Technology-Enabled Learning Systems and Leadership Support: Effects on Employee Creativity and Knowledge-Sharing Behaviour

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Abstract

Workplaces are becoming more reliant on technology-enabled learning systems for skills development, teamwork as well as adaptation. They make knowledge easier to access, they make self - learning simpler, and they bring employees together across roles and locations. However, knowing technologies doesn't guarantee creativity nor energetic knowledge sharing. They have an impact where leadership frames learning, participation as well as electronic tools in daily work. Technology-enabled learning systems make employees creative by exposing them to diverse ideas, to various learning paths & to experimentation. Creative thinking is boosted when employees can explore content, insights & results. Knowledge sharing also becomes even more comprehensible when expertise is made apparent on platforms. But without leadership support, such mechanisms are underutilized or the learning becomes a matter of regular completion instead of engagement. Leadership support decides if learning technologies are places to discover or repositories being retrieved. Leaders that make time for learning, experimentation and knowledge sharing develop psychological safety around learning. That safety enables employees to ask questions, to ask concepts and to contribute knowledge without being judged. When leadership establishes expectations in line with learning objectives employees see knowledge sharing as work not optional effort. Interaction between learning systems and leadership supports knowledge flow. Technology allows access and connection; leadership inspires application and trust. Creative outcomes exist when employees are supported to put learning insights in practice. Knowledge sharing happens when leadership promotes openness and collaboration. Together they build learning environments for innovation, collective intelligence and organisational advancement.

Keywords: Technology-Enabled Learning Systems, Leadership Support, Employee Creativity, Knowledge-Sharing Behaviour

Introduction

In organisations we now have knowledge changing much faster than formal roles can. Skills become obsolete very quickly; processes move on without pause and employees are constantly being asked to learn while they work. In response many organisations invest in technology-enabled learning - systems that promise flexibility, access and scale. They hold courses, share resources, connect experts & track learning by teams. Still, knowing technology does not necessarily mean creativity or active knowledge exchange. In what ways learning systems work together with leadership behaviour decides if learning is passive or generative. Systems of technology-enabled learning go beyond classrooms and schedules. Employees have access to content on demand, from different perspectives, revisit material as needs change. Learning is embedded in work instead of being separate from it. With that access come conditions for creativity: people are exposed to new ideas and new problem-solving approaches. But exposure does not mean creative application. Employees have got to experiment, question routines & apply insights without fear of error (Wickramasinghe & Ramanathan, 2022).

In shaping this freedom, we need leadership support. Leaders decide if learning technologies are compliance tools or growth spaces. When leaders make learning a performance obligation measured by completion rates, creativity suffers. People take more ownership when leaders frame learning as exploration around real problems. Leadership signals make learning time feel protected versus expendable. In digital spheres where performance metrics get all the attention - this is critical distinction. How employees are creative is dependent on combining knowledge in new ways. By linking people to information across domains, technology-enabled learning systems give the raw material for such a combination. Things become more creative when employees break from the prescribed material to find connection with their work. Leadership supports this exploration. Those curious leaders who are willing to accept uncertainty let employees use learning systems as sources of insight rather than instruction. Knowledge sharing behaviour is a third important outcome of digital learning environments. Discussion spaces, knowledge bases, collaboration tools are often part of learning systems. Yet employees will not share knowledge if they fear judgement, irrelevance or misuse. Leadership behaviour changes those perceptions. Seeing leaders share, acknowledge contributions & reward collaboration makes employees feel knowledge exchange is valued work. With no such support, platforms do nothing even when technically capable (Valk & Planojevic, 2021).

Learning systems relate to leadership support also influences daily work. The technology gives you access but the leadership gives you priority. Often employees with high loads put learning first unless leaders give time and effort recognition. Creativity as well as knowledge sharing need cognitive space. That space is created by leadership support - aligning expectations, adjusting workload, recognizing learning-driven contributions. In organisations too, digital learning systems change power and expertise as well. Knowledge has less dependence on formal authority. Employees have expertise above the immediate hierarchies. This is a shift that can be good for creativity and sharing but also uncertainty. Those leaders who are for learning recognize redistribution, and they encourage cross-boundary exchange. If leaders resist it, they can weaken system use with subtle signals of control. Digital learning systems

give visibility. Contributions, questions, and learning paths are observed. Visibility spurs sharing - and anxiety. Gaps or mistakes might worry employees. Visibility can be secure or scary - depending on leadership support. When leaders make learning a process instead of a performance, employees take notice. Whenever leaders focus on evaluation, creativity & sharing go down (Chan, 2022).

There is employee creativity where structure meets freedom. Technology-enabled learning systems give structure - organised content, pathways. Freedom of deviation, exploration and reinterpretation is given by leadership support. That balance lets employees learn context instead of script. Creative thinking happens where people can be free with knowledge.

Knowledge sharing needs trust as well. Digital tools allow connection - trust allows participation. Employees pass on knowledge when they think the contributions will be used productively. So, leadership support reinforces this belief by responding to input positively and by making decisions with shared knowledge. Shared insight drives results - employees see the benefit of participation. How learning systems interact with leadership support forms organisational learning culture. Culture grows out of repeated signals of what is important. Learning technologies are sending one signal. Those that lead by example send another. So when those signals line up, culture allows experimentation and collaboration as well as continuous learning. Where the two disagree, employees pull back or just comply superficially. Then digital transformation makes that alignment even more important. When organisations rely on technology for coordination, learning human guidance becomes more important. Employees go to many different platforms and information streams. With leadership support they prioritise, interpret, apply learning effectively. When learning is not guided it is fragmented and underutilized (Akram et al., 2018; Mittal et al., 2023).

Creativity, knowledge sharing is also motivational. Employees learn more when learning supports personal development and organisational purpose. Technology-enabled systems might allow personalisation - but leadership must tie learning to bigger picture goals. When leaders say learning is important to shared success, engagement increases. Leadership goes beyond encouragement. Leadership also designs and governs learning systems. Choices around access, content curation, recognition affect how employees use platforms. Leadership supports systems that change with employee needs and not just static repositories.

To understand the effects of technology-enabled learning systems one must consider technical capability as well as social context. Creativity & knowledge sharing do not come from platforms only. They happen through interaction of tools & leadership behaviour. Systems of learning create opportunity. Leadership supports meaning and safety. As organisations look for innovation and adaptability the learning technology is becoming more central to leadership. Creativity needs freedom to go out and learn and to apply knowledge. Sharing knowledge takes trust & recognition. Technology allows those kinds of processes, but leadership starts them. Look at that interaction and how organisations might go beyond information access to collective intelligence and sustained creative performance.

Literature review

Studies of workplace learning have changed as organisations move away from static training models to continuous technology enabled learning environments. Predefined roles were the focus of early learning literature: formal instruction, classroom delivery, skill acquisition. Learning was seen as an event not an ongoing process. Once technologies entered organisational settings scholars looked at how learning systems go beyond scheduled programmes and into everyday work. That changed learning to be a dynamic, self-directed and socially mediated process. Technologies enable learning in online courses, learning management systems, collaborative tools, knowledge repositories, interactive media. Those systems are cited as increasing access, flexibility, scalability in literature. It allows employees to learn at their own pace, go back to content and look at topics related to the changing job demands. Yet scholars have long maintained that access is not engagement. Technologies for learning create potential - outcomes depend on how people, organisations use them (Li et al., 2022; Mittal & Das, 2023).

There is more scholarly attention on employee creativity here. Creative thinking is coming up with new useful ideas, approaches or solutions. Creativity is related to exposure to different kinds of knowledge, cognitive flexibility and experimentation. Systems of technology-enabled learning contribute to increased knowledge inputs and to less dependence on local expertise. Studies show that in digital learning environments employees get cross-functional insights, external insights and new emerging practices to think creatively.

However, learning systems literature warns against a direct relation with creativity. Many studies have shown that employees read digital learning content mostly passively. Creativity suffers when learning is about compliance, standardisation, narrow skill replication. Creativity is seen in systems that encourage exploration, reflection, application instead of completion metrics, scholars say. With this distinction we put leadership behaviour at the centre of creative outcomes. We see leadership support repeatedly as important to learning effectiveness. Leading means encouraging learning, time allocation, effort recognition & modelling learning behaviour. Studies show that employees take leadership signals to mean what the organisation values. When leaders talk about learning systems and learning insights and link learning with problem-solving, employees think learning is legitimate and worthwhile. Leadership supports also shape psychological safety - something the literature calls essential to creativity. Psychological safety says people are free to take interpersonal risks without fearing harm. Digital learning systems usually display learning in discussions boards, contributed works, progress trackers, etc. Visibility elicits sharing but it also elicits fear of judgement. It has been found that leadership support reduces this fear by making learning a process rather than a performance (Hassan et al., 2022).

Knowledge sharing is sharing information, expertise and experience between people and groups. In other words, scholars distinguish knowledge availability from knowledge flow. Information is stored and organised in technology-enabled systems to make availability better. Willingness to share drives flow. Research shows that willingness is related to trust, reciprocity

and perceived value. Technical barriers to sharing are removed by digital platforms but not social barriers. Some employees will withhold information out of fear of criticism, power loss or recognition. Through leadership support we change these perceptions through norms of openness & collaboration. It has been shown that leaders who reward contributors, include shared knowledge in decisions and model sharing behaviour increase participation across platforms.

Social learning literature confirms this view. Not only content consumption but also interaction & dialogue are ways of learning. In technology-enabled learning systems social features are added for example forums, peer feedback as well as collaborative projects. When activated, they help with collective sense-making and creativity, scholars say. Leadership support decides whether social features are peripheral or central to learning practice (Wiewiora et al., 2014).

Research into motivation gives more information. It is intrinsic motivation that produces creative work and voluntary knowledge exchanges. In learning systems autonomy is possible through choice and self-direction. Leadership supports autonomy by trusting employees to manage learning paths. To put it differently: Over-monitoring or obligatory participation undermines intrinsic motivation. It has been written that creativity decreases when learning is controlled instead of self-driven. Leadership style appears in many studies. Transformational leadership is about purpose and commitment - and that leads to exploration and innovation. Participative leadership values input and dialogue. Prioritizing employee development is servant leadership. But learning by leadership style does not guarantee learning outcomes, according to empirical findings. So it needs to be consistent behaviour that gets supported instead of token support. Cognitive load has been mentioned also in digital learning literature. Employees get information overload from many systems, messages and tasks. Poorly integrated learning platforms increase this load. Leaders support load management through prioritisation of learning relevance and content to work need. Studies say employees are more creative if learning is related to concrete challenges instead of abstract requirements.

Knowledge sharing behaviour is also affected by fairness. When employees feel contributions will not be exploited or ignored, they share knowledge. Leadership supports fairness by citing sources, crediting contributors and preventing misuse. Research shows that even in technically advanced systems sharing is reduced by perceived injustice. Literature on communities of practice is a good lens. Communities grow when people have interest, practice and learning goals. So technology enabled systems allow virtual communities that cross organisational lines. Such communities increase creativity,knowledge exchange when leadership allows autonomy and protects informal interaction, studies show. In many cases over-structuring these spaces reduces participation (Li et al., 2022).

So leadership support also affects how learning systems develop over time. Adaptations are needed for platforms. Good leaders want feedback & improvement - that's commitment to learning over time. Research shows stagnant systems lose credibility - they reduce creative use,knowledge sharing. Organisational learning culture studies always connect leadership behaviour to learning norms. Culture determines whether employees see learning as growth or

obligation. Systems that are technology enabled reflect culture not define it. Leadership supports alignment of stated values with practice. But when leaders stop questioning or penalise mistakes, learning systems fail to produce creative outcomes no matter how technically sophisticated they are. Digital era studies use the term learning-in-flow-of-work. Learning goes along with tasks instead of interrupting them. Tech helps with that - microlearning & contextual resources. In work time learning is legitimized by leadership support. Without this support employees put learning off, and this weakens creativity transfer, knowledge exchange. Innovating through research links learning, knowledge sharing with organisational outcomes. Creativity feeds innovation and knowledge sharing feeds diffusion. Systems that use technology do both, but leadership support keeps things going from the idea generation to the implementation side. Research shows that more supportive leadership helps you learn insights into innovation (Ikhide et al., 2022; Mittal et al., 2023).

Complexity is added by remote, hybrid work contexts. In distributed systems we learn and share a lot via digital means. So, leadership support becomes more obvious and consequential. So leaders must connect and learn to counter isolation, scholars say. Technology alone cannot support creative collaboration without human support. Trust in digital systems is another stream of literature. Whether it's about surveillance or data misuse another streamy distrust platforms. Leadership transparency builds trust. Leaders set purpose and boundaries, so employees speak up. Knowledge sharing & creative risk taking are enhanced by trust.

Generational difference research is mixed. Some studies find younger employees get used to digital learning but also need meaning and support. Other authors point out experience rather than age predicts engagement. Leadership support is consistently better than demographics. Also, the literature points out that HR, leadership, and learning design should be aligned. Fractured ownership damps impact. With leadership support comes cross function coordination and learning systems support strategy, creativity rather than isolated training objectives. Studies of evaluation & metrics warn against narrow measurement. Completion rate, usage statistics do not take into account creativity, knowledge sharing. Good leadership supports qualitative assessment through reflection, dialogue. Weighting metrics too much may prevent experimentation, open sharing. Cultures shape learning and sharing behaviours, cross-cultural research shows. Hierarchical cultures prevent free exchange. By explicit encouragement of participation, leadership support bridging these norms is provided. Channels are provided by technology, but leadership legitimizes them (Naeem, 2020).

Literature increasingly accepts that creativity, knowledge sharing are social processes rather than individual acts. Technology affects the environment whereas leadership affects interaction. Learning systems create infrastructure. The direction, the meaning & the safety are provided by leadership support. More recently, sustainability of learning outcomes has been considered. Engagement spikes are not the end of the road to creativity or sharing in the short term. With leadership support we build on this learning through routines and recognition of ongoing contribution. A pattern appears across studies. Systems of technology-enabled learning open new doors of possibility. Leadership supports realisation. Creativity comes from

learning that is exploratory and supported. When behaviour is shaped by trust, recognition and purpose knowledge sharing happens better (Rafique et al., 2020). Without leadership they are underutilized or mechanical.

All the literature agrees that learning technology and leadership support work together. Neither works well alone. It is their interaction that decides whether organisations build collective intelligence, change their behaviour and know how to share knowledge in digitally mediated workplaces.

Objective

To examine the Technology-Enabled Learning Systems and Leadership Support on Employee Creativity and Knowledge-Sharing Behaviour

Methodology

Study survey was conducted among 239 people from respondents with different level of work experience. "Random sampling method" along with "T-test" were used to collect and analyse the data.

Data Analysis

In the total population of study survey males are 52.72% and females are 47.28%. 34.73% of them are 28 to 33 years of age, 38.07% are between 33 to 36 years, and 27.20% are above 36 years. Looking at the Work Experience, 28.87% are Less than 1 year, 38.07% are 1 to 5 years, and 33.06% are More than 5 years.

"Table 1 General Details"

"Variables"	"Respondents"	"Percentage"
Male	126	52.72
Female	113	47.28
Total	**239**	**100**
Age (years)		
28 to 33	83	34.73
33 to 36	91	38.07
Above 36	65	27.20
Total	**239**	**100**
Work Experience		

Less than 1 year	69	28.87
1 to 5 years	91	38.07
More than 5 years	79	33.06
Total	**239**	**100**

Effects of Technology-Enabled Learning Systems and Leadership Support on Employee Creativity and Knowledge-Sharing Behaviour

"S. No."	"Statements"	"Mean Value"	"t value"	"Sig."
1.	Technology expand access to varied content, perspectives and experiences	4.19	18.720	0.000
2.	Personalization develops deep engagement and creative problem-solving	4.29	20.422	0.000
3.	Constructive feedback and access to resources empower creative exploration	4.31	21.069	0.000
4.	Leaders who articulate inspiring goals and strategic purposes help employees with organizational goals	4.17	18.438	0.000
5.	Shared platform make knowledge visible, searchable and reusable	4.00	16.018	0.000
6.	Social learning tools, discussion forum, and collaborative documents increase interaction	3.17	2.677	0.004
7.	Recognition system increases motivation to share valuable knowledge	4.09	17.327	0.000
8.	Supportive culture reduces perceived risk and competition around knowledge	4.13	18.043	0.000
9.	Better cognitive flexibility is linked to higher creative performance	4.11	17.510	0.000
10.	Leaders who show curiosity, openness, and experimentation set behavioral norms	3.15	2.408	0.008

Above table shows the Mean value for statements for "Effects of Technology-Enabled Learning Systems and Leadership Support on Employee Creativity and Knowledge-Sharing Behaviour", Technology expand access to varied content, perspectives and experiences (4.19), Personalization develops deep engagement and creative problem-solving (4.29), Constructive feedback and access to resources empower creative exploration (4.31), Leaders who articulate inspiring goals and strategic purposes help employees with organizational goals (4.17), Shared platform make knowledge visible, searchable and reusable (4.00), Social learning tools, discussion forum, and collaborative documents increase interaction (3.17), Recognition system increases motivation to share valuable knowledge (4.09), Supportive culture reduces perceived

risk and competition around knowledge (4.13), Better cognitive flexibility is linked to higher creative performance (4.11), and Leaders who show curiosity, openness, and experimentation set behavioral norms (3.15). All statements pertaining to "Effects of Technology-Enabled Learning Systems and Leadership Support on Employee Creativity and Knowledge-Sharing Behaviour" are found to be significance, with p-values below 0.05 following the application of a t-test.

Conclusion

So technology-enabled learning systems are changing how organisations work with skills development, collaboration, knowledge flow but their effect depends very much on the social context in which they operate. It is known that digital learning platforms open up information and connection, but access does not create creativity or knowledge sharing. They occur when learning systems interact with leadership that legitimizes exploration, protects learning time, rewards contribution over participation. It increases employee creativity if learning technologies opens doors to many ideas and applications, if leaders let people experiment without being judged. Hence knowledge sharing behaviour is boosted when platforms make exchange easy and when leadership shows trust, recognition and fairness with regard to shared input. Without supporting leadership, learning systems become passive repositories or compliance tools that have little impact on creative work, collaborative learning. Leadership supports how employees interpret learning opportunities. If we see leaders modelling learning - acknowledging shared knowledge - and putting insights into decision making - then learning has meaning. It is this alignment that changes learning from individual consumption to collective capability. Leadership behaviour is even more important for psychological safety and engagement in digitally mediated workplaces where visibility, evaluation creates pressure. All statements pertaining to "Effects of Technology-Enabled Learning Systems and Leadership Support on Employee Creativity and Knowledge-Sharing Behaviour" are found to be significance, with p-values below 0.05 following the application of a t-test.

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