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Lifelong learning in the workplace: the knowledge management role of corporate universities in China

Yuhang Han¹, Yi Zhou^{2,3}, Sarah Carr⁴ & Jiaoyan Jiang^{5,6}✉

In the current era of constant change, both employees and enterprises face the daunting challenge of lifelong learning. To address enterprises' dissatisfaction with the knowledge provided by traditional universities, a growing number of corporate universities are being established, representing a crucial strategic pathway for enterprises. This study thus adopts the coding methodology of grounded theory to analyze the internal mechanism of a sample of seven corporate universities in China enabling organizations' lifelong learning. Adopting the knowledge-based view (KBV), this study also identifies how corporate universities empower organizations, establishing a path model whose paths include "generating strategic knowledge", "sharing business knowledge", "optimizing governance knowledge" and "transforming cultural knowledge". Accordingly, this study establishes a theoretical path model and explores how to empower organizations' lifelong learning in the context of China. Moreover, our qualitative conclusions not only enrich the literature on corporate universities and their complex functions concerning lifelong learning and knowledge management but also have important implications for managers in enterprises and corporate universities.

¹Economic and Management School, Tongji University, 200092 Shanghai, China. ²Yangtze River Delta National Innovation Center, 201210 Shanghai, China. ³Shanghai Advanced Institute of Finance, Shanghai Jiaotong University, 200030 Shanghai, China. ⁴Otago Business School, University of Otago, 9016 Dunedin, New Zealand. ⁵Shanghai Institute for Science of Science, 200031 Shanghai, China. ⁶East China Normal University, 200062 Shanghai, China. ✉email: jjy@siss.sh.cn

Introduction

In the current era of variability, uncertainty, complexity, and ambiguity (VUCA), the provision of quality education and lifelong learning opportunities is crucial in ensuring a full and productive life for all individuals. Lifelong learning refers to the accumulation of knowledge and skills throughout a person's life, particularly beyond early adulthood (Blanden et al., 2012; Fauré et al., 1972). This remains a profound challenge for emerging economies seeking an inclusive and equitable quality education for young people and adults alike.

Corporate universities meet the needs of employees for lifelong learning and are consistent with the goals of enterprise development. With the rise of the knowledge economy, the ability of enterprises to attract, motivate, and retain talent has become increasingly essential to achieve stable and sustainable advantages (Xie et al., 2023). Moreover, employees face a similarly challenging task: how to enhance their lifelong learning capabilities to obtain advantages. Since 1955, when the world's first corporate university, the General Electric Company (GE) Croton School of Management, was officially established, corporate universities have continued to grow worldwide. As learning organizations, corporate universities are gradually being used by an increasing number of companies. Some scholars have thus analyzed corporate university's learning functions (Chen et al., 2023; Prince, 2001; Ryan, 2007). Corporate universities offer an important approach to lifelong learning via a range of programs, courses, and resources that support employees in accumulating human capital. The human capital accumulated by individuals through corporate universities not only improves their labor productivity and bargaining power in the labor market but is also an important part of their strategic resources, a necessary condition that ensures the sustainable development of enterprises. An increasing number of corporate universities are being established in response to corporate dissatisfaction with the knowledge provided by traditional universities (Nguyen and Fan, 2022). Meeting the development needs of major enterprises, corporate universities therefore comprise a way to link development-based approaches, similar to a strategic vision, with individual and team development processes (Côrte-Real et al., 2017; Singh et al., 2020). That is, by integrating lifelong learning principles into knowledge management and education programs, corporate universities contribute to the professional development of individuals within their own organization and thereby empower long-term, successful organizational development (Wafudu et al., 2022).

However, corporate universities are not merely professional development units within organizations; they can serve a range of purposes that support organizational development. In emerging markets such as China, the development of corporate universities in recent years has revealed unique evolutionary characteristics in this distinct institutional environment. As the service object of a corporate university extends beyond internal employees to external stakeholders, its core purpose is thus to empower the organization by connecting multiple subjects (i.e., employees, customers, teams, and managers) to create value for customers. Hence, it is necessary to combine the Chinese market's environment and corporate characteristics, summarize and excavate the unique characteristics and excellent experiences of Chinese corporate universities with best practices, explore the internal mechanisms enabling their organizational development, and delineate the best practices of corporate universities to support the development of Chinese organizations' competitive advantage.

Adopting a combination of qualitative and quantitative research methods, this research, therefore, explores the paths the great corporate universities in China use to empower organizational development and investigates the role of and mechanisms

with which corporate universities by connecting multiple subjects and integrating multidimensional elements, improve and stimulate organizational capabilities and vitality, thereby fostering organizational performance. Furthermore, this research clarifies the sources of organizational capabilities among corporate universities through an exploration of the literature on organizational learning and knowledge management theory.

Literature review

Corporate universities play an important role in vocational education and lifelong learning, are currently rather flexible, and act as accelerators in the field of training (Oh et al., 2023). In the current era of constant change, globalization is accompanied by the rapid development of emerging economies and changes to industrial structure, intensifying competition. Many countries and businesses have turned to the production of high-value-added and knowledge-intensive goods and services, which require a highly skilled labor force. Especially in emerging markets, such as China, employees must face the challenge of knowledge structures and skills that lag behind the changing needs of industrial structures. Lifelong learning offers the prospect of a radical new approach. Both employees and businesses have thus shown a strong demand for skills training and vocational education. Meanwhile, a growing number of corporate universities are being established to address enterprises' dissatisfaction with the knowledge provided by traditional universities. Thompson (2000), for example, has identified a common focus on lifelong learning is the only point of similarity between corporate universities and traditional universities.

Corporate universities meet the needs of workers for lifelong learning and are consistent with the goals of enterprise development. Although researchers have interpreted the corporate university to have an educational (Nguyen and Fan, 2022), learning (Ryan et al., 2015), or knowledge management orientation (Parshakov and Shakina, 2018), most relevant studies have focused more on the empowerment behavior of managers at the individual level or on organizational empowerment at the executive level. Hence, there is a lack of research and discussion on how corporate universities empower organizational development, and how the former empowers the latter to build a talent ecology sufficient for coping with complex and uncertain business environments. In this section, the theoretical bases of relevant works are therefore examined and following the literature. Accordingly, the intersection of corporate universities and lifelong learning is summarized to lay the foundation for the construction of a theoretical framework for case analysis in the later section.

The concepts of lifelong learning and the corporate university.

The concept of lifelong learning was first developed in the early 1970s, it obtained a strong human capital rationale and was espoused in Western countries and industry during the 1990s (Schuetze, 2006). The European Commission (2001) has defined lifelong learning as any intentional learning activity conducted throughout a person's lifetime to improve his or her knowledge, skills, and competencies from individual, municipal, societal, and/or career standpoints. With the development of the learning society and the implementation of the concept of lifelong learning, the concept and types of lifelong learning have become quite extensive.

A corporate university is thus a unique educational arrangement intended to accomplish an organization's goals by building the intellectual capital of its employees (Singh et al., 2020). Corporate universities are the product of the evolution of

Table 1 Corporate university's definitions.

Source	Definition of the corporate university
Meister (1994)	The corporate university is a lifelong learning process for employees at all levels, as well as key customers and suppliers, to improve their work performance.
Prince (2001)	Corporate universities become laboratories for the creation or transformation of individual learning into organizational knowledge.
Elkeles and Phillips (2007)	The biggest characteristic of a corporate university is its strategy, which helps the organization realize its strategic value.
Singh et al. (2020)	A unique form of educational arrangement to accomplish an organization's goals by building the intellectual capital of its employees
Nguyen and Fan (2022)	Corporate universities can provide better educational outcomes than traditional universities because integrating corporate needs into higher education can close the gap between workforce demand and the educational supply of traditional universities

corporate organizations, upgrades, and iterations of traditional corporate training centers that are fundamentally different from conventional corporate training centers. Below, Table 1 lists some classical definitions of the corporate university.

Corporate universities' educational value for individuals and organizations. In addition to emphasizing the crucial functions of knowledge management and education, some scholars have analyzed corporate university's learning functions (Chen et al., 2023; Prince, 2001; Ryan, 2007). As corporate universities have a close relationship with lifelong learning, they can offer a range of programs, courses, and resources that support it among employees. Research has indicated that social interaction is relevant in adult education, whereby more sessions and more learners per program increase educational efficiency (Badunenko et al., 2021). Lifelong learning encourages individuals to take responsibility for their own learning and seek opportunities for self-improvement. Antonelli et al. (2013), for example, analyze six corporate universities in the energy industry in Europe as typical cases, indicating that corporate universities increase the density of economic and business interactions through their extension of learning processes outside their firm's boundaries. By facilitating initiatives involving a wide network of actors on the same value chain, they strengthen the latter's commitment to corporate social responsibility principles and the creation of social innovation in the long-term (Antonelli et al., 2013; Chin et al., 2019).

Corporate universities' educational functions are consistent with the strategic needs of their organization. Although corporate universities fulfill the function of lifelong learning, as carriers of both educational entities and strategic tools, their strategic positioning and knowledge management boundaries in emerging markets have yet to be discussed. Indeed, corporate universities that provide knowledge-intensive services to staff, akin to other institutions of higher education, exhibit some notable characteristics of quasipublic goods (Chin et al., 2019). However, research has also proposed that corporate universities' functions are different from those of traditional universities and corporations (Nguyen and Fan, 2022). That is, enterprises may operate their corporate university as a commercial business, thereby fulfilling the economic function (Blass, 2005). Furthermore, corporate universities are not only aimed at employees within companies but also extend beyond these enterprises (Meister, 1994). In practice, some advanced corporate universities have already adopted new education tools, such as modular education, personalized course customization, and the flipped classroom (Gómez-Carrasco et al., 2019; Mazrekaj and De-Witte, 2020). However, researchers often misinterpret the educational function of corporate universities. For instance, they typically pay more attention to the innovative alliances between corporations and

universities than to corporate university alliances (McConnell and Cross, 2019; Xia et al., 2023).

The first gap exists in the literature on the practical level. Nevertheless, whether in existing research or management practice, corporate universities not only serve internal employees but also include a wide range of internal and external stakeholders, e.g., Sany Corporate University and Dongfeng Nissan University, conduct knowledge management activities for external stakeholders represented by suppliers and vendors. Moreover, in emerging markets such as China, the development of corporate universities in recent years has shown unique evolutionary characteristics in this distinct unique institutional environment. Therefore, it is critical to evaluate and maximize these corporate universities' educational value in emerging markets (Chen et al., 2019; Nagy and Burch, 2009), not only from the perspective of employees but also from the perspective of enterprises.

Organizational knowledge management and empowerment in corporate universities. Corporate Universities play a crucial role in organizational knowledge management and empowerment. As knowledge construction and sharing institutions, corporate universities have developed rapidly in recent years, especially in organizational knowledge management and empowerment, where they play a crucial, irreplaceable role (Nagy and Burch, 2009). Corporate universities are increasingly becoming vehicles for creating and transforming individual knowledge into organizational knowledge. A growing number of corporate universities are being established in response to corporate dissatisfaction with the knowledge provided by traditional universities (Nguyen and Fan, 2022). Large enterprises are thus resorting to corporate universities to meet their increasing needs for knowledge management. Hence, most studies have adapted the perspective of knowledge management to analyze the activities of corporate universities (Singh et al., 2020; Chen et al., 2019, 2023). Knowledge is a critical, intangible enterprise resource and enables an effective strategy for building competitive advantages across all types of organizations (Del-Giudice and Maggioni, 2014; Scutto et al., 2017; Zhou and Nunes, 2012). Corporate universities therefore gather and integrate various internal and external resources; they promote, integrate, and disseminate knowledge within an organization and thereby play an important role in knowledge management (Nguyen and Fan, 2022; Singh et al., 2021). Corporate universities are thus a tool for both internal and external knowledge management, especially via their knowledge management function, e.g., regarding knowledge transfer, knowledge creation, and application incubation (Chen et al., 2019; Prince, 2001).

The knowledge-based view (KBV) can be used to build a theoretical framework of the specific paths and realization

mechanisms concerning how corporate universities empower enterprise development. The KBV suggests that knowledge, the information generated when encoding and abstracting large amounts of situational and complex data into specialized forms among the individual members of an organization, with its unique and inimitable characteristics, is a vital resource for enterprises to build competitiveness (Grant, 1996). Therefore, the essence of enterprise knowledge is integrating personal and professional knowledge. Enterprise knowledge management is a strategy that consciously promotes the transfer of proper knowledge to the right person at the right time and, finally, promotes the development of the enterprise. Research from the KBV holds that internal and external knowledge can thereby affect the breadth and depth of knowledge learning in enterprises (Lane et al., 2006; Zahra and George, 2002). Knowledge management capability, the degree to which a company creates, shares, and utilizes knowledge resources among various functional departments (Dabic et al., 2020), is therefore an important bridge between organizational development and internal and external factors. On the one hand, existing literature has developed a knowledge-based perspective focused on external knowledge transfer into an organization; that is, both the internal and external knowledge processes of a firm require an integrative knowledge management capability to successfully implement its innovation strategy (Nickerson and Zenger, 2004; Taghizadeh et al., 2021). From the internal perspective of an organization, the mediating role of knowledge management capability in the relationship between strategic human resource practice and innovation performance has been demonstrated (Chen and Huang, 2009). That is, corporate universities undertake the important function of corporate knowledge management (Chen et al., 2019), which must effectively link internal and external knowledge to improve employees' knowledgeability, thereby promoting the continuous accumulation of corporate knowledge. In addition, the KBV holds that an organization's knowledge management extends beyond it to establish an intimate knowledge-based, cooperative relationship with its external suppliers, customers, and universities. Hence, the KBV provides a microscopic perspective that reveals how corporate universities empower organizations through knowledge management activities.

The second gap exists in the literature on the theoretical level. The discussion on the role of corporate universities in the above type of empowerment remains limited. Although organizational capital emphasizes the significance of corporate universities' empowerment behavior, the KBV represents an approach to the specific paths and realization mechanisms thereof. Moreover, there is still a lack of any systematic or integrated theoretical framework for corporate universities' empowerment behavior in emerging markets. The literature has only interpreted corporate university as an education (Nguyen and Fan, 2022), learning (Ryan et al., 2015), or knowledge management orientation (Parshakov and Shakina, 2018); most relevant studies have also focused more on the empowerment behavior of managers at the individual level or on organizational empowerment at the executive level. Hence, most of the literature focuses on the knowledge management behavior of corporate universities rather than the common or different behaviors corporate universities exhibit in knowledge management and the mechanisms of their generation (Abel and Li, 2012; Singh et al., 2020). It is thus necessary to construct an overall theoretical framework that analyzes the commonalities and differences in knowledge management among corporate universities in organizations.

Given the above gaps in the literature, this study therefore aims to explore the paths the best corporate universities in China use to empower organizational development. It investigates the roles

and mechanisms of corporate universities in connecting multiple subjects and integrating multidimensional elements to improve and stimulate organizational capabilities and vitality, thereby fostering organizational performance. Furthermore, it clarifies the sources of organizational capabilities regarding corporate universities through an exploration of the literature on organizational learning and knowledge management theory.

Research design

Data source and sample

Sampling section. Although Chinese corporate universities were founded relatively late, based on the rapid development of China's digital economy, intelligent manufacturing industry, and infrastructure, some of these corporate universities have revealed unique internal and external growth environments. Over the past 20 years, China has experienced rapid digital development (Zeng et al., 2022). Hence, Chinese companies are constantly catching up with international advanced companies, even becoming leading companies in some industries. Exploiting the increasing digital resources and global challenges, many Chinese companies have established corporate universities with new development models. Thus, the successful experiences of certain corporate universities in China (e.g., Huawei University and Tencent University) show how corporate universities can be key in addressing challenges such as talent development and strategy implementation. However, the implementation of organizations' lifelong learning varies across countries, or even across regions in the same country or organizations in the same region (Guitert et al., 2021). Prior research has also suggested that is essential to explore how to support individual learning and development in the context of emerging economies (Langseth et al., 2023; Zajac et al., 2022).

Therefore, to investigate the mechanism of lifelong learning facilitated by corporate universities within emerging economies, we concentrated on the practices of Chinese corporate universities from 2019 to 2022. We established the following screening criteria for suitable cases: (1) The corporate university must be affiliated with an independent legal entity. Its name should contain certain words such as "university", "college", "management school", "business school", "research institute", or "development institute". Traditional corporate training centers are excluded. (2) The corporate university should belong to a Chinese company and provide talent training services for the enterprise's internal or external stakeholders. (3) The corporate university must have been officially listed and operated for over two years. (4) The corporate university must have demonstrated some advanced practices and received some honors or recognition, such as being selected for a well-known list. (5) Each corporate university should come from a different industry, as much as possible, and must have some distinct operational characteristics to facilitate cross-case analysis.

Regarding data availability, we selected seven outstanding corporate universities from nearly 100 Chinese corporate universities (Detailed case descriptions are shown in Table A1 in the separate supplemental material file). Each corporate university has demonstrated good practices, for example, the construction of an online learning platform, learning project design, and other talent development practices. Considering the diversity of sampling, the final sample includes five state-owned or central enterprises (i.e., China Mobile University, China General Nuclear University, ZTE College, China Resources Gas College, China Railway Fourth Bureau Group Corporate University), one foreign-funded enterprise (i.e., Dongfeng Nissan University) and one private enterprise (i.e., Sany Corporate University). Their industries include information transmission,

Table 2 Case corporate university information submission and interview records.

Source	Information submission		Semi-structured interview		
	Data type	Words	Interviews	Interview time	Departments
China Mobile Academy	Documents, Pictures	More than 60000	3	234 min	3
China General Nuclear University	Documents, Pictures	More than 25000	5	380 min	4
ZTE College	Documents, Videos	More than 15000	4	105 min	3
Dongfeng Nissan University	Documents, Pictures	More than 20000	5	336 min	2
Sany Corporate University	Documents, Pictures	More than 25000	3	65 min	3
China Resources Gas College	Documents, Pictures	More than 45000	4	479 min	4
China Railway Fourth Bureau Group Corporate University	Documents, Videos	More than 35000	10	417 min	3

software and information technology services, manufacturing, agriculture, energy, and others.

Data collection. Following the important principle of the “evidence triangle” recommended in prior literature (Eisenhardt, 1989), we amassed a diverse dataset including internal materials and interviews conducted in seven case corporate universities. We adopted two methods to collect the primary qualitative data: designing data collection forms and conducting semi-structured interviews (see Table 2). First, the corporate universities’ staff were responsible for filling out the data collection forms. Each form was filled out by at least two members to ensure thoroughness and accuracy in the data collection process. These forms required information on five key areas: mission and functional orientation, training objectives, organizational structure, development processes, and milestone events.

Second, the semi-structured interviews were conducted with three to seven participants, corporate university staff or industry experts, and each session lasted approximately two to three hours. Given the specialized nature and unique characteristics of corporate universities, these interviews targeted both internal and external facets of enterprises. The internal interviewees were primarily senior managers or team leaders with direct involvement in enterprise strategies and the operations of the corporate universities, such as corporate universities or training professionals (e.g., executive deans, directors of colleges, executive vice presidents, heads of business schools), executives in human resources departments (e.g., HR heads, HR directors), executives in culture and brand departments (corporate culture director), or other executives related to corporate university strategies within their enterprise. In contrast, the external interviewees primarily comprised expert judges involved in the awarding of China’s outstanding corporate universities, as well as academic scholars possessing expertise in corporate university research.

Regarding the context, the interviews centered on the evolution of enterprises influenced by various corporate universities, as well as on professional insights into the developmental trajectory of corporate universities, with questions such as “*What do you think are the core elements driving corporate university empowerment?*” (see the detailed list of questions in the separate supplemental material file). The interviews were conducted in real-time, primarily seeking interviewees’ opinions and assessments of the activities empowering corporate universities. Most interviewees expressed their satisfaction after participating in the survey and appreciated the opportunity to reflect upon and synthesize the contributions of corporate universities.

Methodology. Qualitative research has been widely applied by scholars in corporate university research (Parshakov and Shakina, 2018). For instance, Meister (1994) interviewed approximately 100 corporate university presidents and extracted relevant information, including how to design corporate universities and

how to adopt best practices. Taking seven corporate universities as our cases, we collected and analyzed the data from the semi-structured interviews (with corporate university practitioners, scholars, and experts) and the internal materials provided by each corporate university. Given that grounded theory is one of the most effective means to exploit concepts and theories in new concept and scale development, this study applied a coding procedure based on the grounded theory approach to analyze the data and develop the concepts, thereby building the theoretical framework according to qualitative research (Glaser and Strauss, 1967; Vaderna et al., 2022; Zhou and Nunes, 2012).

Coding procedure. This study followed the coding process in grounded theory (Glaser and Strauss, 1967), which involves decomposing, examining, comparing, conceptualizing, and categorizing data. Following suggestions in prior research (Yan et al., 2023), our coding procedure included three key steps. *Step 1: Label extraction.* The first process emphasizes breaking up the data, coding it line by line (or paragraph, word), and then recombining it in new ways. We excluded paragraphs and chapters unrelated to our research questions, such as those introducing the business of the enterprise rather than the corporate university. We used NVivo 12 software to analyze the interview materials, audio, and video data. This study thus aimed to use the original expressions closest to the respondents’ words to label the original data and to initially refine words to name the free nodes. *Step 2: Item extraction.* Next, we conceptualized the free nodes of the same phenomenon and defined them thoroughly. As the initial conceptualization of the original data served as the foundation for qualitative analysis, we further refined and summarized the 324 free nodes and derived 76 conceptualized nodes. *Step 3: Dimension extraction.* Consistent with the literature (Ortega-Sánchez and Gómez-Trigueros, 2019), the coding process entailed crystallization (Badunenko et al., 2021); therefore, we obtained 22 subcategories and 13 categories by merging any conceptual nodes that were related to the same phenomenon. Figure 1 shows an example of crystallization in the coding process. For each case, we conducted a new round of open, selective, and theoretical coding, constantly comparing the codes, categories, and dimensions in this cross-case analysis (Vaderna et al., 2022). We performed this coding procedure until there no new concepts or categories emerged. Below, Fig. 2 illustrates the data structure.

Findings

Domains of corporate universities’ enabling behaviors. Based on the coding process, this study included 13 main categories and 22 corresponding subcategories, defined according to the practices of corporate universities, as shown in Table 3. First, by fulfilling the following three main categories, corporate universities actively contribute to generating strategic knowledge in their company, thereby playing a crucial role in enhancing life-long learning in their organization: (1) *Strategy formulation,*

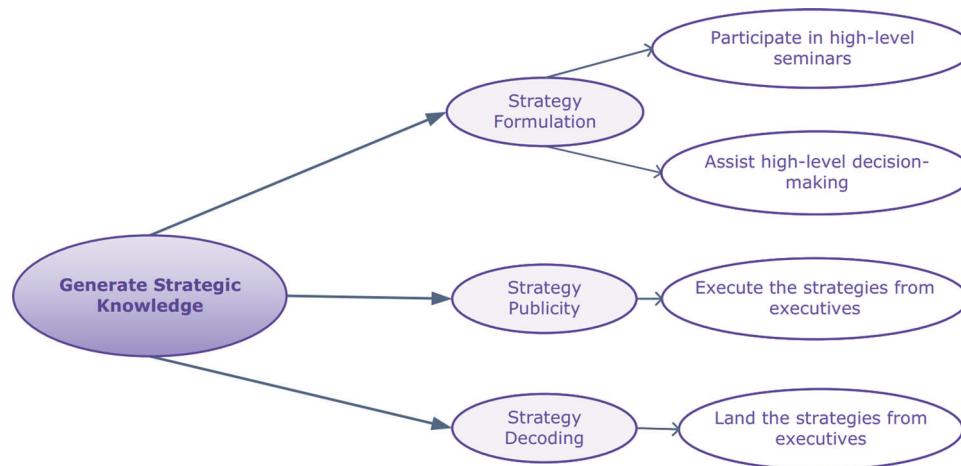


Fig. 1 An example of constructs generated in this study (figures source: self-made by the author).

condensed into two subcategories, “participate in high-level seminars” (code a11) and “assist high-level decision-making” (code a12). This main category signifies that the members of a corporate university are actively invited to participate in strategic meetings and seminars while providing research reports that support top management in strategic planning. (2) *Strategy publicity* emerges from a single subcategory of “execute the strategies from executives” (code a21). This main category implies that corporate universities take charge of designing and operating solutions to promote their company’s strategy. (3) *Strategy decoding* emerges from a single subcategory called “land the strategies from executives” (code a31), whereby corporate universities decode the means of the development plans that follow their company’s strategy and convert them into landing projects. Hence, we posit that the knowledge strategies developed within corporate universities play a pivotal role in fostering lifelong learning within organizations through three sequential processes: strategy formulation, strategic publicity, and strategic decoding.

Second, this study finds that corporate universities empower business behaviors in three main categories. (1) *User-orientation knowledge*, which consists of two subcategories, “think about user value” (code b11) and “customer management capability” (code b12). This signifies that corporate universities promote the organization and arrangement of customers’ needs from top to bottom, and the mission is to drive the company up and down to respond quickly to market and customer changes. (2) *Market insights* emerge from a single subcategory “empower businesses to identify the markets” (code b21). Corporate universities empower business departments to identify and gain valuable insights into market dynamics and changes in customer behavior. (3) *Business innovation knowledge* is derived from two subcategories: “empower business iteration” (code b31) and “stimulate team creativity (code b32)”. This highlights the corporate university’s ability to facilitate and support business departments in fostering innovation and iterating business models, products, and services to stay competitive and meet evolving market demands. By crystallizing these three aspects, corporate universities demonstrate their role in enabling business departments within organizational learning.

Third, our findings demonstrate the role of corporate universities in enabling organizations by facilitating their governance, including four main categories. (1) *Efficient collaboration* is composed of three subcategories: “develop organizational capabilities” (code c11), “efficient collaboration mechanism” (code c12), and “optimizing organizational

structure” (code c13). Corporate universities therefore empower companies to promote cross-team communication and collaboration, optimize organizational structure, and improve resource allocation efficiency. (2) *Agile adaptation* is aggregated into two subcategories, “agile customer adaptation (code c21)” and “agile customers’ responses” (code c22). Hence, corporate universities empower companies to align their tasks and organizational arrangements with customer needs, ensuring prompt responsiveness to market and customer changes. (3) *High-skilled training* is condensed into two subcategories, “cultivate high-quality employees” (code c31) and “cultivate competitive advantage of employees” (code c32). Corporate universities empower companies to nurture talent that can actively undertake high-quality employees and outperform their competitors in meeting customer needs. (4) *Governance of knowledge management* consists of three subcategories: “organization authorization” (code c41), “reduced management redundancy” (code c42), and “build incentive mechanism” (code c43). Accordingly, corporate universities not only promote reasonable empowerment behaviors, empowering employees to play a proactive role in their work but also empower their company to optimize management and establish incentive and restraint mechanisms via clear guidance and standards.

Fourth, our findings indicate that corporate universities can create, and then transform corporate culture into common knowledge at the employee level. (1) *Knowledge based on mission* (code d1) includes a single subcategory of “common mission transformation” (code d11), which refers to how corporate universities can empower employees to understand the meaning of work by engaging in lifelong learning activities based on their enterprise’s mission. (2) *Knowledge based on vision* (code d2) refers to a corporate university that can empower employees to inspire work engagement by completing lifelong learning activities based on their company’s visions and includes a single subcategory, “common vision transformation (d21)” (code d21). (3) *Knowledge based on value* (code d3) refers to corporate universities that can empower employees to create co-values by completing lifelong learning activities based on their enterprise’s values and includes a single subcategory, “common value transformation” (code d31). Corporate universities can enhance their employees’ comprehension of their work by strengthening their links with their company’s mission, vision, and value. Therefore, corporate universities are the bridges that establish connections and foster a common knowledge of identity among employees concerning their company’s mission, vision, and values (Li et al., 2015).

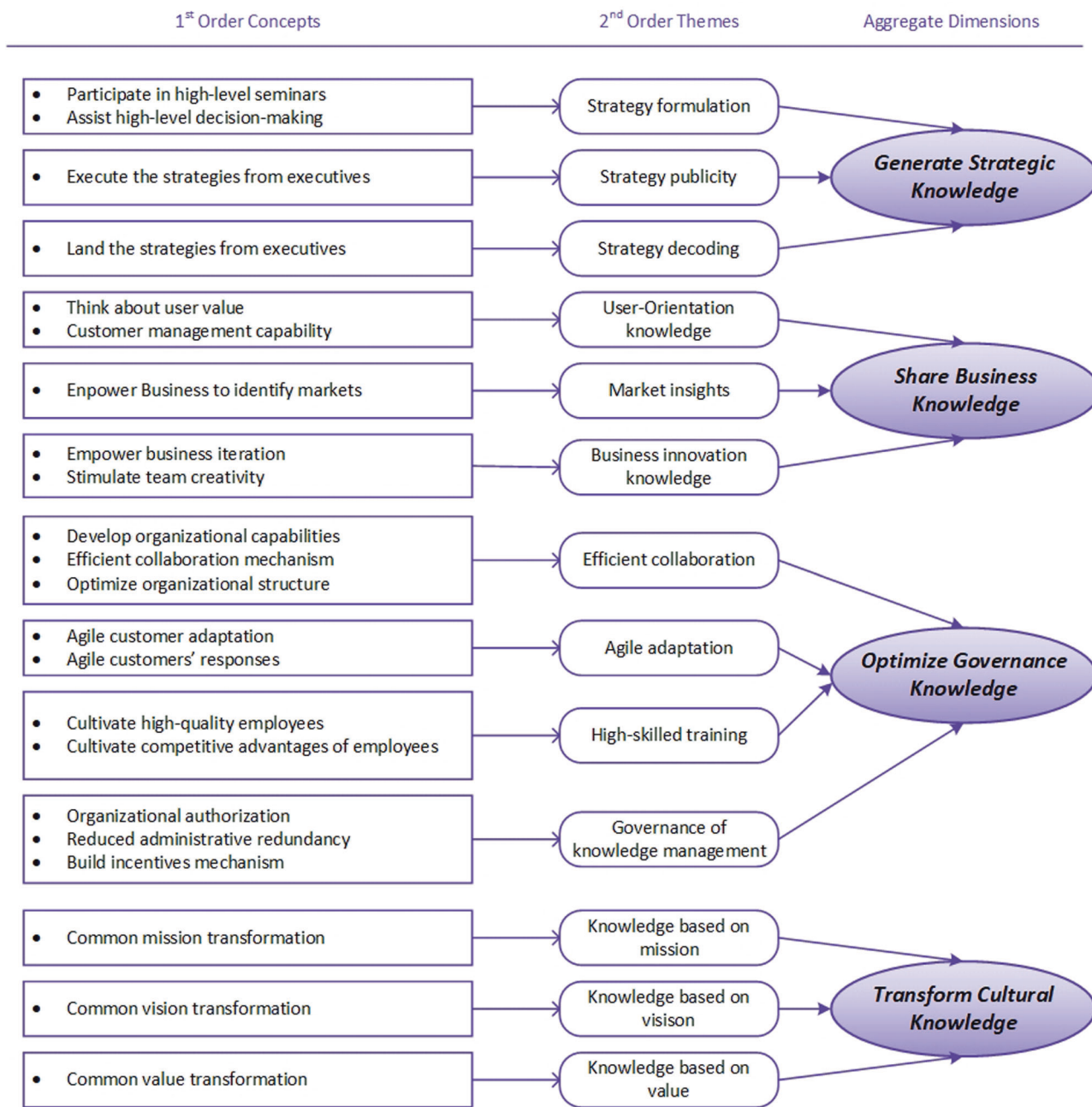


Fig. 2 Data structure (figures source: self-made by the author). This study extracted 76 conceptual nodes from 324 free nodes describing the development of enterprises empowered by corporate universities and further abstracted 22 subcategories (1st order concepts), 13 categories (2nd order themes), and 4 aggregate dimensions.

The path model of corporate universities empowers organizations' lifelong learning. Overall, this research has constructed a path model that explains how corporate universities empower organizational development through four different paths, generating strategic knowledge, sharing business knowledge, optimizing governance knowledge, and transforming cultural knowledge (see Fig. 3).

The first enabling path of corporate universities, designed to facilitate lifelong learning within organizations, is generating strategic knowledge through strategy formulation, publicity, and decoding. The most crucial function of corporate universities is enabling organizations to realize their strategic value (Elkeles and Phillips, 2007). The literature has already recognized the strategic functions of corporate universities (Antonelli et al., 2013;

Rademakers, 2014). Our results, however, demonstrate how corporate universities empower organizational development by linking the strategies of both sides. Our analyses also support the strategic function of corporate universities proposed by Abel and Li (2012); that is, the educational goals of corporate universities should align with their organization's strategic needs. The corporate university supports decision-making by participating in the formulation of corporate strategies and realizing the empowering function of linking strategies. Our results thus extend prior research conclusions by addressing new phenomena (Elkeles and Phillips, 2007). For instance, a corporate university participates in high-level discussions, which empower the formation of opinions and reports that often play a supportive role in decision-making. The China Mobile Academy compiles

Table 3 Spindle coding process.

Categories	Definitions of the main categories
<p><i>Strategy formulation (a1)</i></p> <ul style="list-style-type: none"> Participate in high-level seminars (a11) Assist high-level decision-making (a12) <p><i>Strategy publicity (a2)</i></p> <ul style="list-style-type: none"> Execute the strategies from executives (a21) <p><i>Strategy decoding (a3)</i></p> <ul style="list-style-type: none"> Land the strategies from executives (a31) <p><i>User-orientation knowledge (b1)</i></p> <ul style="list-style-type: none"> Think about user value (b11) Customer management capability (b12) <p><i>Market insights (b2)</i></p> <ul style="list-style-type: none"> Empower businesses to identify markets (b21) <p><i>Business innovation knowledge (b3)</i></p> <ul style="list-style-type: none"> Empower business iteration (b31) Stimulate team creativity (b32) <p><i>Efficient collaboration (c1)</i></p> <ul style="list-style-type: none"> Develop organizational capabilities (c11) Efficient collaboration mechanism (c12) Optimize organizational structure (c13) <p><i>Agile adaptation (c2)</i></p> <ul style="list-style-type: none"> Agile customer adaptation (c21) Agile customers' responses (c22) <p><i>High-skilled training (c3)</i></p> <ul style="list-style-type: none"> Cultivate high-quality employees (c31) Cultivate competitive advantages of employees (c32) <p><i>Governance of knowledge management (c4)</i></p> <ul style="list-style-type: none"> Organizational authorization (c41) Reduced administrative redundancy (c42) Build incentive mechanism (c43) <p><i>Knowledge based on mission (d1)</i></p> <ul style="list-style-type: none"> Common mission transformation (d11) <p><i>Knowledge based on vision (d2)</i></p> <ul style="list-style-type: none"> Common vision transformation (d21) <p><i>Knowledge based on value (d3)</i></p> <ul style="list-style-type: none"> Common value transformation (d31) 	<p>The employees/members of corporate universities can be invited to participate in high-level seminars on company management topics, plan research, and provide high-quality reports or solutions in line with the company's high-level concerns.</p> <p>The corporate university has the solution design and operational capabilities that drive companies to implement strategy through execution.</p> <p>Corporate university closely follows the development of the industry, plans the action theme according to the company's strategy, and transforms it into a landing project.</p> <p>The corporate university can promote the organization and arrangement of tasks around customer needs and encourage rapid response to market and customer changes.</p> <p>The corporate university can empower business units to identify and gain insight into market and customer changes.</p> <p>The corporate University empowers business units to innovate and iterate on businesses, products, and services.</p> <p>The corporate university clearly defines the company's organizational capabilities. It can diagnose and cultivate, which can empower companies to promote smooth information communication and cross-team collaboration, optimize the organizational structure, and improve resource allocation efficiency.</p> <p>The corporate university can drive the company to organize and arrange tasks around customer needs and respond quickly to market and customer changes.</p> <p>The corporate university can empower companies to develop motivated employees who perform high-quality work and meet customer needs better than their rivals.</p> <p>The corporate university can promote the proper authorization of the company to make employees the protagonists in work, optimize the management process to complete the job more concisely and efficiently and empower the company to establish an incentive and restraint mechanism with clear orientation and standards.</p> <p>The corporate university can empower employees to understand the meaning of work from the perspective of the company's mission.</p> <p>The corporate university can empower employees to inspire work engagement from the company's visions.</p> <p>The corporate university can empower employees to create co-values with companies.</p>

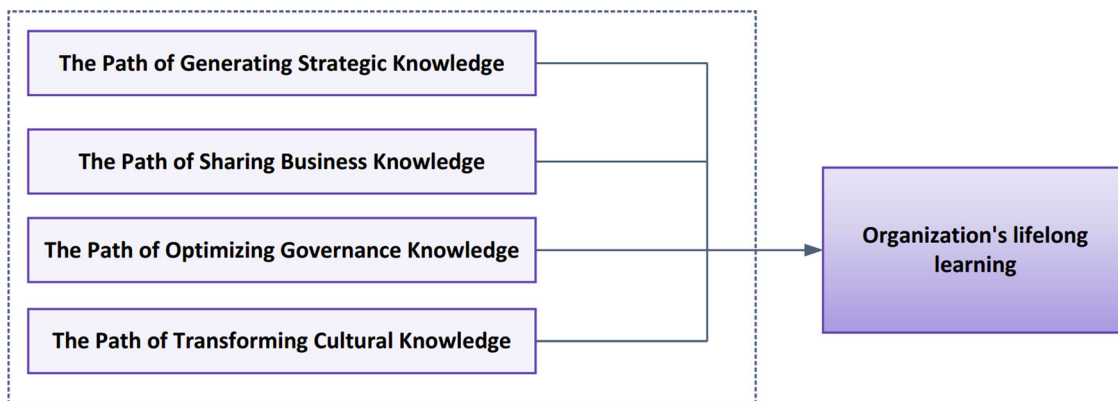


Fig. 3 A path model for how corporate universities empower organization's lifelong learning (figures source: self-made by the author).

feedback and suggestions into reports and submits them to senior executives and the strategy department for use in strategy formulation. Similarly, China General Nuclear University conducts an annual leadership forum for top management teams, addressing critical issues such as execution, cadre management, strategic direction adjustment, and corporate culture. Dongfeng Nissan University has also built an executive forum that serves as a platform for dialog, leading to major strategic decisions: “We

organized executive lectures including board members and business management training attended by executives from various business units and regular book clubs”.

The second path is sharing business knowledge with various departments. Corporate universities empower business departments through internal knowledge management systems, facilitate business departments to establish user-oriented thinking and market insight capabilities, and, ultimately, achieve business

innovation. Specifically, our analyses indicate that corporate universities provide business scenarios to identify, understand, and document business requirements (Nguyen and Fan, 2022; Viergutz and Knust, 2014). Seven corporate universities have adopted various knowledge management courses, talent development projects, training methods, and tools. One of the key findings, then, is that corporate universities function as digital learning platforms inside their organization. They can offer fast-response, high-quality learning channels, and knowledge management platforms for leaders, business departments, and employees. Meanwhile, some corporate universities have established a digital learning system on strategic consulting, business management, and learning and training through online course sharing and by building a mobile and PC-side collaborative learning platform. For instance, in 2015, China General Nuclear University built an online E-learning platform and conducted digital courses for employees to improve their skills and capabilities by using computers and mobile phones. Furthermore, some scholars have explored the challenges posed by the new era (e.g., digital economy) to corporate universities, emphasizing the importance of tight connections between enterprises' corporate universities and business model innovation (Rhéaume and Gardoni, 2017; Taghizadeh et al., 2021). Our findings also suggest that corporate universities support business model innovation by facilitating information communication between business departments and their external customers.

The third path is optimizing the governance knowledge by establishing efficient collaboration, agile adaptation, high-skill education, and internal governance. Consistent with the literature, this study indicates that efficient collaboration and mechanism optimization empower enterprises to acquire external knowledge (Foss et al., 2013). Some studies have also suggested that corporate universities help organizations attract and retain talent and can thus empower employees to pay attention to their individual career development. Corporate universities are therefore favored by employees because they allow them to perceive that they are taken seriously in their enterprise (i.e., organizations that offer development opportunities that maintain employability and ensure employees are not deskilled through their work routines are more attractive to them than those that do not). For instance, Sany Corporate University demonstrates how professional corporate universities can provide effective services for organizational development and employee growth. In the VUCA era, agile adaptation is one of the essential components allowing corporate universities to empower enterprises. In this study, agile adaptation is constructed based on the actual situations of the case of corporate universities. This emphasizes the ability of the corporate university to promptly respond to the organization's urgent needs, e.g., business adjustment, structural change, or project requirements, by providing practical learning solutions. Therefore, it reveals enabling behavior beyond the organization, e.g., promoting excellent experiences among partners and enterprises on the same industry chain (Alonso-Gonzalez et al., 2017).

The fourth path is transforming cultural knowledge. Based on our analysis results, a corporate university can inspire individual employees to fully recognize their organization's vision, mission, and values through its mission links activities. Corporate universities can also shape an organization's culture (Blass, 2005). For example, corporate universities in the energy industry have played a role in promoting environmental sustainability in broader corporate projects by engaging in activities related to the principles of corporate social responsibility (Antonelli et al., 2013). Based on interviews with the China Railway Fourth Bureau's Corporate University, our analyses have revealed evidence for the relationship between this corporate university and the organization's human resources department: (i) "*The human resources department of the*

company has a complete corporate culture management system, so the corporate university should spread some corporate culture concepts in a way similar to pre-job training". Our findings also demonstrate how corporate universities can carry out actions promoting cultural knowledge within companies, for instance, "*our training logos, energy words, posters, and promotional material designs must moisturize and silently infiltrate the cultural content*" (New Hope Business School).

Discussion and conclusion

Conclusion and theoretical contributions. Based on the KBV, this study has developed a path model that explains how corporate universities empower organizations' lifelong learning. The four enabling paths in this model are generating strategic knowledge, sharing business knowledge, optimizing governance knowledge, and transforming cultural knowledge. Throughout the literature, most academics' focus on corporate universities has been based on opinions or case studies. Hence, this study reveals how corporate universities deploy and implement knowledge management. Our path model also enriches the literature on corporate university development. Specifically, prior research has indicated that the knowledge management capability includes creating, sharing, and utilizing knowledge resources among various functional departments (Dabic et al., 2020). Following the KBV as presented by Grant (1996), we identify and code each concept and then build a path model of how corporate universities empower organizational lifelong learning by managing unique types of knowledge, such as strategic knowledge, business knowledge, governance knowledge, and cultural knowledge. This study therefore broadens theoretical boundaries by identifying various kinds of knowledge within the lifelong learning processes of an organization (Lane et al., 2006; Zahra and George, 2002).

Second, this research expands the understanding of corporate universities' enabling behaviors by considering the lifelong learning process of an organization as an empowerment process. Corporate universities can interact with enterprises to exert an enabling effect during this process. The core of corporate university empowerment of organizational development is connecting multiple subjects (i.e., internal employees, management teams, external suppliers, and strategic alliance partners) to create customer value. Ultimately, this connection is an enabling capability that requires integrating organizational elements, including business, structure, process, and mechanism, to drive the formation of organizational vitality and ability, thereby improving organizational performance and creating sustainable competitive advantages. Most literature primarily concentrates on the knowledge management behavior of corporate universities, giving less attention to the internal mechanisms in the whole knowledge management process (Abel and Li, 2012; Singh et al., 2020). Hence, our research details the relationship between corporate universities' knowledge management and organizations' lifelong learning, exploring the potential mechanisms behind this process.

Third, this study analyses the functions of lifelong learning and knowledge management in corporate universities. The literature has highlighted issues related to corporate universities' knowledge management functions (Antonelli et al., 2013; Singh et al., 2021). With the increasingly mature development of corporate universities, superior universities have achieved self-management and self-development, thereby forming a self-evolving ecosystem (Yan et al., 2023). However, much of the research on corporate universities has been descriptive and devoted to constructing the operational support system of corporate universities. This theoretical structure stands in stark contrast to the successful development of corporate universities. Additionally, although some studies have analyzed the relationship between corporate

universities and organizational capacity, the resources needed to develop a corporate university must be further explored from the perspective of the corporate university itself (Kimiloglu et al., 2017). Indeed, some scholars have called for a greater focus on constructing capacity systems in corporate universities (Chen et al., 2019). Therefore, this study has attempted to fill this gap by examining corporate universities' functions in both knowledge management and lifelong education. Moreover, by exploring the internal mechanisms when constructing capacities across employee, team, and organization levels, this study extends existing research and reveals the multiple paths for corporate universities to empower organizational development.

Practical implications. This research offers insights that may be valuable for corporate university administrators and employees. Our observations suggest that certain outstanding corporate universities in terms of the function of lifelong learning have extended themselves beyond a supplementary component of their organization, playing increasingly important roles in enabling enterprise development. Furthermore, we have noted the significance of knowledge management within corporate universities. While our study underscores their potential importance, corporate leaders are also encouraged to evaluate and determine the extent to which they might leverage corporate universities in their knowledge management efforts, based on their specific organizational contexts and needs.

Another central theme emerging from our findings is the role of corporate universities in championing the ethos of lifelong learning from the employee perspective. As the business world undergoes rapid transformations, employees often find themselves needing to adapt, reskill, and upskill. Corporate universities, by fostering a culture of continuous learning, provide these employees with the tools and opportunities they need to not only remain relevant in their roles but to also achieve personal and professional growth. Hence, our study highlights the crucial role of knowledge management within corporate universities. Currently, employees today are not just passive recipients of knowledge. They actively engage in its creation, dissemination, and application. Corporate universities, especially via their function regarding lifelong learning, can become pivotal spaces where employee-generated insights are harnessed, curated, and shared, fostering a culture of collaborative learning and innovation.

Limitations and further research. Nevertheless, this study has limitations in terms of sample selection and data collection. First, due to privacy concerns, several corporate universities might not have disclosed sufficiently comprehensive information or sensitive data regarding their real-time organization structure, specific reporting hierarchies, or materials related to their strategic decision-making. Second, our analysis is based on advanced practices in seven Chinese corporate universities, primarily highlighting their successful enabling paths. This perspective may have overlooked any unsuccessful endeavors made by these institutions. Given these limitations, future researchers could delve into the enabling mechanisms between enterprises and corporate universities in different contexts, such as in emerging countries or developed economies. Such studies would enrich and expand our conclusions regarding the lifelong learning role of corporate universities. Further research could also pay attention to the corporate universities that have encountered challenges while updating and transforming their lifelong learning functions; this focus could expand the boundaries of our theoretical path model and serve as a cautionary note for the practices of corporate universities.

Data availability

This article is a qualitative study based on qualitative materials. The materials underlying this article cannot be shared publicly due to protecting the privacy information of the companies and their corporate universities involved in this study. The materials will be shared on reasonable request to the corresponding author. Correspondence and requests for materials should be addressed to Jiaoyan Jiang.

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Author contributions

All the authors contributed equally. YH: conceptualization, methodology, and writing—original draft. YZ: conceptualization, writing—review & editing, project administration, funding acquisition, and supervision. SC: writing—review & editing, project administration. JJ: conceptualization, writing—original draft, funding acquisition, and supervision.

Competing interests

The authors declare no competing interests.

Ethical approval

Ethical approval was not required as the study did not involve human participants.

Informed consent

This article does not contain any studies with human participants performed by any of the authors.

Additional information

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Correspondence and requests for materials should be addressed to Jiaoyan Jiang.

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