature of informal learning in banking: it is simultaneously technological, relational and strategic, and it occurs under strong compliance and performance constraints.

Double-Loop Learning and Critical Reflection

While informal learning literature has largely focused on how people acquire knowledge and skills at work, organisational learning theory invites attention to the depth and consequences of that learning (Marsick & Watkins, 2015; Rashman et al., 2009). Argyris and Schön distinguish between single-loop learning, where individuals or organisations detect and

correct errors without changing underlying goals, values or norms, and double-loop learning, where governing variables themselves are questioned and possibly revised (Argyris, 1976; Argyris & Schön, 1978, 1996). In single-loop learning, the emphasis is on improving techniques and making existing strategies more efficient within established frameworks; in double-loop learning, actors critically examine the assumptions that underpin those strategies and may alter them, leading to more fundamental change (Argyris & Schön, 1996). Double-loop learning is therefore closely associated with critical reflection, openness and willingness to surface and challenge tacit theories-in-use (Argyris, 1976; Marsick & Watkins, 2015).

Despite its influence, double-loop learning has proven difficult to operationalise and observe empirically (Rashman et al., 2009; Auqui-Caceres & Furlan, 2023). A recent systematic review of studies on double-loop learning notes that, although the concept is widely cited, many empirical works treat it superficially or conflate it with general learning or incremental change (Auqui-Caceres & Furlan, 2023). The review identifies conceptual confusion, measurement challenges and practical barriers to generating double-loop learning, including defensive routines, hierarchical cultures and limited psychological safety (Auqui-Caceres & Furlan, 2023; Argyris, 1976). It also emphasises that double-loop learning requires specific conditions such as open communication, shared inquiry and tolerance for error that may be scarce in risk-averse and highly regulated environments (Auqui-Caceres & Furlan, 2023; Rashman et al., 2009). This raises important questions about how, and to what extent, double-loop learning can occur in sectors like banking, where compliance and control are paramount.

Critical reflection is widely seen as a key mechanism linking experience to double-loop learning (Mezirow, 1991; Raelin, 2001). Rather than merely adjusting behaviour, reflective practitioners interrogate why they act as they do, what assumptions they hold, and how alternative framings might lead to different strategies (Mezirow, 1991; Raelin, 2001). In managerial contexts, this can involve rethinking beliefs about authority, control, performance, customer relations and staff motivation. However, the capacity and willingness to engage in such reflection may depend on factors such as leadership style, organisational culture, workload and the availability of spaces for dialogue (Rashman et al., 2009; Froehlich et al., 2015). In crisis situations like Covid-19, the intensity of challenges can both catalyse and constrain reflection: managers must make rapid decisions, but they are also forced to reconsider whether pre-existing routines and beliefs remain fit for purpose (Auqui-Caceres & Furlan, 2023).

Integrating Informal Learning, KSA Development and Double-Loop Learning

Bringing these strands together, this study conceptualises managerial learning in the banking sector as a process that unfolds across three interrelated levels. At the first level, managers engage in informal learning embedded in their daily work, triggered by problems, changes or opportunities. This includes learning through observing others, handling challenging tasks and initiating their own learning activities. At the second level, these experiences contribute to the development of knowledge, skills and attitudes the KSA triad which captures both cognitive and behavioural change. Knowledge encompasses domain-specific understanding such as digital systems, regulatory frameworks and product features; skills refer to capabilities in managing staff, work processes and communication; and attitudes involve dispositions such as patience, flexibility, openness and reflexivity. At the third level, when KSA changes are accompanied by critical reflection on underlying assumptions, they can give rise to

double-loop learning, manifesting in revised mental models and altered management strategies.

Existing studies on informal workplace learning often stop at the second level, emphasising how informal learning supports competence and employability, but say less about whether and how it enables deeper questioning of organisational norms, policies, and values (Cerasoli et al., 2018; Van der Heijden *et al.*, 2015; Manuti *et al.*, 2015). Conversely, the double-loop learning literature often discusses reflection and change at a high level without detailing the everyday learning processes through which managers develop the KSA needed to question and redesign their own practices (Argyris, 1976; Rashman *et al.*, 2009; Auqui-Caceres & Furlan, 2023). By integrating these perspectives, this study addresses a key gap: it examines how specific informal learning experiences of bank managers during and after Covid-19 contributed to concrete KSA development and, in some cases, to shifts in underlying assumptions about work and management.

Empirical findings suggest that informal learning in this context was not only about acquiring technical or procedural knowledge but also about reshaping how managers think about control, trust, performance and flexibility. For example, the adoption of online meeting tools and remote monitoring practices led some managers to recognise that productivity could be evaluated through outputs rather than physical presence, prompting them to reconsider rigid attendance norms and to experiment with more flexible scheduling. Similarly, repeated exposure to customer frustrations and staff stress during the pandemic led some managers to reflect on their own emotional responses, developing greater patience and empathy and revising assumptions about how authority should be exercised. These instances illustrate how KSA changes rooted in informal learning can contribute to emerging forms of double-loop learning, even when formal training does not explicitly target such deep change.

Conceptual Framework: Constrained Double-Loop Learning in Banking

The study proposes a conceptual framework of managerial learning in a regulated banking environment. The framework comprises five main components: (1) crisis and contextual triggers; (2) informal learning processes; (3) KSA development; (4) critical reflection; and (5) constrained double-loop learning and revised practices.

First, crisis events such as the Covid-19 pandemic, along with ongoing regulatory and technological changes, act as triggers that disrupt established routines and create pressing learning demands. Managers must respond to new policies, digital tools, customer behaviours and staffing arrangements, often with limited formal guidance or training. Second, in response to these triggers, managers engage in informal learning embedded in their work: they observe colleagues and superiors, experiment with tools and processes, seek information and advice from peers, and learn through trial-and-error as they handle real cases.

Third, through these informal learning processes, managers develop and refine their KSA. They enhance their knowledge of systems and regulations, improve skills in managing remote teams, communication and decision-making, and cultivate attitudes such as patience, flexibility and openness that support adaptation. Fourth, when these experiences and KSA shifts are accompanied by critical reflection often triggered by contradictions between

previous assumptions and new realities managers may begin to question their own theories-in-use, such as beliefs about the necessity of constant physical supervision or the best ways to handle customer complaints.

Finally, the framework recognises that in a highly regulated, compliance-driven sector like banking, double-loop learning is likely to be constrained. Managers may adjust their practices and mental models in meaningful ways, such as adopting more flexible scheduling, introducing new communication routines, or advocating for system improvements, but these changes typically occur within boundaries defined by regulatory requirements, risk appetites and hierarchical decision structures. As a result, the study conceptualises the outcome as “constrained double-loop learning” a form of deeper learning where some governing assumptions are revised and new strategies are adopted, yet the scope of alteration is bounded by structural and regulatory constraints.

In summary, the conceptual framework guiding this study posits a dynamic, iterative process in which crisis-driven contextual pressures stimulate informal learning, which in turn fosters KSA development and, through critical reflection, can lead to constrained double-loop learning and revised managerial practices in the banking sector. This integrated perspective provides the basis for the empirical analysis that follows and informs the discussion of how banks and human resource development practitioners can better support learning beyond formal training.

Methodology

Research Design

This study adopted a qualitative research design with a phenomenological orientation to explore how bank managers experienced learning beyond formal training during and after the Covid-19 crisis. Phenomenology is suitable when the aim is to understand the meanings that individuals ascribe to their lived experiences, including how they interpret events, make sense of challenges and reconstruct their practices over time. In this study, the focus was on managers’ subjective experiences of informal learning, the development of knowledge, skills and attitudes (KSA), and the emergence of double-loop learning in a highly regulated banking context.

Research Setting and Participants

The research was conducted in a large commercial bank in Malaysia that operates a network of branches and head-office departments and was significantly affected by the Covid-19 pandemic in terms of operational changes, digital transformation and new regulatory requirements. The bank provides a relevant context because managers at both branch and head-office levels had to respond rapidly to policy changes, shifts to online service delivery and evolving customer needs, making learning at work a critical necessity.

Snowball sampling was used to select information-rich participants who could provide in-depth insights into informal learning processes and managerial adaptation. The sample consisted of 10 managers occupying different roles, including branch managers and head-office managers in functions such as operations, procurement and support services. Participants varied in terms of years of experience, geographic location and exposure to Covid-19-related operational disruptions, enabling the study to capture diverse perspectives

while maintaining a coherent focus on managerial roles. Data saturation was considered reached when subsequent interviews yielded no substantially new codes or themes related to informal learning, KSA development or double-loop learning.

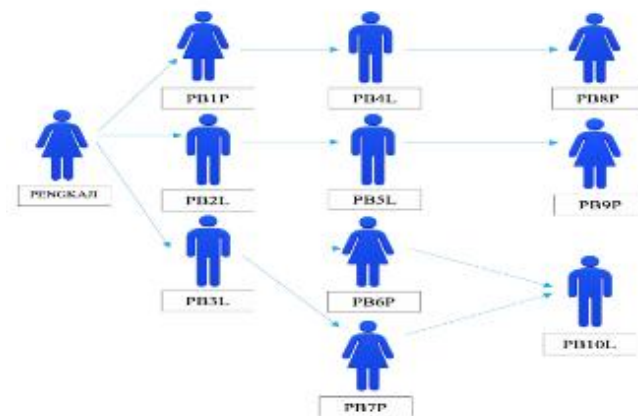


Illustration 1.1 : Population of Responden

Data Collection

Data were collected using semi-structured, in-depth interviews complemented by two focus group discussions (FGDs) with managers. The semi-structured interviews allowed the researcher to probe participants' learning experiences in detail while retaining flexibility to follow emergent issues specific to each manager's context. The interview guide included questions about 1) Managers' experiences during and after the Covid-19 crisis. 2) How they learned to handle new systems, procedures and customer demands. 3) Specific episodes of learning from colleagues, subordinates or superiors. 4) Changes in their knowledge, skills and attitudes. 5) Instances where they questioned or changed their usual ways of managing work, staff and customers.

Interviews were conducted online, depending on health protocols and participant availability, and each session typically lasted between 60 and 90 minutes. With participants' consent, all interviews were audio-recorded and subsequently transcribed verbatim. The two FGDs (PKF1 and PKF2) were conducted to elicit collective reflections and to triangulate and enrich individual interview data. Each FGD brought together a small group of managers to discuss shared experiences of managing during Covid-19, difficulties encountered, strategies used, and perceived changes in their learning and leadership. The group setting encouraged participants to compare and contrast their experiences, surface implicit norms and challenge each other's interpretations, thereby providing additional insight into informal learning and reflective processes. FGDs were also recorded and transcribed, and the transcripts were integrated into the overall dataset.

Data Analysis

The data were analysed using thematic analysis, following an iterative and inductive–deductive approach consistent with the study's phenomenological and theory-informed aims. Analysis began with repeated readings of interview and FGD transcripts to gain an overall sense of participants' experiences and to identify preliminary patterns related to learning, adaptation and reflection. Initial open coding was then conducted, with codes assigned to segments of text that captured specific instances of informal learning (e.g. "learning through

observation,” “learning via WhatsApp group,” “self-initiated system exploration”), KSA changes (e.g. “new digital skills,” “patience with customers,” “flexible scheduling”) and indications of questioning or revising assumptions (e.g. “rethinking productivity,” “changing view of control”).

In the next phase, related codes were grouped into broader categories and candidate themes, aligned with the study’s guiding concepts of informal learning, KSA development and double-loop learning. For example, codes such as “watching other managers handle online meetings,” “observing IT during UAT,” and “learning from peers’ practices” were combined under a sub-theme of “learning through observation,” nested within the broader theme of “informal learning beyond formal training.” Similarly, codes capturing changes in knowledge, skills and attitudes were organised into KSA sub-themes, and codes related to questioning assumptions and altering management strategies were examined for evidence of potential double-loop learning.

Throughout the analysis, constant comparison was used to check consistency across participants and data sources, and to refine theme boundaries. The researcher moved back and forth between data, codes and emerging themes, discussing ambiguous cases and considering alternative interpretations in light of the conceptual framework. The final thematic structure consisted of three overarching themes informal learning beyond formal training, KSA development through informal learning, and constrained double-loop learning each with several sub-themes that are presented in the findings section.

Discussion

This study set out to understand how bank managers learned beyond formal training in the post-Covid context, how this informal learning contributed to the development of knowledge, skills and attitudes (KSA), and how these changes triggered double-loop learning within a heavily regulated banking environment. The findings show a coherent process: crisis-driven challenges stimulated intensive informal learning; these experiences reshaped managers’ KSA; and, through critical reflection, some managers began to question and revise long-standing assumptions about work, control, and leadership, though within clear structural constraints.

Informal Learning as The Primary Engine of Managerial Development

The first key insight is that informal learning, rather than formal training, was the dominant mode of managerial development in the bank during and after Covid-19. Managers’ learning occurred primarily through observation, on-the-job problem-solving and self-initiated exploration of digital tools and regulatory documents, embedded in the flow of daily work. This is consistent with longstanding arguments that most workplace learning is informal, experiential and socially mediated, especially in complex, rapidly changing environments.

This research shown that managers did not wait for structured courses, they learned to use Zoom, Teams, Google Meet and Google Drive by experimenting, watching others and asking colleagues, driven by immediate operational needs such as running online meetings, monitoring staff and serving clients remotely. They developed new understanding of moratorium procedures and regulatory changes by reading SOPs, seeking clarification from headquarters and applying this knowledge in real customer cases. These practices mirror the

“learning from work” and “learning from others” processes described in informal learning literature, where challenges and social interaction act as key triggers for learning.

Importantly, the findings also show that informal learning was not a marginal supplement to formal training, but the primary means through which managers coped with crisis, maintained service quality and adapted their practices. This underscores the need for banks and HRD units to recognise, support and intentionally design for informal learning, rather than if formal courses alone can build the capabilities needed in turbulent times.

From Informal Learning to KSA Development

A second contribution lies in showing how informal learning translated into concrete KSA development. Managers’ accounts highlight substantial gains in digital and banking knowledge, strengthened skills in staff/work/communication management, and pronounced shifts in attitudes toward patience, flexibility and openness. This aligns with competency-based views of learning and add depth by tracing how these KSA changes emerged from specific informal learning episodes.

For example, repeated use of online tools, together with peer support and trial-and-error, led to practical digital fluency and an ability to design effective remote monitoring systems. Managing staff under hybrid arrangements and heightened stress pushed managers to refine their communication, delegation and conflict-management skills, often by reflecting on what did and did not work in prior interactions. Perhaps most significantly, exposure to staff struggles, customer anger and operational constraints under Covid-19 led many managers to become more patient, to appreciate the value of flexibility, and to be more open to staff input. These attitude shifts are critical because they underpin more adaptive and human-centred forms of leadership. They also suggest that informal learning in crisis contexts is not only cognitive or behavioural, but also deeply affective and relational. By documenting this KSA development, this study strengthens the argument that informal learning can support complex capability building, not just narrow task proficiency.

Linking KSA Shifts to Constrained Double-Loop Learning

The third major contribution is to connect KSA development with the emergence of double-loop learning. In line with Argyris and Schön, double-loop learning involves questioning and revising underlying assumptions and norms, rather than simply adjusting routines within existing frames. Findings show clear evidence of this deeper learning at the managerial level.

Managers critically re-examined traditional assumptions about productivity and control for instance, the belief that staff must be physically present in the office for work to be effective. Through lived experience of remote work, they realised that many staff could perform well from home and that strict physical control might reflect mistrust more than necessity. This prompted some managers to revise their mental models, seeing flexibility as compatible with discipline and performance, and to experiment with new scheduling and monitoring arrangements. Others reconsidered hierarchical assumptions, acknowledging that younger or more technically skilled staff held valuable knowledge and that effective leadership required openness to their ideas.

These are not mere single-loop adjustments in technique, they involve shifts in how managers think about their roles, staff and organisational control. At the same time, data show that this double-loop learning is constrained. Managers could adjust local practices and attitudes, but broader policies on hybrid work, performance systems and technology investment remained largely top-down. Regulatory requirements and risk-averse cultures also limited how far they could depart from established procedures. Thus, identify a form of “constrained double-loop learning,” where reflection and mental model change are real but their translation into structural change is bounded.

This notion of constrained double-loop learning is a key theoretical contribution. It nuances the often-idealised portrayal of double-loop learning by situating it in a compliance-driven sector where autonomy is limited. Findings suggest that in such contexts, deeper learning may manifest as incremental, negotiated changes in local practices and micro-policies, rather than wholesale organisational transformation.

A Dynamic, non-Linear Model of Managerial Learning

Bringing these elements together, this study proposes an implicit process model, crisis and contextual pressures trigger intensive informal learning. This learning drives KSA development, KSA shifts, combined with critical reflection, give rise to constrained double-loop learning and this, in turn, produces strategic changes in managerial practices. The process is iterative, new challenges lead to fresh learning episodes, further KSA refinement and renewed questioning of assumptions.

This dynamic, non-linear view enriches both informal learning and organisational learning literatures. It shows that informal learning is not an isolated phenomenon but part of a broader learning system linking everyday experience to deeper cognitive and strategic change. It also positions managers as key agents in translating organisational shocks into learning, even when they do not fully control the structural environment.

Implications For Practice and Policy

The findings have several implications for banks and HRD practitioners. First, organisations should deliberately create conditions that enable and amplify informal learning, structured peer forums, cross-branch communities of practice, and time or space for reflection on challenging cases can help managers transform experience into shared learning. Providing light scaffolding such as templates for online check-ins or reflective debriefs so can support those who may not naturally engage in systematic reflection.

Second, HR and leadership development programmes should explicitly link informal learning to reflective practice and double-loop learning. For example, leadership modules can incorporate guided critical reflection on assumptions about control, trust and flexibility, using real scenarios from the Covid-19 period as triggers. This would help institutionalise the reflective habits that some managers developed informally and spread them more widely.

Third, at the organisational policy level, there is a need to open channels for bottom-up learning. Managers’ insights about what worked during the crisis such as flexible scheduling, digital monitoring innovations and staff-driven process improvements should feed into the design of official policies, rather than remaining local experiments. Creating mechanisms for

frontline managers to present evidence and proposals to higher-level decision-makers can help translate constrained double-loop learning into broader organisational change.

Finally, regulators and senior leaders should recognise that overly rigid controls can undermine learning. While compliance is non-negotiable in banking, allowing some degree of experimentation and local adaptation, within clear risk parameters, can enhance both learning and performance. Findings suggest that when managers are trusted to adjust practices based on reflective learning, they can develop creative, context-sensitive solutions without compromising standards. In sum, this study demonstrates that post-Covid managerial learning in the banking sector was driven primarily by informal and work-embedded processes. These experiences reshaped managers' KSA; and that, through critical reflection, they enabled constrained but meaningful forms of double-loop learning and strategic adaptation. This integrated perspective advances theory and provided actionable insights for building more learning-oriented and resilient banking organisations.

Recommendations

Based on the study's findings and conclusion, several recommendations are proposed for banking institutions, human resource development (HRD) practitioners and policy-makers.

Recognise and Support Informal Learning as a Strategic Resource

Banks should move beyond viewing informal learning as incidental and instead recognise it as a central mechanism for capability development, particularly in dynamic and uncertain environments. This can be operationalised by:

- a) Creating dedicated spaces and routines for sharing practice, such as regular cross-branch learning circles, online communities of practice or peer-led clinics where managers exchange experiences, tips and lessons learned from handling complex cases.
- b) Encouraging managers to document and share successful informal solutions (e.g. innovative monitoring tools, scheduling arrangements, customer-handling strategies) so these can be adapted and scaled across the organisation.

By legitimising and supporting these activities, organisations can harness the learning that is already occurring informally and make it more visible and transferable.

Integrate Reflection and Double-Loop Learning into Leadership Development

Given the critical role of reflection in transforming informal learning into double-loop learning, leadership and management development programmes should explicitly cultivate reflective habits and critical questioning of assumptions. Practical steps include:

- a) Embedding structured reflective practices, such as after-action reviews, learning journals or guided reflection sessions, into managers' regular work routines, especially after major incidents or changes.
- b) Designing leadership modules that use real organisational cases from the Covid-19 period to prompt managers to examine their underlying beliefs about control, flexibility, trust and performance, and to explore alternative mental models.
- c) Training managers in coaching and facilitation skills so they can lead reflective conversations within their teams, helping staff to collectively analyse what worked, what did not and why.

This would help institutionalise the kind of critical reflection that some managers developed informally and extend double-loop learning beyond individual cases.

Create Channels for Bottom-Up Learning to Shape Organisational Policy

The study shows that managers developed valuable insights about effective practices during crisis and change, but that these insights often remained local. To reduce the “constrained” aspect of double-loop learning, banks should develop mechanisms for bottom-up learning to inform formal policies and systems. This could involve:

- a) Establishing formal feedback loops where branch and head-office managers can present evidence-based proposals for modifying SOPs, performance metrics or digital tools, based on their informal learning and reflections.
- b) Involving frontline managers in task forces or working groups that review and redesign key processes (e.g. hybrid work arrangements, customer service protocols), ensuring that new policies reflect lived experience rather than purely top-down design.

Such practices would help translate local learning into organisational learning, allowing successful innovations to be integrated into mainstream operations.

Conclusion

This study explored how bank managers in Malaysia learned beyond formal training after the Covid-19 crisis, how informal learning supported the development of knowledge, skills and attitudes (KSA), and how these changes contributed to double loop learning within a highly regulated banking environment. The findings show that informal learning through observation, work experience and self-initiated exploration became the primary driver of managerial development during this disruptive period. Managers gained new knowledge of digital systems, remote working tools and changing banking regulations. They also strengthened skills in managing staff, communication and work processes under hybrid and high-pressure conditions. At the same time, many reported attitude shifts, becoming more flexible, patient and open to staff input. These KSA developments emerged directly from practical workplace challenges, such as adapting to online platforms, resolving customer issues and collaboratively creating solutions with staff. Importantly, the study demonstrates that these informal learning experiences fostered elements of double loop learning. Managers began questioning underlying assumptions about productivity, control and leadership, leading to revised practices such as greater flexibility and more participatory communication. However, the study also highlights that such learning is constrained by the regulatory and governance structures of the banking sector, limiting wider organisational transformation. Overall, this study contributes by integrating informal learning, KSA development and double loop learning into a contextualised account of managerial learning in post-crisis banking environments.

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