Introduction
Following the surge of interest for business scholars in the approach of ecosystem initially proposed by Moore (1993), the novel concept of an entrepreneurial ecosystem (EE) coined by Prahalad (2005), as a combination of manifold stakeholders from private and public sectors to generate economic wealth and societal prosperity in a symbiotic manner, has also gained prominence in recent years. Despite some similarities and overlap between the EE and several homologous terms, including the business ecosystem (Moore, 1993), the innovation ecosystem (Adner, 2006) and the knowledge ecosystem (Van der Borgh et al., 2012), the EE has been deemed as a distinctive type of ecosystem in various fields of management. Simply stated, the EE is analogous to the above-mentioned ecosystems in terms of developing business platforms akin to biological systems where all stakeholders have shared sets of technological devices and networking architectures and thereby tightly or loosely interact with one another to create value (Chin et al., 2022). However, the EE differs from the others in its extraordinary emphasis on the roles that governments, policymakers and ecosystem leaders play in stimulating, supporting and nurturing entrepreneurship (Scaringella and Radziwon, 2018; Regele and Neck, 2012).

According to the literature, the leaders’ personality traits, risk-taking orientation, as well as other related entrepreneurial cognitions, attitudes and behaviours, show great significance for the formation and evolution of EEs (Vargas-Vera et al., 2013; Del Giudice et al., 2019; Chin et al., 2020). In turn, environmental dynamism and uncertainty have been identified as critical moderators for shaping the decision-making processes of the entrepreneur, the lead firm and other keystone actors in EEs in performing and sustaining innovation (Cohen and Winn, 2007; Del Giudice et al., 2017). Echoing the above-mentioned vital roles of governments at various levels, civil society has been added as an indispensable part of a new quadruple helix model for innovation in EEs (Prahalad and Ramaswamy, 2013).

The existing results suggest that the success of EEs is contingent on the complex interacting and networking among stakeholders across various levels of analysis (e.g. national, industrial, organisational and individual levels). This partly implies that the operation and orchestration of such ecosystems entail the possession of diverse knowledge resources and assets as the basis for fostering sufficient innovation capacity to cope with the ever-evolving, intricate relations among actors at the intersections of different cultural and institutional frameworks, as well as their corresponding bureaucratic systems. Following this logic, we thus contend that it is imperative to take into account the dynamic mechanisms of intellectual capital (IC) that characterises the totality of an organisation’s knowledge stocks and resources (Edvinsson and Sullivan, 1996) upon the design, formation and other aspects of EEs.
Prior studies have addressed how the overall and the individual dimensions of IC (e.g. human capital [HC], relational capital [RC] and structural capital [SC]) help convert organisational knowledge into economic value in different contexts and exert varying impacts on corporate ventures, innovations and a variety of other entrepreneurial endeavours (e.g. Hayton, 2005; Khan et al., 2019; Alvino et al., 2021; Di Vaio et al., 2020). Some of these endeavours have linked IC to entrepreneurship from the perspective of knowledge management (KM) (Nicotra et al., 2018; Usai et al., 2018). However, most of them are still at the initial stage of development and have not incorporated the views of IC into understanding the EE domain that involves a wider spectrum of actors beyond the traditional game of entrepreneurship, ranging from entrepreneurs, established firms, suppliers, customers and the like to those in the non-profit sector, such as universities, governments and industrial associations.

Taking together the preceding arguments, we can conclude that there are many research gaps at the confluence of IC, KM and EE. Moreover, given that entrepreneurial firms often act as the main drivers for the growth of emerging economies and less developed regions (Del Giudice et al., 2019; Chin et al., 2020), it seems especially meaningful to investigate relevant issues in moderate innovative countries. This explains the underlying motivation behind this special issue (SI).

Objectives of the special issue
As indicated in the introduction, this SI aims to unveil the various roles of IC as critical knowledge resources to achieve competitiveness in designing and orchestrating different archetypes of EEs or in formulating and promoting innovation-related activities, such as learning and technology transfer in the EE context.

To allow more innovative submissions, this SI encourages authors to build broader, interdisciplinary theoretical underpinnings, to employ more varieties of methodologies and to undertake multiple levels of analysis through an integrative lens of IC, EE and KM. Fortunately, it is very exciting to see that quite a few fascinating articles were received. After a rigorous review process, ten articles were carefully chosen for publication, which can be classified into four categories based on the research focus discussed, the background setting selected and the methodology used. The main findings and perspectives are summarised below.

An overview of selected articles
Unravelling the various roles of the overall IC and its subdimensions in EEs
The first section contains two articles. Marinelli et al. (2023) adopt an unconventional collective intelligence approach with a two-year, longitudinal single-case study on the Italian EE FermoTech to elucidate the individual effects of three dimensions of IC (i.e. HC, SC and RC) and their interacting mechanisms on the process of forming a top-down, innovation-based EE. Their findings address the intertwining influence of HC and RC on the conduct of various collaborative activities among diverse actors amid the process of forming an EE at both micro- and meso-levels, while SC only occurs at the meso-level. Their unique contribution lies in the application of an orthodox yet more comprehensive approach to crystallise how the three components of IC stimulate the creation of an Italian EE at different stages of development, respectively.

Using a systematic lens to interpret the dynamics of IC in EEs, Grande et al. (2023) propose a novel taxonomy of IC comprising explorative and exploitative enablers as the two main categories. Each category is further divided into three subcategories based on the three dimensions of IC, namely explorative/exploitative HC, explorative/exploitative RC and explorative/exploitative organisational capital (OC). The complex interplays of these enablers are also discussed at length and in depth. Given their research setting as the context of a
series of internationally awarded hackathons and associated activities in an entrepreneurial university located in Latin America, they provide valuable first-hand data for scholars, practitioners and policy makers to understand how IC stimulates the occurrence of EEs in a fast-growing, moderate innovative environment.

**Systematic reviews for identifying hot topics at the intersection of IC, EE and KM**

The second section includes two papers. Chaudhary et al. (2022) first use the academic databases of Google Scholar and Web of Science (WOS) to search a nexus of keywords for several rounds (e.g. KM, IC, HC, SC, OC, corporate entrepreneurship, entrepreneurial orientation and the like); 79 studies are selected after filtering and sorting. Next, they adopt a systematic literature review approach to distil four predominant themes: (1) role of KC in entrepreneurial firms, (2) organisational learning and entrepreneurial orientation, (3) IC and entrepreneurial orientation and (4) absorptive capacity and entrepreneurial orientation. Based on these results, they also develop a theoretical model demonstrating the causations and correlations between IC and entrepreneurial orientation, which provides abundant implications for recognising the crucial role of IC in identifying business opportunities in a highly uncertain business environment.

Paoloni et al. (2023) conduct a structured literature review on controversial topics regarding IC measurement and reporting in different research areas and background contexts. Their main contribution lies in synthesising the theories of agency, stakeholder and legitimacy to specify the strategic use of IC measurement and reporting as a feasible means for firms to reduce information asymmetry and enhance their reputation.

**Contingent mechanisms between IC and specific types of EEs**

The third section comprises three articles. Canestrino et al. (2023) depart from more human-centric and social-oriented views to conceptualise a relatively abstract term – “humane entrepreneurial ecosystem” (HEE) – by defining it as an “interacting group of actors aiming to pursue economic, social and environmental sustainability”. Based on this novel conceptualisation, they first address the pivotal role of IC in propelling entrepreneurship and orchestrating all actors in HEEs. They then refer to the GLOBE project to conduct a quantitative study examining the impacts of cultural factors on the emergence and development of HEEs in different cultural contexts.

Festa et al. (2023) investigate the significant yet varying impacts of several advanced financial technologies (FinTech), including crowdfunding, mobile payment and blockchain, on forming a distinctive type of FinTech EE in Tunisia. Particularly, they highlight the fact that entrepreneurial education may serve as a fundamental force to enhance the entrepreneurial orientation and IC of young Tunisian entrepreneurs and thereby stimulate the growth of such an EE.

Berné Manero et al. (2023) investigate how a digital tool, namely electronic word of mouth (eWOM), affects managers’ decision-making process that embodies a certain part of IC in Italian hotel EEs. The analysis of structural equation modelling shows that eWOM enables hotel managers to better develop and leverage IC and thereby undertake entrepreneurial activities, such as the conduct of organisational innovations and changes. Given the intensifying digitalisation in the post-pandemic world, their research provides valuable references for practitioners and entrepreneurs to cope with relevant challenges in hotel EEs.

**Idiosyncratic links of different IC components to EEs**

The fourth section contains three articles. The first two focus on HC. Using a sample of 827 Italian cases over the period 2009–2018, Prencipe et al. (2023) perform a regression analysis to
unmask the role of HC as a subcomponent of IC in a distinctive knowledge-intensive EE of university spin-offs in Italy. Theoretically, they build an overarching logical framework incorporating the theories of resource dependence, upper echelons and critical mass from different domains, thus enriching the IC and the EE literature by indicating the cross-disciplinary nature of relevant issues. Their findings on unconventional non-linear influences of gender diversity and nationality diversity on boards of directors imply the imperative to consider the boundary conditions of realising innovation in a specific EE.

Chaudhuri et al. (2023) integrate the resource-based view with the theory of absorptive capacity to empirically test the HC–EE nexus in India, where firms’ digital knowledge capability and innovation capability significantly and positively affect the development of EEs, while technology turbulence moderates these positive relations. Their findings offer fresh and important practical implications for other entrepreneurial firms in emerging economies.

The third article focuses on RC. Duan et al. (2023) explore the intervening impacts of leadership empowerment on the positive associations between RC and firm innovation in Chinese EEs. Their research provides a deeper, more comprehensive understanding of the role of RC as they divide RC into three subdimensions (i.e., trust, reciprocity, and transparency) and find nuanced differences in the statistical results. Leadership empowerment positively moderates the links of trust and reciprocity to firm innovation but cannot moderate the transparency–innovation relation.

Conclusion
In summary, the ten articles selected for this SI encompass a variety of themes and subjects at the confluence of IC, EE, and KM, which involve the application of multifaceted methodologies and the development of cross-disciplinary theoretical frameworks. The diversity in authorship and affiliation reflects a high level of international collaboration that often can lead to a new way of thinking across cultures. As illustrated above, these articles are classified into four sections. The first section, entitled “Unravelling the various roles of the overall IC and its subdimensions in EEs”, elucidates the indispensable yet varying and ever-changing roles that IC and its subcomponents play in driving the emergence of EEs in different cultural and institutional contexts. The second section, entitled “Systematic reviews for identifying hot topics at the intersection of IC, EE, and KM”, draws a more holistic picture for crystallising current trends and future research directions. The third section, entitled “Contingent mechanisms between IC and specific types of EEs”, addresses the contingent mechanisms between specific forms of EEs and IC. The fourth section, entitled “Idiosyncratic links of different IC components to EEs”, characterises the context-specific effects of individual IC components on distinct types of EEs in a diverse environment.

Overall, the ten studies in this SI indeed provide quite a few novel perspectives that can enhance the conceptual clarification of EEs and thereby make sense of the various roles that IC plays in facilitating communication and cooperation among a wide range of stakeholders in the complex, stratified networks of EEs. Synthesising the findings of all articles in this SI, we thus contend that an EE can be characterised by an open, constantly evolving entrepreneurial system with blurred organisational boundaries, intertwining subsystems and intricate networking structures, where plenty of loosely or tightly bound heterogeneous stakeholders, led by the ecosystem leader as an entrepreneur, create and capture economic, social and environmental values together.

We also acknowledge that despite some valuable theoretical and practical implications offered by this SI, the studies about the roles of IC in EEs in moderate innovative countries are still in their nascency. It is believed that there is a need for combining a broader scope of theoretical logic to delve into relevant issues in the future. For instance, while an increasing
number of digital infrastructures across geographic locations are being built, it is plausible to witness a new round of surges of digital-driven EEs in the post-pandemic area. The reason is that there will be greater availability and sharing of critical resources, such as data, expertise and the like, among the central actors and stakeholders within various building blocks of EEs, similar to Apple’s iOS. In this vein, new environmental challenges imposed on the entrepreneurs may lie in the sophistication of adopting newly emerged digital technologies to be innovative and competitive, as indicated by Popkova and Sergi’s (2020) recent work that has introduced the concept of “artificial intellectual capital” in the context of Industry 4.0.

In sum, considering the high complexity, ambiguity and variability embedded in the core of EEs, it is expected that a fresh idea of entrepreneurship may arise. It thus requires deeper, more comprehensive investigations or the use of unconventional approaches to more profoundly understand how IC elicits the dynamics of learning, innovation and technology transfer in such an entrepreneurial context.

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References


Further reading


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