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Digital Training, Digital Enablement, Digital Job Crafting and Employee Engagement in Nigerian Banks: A Conceptual Model of the Social Side of Digital Transformation

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Abstract

Digital transformation projects in banking are usually judged by what the technology delivers. This paper shifts the focus to the human side of the same projects and asks how three social-subsystem dimensions of digital transformation, namely digital training, digital enablement and digital job crafting, relate directly to employee engagement in Nigerian banks. Building on the job demands-resources model, sociotechnical systems theory and self-determination theory, we synthesise evidence on learning and development, organisational support for change, and proactive job redesign. Our argument is that each dimension supplies a different kind of resource. Training builds the competence employees need to feel effective with new systems; enablement signals that the organisation is backing them through change; and digital job crafting lets employees shape digital work around their strengths. Three propositions are developed and brought together in a framework intended for testing with PLS-SEM. The paper contributes by separating the people-facing elements of digital transformation from its technical elements, by tying each to a distinct engagement mechanism, and by grounding the model in a banking sector where engagement has been under strain. Practical implications for bank leaders and human resource teams are discussed.

Keywords: Employee Engagement, Digital Training, Digital Enablement, Digital Job Crafting, Job Demands-Resources Model

Introduction

Picture two customer service officers in different branches of the same Nigerian bank on the morning a new account-servicing platform goes live. The first was trained on it over two weeks, asked for feedback during testing, and told which problems she could fix herself. The

second received a PDF manual by email the night before. At lunchtime both are using identical software. It would be surprising if they felt the same about their work.

That small contrast captures the problem this paper addresses. Digital transformation is usually discussed, budgeted, and evaluated as a technology programme. Yet the outcomes organisations care about most, such as adoption, service quality and retention of capable staff, depend heavily on how employees respond, and much of that response is shaped by things that are not on the technology side: whether people are equipped to use the new systems, whether the organisation visibly supports them through the change, and whether they have room to adapt the work to themselves. Reviews of digital transformation acknowledge that changes to roles, skills and culture are part of what transformation involves, but research on these human elements has received less attention than research on strategy and value creation (Trenerry et al., 2021; Verhoef et al., 2021; Vial, 2019). Trenerry et al. (2021), reviewing the workplace side of transformation, conclude that success depends on factors at the individual, team and organisational levels, not on technology alone.

Employee engagement is the natural outcome to study here. Engaged employees bring energy, dedication and absorption to their work (Schaufeli, Salanova, González-Romá, & Bakker, 2002), and engagement is associated with stronger task and contextual performance (Christian, Garza, & Slaughter, 2011). In Nigerian banking, engagement has attracted research attention partly because of the sector's demanding work conditions. Ugwu, Onyishi, and Rodríguez-Sánchez (2014), surveying employees of commercial banks and pharmaceutical firms in south-eastern Nigeria, found that organisational trust and psychological empowerment predicted work engagement, and observed that organisational behaviour in Nigerian workplaces had been scarcely investigated. Isimoya, Bakare, and Olaniyan (2020), studying employees of six Nigerian banks, found that a bundle of high-performance work practices predicted engagement and that training and development was the only single practice to do so on its own.

Research linking digital transformation to engagement is growing but uneven. Some studies treat transformation as a single variable. Others focus on the stress it creates. Ye, Xu, Wei, Zheng, and Wu (2024), for instance, show that engagement during transformation depends on combinations of technostress, self-efficacy and personality. Zeshan et al. (2025) find that digitalisation can raise engagement by enlarging job resources and creating room for job crafting. What remains underdeveloped is a model that separates the people-facing elements of transformation from its technical elements and explains, element by element, why each should matter for engagement. This paper takes up three dimensions (digital training, digital enablement and digital job crafting) that together form the social side of transformation, as distinct from the technical side made up of processes, channels and systems.

Motivation for the Study

Three considerations led us to undertake this study. The first is practical. Nigerian banks have digitised at speed. Osibanjo and Onumajuru (2026) describe how the Central Bank of Nigeria's cashless policy and competition from financial technology firms have accelerated automation in deposit money banks. Discussion of these changes, in the research literature as much as in practice, tends to centre on systems, platforms and launch dates, and much less on the people who must make the systems work. Yet the evidence from Nigerian banking already hints at

where the returns may lie. Isimoya et al. (2020) found that training and development was the only single human resource practice that predicted engagement on its own. If that holds for training in general, it is worth asking what happens when training, organisational support and the freedom to adapt are tied specifically to digital change.

The second consideration is academic and theoretical. As noted above, few studies have looked at how several factors combine to shape engagement during transformation, and the stress that new technology creates has rarely been part of that picture (Ye et al., 2024). Sociotechnical systems theory insists that the social subsystem must be designed alongside the technical one (Cherns, 1976; Trist & Bamforth, 1951), but on its own it says little about which social arrangements matter most to employees, or through what psychological route they work. The JD-R model and self-determination theory can answer those questions if they are brought together with STS. We did not find a conceptual model that does this for the social dimensions of digital transformation in banking, and this paper is our attempt to build one.

The third consideration is an unresolved tension in practice. Banks are asking employees to absorb new systems while the core demands of banking work remain, and the engagement literature tells us that demands without matching resources wear people down, whereas resources sustain engagement (Bakker & Demerouti, 2007; Schaufeli & Bakker, 2004). Whether digital transformation becomes a source of resources or simply another demand is, in our view, decided largely on the social side: by whether people are trained, supported and given room to shape their digital work. That question matters for Nigerian banks, and it has not yet been addressed directly. These three considerations together explain why we chose to examine the social side of digital transformation and its relationship with employee engagement.

The aim is to develop and justify direct relationships between these three dimensions and employee engagement. Mediating mechanisms are deliberately set aside; the direct relationships need a sound theoretical case of their own before more complex paths are built on them. We begin with the theoretical foundation, define the constructs, develop three propositions, present the framework, and finish with contributions, implications and limitations.

Theoretical Foundation

The Job Demands-Resources Model

The job demands-resources (JD-R) model holds that every job can be described in terms of demands, which require sustained effort and carry physical or psychological costs, and resources, which help employees achieve goals, reduce the cost of demands and support growth (Bakker & Demerouti, 2007). The model proposes two broadly independent processes. Demands drive a health-impairment process that ends in exhaustion; resources drive a motivational process that ends in engagement (Schaufeli & Bakker, 2004). Longitudinal work supports the motivational path, in a study of telecom managers, increases in resources such as opportunities to learn and autonomy predicted later increases in engagement (Schaufeli, Bakker, & Van Rhenen, 2009). Meta-analytic evidence confirms that resources relate positively to engagement across a wide range of settings (Crawford, LePine, & Rich, 2010). More recent statements of the theory also recognise that employees do not simply

receive resources; through proactive behaviour such as job crafting they can build them (Bakker, Demerouti, & Sanz-Vergel, 2023).

JD-R suits this paper because each of the three dimensions can be read as a resource. Digital training is a development resource, digital enablement is an organisational resource, and digital job crafting is the behaviour through which employees create resources for themselves. The model thus supplies the logic of the propositions, while two further theories explain where those resources come from and why they energise people.

Sociotechnical Systems Theory

Sociotechnical systems (STS) theory explains why the social side of transformation deserves a model of its own. The theory originated in research on British coal mining, where Trist and Bamforth (1951) observed that a technically superior mining method undermined the self-regulating work groups on which the pits had relied, with damaging effects on the miners and on output. The principle derived from that work, joint optimisation, holds that the technical and social parts of a work system must be designed together (Cherns, 1976). Parker and Grote (2022) argue that the principle matters even more in digitally mediated work, because technology leaves organisations with real choices about how jobs are designed.

Viewed through an STS lens, a bank's investment in new platforms is only half the transformation. The other half consists of the arrangements that prepare, support and allow employees to work with those platforms. That is precisely the territory of digital training, digital enablement and digital job crafting. If joint optimisation is achieved, the social subsystem should show it in the form of engaged employees.

Self-Determination Theory

Self-determination theory (SDT) explains why resources energise. It proposes that people have basic psychological needs for competence, autonomy and relatedness, and that work environments satisfying these needs foster autonomous motivation, performance and well-being (Deci & Ryan, 2000; Deci, Olafsen, & Ryan, 2017). Each dimension in the model speaks most directly to one of these needs: training to competence, enablement to relatedness and felt support, and job crafting to autonomy in the sense of acting from one's own initiative. SDT therefore helps us state, for each proposition, the specific psychological route by which the dimension should lift engagement.

Literature Review: Defining the Constructs

Employee Engagement

Kahn (1990) described personal engagement as the harnessing of people's selves to their work roles, in which they express themselves physically, cognitively and emotionally. Schaufeli et al. (2002) later defined work engagement as a positive, fulfilling, work-related state of mind characterised by vigour, dedication and absorption. This paper draws on both traditions and treats engagement as having physical (vigour), emotional (dedication) and cognitive (absorption) aspects.

Digital Training

Digital training refers to structured learning interventions that build employees' ability to work with digital systems and in digitally changed roles. The construct as used here covers

not only whether programmes are available but whether learning is continuous, whether it addresses how work behaviour must change, and whether support continues after formal instruction ends. This breadth is deliberate. Training research shows that what happens before and after a programme, including needs analysis, supervisor support and opportunities to apply new skills, shapes whether learning transfers to the job (Salas, Tannenbaum, Kraiger, & Smith-Jentsch, 2012).

Digital Enablement

Digital enablement refers to the organisational conditions that equip and support employees to take part in digital transformation: a clear digital strategy, adequate resourcing, leaders who model the use of new systems, mechanisms that prepare people for change, and collaboration across functions. Where digital training operates on the individual employee, enablement operates on the environment around them. It draws on the literatures on perceived organisational support (Rhoades & Eisenberger, 2002) and readiness for change (Armenakis, Harris, & Mossholder, 1993; Weiner, 2009).

Digital Job Crafting

Job crafting describes the changes employees make on their own initiative to the tasks, relationships and meanings that make up their jobs (Wrzesniewski & Dutton, 2001). Within the JD-R tradition, crafting is described as employees increasing their structural and social resources, seeking challenges and reducing hindering demands (Tims, Bakker, & Derks, 2012). Digital job crafting applies the same idea to digitally transformed work: employees upskilling on their own initiative, redesigning tasks with digital tools, collaborating on improvements, taking on challenging digital assignments and reframing technological change as an opportunity to grow.

Two boundaries need to be stated clearly. Digital job crafting is something employees do, which separates it from perceived job autonomy, something employees experience. It is also individual and bottom-up, which separates it from digital enablement, a top-down organisational condition. Keeping these boundaries clear matters for the empirical phase, where discriminant validity among related constructs must be demonstrated rather than assumed. Table 1 summarises the definitions.

Table 1
Definitions of the constructs in the proposed model

Construct	Working definition in this study	Key sources
Employee engagement	A positive, fulfilling work-related state expressed physically (vigour), emotionally (dedication) and cognitively (absorption).	Kahn (1990); Schaufeli et al. (2002)
Digital training	Structured, continuing learning interventions that build employees' capability to work with digital systems, including support after formal instruction.	Salas et al. (2012); Lee & Bruvold (2003)

Construct	Working definition in this study	Key sources
Digital enablement	Organisational conditions that equip and support employees through digital change: clear strategy, resources, leadership role modelling, readiness mechanisms and cross-functional collaboration.	Rhoades & Eisenberger (2002); Armenakis et al. (1993); Weiner (2009)
Digital job crafting	Changes employees make on their own initiative to the tasks, relationships and meanings of their digitally transformed work.	Wrzesniewski & Dutton (2001); Tims et al. (2012)

Proposition Development

Digital Training and Employee Engagement

New systems arrive in banks with an implicit message to staff: what you knew how to do yesterday is no longer enough. For many employees the first feeling this creates is not excitement but exposure, the fear of looking incompetent in front of customers and colleagues. Training is the most direct answer to that fear. In SDT terms it serves the need for competence; employees who can handle a new platform confidently experience themselves as effective, and that experience feeds autonomous motivation (Deci et al., 2017).

The JD-R evidence points the same way and is unusually consistent on this particular resource. In a meta-analysis of 113 independent samples, Mazzetti et al. (2023) found that development resources were more strongly related to work engagement than either social resources or job resources in general; only personal resources showed a slightly stronger link. Schaufeli et al. (2009) found that increases in opportunities to learn, among other resources, predicted increases in engagement over time. Albrecht, Green, and Marty (2021), surveying 1,415 employees, found development opportunities to be directly and positively associated with engagement. Nigerian banking evidence agrees: in Isimoya et al.'s (2020) study, training and development was the one human resource practice that predicted engagement on its own.

Training also carries a signal beyond the skills it teaches. Lee and Bruvold (2003) found that employees' perceptions of their organisation's investment in their development were associated with greater job satisfaction and affective commitment. When a bank spends money and time teaching its people to work in the new environment, employees can read that investment as evidence that the bank intends to keep them, a message that matters a great deal when automation is widely discussed as a threat to banking jobs.

There is a qualification, and it is an important one. Not all training is engaging. Mandatory e-learning modules completed to satisfy a compliance requirement, with no connection to the employee's actual work, can seem like another demand rather than a resource. Salas et al. (2012) show that training works when it is designed around a real analysis of needs and supported after delivery. The construct examined here was defined to include continuity, behavioural adaptation, and post-training support for exactly this reason. Where those conditions hold, we expect digital training to raise engagement.

P1: Digital training is positively related to employee engagement among bank employees.

Digital Enablement and Employee Engagement

Employees take their cue about a transformation less from what is announced than from what is provided. A digital strategy that is clearly communicated, resourced with working equipment and adequate connectivity, modelled by leaders who use the new systems themselves, and supported by collaboration across departments tells employees that the change is serious and that they will not be left to manage it alone. Organisational support theory explains why that message matters. When employees believe the organisation values their contribution and cares about their well-being, they respond with greater commitment and effort (Rhoades & Eisenberger, 2002). Saks (2006) found that perceived organisational support predicted both job and organisation engagement, and a later reanalysis using the Utrecht Work Engagement Scale again found perceived organisational support to be a significant predictor of work engagement (Saks, 2019).

The readiness-for-change literature adds a second mechanism. Armenakis et al. (1993) argued that readiness is created when employees understand why change is necessary and believe that the organisation and themselves can carry it out. Weiner (2009) framed organisational readiness in terms of shared commitment to a change and shared belief in the collective capability to deliver it. Digital enablement is in effect the organisation's investment in that readiness. Oreg, Vakola, and Armenakis (2011), reviewing six decades of research on how employees react to change, found that how a change is carried out, and not only what it contains, shaped people's responses.

Leadership is a central element of enablement, and recent evidence links it directly to engagement during digital transformation. In a study of 559 employees from listed companies in China, Li, Yang, Yang, and Zhao (2024) found that middle managers' digital leadership was positively related to work engagement, partly through employee empowerment and affective commitment. The Nigerian evidence, while not specific to digital change, is consistent: Ugwu et al. (2014) found that employees' trust in their organisation predicted engagement in the banks and firms they studied. Diener and Špaček (2021), interviewing board members of German banks, identified strategy and management, and the participation of employees, among the main areas in which digital transformation in banking runs into difficulty, which suggests that enablement is not a given even in mature banking systems.

A note of caution is warranted. Enablement can be performed rather than delivered: a strategy launched with fanfare but without the equipment, connectivity or time that staff need. In that case employees are likely to read it as pressure rather than support. As with training, the construct examined here concerns the substance of enablement (resources, readiness systems and leadership behaviour), not its rhetoric. On that basis, we expect a positive relationship.

P2: Digital enablement is positively related to employee engagement among bank employees.

Digital Job Crafting and Employee Engagement

Training and enablement are things the organisation provides. Digital job crafting is something employees do for themselves, and that difference is the reason it belongs in the model. No transformation programme can anticipate every way a new system will fit, or fail to fit, the work of a particular branch or desk. Employees fill the gaps: they build personal

shortcuts, set up their own dashboards, teach themselves features the training skipped, team up with a colleague to fix a recurring problem, or volunteer for a pilot that interests them. Each of these acts turns part of the digital environment into a resource of their own making.
The evidence that crafting raises engagement is among the strongest in the job design literature. In a longitudinal study, Tims, Bakker, and Derks (2013) found that employees who crafted their job resources at one point in time reported more resources later, and those increases were associated with higher engagement and job satisfaction. Bakker, Tims, and Derks (2012) found that proactive employees engaged in more job crafting, which in turn was related to higher engagement and, through it, to performance as rated by colleagues. Rudolph, Katz, Lavigne, and Zacher's (2017) meta-analysis brought these strands together and confirmed that job crafting is positively related to work engagement across studies. In the digital setting specifically, Zeshan et al. (2025) found that digitalisation was related to engagement through job resources and job crafting.

Leonardi (2011) helps explain why digital work is especially open to crafting. In his study, people who saw a technology as getting in the way of their goals tended to change the technology, while those who saw it as opening new possibilities changed their routines instead. Modern banking software, with configurable views, collaboration tools and self-service learning, offers more of this flexibility than the closed systems of the past. In SDT terms, crafting satisfies the need for autonomy in its fullest sense, since the employee is the author of the change rather than its recipient (Deci et al., 2017).

The banking context imposes one obvious limit. Employees cannot craft their way around customer due diligence or transaction limits, and a model that suggested otherwise would not survive contact with a compliance officer. Crafting in a bank happens within the rules, in how tasks are sequenced, how information is organised, which skills are developed, and how change is interpreted. That is still a large space, and it is the space the construct measures.
P3: Digital job crafting is positively related to employee engagement among bank employees.

Conceptual Framework
Figure 1 sets out the proposed model. Digital training, digital enablement and digital job crafting appear on the left as the social subsystem of digital transformation, and employee engagement appears on the right as the motivational outcome. Each arrow represents a direct, positive proposition. Table 2 summarises the mechanism behind each proposition, the theory supporting it and the main condition under which it could weaken.

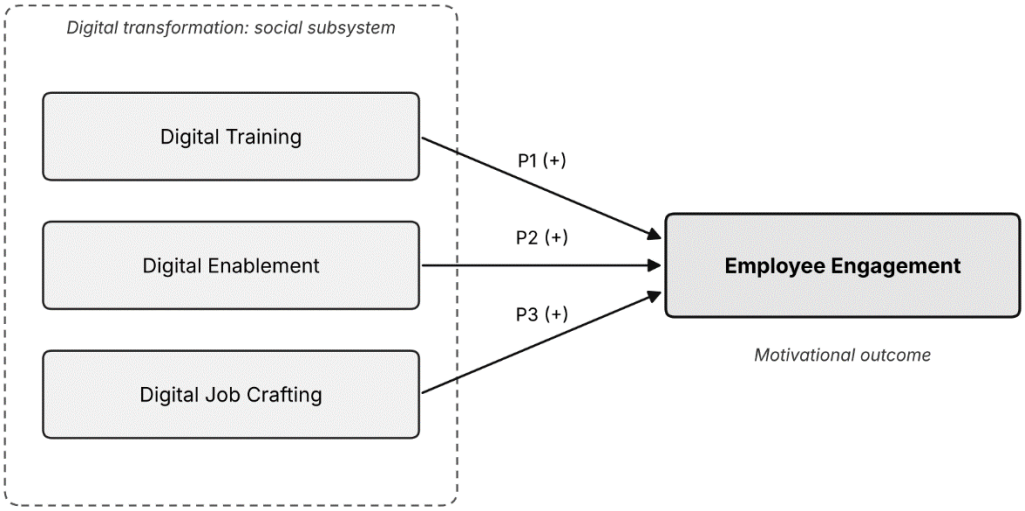

Figure 1: Conceptual framework of the relationships between digital training, digital enablement, digital job crafting and employee engagement

Table 2
Summary of propositions, mechanisms and boundary conditions

Proposition	**Main mechanism**	**Theoretical support**	**Condition under which the link may weaken**
P1: Digital training (+) employee engagement	Builds competence and confidence with new systems; signals the bank's investment in its people.	JD-R development resources (Mazzetti et al., 2023); SDT competence need (Deci et al., 2017)	Generic, compliance-driven modules without follow-up support may feel like a demand rather than a resource (Salas et al., 2012).
P2: Digital enablement (+) employee engagement	Signals organisational support and builds readiness for change through resources and visible leadership.	Perceived organisational support (Rhoades & Eisenberger, 2002; Saks, 2006); readiness (Weiner, 2009)	Enablement that is announced but not resourced may be read as pressure.
P3: Digital job crafting (+) employee engagement	Employees build their own resources and challenges within digital work, satisfying the need for autonomy.	JD-R crafting research (Tims et al., 2013; Rudolph et al., 2017); affordances (Leonardi, 2011)	Regulatory limits narrow the space for crafting; the reverse path (engagement leading to crafting) must be tested.

Propositions

Based on the review above, the following propositions are advanced for empirical examination:

P1: Digital training is positively related to employee engagement among bank employees.

P2: Digital enablement is positively related to employee engagement among bank employees.
P3: Digital job crafting is positively related to employee engagement among bank employees.

Discussion and Implications

Theoretical Contributions

The paper contributes to the literature in three ways. First, it separates the people-facing elements of digital transformation from its technical elements and treats them as a distinct set of antecedents of engagement. Most research either measures transformation as a whole or concentrates on the technology and the stress it brings. By isolating training, enablement and crafting, the framework makes it possible to ask which human investments matter most, a question that general measures of transformation cannot answer.

Second, the paper ties each dimension to a distinct mechanism instead of treating them as interchangeable resources. Training works mainly through competence, enablement through felt organisational support and readiness, and crafting through self-initiated change. This matters theoretically because JD-R research sometimes treats resources as additive and undifferentiated. Linking each to a specific psychological need, following Deci et al. (2017), gives the model more explanatory content and makes it easier to see which result would challenge which part of the argument.

Third, the paper places all three relationships within the sociotechnical logic of joint optimisation. In most STS research, the social subsystem is described in general terms. Here it is given concrete content in the form of three measurable dimensions, with employee engagement as the indicator of whether the social side of a transformation is being looked after. The framework is also grounded in Nigerian banking, a setting where engagement has been studied (Ugwu et al., 2014; Isimoya et al., 2020) but rarely in connection with digital change.

Practical Implications

For bank leaders, the main implication is that the human side of transformation needs its own budget and its own plan rather than a line at the end of a technology project. Training should be continuous, tied to real tasks and followed by support on the floor, since one-off sessions before go-live are unlikely to build the confidence that engagement depends on (Salas et al., 2012). Enablement should be visible in substance: equipment that works, connectivity that holds, time set aside for learning, and leaders who are seen using the systems they ask staff to adopt.

Job crafting calls for a different kind of managerial action, one of permission rather than provision. Banks can make room for crafting by inviting staff to propose improvements to digital workflows, by giving recognition to employees who build useful shortcuts or teach colleagues, and by making clear which aspects of digital work are open to individual adjustment and which are fixed by regulation. Employees are more likely to craft when they know where the boundaries are.

For human resource departments, the framework offers a way to audit transformation readiness from the employee's side. Asking three questions (whether staff are trained, whether they feel supported, whether they are free to adapt) may reveal gaps that technology project reports do not.

Limitations and Directions for Future Research

The propositions in this paper are theoretical and await empirical testing. They lend themselves to testing with survey data from employees of Nigerian commercial banks, analysed using partial least squares structural equation modelling. A cross-sectional design will not settle causal direction, and the reverse path is plausible for at least one proposition: engaged employees are, after all, more likely to craft their jobs, as the gain-spiral findings of Schaufeli et al. (2009) and Tims et al. (2013) imply. Longitudinal or time-lagged designs would help disentangle the two directions.

We also flag a measurement risk that the empirical phase must address. Digital job crafting and perceived job autonomy are conceptually close, and so, to a lesser extent, are digital training and digital enablement. Clear conceptual boundaries have been drawn here, but discriminant validity has to be demonstrated statistically, for example with the heterotrait-monotrait ratio, before the propositions can be tested.

Several extensions suggest themselves. The relationships may differ across employee groups, for instance between frontline and back-office staff or between younger and older employees, and these differences could be modelled as moderators. The interplay between these social dimensions and the technical dimensions of transformation is an obvious next step, since sociotechnical theory predicts that the two sides matter most in combination. Finally, future work could examine whether perceived job autonomy carries part of the effect of these dimensions to engagement, a question set aside here by design.

Conclusion

Banks tend to measure digital transformation by what their systems can do. This paper has argued that the engagement of the people who run those systems depends on three things that sit on the social side of the same transformation: training that makes employees competent, enablement that makes them feel supported, and room to craft their digital work around their strengths. Drawing on the job demands-resources model, sociotechnical systems theory and self-determination theory, we proposed that each of these is positively related to employee engagement among bank employees. If the propositions hold when tested in Nigerian banks, the practical lesson is easy to state and hard to act on. Spending on digital systems will not, by itself, make employees more engaged. The gains come when banks also invest in how people learn, use and shape those systems in their daily work, and that kind of investment is slower, less visible and harder to justify in a budget meeting than a new platform.

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