

Cuadernos de economía



www.cude.es

ARTÍCULO

The Impact of Goal Clarity and Extensive Training on Fintech Strategic Change

Luya Zhu^{1*}, Marziah Zahar², Sarah Shaharruddin²

¹College of Business, School of Business Management, Universiti Utara Malaysia, Sintok, Malaysia.

Email: zhu_luya@cob.uum.edu.my

² College of Business, School of Business Management, Universiti Utara Malaysia, Sintok, Malaysia.

Email: marziah@uum.edu.my

² College of Business, School of Business Management, Universiti Utara Malaysia, Sintok, Malaysia.

Email: sarahdin@uum.edu.my

*Corresponding Author Email: zhuluya@stdhnphd.cn & zhu_luya@cob.uum.edu.my

Keywords:

Strategic Change; Goal Clarity, Extensive Training, Fintech.

Abstract: In the contemporary era characterised by rapid advancements in the Internet, technology, and artificial intelligence, strategic change emerges as a critical subject of inquiry. Organisations may be revitalised through the successful execution of strategic change; conversely, failure in this regard can trigger a series of crises that may ultimately culminate in organisational collapse. Consequently, corporate leaders are increasingly advocating for effective approaches to implement strategic change, underscoring the necessity for further research and practical insights to enable firms to manage strategic change efficiently. By bridging the divide between theoretical perspectives and practical application, this study endeavours to reconceptualise strategic change as an opportunity rather than a threat. This paper proposes a conceptual framework that investigates the interrelations among goal clarity, extensive training, and strategic change within the FinTech industry. It examines how goal clarity fosters strategic alignment and how extensive training equips employees to navigate organisational transformations. Furthermore, this research offers practical recommendations for FinTech organisations seeking to implement strategic change effectively.

Introduction

Strategic change is undoubtedly among the most prominent topics in contemporary discourse, and given the escalating competition within markets and continuous technological advancements, change has become both constant and inevitable (Kotter, Akhtar, & Gupta, 2021). Furthermore, with the increasing presence of digitally native Millennials in the workforce (Chen, You, & Chang, 2021b; Evans & Robertson, 2020; Rosdiana, 2020), organisations are compelled to align their operations with the internal customer experience (Cardona & Rey, 2022; Yun et al., 2020). As a result, organisations are confronted with mounting challenges and complexities arising not only from rapid shifts in the external environment but also from evolving workplace dynamics internally (Lam et al., 2021), thereby intensifying the frequency and necessity of undertaking strategic change (Domínguez-Cc & Barroso-Castro, 2017; Lam et al., 2021; Mohammad, 2019). Henderson (1979) emphasised that strategic decisions often yield irreversible consequences. While the successful implementation of strategic change can rejuvenate organisations, failure to do so may provoke a succession of adverse outcomes, potentially culminating in the organisation's disappearance from the market (Hofer & Schendel, 1978; Hrebiniak, 2006).

In recent years, the imperative of strategic change within FinTech companies has gained significant attention (Liu et al., 2023; Nejad, 2022; Seth, 2020). FinTech represents an interdisciplinary field that exerts profound influence not only on the financial industry but also on the wider economic landscape (Alaassar, Mention, & Aas, 2023; Chemmanur et al., 2020; Gao, 2022). A nuanced

understanding of strategic change in the FinTech sector is vital for diverse stakeholders, including managers, policymakers, and researchers, as it provides essential insights for effectively navigating this complex and dynamic environment.

The global FinTech sector has witnessed exponential growth over the past decade, solidifying its status as a critical area of focus (Allen, Gu, & Jagtiani, 2021; Chemmanur et al., 2020). According to KPMG's Global Fintech Investment Report, FinTech investments reached an unprecedented peak in 2021, encompassing 8,055 deals amounting to \$225.8 billion, with substantial investments in sectors such as payment systems and blockchain technology (KPMG, 2022) as shown in Figure 1. The COVID-19 pandemic further accelerated the adoption and development of FinTech, acting as a significant catalyst for its rapid advancement (Cumming, Johan, & Reardon, 2023). Nevertheless, between 2022 and 2023, global FinTech transaction volumes and total investment experienced a marked decline, with the number of transactions falling from 7,515 to 4,547 deals, and total investment decreasing from \$196.6 billion to \$113.7 billion (Demmou et al., 2021), prompting many FinTech firms to adopt more cautious financial strategies (KPMG, 2022). Moreover, as the FinTech sector continues to mature, the extent of earlystage entrepreneurial activity has diminished, following the attainment of a critical developmental threshold (Kolokas et al., 2022). In addition, there is an escalating demand for more robust regulatory frameworks within the FinTech industry, which consequently raises the entry barriers and operational costs associated with FinTech entrepreneurship and innovation (Barz, Lindeque, & Hedman, 2023; Chemmanur et al., 2020; Cumming et al., 2023).

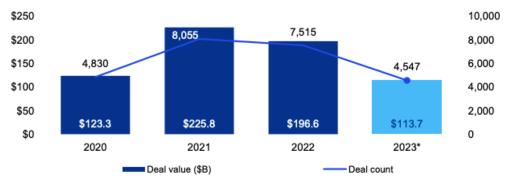


Figure 1: Total Global Funding Activity (VC, PE and M&A) in Fintech (2020-2023). Source: KPMG & China Internet Finance Association (2023)

Although global investment in FinTech has declined, the sector continues to disrupt conventional financial operations, demonstrating notable advantages in both innovation and user experience (Chemmanur et al., 2020; Cumming et al., 2023). According to the Pulse of Fintech H1 2022 report, investor confidence in numerous FinTech sub-sectors remains strong, with projections suggesting that the global FinTech market could reach \$3,050 billion by 2030 (Ng et al., 2023). The rapidly evolving digital environment necessitates ongoing innovation within FinTech to address shifting consumer demands (Hanelt et al., 2021). Nevertheless, the sector faces substantial challenges, including the need for effective risk management, compliance with complex regulatory frameworks, and intensifying competition (Ng et al., 2023). As such, traditional strategic models are increasingly inadequate in addressing the unique and dynamic needs of the FinTech industry (Araújo, Reis, & Morais, 2021).

In response to these challenges, this paper explores how FinTech firms can adjust their strategic approaches to enhance sustainability and competitiveness within an everchanging landscape. A key component of achieving organisational effectiveness and adaptability lies in understanding the influence of goal clarity and extensive training on strategic change processes (Heine, Stouten, & Liden, 2023). For strategic transformation to be effective, organisations must establish clearly defined goals accompanied by comprehensive training initiatives. Clear goals are essential for enhancing employee performance and fostering creativity (Locke & Latham, 2002). Strategy should not be perceived as an elusive or obscure concept but rather as a clearly communicated framework understood by all members of the organisation (Gioia & Chittipeddi, 1991; Sonenshein, 2010). However, prior studies have shown that managers frequently convey vague and inconsistent accounts of both modified and unmodified

strategies (Sonenshein, 2010). Such strategic ambiguity can undermine the change process and result in protracted change cycles (Larson & Tompkins, 2005). According to Hubbart (2023), transparent communication of strategic intent is essential to alleviate uncertainty and reduce fear of the unknown.

Unclear or ambiguous goals present a significant obstacle to effective organisational management (Abdallah & Langley, 2014; Thielsch et al., 2021), negatively impacting employee engagement, motivation, and execution capacity. Within the context of strategic change, goal ambiguity is particularly problematic. In FinTech, the goals associated with strategic change are often fluid and poorly defined due to the influence of evolving regulatory policies (Rodríguez & Ortún, 2020). Moreover, the inherent complexity and ambiguity of strategic objectives have become more pronounced, especially given the extended duration of strategic change processes (Zerfass et al., 2020). For instance, the case of China's Alipay illustrates how a lack of clarity regarding strategic objectives can hinder the success of strategic transformation efforts (Ng et al., 2023; Tan et al., 2021).

Moreover, concerning the methods and scope of training during strategic change, existing research has largely overlooked the levels and dimensions of such training. Extensive training is essential for enabling employees to update their competencies and adapt to evolving industry demands, thereby promoting organisational learning and sustained competitiveness (Birdi et al., 2008; Madhavan et al., 2023). Bartunek et al. (1999) stressed the significance of providing clear explanations and communication during periods of strategic change, underscoring understanding the nature of change is critical (Hubbart, 2023). It is widely recognised that through structured training programmes, employees are better positioned to grasp the organisation's vision, mission, and core values, appreciate the necessity of strategic change, and align their goals and behaviours accordingly (Madhavan et al., 2023). Notably, empirical evidence has confirmed that training exerts a significant and positive influence on organisational performance (Madhavan et al., 2023).

As a fundamental element of human resource management (HRM), training constitutes one of the six primary HR functions and is perceived by HR professionals as a systematic and deliberate process (Kiran et al., 2022). However, Ren & Chen (2017), in a study involving 80 small and medium-sized enterprises, identified recurrent issues such as insufficient emphasis on employee training, inadequate analysis of evolving user demands due to Internet advancement (Chen et al., 2021a), and persistent concerns regarding cost and time allocation for training activities. The temporal nature of strategic change, which often necessitates agile and prompt organisational responses (Lawrence, 2013), challenges the immediate effectiveness of conventional systematic training processes. Achieving successful strategic change demands continuous reinforcement and clarification of new directions to ensure that both existing and newly recruited employees comprehend and align with the intended strategic trajectory, thereby preventing deviations from the desired change process (Miller, Johnson, & Grau, 1994). This study contends that extensive training constitutes a critical mechanism in facilitating strategic change. Given the inherent complexity of strategic transformations, must strengthen internal strategic organisations communication and intentionally disseminate the rationale behind change initiatives (Zerfass et al., 2020). Thus, training extensive (Iddagoda, Keppetipola, Liyanagamage, 2022) emerges as a highly effective

strategy. Within the context of strategic change, extensive training entails equipping employees with a comprehensive set of knowledge, skills, and attitudes necessary to support and implement strategic change effectively.

Strategic change is essential for organisational survival, yet the reported failure rate of such initiatives remains alarmingly high, estimated between 60-70% (Errida & Lotfi, 2021). Multiple obstacles, including employee resistance and constraints on organisational resources, frequently hinder the implementation of strategic change (Johnson et al., 2020). Despite substantial academic interest, a lack of comprehensive understanding persists regarding the most effective methods for facilitating strategic change (Sonenshein & Dholakia, 2012). Therefore, additional systematic and evidence-based insights are necessary to enable organisations to navigate emerging challenges and capitalise on new opportunities.

Accordingly, this study investigates the interplay between goal clarity, extensive training, and strategic change. In particular, within the increasingly volatile and competitive FinTech sector, the effective management of strategic change offers critical lessons for organisational leaders, HR practitioners, and policymakers seeking to enhance organisational resilience and adaptability. Furthermore, this study offers a valuable contribution to the academic literature by advancing the understanding of the fundamental determinants of strategic change within the context of a highly competitive and innovation-driven industry.

Literature Review

Definition of Strategic Change

Strategic change entails substantial and ongoing adjustments in an organisation's structure, culture, or processes to improve adaptability and competitiveness (Kotter, 1995). It involves redefining missions and shifting priorities (Müller & Kunisch, 2018). As market dynamics intensify, strategic change becomes essential for survival, whether internally motivated or externally imposed (Zhang et al., 2020). Although once seen as rare due to rigid cognition and risk aversion, its frequency is increasing amid global competition and technological innovation (Keding, 2021; Kotter et al., 2021). Yet, revolutionary change remains unlikely in most corporate lifecycles.

Strategic Change Comprises Several Forms, Including

Organisational Structural Change: Major transformations in governance, ownership, and culture (Bordia et al., 2004).

Strategic Goals or Direction Change: Revisions driven by competition, technological advances, or evolving customer demands (Barker & Duhaime, 1997).

Business Process Change: Redesign of production or service delivery processes to enhance efficiency (Bayomy et al., 2021).

Technological and Innovation Change: Adoption of new technologies to stimulate innovation (Hanelt et al., 2021). Other Changes: Arising from internal and external environmental shifts, such as adjustments in shared values to promote collaboration or broader cultural reforms (Spicer, 2020), as well as changes prompted by leadership transitions or human resource management reforms

Research suggests that in a VUCA (Volatility, Uncertainty, Complexity, and Ambiguity) environment, technological

innovation and market dynamics are key drivers of strategic change (Hanelt et al., 2021). Organisations must engage in strategic technological change to maintain competitiveness, while emerging market opportunities necessitate ongoing adaptation.

Goal Clarity

Goal clarity refers to the extent to which tasks are clearly defined during the process of goal attainment within an organisation (Ha & Moon, 2023). Organisational goals embody shared beliefs among members (Locke & Latham, 1990), acting as the driving force for organisational progress and motivating employee achievements (Bellamkonda, Santhanam, & Pattusamy, Numerous scholars highlight the significance of goal clarity (Ali et al., 2021; Errida & Lotfi, 2021; Gede & Huluka, 2023; Ha & Moon, 2023). Several studies demonstrate a significant positive relationship between goal clarity and improvements in organisational performance (Anderson & Stritch, 2015; Ha & Moon, 2023; Park & Choi, 2020). The clarity of job roles also influences employees' perceptions of organisational fit and satisfaction (Manolache & Epuran, 2023). Other research suggests that clear goals effectively guide employees, enabling them to focus on designated tasks (Ali et al., 2021).

Generally, when goals are clearly defined and consistent, employees are more likely to exert greater effort and achieve those goals. Challenging goals act as stronger motivators, and when goals are clear, employees understand the expected outcomes and apply their skills, knowledge, and resources to accomplish them (Akgün, 2020; Ali et al., 2021). Furthermore, Drucker (1954) regarded clear goals as essential to organisational success. He argued that organisations should establish clear, specific, and measurable goals, stressing the need for managers to ensure these goals are understandable and achievable throughout the organisation. To promote effective goal execution, it is vital to involve employees in the goal-setting process, communicate goals clearly, and provide the necessary resources and support. Involving employees fosters a sense of responsibility and commitment, allowing them to understand and work towards well-defined objectives. Clear, specific goals, alongside sound management, are crucial for achieving goals efficiently (Ogochukwu, Amah, & Okocha, 2022; Sadiya, 2019).

Heine et al. (2023) identified goal clarity as a mediating variable, highlighting its importance in organisational change, where a clear understanding of goals enhances employee adaptability and support for change. Beer et al. (2005) introduced the Strategic Fitness Process (SFP), underscoring goal clarity as central to organisational alignment. Bellamkonda et al. (2021) also found that goal clarity fosters employee retention by promoting dedication to work. Moreover, goal clarity is fundamental for successful change implementation (Gede & Huluka, 2023) and serves as the starting point of strategic planning (Weston, 2020). Clear goals positively influence individual performance and effort (Locke & Latham, 2002) and act as a guiding force during strategic change, aiding organisational members in comprehending and executing the process. In view of the critical role of goal clarity in facilitating strategic change, we propose the following hypothesis:

H1: Goal clarity is positively correlated with strategic change.

Extensive Training

The Cambridge Dictionary defines "extensive" as "large in amount or covering a large area." Extensive training refers to a comprehensive, long-term training approach that goes beyond basic skill acquisition, focusing on developing values, beliefs, and attitudes alongside knowledge and skills (Pfeffer, 1998). Unlike general training, it aims to enhance future adaptability and capabilities beyond current organisational needs (Birdi et al., 2008). First introduced by Pfeffer (1998), the concept has since been linked to improved organisational performance in learning organisations (Iddagoda et al., 2022). Despite its significance, the definition of extensive training remains varied across disciplines. Although underexplored in human resources research (Hussain et al., 2023; Iddagoda et al., 2022), its relevance is increasingly recognised. In education, it includes approaches such as extensive reading and listening for language learning and comprehension (Hutahaean, Sinurat, & Pandiangan, 2023; Yerukneh, Olana, & Zewdie, 2023). In computer science, it refers to multi-task learning to enhance model generalisation (Zhang & Yang, 2017), while in business, it is viewed as a highperformance human resource practice that improves employee skills and organisational competitiveness (Birdi et al., 2008; Iddagoda et al., 2022; Iddagoda & Opatha, 2018; Madhavan et al., 2023). Psychological studies also highlight that prolonged training can reshape brain function, boosting productivity and facilitating neartransfer effects (Jaušovec & Jaušovec, 2012; Olesen, Westerberg, & Klingberg, 2004; Zhao, Wang, & Maes, 2020). Extensive training, incorporating continuous and broad learning, is thus essential for supporting strategic change, enabling employees to align with organisational goals and acquire the necessary competencies to navigate change (Leo & Tello-Gamarra, 2020; Lim & Chuah, 2022).

Widespread Training

Widespread training enhances employee knowledge and skills while also strengthening their understanding and capacity for strategic change (Iddagoda et al., 2022). It further shapes employees' attitudes and willingness to embrace change by influencing their values and beliefs (Al-Kassem, 2021). Therefore, this study hypothesises that extensive training positively affects strategic change.

Continuous Training

Employees who receive continuous training are better prepared to update and enhance their knowledge and skills, enabling them to adapt to evolving job demands (Al-Kassem, 2021). Consistent employee development strengthens organisational talent competitiveness and responsiveness to market and industry challenges (Madhavan et al., 2023). Moreover, continuous training fosters a deeper understanding of organisational culture and change, supporting overall strategic transformation and future readiness (Zerfass et al., 2020). Training plays a crucial role in facilitating strategic change, as it supports strategic consensus, communication, and participation across all organisational levels (Lim & Chuah, 2022). Employees with clearer understanding of strategic goals collaborate more effectively during implementation, easing the change process (Beer et al., 2005). Since strategic change requires employees to acquire new skills and knowledge, training enables them to comprehend and communicate the change effectively (Brown & Humphreys, 2003; Gioia & Chittipeddi, 1991; Zerfass et al., 2020). Extensive training equips employees with the capabilities needed to contribute to strategy implementation (Leo &

Tello-Gamarra, 2020) and fosters learning, creativity, and adaptability for organisational growth (Tripathi & Dhir, 2023).

As organisations consist of diverse teams with interconnected goals, extensive training aids in clarifying strategic objectives and guiding employees' responses to change (Blanchard & Thacker, 2023). It helps align goals, communicate change significance, and disseminate information effectively, particularly when employees' views diverge from organisational direction (Blanchard & Thacker, 2023). Furthermore, extensive training enables employees to acquire new tools, processes, and skills, facilitating adaptation and commitment to strategic change (Buckley & Caple, 2009; Leo & Tello-Gamarra, 2020; Madhavan et al., 2023). Additionally, extensive training is vital for strategic alignment, ensuring consistency between goals, actions, processes, and organisational values, ultimately enhancing performance, reputation, and trust (Volk & Zerfass, 2020). Thus, this

study hypothesises that extensive training positively influences strategic change.

H2: Strategic change is positively connected with extensive training.

H2a: Widespread training is positively correlated with strategic change.

H2b: Continuous training is positively correlated with strategic change.

Related Underpinning Theories

This paper examines the theoretical foundations of strategic change, with a focus on Lewin's Change Management Theory. Introduced by Lewin (1951), the model comprises three stages: unfreezing, moving, and refreezing. As a foundational framework in change management, it provides a systematic approach to understanding the change process, aligning well with the themes explored in this study see Table 1.

Table 1: Theory of Change Three Stages of Action and Analysis.

Phase	Action	Explain	
Unfreezing Stage	Establishing Goal Clarity	In the freezing phase, organizations need to address cultural incompatibilities and establish clear goals to guide the change process effectively. This phase emphasizes the implementation of new strategies and training for	
Moving Stage Extensive Training		members to enhance their skills and capabilities during the change process (Errida & Lotfi, 2021).	
Refreezing	Regulating	After the change has been implemented, this stage involves consolidating new goals	
Stage	Organizational Culture and cultural norms, embedding them into the organization's practices.		

Source: Organised by the author.

Methodology

This study employs a quantitative research approach to examine the influence of goal clarity and extensive training on strategic change within the fintech sector. By focusing on employee perceptions, the study aims to enhance understanding of how these elements shape organisational dynamics during strategic transformation. The findings are expected to contribute to the existing literature on strategic change, particularly within rapidly evolving industries such as fintech. The research targets a sample of 368 employees who have actively engaged in strategic change initiatives at fintech unicorn companies located in Beijing, Shenzhen, Chengdu, and Shanghai. Recognised as major fintech hubs in China, these cities represent diverse regional perspectives-Shanghai and Beijing for financial and technological advancements, Shenzhen for innovation, and Chengdu as an emerging fintech centre (CFTE, 2024; KPMG, 2022). This geographic spread ensures a broad and balanced understanding of strategic change in the sector.

To ensure validity and reliability, this study uses established scales and a five-point Likert questionnaire covering strategic change, extensive training, and goal clarity. Demographic data are also collected to examine possible moderating effects. Ethical considerations are fully observed, with informed consent, anonymity, and voluntary participation guaranteed. Advanced statistical techniques will be employed to enhance the robustness of the findings. Data analysis will be conducted using SPSS 26 and SmartPLS to assess variable relationships and validate the research model (Hair, Ringle, & Sarstedt, 2011). These analytical tools will facilitate the exploration of interactions between goal clarity, extensive training, and strategic change, offering insights that can inform both theoretical development and

practical strategies for effective organisational transformation in the fintech industry.

Research Framework

The research framework, illustrated in Figure 2, serves as the study's blueprint, outlining the relationships between strategic change, extensive training, and goal clarity.

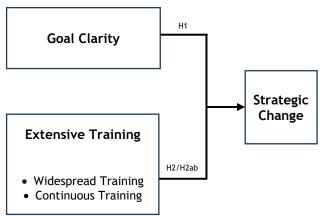


Figure 2: Research Framework.

Operationalization and Measurement of Variables

Strategic Change: A 16-item scale developed from Sonenshein & Dholakia (2012) measures strategic change in three dimensions: Affective Commitment to Change, Perceived Change Efficacy, and Change Implementation Behaviour, with Cronbach's alpha values of 0.91, 0.66, and 0.89. To align with the study's focus, these dimensions are integrated into a single-dimensional evaluation scale see Table 2, assessed using a five-point Likert scale.

Table 2: Items Representing Strategic Change Adopted from Sonenshein & Dholakia (2012)

Dimensions	Items		
Strategic Change	1. These changes serve an important purpose 2. These changes are not necessary (reverse) 3. These changes are a good strategy for the company 4. Things would be better without the changes (reverse) 5. I think that management is making a mistake by introducing these changes (reverse) 6. I believe in the value of changes 7. I'm sure we can handle the changes coming 8. I will not perform well in my job following the changes (reverse) 9. I get nervous that we may not be able to do all that is demanded of me by the changes (reverse) 10. Though we may need some training, we are confident we can perform well following the changes 11. I comply with any directives regarding the changes 12. I accept any modifications to my job because of the changes 13. I adjust the way we do my job as required by the changes 14. I try to overcome others' resistance to the changes 15. I speak positively about the changes to customers 16. I tell co-workers about the benefits of the changes		

Goal Clarity: Goal clarity is measured using a 5-item scale developed by Patterson et al. (2005), focusing on employees' understanding of organisational goals see Table 3. The scale

has demonstrated strong reliability, with Cronbach's alpha values ranging from 0.87 to 0.97 in prior studies (Gonzalez-Mulé et al., 2016; Patterson et al., 2005).

Table 3: Items Representing Goal Clarity Adopted from Patterson et al. (2005).

No	Items		
1	People have a good understanding of what the organization is trying to do		
2	The future direction of the company is clearly communicated to everyone		
3	People aren't clear about the aims of the company (reverse)		
4	Everyone who works here is aware of the long-term plans and direction of this company		
5	There is a strong sense of where the company is going		

Extensive Training: The measurement of extensive training is adapted from Iddagoda et al. (2022), employing a 6-item scale that captures two key dimensions:

Widespread Training (1-2) and Continuous Training (3-6) see Table 4.

Table 4: Items Representing Extensive Training Adapted from Iddagoda et al. (2022).

No	Original Items	Adapted Items
1	Employee covers a broad area including knowledge, skills and attitudes through training.	Our company's training covers a broad area including knowledge, skills and attitudes.
2	We train employees simply not only to complete a restricted job.	Oure company train employees simply not only to complete a restricted job
3	Employees get trained continuously throughout the year.	Our get trained continuously throughout the year.
4	We train employees through formal processes to impart knowledge and help people to acquire the skills necessary for them to perform their jobs satisfactorily.	Our company train through formal processes to impart knowledge and help people to acquire the skills necessary for them to perform their jobs satisfactorily.
5	We give a more priority to train our employees.	Our company give a more priority to train employees.
6	Year by year there has been a continuous increase of number of hours of training for our employees.	Year by year there has been a continuous increase of number of hours of training in our company.

Conclusion

This paper explores the critical role of goal clarity and extensive training in facilitating strategic change within the rapidly evolving and competitive FinTech sector. As organisations in this industry face continual pressure to innovate and adapt, understanding how goal clarity and training influence strategic transformation is essential for sustained success. Given the dynamic nature of FinTech, firms must not only keep pace with technological advancements but also anticipate shifts in consumer expectations and market demands, making clearly defined goals and continuous training indispensable. Clarity of organisational goals enhances employee alignment with the strategic vision. When the objectives of strategic change are well-defined, employees are more engaged, as

they better understand how their contributions support the organisation's success. Clear goals foster a shared sense of purpose, reducing uncertainty and resistance to change. Thus, goal clarity serves as a unifying mechanism, ensuring that all members are aligned with the broader strategic objectives of the organisation.

Equally, widespread and continuous training is crucial for strengthening employees' capacity to engage with and adapt to strategic change initiatives. Training extends beyond technical skill development to fostering a culture of ongoing learning and adaptability. Regular upskilling increases employees' readiness to embrace change and contribute effectively to organisational transformation. This study highlights that for FinTech companies to manage and implement strategic change successfully, prioritising goal clarity and comprehensive training programmes is

essential. In conclusion, FinTech organisations can effectively navigate strategic change by fully embracing and integrating goal clarity and extensive training. This alignment of strategy and development empowers firms to innovate continuously, respond promptly, and secure a competitive advantage in the dynamic FinTech landscape.

Limitations

In this study, we propose that extensive training and welldefined goals exert a significant influence on organisational strategic change. However, due to specific limitations, this research did not account for the potential effects of the broader industrial environment and organisational culture on strategic transformation. These factors may play a critical role in shaping how strategic initiatives are implemented and embraced within organisations. Therefore, future research should explore how different types of organisational culture, such as hierarchical or innovative cultures, affect the success of strategic change initiatives. Understanding the interaction between organisational culture, training, and goal clarity could offer deeper insights into the mechanisms that drive successful organisational transitions. Additionally, while this study highlights the relationship between goal clarity, extensive training, and strategic change, other variables may also influence the outcomes of strategic transformation. Factors such as employee engagement, readiness for change, leadership style, and IT support may shape the effectiveness of training and goal-setting initiatives, thereby impacting the overall success of strategic change efforts. Future studies should investigate these additional variables to develop a more comprehensive understanding of the drivers and barriers to strategic change.

Author Contributions

Conceptualization: [Luya Zhu¹*]; Methodology: [Luya Zhu¹*]; Formal analysis and investigation: [Luya Zhu¹*]; Writing original draft preparation: [Luya Zhu¹*]; Writing - review and editing: [Dr. Marziah Zahar², Dr. Sarah Shaharruddin²]; Resources: [Luya Zhu¹*]; Supervision: [Dr. Marziah Zahar², Dr. Sarah Shaharruddin²]. All authors read and approved the final manuscript.

Financial Support

No funding was received to assist with the preparation of this manuscript.

Data availability Statement

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

Conflict of interest

The authors have no relevant financial or non-financial interests to disclose.

References

- Abdallah, C., & Langley, A. (2014). The Double Edge of Ambiguity in Strategic Planning. *Journal of Management Studies*, 51(2), 235-264. doi: https://doi.org/10.1111/joms.12002
- Akgün, A. E. (2020). Team wisdom in software development projects and its impact on project performance. International Journal of Information Management, 50, 228-243. doi:

- https://doi.org/10.1016/j.ijinfomgt.2019.05.019
- Al-Kassem, A. H. (2021). Significance of Human Resources Training and Development on Organizational Achievement. *PalArch's Journal of Archaeology of Egypt / Egyptology, 18*(7), 693-707. Retrieved from https://archives.palarch.nl/index.php/jae/article/view/7793
- Alaassar, A., Mention, A.-L., & Aas, T. H. (2023). Facilitating innovation in FinTech: a review and research agenda. *Review of Managerial Science*, 17(1), 33-66. doi: https://doi.org/10.1007/s11846-022-00531-x
- Ali, M., Li, Z., Durrani, D. K., Shah, A. M., & Khuram, W. (2021). Goal clarity as a link between humble leadership and project success: the interactive effects of organizational culture. *Baltic Journal of Management*, 16(3), 407-423. doi: https://doi.org/10.1108/BJM-09-2020-0341
- Allen, F., Gu, X., & Jagtiani, J. (2021). A survey of fintech research and policy discussion. *Review of Corporate Finance*, 1(3-4), 259-339. doi: https://doi.org/10.1561/114.00000007
- Anderson, D. M., & Stritch, J. M. (2015). Goal Clarity, Task Significance, and Performance: Evidence From a Laboratory Experiment. *Journal of Public Administration Research and Theory*, 26(2), 211-225. doi: https://doi.org/10.1093/jopart/muv019
- Araújo, M., Reis, L., & Morais, I. (2021). Innovation strategies for adaptation of organizations in a VUCA world. In *Proceedings of the 16th European Conference on Innovation and Entrepreneurship (ECIE)* (Vol. 2, pp. 1245-1253). Academic Conferences International Limited. doi: https://doi.org/10.34190/EIE.21.162
- Bartunek, J. M., Krim, R. M., Necochea, R., & Humphries, M. (1999). Sensemaking, Sensegiving, and Leadership in Strategic Organizational Development. In J. A. Wagner III (Ed.), Advances in Qualitative Organization Research (Vol. 2, pp. 36-71). Elsevier Science/JAI Press.
- Barz, L., Lindeque, S., & Hedman, J. (2023). Critical success factors in the FinTech World: A stage model. *Electronic Commerce Research and Applications*, 60, 101280. doi: https://doi.org/10.1016/j.elerap.2023.101280
- Barker III, V. L., & Duhaime, I. M. (1997). Strategic change in the turnaround process: Theory and empirical evidence. Strategic Management Journal, 18(1), 13-38.
- Bayomy, N. A., Khedr, A. E., & Abd-Elmegid, L. A. (2021). Adaptive model to support business process reengineering. PeerJ Computer Science, 7, e505.
- Beer, M., Voelpel, S. C., Leibold, M., & Tekie, E. B. (2005). Strategic Management as Organizational Learning: Developing Fit and Alignment through a Disciplined Process. *Long Range Planning*, *38*(5), 445-465. doi: https://doi.org/10.1016/j.lrp.2005.04.008
- Bellamkonda, N., Santhanam, N., & Pattusamy, M. (2021).
 Goal Clarity, Trust in Management and Intention to Stay: The Mediating Role of Work Engagement.
 South Asian Journal of Human Resources
 Management, 8(1), 9-28. doi: https://doi.org/10.1177/2322093720965322
- Birdi, K., Clegg, C., Patterson, M., Robinson, A., Stride, C. B., Wall, T. D., et al. (2008). The Impact of Human Resource and Operational Management Practices on Company Productivity: A Longitudinal Study. Personnel Psychology, 61(3), 467-501. doi: https://doi.org/10.1111/j.1744-6570.2008.00136.x
- Bordia, P., Hunt, E., Paulsen, N., Tourish, D., & DiFonzo,

- N. (2004). Uncertainty during organizational change: Is it all about control? European Journal of Work and Organizational Psychology, 13(3), 345-365.
- Blanchard, P. N., & Thacker, J. W. (2023). *Effective Training: Systems, Strategies, and Practices*. SAGE Publications.
- Buckley, R., & Caple, J. (2009). The Theory and Practice of Training. Kogan Page Publishers. Retrieved from https://www.koganpage.com/hr-learning-development/the-theory-and-practice-of-training-9780749454197
- Brown, A. D., & Humphreys, M. (2003). Epic and tragic tales: Making sense of change. Journal of Applied Behavioral Science, 39(2), 121-144.
- Cardona, P., & Rey, C. (2022). Management by Missions:
 Connecting People to Strategy through Purpose.
 Springer Nature. doi: https://doi.org/10.1007/978-3-030-83780-8
- CFTE. (2024). Ranking of Largest Fintech Companies in 2024. Retrieved from https://courses.cfte.education/ranking-of-largest-fintech-companies
- Chemmanur, T. J., Imerman, M. B., Rajaiya, H., & Yu, Q. (2020). Recent Developments in the Fintech Industry. *Journal of Financial Management, Markets and Institutions, 08*(01), 2040002. doi: https://doi.org/10.1142/S2282717X20400022
- Chen, X., Mo, J., Liang, H., Chen, H., & Liu, H. Y. (2021a).

 Current Issues and Solution Strategies of Employee

 Training under the Background of "Internet+" A

 Case Study of XL Hotel. Marketing Frontier.
- Chen, X., You, X., & Chang, V. (2021b). FinTech and commercial banks' performance in China: A leap forward or survival of the fittest? *Technological Forecasting and Social Change*, 166, 120645. doi: https://doi.org/10.1016/j.techfore.2021.120645
- Cumming, D., Johan, S., & Reardon, R. (2023). Global fintech trends and their impact on international business: a review. *Multinational Business Review*, 31(3), 413-436. doi: https://doi.org/10.1108/MBR-05-2023-0077
- Demmou, L., Calligaris, S., Franco, G., Dlugosch, D., Adalet, M., & Sakha, S. (2021). Insolvency and debt overhang following the COVID-19 outbreak: Assessment of risks and policy responses (OECD Economics Department Working Papers No. 1651). OECD Publishing. doi: https://doi.org/10.1787/747a8226-en
- Domínguez-Cc, M., & Barroso-Castro, C. (2017). Managerial change and strategic change: The temporal sequence. *Journal of Management & Organization*, 23(1), 46-73. doi: https://doi.org/10.1017/jmo.2016.49
- Drucker, P. F. (1954). The Practice of Management: A Study of the Most Important Function in America Society. Harper & Brothers.
- Errida, A., & Lotfi, B. (2021). The determinants of organizational change management success: Literature review and case study. *International Journal of Engineering Business Management*, 13, 18479790211016273. doi: https://doi.org/10.11 77/18479790211016273
- Evans, C., & Robertson, W. (2020). The four phases of the digital natives debate. *Human Behavior and Emerging Technologies*, 2(3), 269-277. doi: https://doi.org/10.1002/hbe2.196
- Gao, J. (2022). Comparison of Fintech Development between China and the United States. International Journal of Innovative Science and Research Technology (IJISRT), 7(4), 1150-1155.

- doi: https://doi.org/10.5281/zenodo.6563524
- Gede, D. U., & Huluka, A. T. (2023). The impact of strategic alignment on organizational performance: The case of Ethiopian universities. *Cogent Business & Management*, 10(2), 2247873. doi: https://doi.org/10.1080/23311975.2023.2247873
- Gioia, D. A., & Chittipeddi, K. (1991). Sensemaking and sensegiving in strategic change initiation. Strategic Management Journal, 12(6), 433-448. doi: https://doi.org/10.1002/smj.4250120604
- Gonzalez-Mulé, E., Courtright, S. H., DeGeest, D., Seong, J.-Y., & Hong, D.-S. (2016). Channeled Autonomy:The Joint Effects of Autonomy and Feedback on Team Performance Through Organizational Goal Clarity. *Journal of Management*, 42(7), 2018-2033. doi: https://doi.org/10.1177/0149206314535443
- Ha, T.-S., & Moon, K.-K. (2023). Distributive Justice, Goal Clarity, and Organizational Citizenship Behavior: The Moderating Role of Transactional and Transformational Leadership. Sustainability, 15(9), 7403. doi: https://doi.org/10.3390/su15097403
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a Silver Bullet. *Journal of Marketing Theory and Practice*, 19(2), 139-152. doi: https://doi.org/10.2753/MTP1069-6679190202
- Hanelt, A., Bohnsack, R., Marz, D., & Antunes Marante, C. (2021). A systematic review of the literature on digital transformation: Insights and implications for strategy and organizational change. Journal of Management Studies, 58(5), 1159-1197.
- Heine, E. C. E., Stouten, J., & Liden, R. C. (2023). Providing Service During a Merger: The Role of Organizational Goal Clarity and Servant Leadership. *Journal of Business Ethics*, 184(3), 627-647. doi: https://doi.org/10.1007/s10551-022-05162-6
- Henderson, B. D. (1979). *Henderson on Corporate Strategy*. Abt Books.
- Hofer, C. W., & Schendel, D. (1978). Strategy Formulation: Analytic Concepts. St. Paul: West.
- Hrebiniak, L. G. (2006). Obstacles to Effective Strategy Implementation. *Organizational Dynamics*, *35*(1), 12-31. doi: https://doi.org/10.1016/j.orgdyn.200 5.12.001
- Hubbart, J. A. (2023). Organizational Change: Considering Truth and Buy-In. *Administrative Sciences*, 13(1), 3. doi: https://doi.org/10.3390/admsci13010003
- Hussain, A., Khan, M., Rakhmonov, D. A., Mamadiyarov, Z. T., Kurbonbekova, M. T., & Mahmudova, M. Q. K. (2023). Nexus of Training and Development, Organizational Learning Capability, and Organizational Performance in the Service Sector. Sustainability, 15(4), 3246. doi: https://doi.org/10.3390/su15043246
- Hutahaean, D. T., Sinurat, B., & Pandiangan, E. (2023).
 Students'attitude Towards Extensive Reading: A
 Case Study by Students of English Department.
 Dharmas Education Journal (DE_Journal), 4(3),
 43-53.
- Iddagoda, A., Keppetipola, M., & Liyanagamage, D. (2022).

 Construct of Extensive Training: Towards an Instrument of Measuring it. *Economic Insights-Trends and Challenges*, 74(11), 47-55. doi: https://doi.org/10.51865/EITC.2022.01.05
- Iddagoda, Y. A., & Opatha, H. H. (2018). The intensity of the implementation of high-performance work practices in selected Sri Lankan companies. *Społeczeństwo i Rodzina*, 56(3), 69-95. Retrieved from https://open.icm.edu.pl/handle/123456789/16943

- Jaušovec, N., & Jaušovec, K. (2012). Working memory training: Improving intelligence Changing brain activity. *Brain and Cognition*, 79(2), 96-106. doi: https://doi.org/10.1016/j.bandc.2012.02.007
- Johnson, J., Whittington, R., Regnér, P., Angwin, D., Johnson, G., & Scholes, K. (2020). *Exploring Strategy*. London, UK: Financial Times Prentice Hall.
- Keding, C. (2021). Understanding the interplay of artificial intelligence and strategic management: four decades of research in review. Management Review Quarterly, 71(1), 91-134. doi: https://doi.org/10.1007/s11301-020-00181-x
- Kiran, V. S., Shanmugam, V., Raju, R. K., & Kanagasabapathy, J. R. (2022). Impact of Human Capital Management on Organizational Performance With the Mediation Effect of Human Resource Analytics. International Journal of Professional Business Review, 7(3), 9. doi: https://doi.org/10.26668/businessreview/2022.v7i3.0667
- Kolokas, D., Vanacker, T., Veredas, D., & Zahra, S. A. (2022). Venture Capital, Credit, and FinTech Start-Up Formation: A Cross-Country Study. *Entrepreneurship Theory and Practice*, 46(5), 1198-1230. doi: https://doi.org/10.1177/1042258720972652
- Kotter, J. P. (1995). Leading Change: Why Transformation Efforts Fail. *Harvard Business Review*, 73(2), 59-67. Retrieved from https://hbr.org/1995/05/leading-change-why-transformation-efforts-fail-2
- Kotter, J. P., Akhtar, V., & Gupta, G. (2021). Change: How Organizations Achieve Hard-to-Imagine Results in Uncertain and Volatile Times. John Wiley & Sons.
- KPMG. (2022). Fintech Trends: Second Half of 2022. Retrieved from https://assets.kpmg.com/content/dam/kpmg/cn/pdf/zh/2023/03/pulse-of-fintech-2-22.pdf
- Lam, L., Nguyen, P., Le, N., & Tran, K. (2021). The Relation among Organizational Culture, Knowledge Management, and Innovation Capability: Its Implication for Open Innovation. Journal of Open Innovation: Technology, Market, and Complexity, 7(1), 66. doi: https://doi.org/10.3390/joitmc7010066
- Larson, G. S., & Tompkins, P. K. (2005). Ambivalence and Resistance: A Study of Management in a Concertive Control System. *Communication Monographs*, 72(1), 1-21. doi: https://doi.org/10.1080/0363775052000342508
- Lawrence, K. (2013). Developing leaders in a VUCA environment. *UNC Executive Development*, 2013, 1-15. Retrieved from https://complexitylabs.io/_/media/Files/documents/executive-development/developing-leaders-in-a-vuca-environment.pdf
- Leo, R. M., & Tello-Gamarra, J. (2020). Drivers of service innovation: proposal of a theoretical model. *RAM. Revista de Administração Mackenzie*, 21, eRAMR200143. doi: https://doi.org/10.1590/1678-6971/eRAMR200143
- Lewin, K. (1951). Problems of Research in Social Psychology. In D. Cartwright (Ed.), Field Theory in Social Science: Selected Theoretical Papers by Kurt Lewin (pp. 155-170). New York, NY: Harper and Row.
- Lim, Y.-W., & Chuah, F. (2022). The link between Strategic Communication, Strategic Consensus, and Successful Strategy Implementation: Evidence from Higher Education in Malaysia. *Asian Journal of Business Research*, 12(3), 102-123. doi: https://doi.org/10.14707/ajbr.220137

- Liu, J., Ye, S., Zhang, Y., & Zhang, L. (2023). Research on InsurTech and the Technology Innovation Level of Insurance Enterprises. Sustainability, 15(11), 8617. doi: https://doi.org/10.3390/su15118617
- Locke, E. A., & Latham, G. P. (1990). A Theory of Goal Setting & Task Performance. Prentice-Hall, Inc.
- Locke, E. A., & Latham, G. P. (2002). Building a Practically Useful Theory of Goal Setting and Task Motivation: A 35-Year Odyssey. *American Psychologist*, *57*(9), 705-717. doi: https://doi.org/10.1037/0003-066X.57.9.705
- Madhavan, V., Venugopalan, M., Gupta, B., & Sisodia, G. S. (2023). Addressing Agency Problem in Employee Training: The Role of Goal Congruence. Sustainability, 15(4), 3745. doi: https://doi.org/10.3390/su15043745
- Manolache, M., & Epuran, G. (2023). The Mediating Impact of Goal-Role Clarity on the Relationship between Feedback-Seeking Behavior and Goal Orientations with Job Satisfaction Intrinsic Cognitions and Person-Organization Fit. Sustainability, 15(17), 12776
- Miller, V. D., Johnson, J. R., & Grau, J. (1994). Antecedents to willingness to participate in a planned organizational change. *Journal of Applied Communication Research*, 22(1), 59-80. doi: https://doi.org/10.1080/00909889409365387
- Mohammad, H. I. (2019). Mediating effect of organizational learning and moderating role of environmental dynamism on the relationship between strategic change and firm performance. *Journal of Strategy and Management*, 12(2), 275-297. doi: https://doi.org/10.1108/JSMA-07-2018-0064
- Müller, J., & Kunisch, S. (2018). Central Perspectives and Debates in Strategic Change Research. *International Journal of Management Reviews*, 20(2), 457-482. doi: https://doi.org/10.1111/jjmr.12141
- Nejad, M. G. (2022). Research on financial innovations: an interdisciplinary review. *International Journal of Bank Marketing*, 40(3), 578-612. doi: https://doi.org/10.1108/IJBM-07-2021-0305
- Ng, E., Tan, B., Sun, Y., &t Meng, T. (2023). The strategic options of fintech platforms: An overview and research agenda. *Information Systems Journal*, 33(2), 192-231. doi: https://doi.org/10.1111/isj.12388
- Ogochukwu, O. E., Amah, E., & Okocha, B. F. (2022).

 Management by objective and organizational productivity: A literature review. South Asian Research Journal of Business and Management, 4(3), 99-113. doi: https://doi.org/10.36346/sarjbm.2022.v04i03.003
- Olesen, P. J., Westerberg, H., & Klingberg, T. (2004). Increased prefrontal and parietal activity after training of working memory. *Nature Neuroscience*, 7(1), 75-79. doi: https://doi.org/10.1038/nn1165
- Park, S., & Choi, S. (2020). Performance Feedback, Goal Clarity, and Public Employees' Performance in Public Organizations. *Sustainability*, *12*(7), 3011. doi: https://doi.org/10.3390/su12073011
- Patterson, M. G., West, M. A., Shackleton, V. J., Dawson, J. F., Lawthom, R., Maitlis, S., et al. (2005). Validating the organizational climate measure: links to managerial practices, productivity and innovation. *Journal of Organizational Behavior*, 26(4), 379-408. doi: https://doi.org/10.1002/job.312
- Pfeffer, J. (1998). The Human Equation: Building Profits by Putting People First. Harvard Business Press. Retrieved from https://jeffreypfeffer.com/books

- /the-human-equation
- Ren, G., & Chen, B. (2017). Exploration of Human Resource Training and Development in "Internet+" for Small and Medium-sized Enterprises. *Talent Development*, 4, 112-113.
- Rodríguez, L. P., & Ortún, P. U. (2020). From FinTech to BigTech: An evolving regulatory response. Boletín de Estudios Económicos, 75(229), 119-141. Retrieved from https://www.bbvaresearch.com/en/publicaciones/global-from-fintech-to-bigtech-an-evolving-regulatory-response
- Rosdiana, R. (2020). Investment Behavior in Generation Z and Millennial Generation. *Dinasti International Journal of Economics, Finance & Accounting, 1*(5), 766-780. doi: https://doi.org/10.38035/dijefa.v1i5.595
- Sadiya, I. A. (2019). Impact of management by objectives (MBO) on the employee productivity in Vodafone Ghana. Texila International Journal of Management.

 Special Edition. doi: https://doi.org/10.21522/TIJMG.2015.SE.19.01.Art006
- Seth, A. (2020). The Elusive Model of Technology, Media, Social Development, and Financial Sustainability. In L. Poonamallee, J. Scillitoe, & S. Joy (Eds.), Socio-Tech Innovation: Harnessing Technology for Social Good (pp. 73-102). Springer International Publishing. doi: https://doi.org/10.1007/978-3-030-39554-4_5
- Sonenshein, S. (2010). We're Changing—Or Are We? Untangling the Role of Progressive, Regressive, and Stability Narratives During Strategic Change Implementation. *Academy of Management Journal*, 53(3), 477-512. doi: https://doi.org/10.5465/amj.2010.51467638
- Sonenshein, S., & Dholakia, U. (2012). Explaining Employee Engagement with Strategic Change Implementation: A Meaning-Making Approach. Organization Science, 23(1), 1-23. doi: https://doi.org/10.1287/orsc.1110.0651
- Spicer, A. (2020). Organizational culture and COVID-19. Journal of Management Studies, 57(8), 1737-1740.
- Tan, T., Zhang, Y., Heng, C. S., & Ge, C. (2021). Empowerment of Grassroots Consumers: A Revelatory Case of a Chinese Fintech Innovation. *Journal of the Association for Information Systems*, 22(1), 3. doi: https://doi.org/10.17705/1jais.00658
- Thielsch, M. T., Röseler, S., Kirsch, J., Lamers, C., & Hertel, G. (2021). Managing Pandemics—Demands, Resources, and Effective Behaviors Within Crisis Management Teams. *Applied Psychology*, 70(1), 150-187. doi: https://doi.org/10.1111/apps.12303
- Tripathi, A., & Dhir, S. (2023). HRD interventions, learning agility and organizational innovation: a PLS-SEM modelling approach. *International Journal of Organizational Analysis*, 31(6), 2322-2336. doi: https://doi.org/10.1108/IJOA-12-2021-3064
- Volk, S. C., & Zerfass, A. (2020). Alignment: Explicating a Key Concept in Strategic Communication. In H. Nothhaft, K. P. Werder, D. Verčič, & A. Zerfass (Eds.), Future Directions of Strategic Communication 105-123). Routledge. (pp. https://www.taylorfrancis Retrieved from .com/chapters/edit/10.4324/9780429295638-8
- Weston, M. J. (2020). Strategic Planning in an Age of Uncertainty:: Creating Clarity in Uncertain Times.

 Nurse Leader, 18(1), 54-58. doi: https://doi.org/10.1016/j.mnl.2019.11.009
- Yerukneh, Y., Olana, T., & Zewdie, M. (2023). Enhancing Learners' EFL Writing Performance through Extensive Reading Strategy Training into the Writing Process. Education Research International,

- 2023(1), 8940114. doi: https://doi.org/10.1155/2023/8940114
- Yun, J. J., Zhao, X., Jung, K., & Yigitcanlar, T. (2020). The Culture for Open Innovation Dynamics. Sustainability, 12(12), 5076. doi: https://doi.org/10.3390/su12125076
- Zerfass, A., Verčič, D., Nothhaft, H., & Werder, K. P. (2020). Strategic Communication: Defining the Field and its Contribution to Research and Practice. In H. Nothhaft, K. P. Werder, D. Verčič, & A. Zerfass (Eds.), Future Directions of Strategic Communication (pp. 159-177). Routledge. Retrieved from https://www.taylorfrancis.com/chapters/edit/10.4324/9780429295638-11
- Zhang, M., Chen, W. H., Lan, H. L., & Zeng, P. (2020).

 Managers' Overconfidence and Corporate Tax

 Avoidance. Chinese Journal of Management,

 17(9), 1298. Retrieved from https://m.fx361.cc/news/2020/0924/18686374.html
- Zhang, Y., & Yang, Q. (2017). Learning Sparse Task Relations in Multi-Task Learning. *Proceedings of the AAAI Conference on Artificial Intelligence*, 31(1), 10820. doi: https://doi.org/10.1609/aaai.v31i1.10820
- Zhao, X., Wang, H., & Maes, J. H. R. (2020). Training and transfer effects of extensive task-switching training in students. *Psychological Research*, *84*(2), 389-403. doi: https://doi.org/10.1007/s0 0426-018-1059-7