

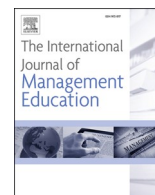


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The post COVID-19 pandemic era: Changes in teaching and learning methods for management educators

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ABSTRACT

The COVID-19 pandemic resulted in significant changes to management education regarding the interaction and use of digital technology as part of the learning experience. This article focuses on how and why these changes occurred and what this means for teaching methods for the post COVID-19 pandemic era. To do this a literature review on COVID-19 management education and future research was conducted. This enabled key alterations in management education because of the COVID-19 crisis including more emphasis on games and simulations, work/life balance and remote learning to be discussed. This includes a stress on emerging technologies such as the metaverse that are shaping a new era for management educators. Implications for management educators suggest that new theory specifically taking into account a crisis and resilience perspective based on the COVID-19 pandemic are needed. This means emphasising the use of new digital technologies that offer a more interactive experience.

1. Introduction

The rapid advance of digital technologies during the COVID-19 pandemic has profoundly changed management education (Palumbo, 2022a). Whilst there have been previous crises that affected the education sector, the magnitude of the COVID-19 pandemic was unprecedented (Baber, 2021). During the COVID-19 pandemic, digital technology enabled management educators to continue teaching during lockdowns and social distancing requirements (Barnes, 2020). New tools for educational technology have been developed that have led to more online activity (Ratten, 2021a). Many teaching tasks that were previously done manually are now digitalized and this has revolutionised the teaching experience (Tiwari, Séraphin, & Chowdhary, 2021). The shift to remote teaching has remained despite the COVID-19 pandemic subsiding. As a result, management educators have incorporated new emerging technology as part of the education experience (Wood, 2022).

In the past most courses were taught face-to-face and through direct interaction between the teacher and student. This has changed to incorporate the use of digital technology that can take on a variety of formats including augmented and virtual reality (Garcez, Silva & Franco, 2022). Management educators are continually experimenting with technology and implementing new digital technology. This is to encourage students to utilise technology but also to showcase new learning methods (Szopiński & Bachnik, 2022). Whilst management educators have been responding to the COVID-19 pandemic, the results of their action have largely been understudied (Shahzad, Hassan, Aremu, Hussain, & Lodhi, 2021). Thus, there is an urgent need to examine the current and future conditions for management educators.

Adaptability is widely depicted as part of management education (Allen, Cunliffe, & Easterby-Smith, 2019). There was already a

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growth in digitalization before the COVID-19 pandemic, but the change was accelerated during the COVID-19 crisis (Anderson, Hibbert, Mason, & Rivers, 2018). Virtual knowledge repositories meant management educators could overcome social distancing requirements. To thrive during the COVID-19 pandemic, educators increased their focus on digital literacy (Eringfeld, 2021). This included training courses about how and why to access digital resources. Digital literacy promotion is consistent with educators need to use emerging technology (Bridgman, Cummings, & Ballard, 2019). The COVID-19 pandemic was a challenge that necessitated innovation by management educators. It led to constraints on teaching methods with classes postponed or altered.

The motivation for this article is to analyse how management education has changed due to the COVID-19 pandemic. This means understanding the gap in the current literature about potential new research required due to the emphasis on digital technology and emphasis on the metaverse and other online teaching methods. The theoretical contribution is to develop new thinking about how artificial intelligence and technological innovation based on the crisis caused by the COVID-19 pandemic have changed management education.

Despite the increased prominence of digital literacy in management education, currently there is limited research on the after effects of the COVID-19 pandemic on teaching and learning methods. Little is known about how and why management education has changed or is expected to change in the future. This article addresses this research gap by investigating the after effect of the COVID-19 pandemic on management education. The following research questions are investigated in this article:

Research question 1. How has the COVID-19 pandemic resulted in fundamental change to management education?

Research question 2. How is it possible for management educators to move forward with new teaching and learning methods?

The structure of this article is as follows. The first section discusses how the COVID-19 pandemic changed management education then states specific factors influencing this change. This is followed by detailed future research suggestions regarding the alterations including implications. The last part of the article states the theoretical and practical contributions.

2. Changes in management education teaching and learning methods

Management education delivers critical knowledge about real life business situations (Ozcan-Deniz, 2022). Thereby providing reliable and trustworthy information that is needed in today’s competitive business environment. The COVID-19 pandemic put management educators under stress, due to the need to provide information in a new format (Mousa, Massoud & Ayoubi, 2022). Management educators have reacted to students changing expectations in different ways that have both positive and negative consequences. The positive effects refer to increased digital literacy rates but the negative effects highlight how the quick and sudden spread of the COVID-19 pandemic undermined management educators’ ability to provide students timely access to real situations. This is due to management educators promptly revising their service delivery modes to cope with the change (Nwagwu, 2020). This included a redesign of courses and fostered a shift to digital technologies. In order to satisfy students information needs, digital platforms were used to host student-teacher exchanges. Despite these changes, there is still uncertainty as to what is needed to advance management educators’ effectiveness in the post-COVID-19 environment (Babbar & Gupta, 2022).

In order to understand the after effects of the COVID-19 pandemic on management education it is useful to consider it as a value chain. Friga, Bettis, and Sullivan (2003:234) defines the value chain of management education as “the creation, assimilation, and dissemination of knowledge about business management”. This definition emphasises the creation of knowledge that occurs through the exchange of business management related ideas. These ideas are then stored and utilised in the future. By having a repository of knowledge, it enables individuals to access information when it is required. The dissemination of knowledge refers to others obtaining the information that can occur through direct and indirect engagement. Direct engagement means books, videos and other material are accessed as a way to acquire information. Indirect engagement occurs in a more unplanned way and often happens when digesting other material. The changes in the management education value chain can be understood based on three main time periods-internationalisation, digitalization and interactivity, which is useful in understanding the main changes that have occurred in management education. Table 1 below depicts the management education transitions in the year 2000 to current activity and beyond.

The main changes since the beginning of 2000 refer to internationalisation, digitalization and interactivity. Internationalisation of teaching courses including case studies was a major goal of many management education programs in the early 2000’s when the internet was first introduced. This goal has largely been accomplished by the emphasis on emerging economy as well as developing and developed country case studies into course curriculum. In addition, there was an emphasis in business schools on international recruitment of staff that further internationalised management education. More recently due to the COVID-19 pandemic there was an emphasis on digitalization that incorporates new learning technologies such as social media. This has then led to the post COVID-19

Table 1
Management education transitions.

	Internationalisation (2000–2019)	Digitalization (2019–2021)	Interactivity (2022 and beyond)
Focus	International curriculum and recruitment of international teachers/students	Use of online teaching and learning	Hybrid learning and teaching methods
Curriculum change	Emphasis on international case studies	Use of social media and other internet communication	Integration of online as well as face-to-face material
Knowledge creation	Through cultural exchanges and social cohesion	Utilising personalised technology teaching methods and materials	Use of UN Sustainable Development Goals and other global conventions

pandemic teaching and learning environment that focuses on interactivity from a sustainability but also global perspective. The next section will further discuss the main trends resulting from the COVID-19 pandemic.

2.1. Online learning technologies

Students are increasingly more comfortable with online teaching formats due to their involvement with technology (Hogdal, Rasche, Schoeneborn & Scotti, 2021). Before the COVID-19 pandemic learning technologies such as learning management systems and video conferencing was used but during the COVID-19 pandemic more interactive formats including Zoom was used. This meant students could watch classes but also post comments and emojis to represent their feelings. After the COVID-19 pandemic there has been a gradual transition back to face-to-face teaching but still there are many subjects continually being taught in online formats. The new technology that has been introduced includes artificial intelligence and augmented reality so the changes that have occurred relate to digital technology.

Before the COVID-19 pandemic there was already distance learning and some platforms were used but with the COVID-19 pandemic it was used as a necessity rather than choice. As a consequence, many students returned home instead of living on campus in order to utilise distance learning. This changed the way distance learning was viewed by students and made it a more attractive option due to the ease of usage. Educators have been criticised for online learning technologies used in and after the COVID-19 pandemic. This is due to students feeling that they were not getting value for money for online classes which do not require a room booking and physical interaction. The choice to move to online classes during the COVID-19 pandemic was necessitated and not a choice so there is some debate about the advantages and disadvantages of physical versus online teaching methods. Furthermore, now that students and teachers have adjusted to online methods there is an increase in usage of such learning platforms such as simulation-based teaching. Salamzadeh, Tajpour & Hosseini (2022) discussed how simulation-based teaching can enhance entrepreneurial skills in students.

Whilst online learning was necessitated during the COVID-19 pandemic, there is now a reintroduction of face-to-face classes (Haslam, 2021). At the same time, there are students wanting a hybrid learning model that incorporates direct engagement in a physical and virtual format (Ferreira, Fayolle, Ratten & Raposo, 2018). A reconfiguration of teaching models is now required to meet shifting student demands. A full change to digital learning does not seem wanted by all students with some preferring online teaching styles whilst others preferring face-to-face communication (Allen, 2020). This makes it difficult for management educators to balance both demands whilst at the same time improving the student experience (Jones, Ratten, Klapper, & Fayolle, 2019). Educators need to match students' expectations with the richness of their teaching style (Bell, Filatotchev, Krause, & Hitt, 2018). To do this, educators should utilise digital teaching tools and information technology to establish better interactions with students. To improve student experiences there is no single solution as it rather depends on context. This paves the way for educators to offer alternative solutions based on individual needs (Aguinis, Ramani, Alabduljader, Bailey, & Lee, 2019).

2.2. Gig economy

The gig economy refers to individuals having multiple types of employment over the course of their career (Però & Downey, 2022). It reflects the increased casualization of the workforce in which people are contracted to work for set time periods. In order to avoid employment restrictions such as holiday and sick leave, there has been a growth in casual ad-hoc employment (Nieken, 2022). This has resulted in worker instability but at the same time an emphasis on entrepreneurship by employees in terms of searching for employment opportunities (Wheelahan & Moodie, 2022). Kaine & Josserand (2019) suggest that the gig economy is also called the platform, on-demand and digitally enabled economy depending on the circumstances. It is called the platform economy due to individuals continually screening digital platforms for new job opportunities (Rolf, O'Reilly, & Meryon, 2022). The on-demand economy refers to the idea that work is only advertised when it is needed making it occur on a sporadic rather than continual basis (Anicich, 2022). The digitally enabled economy means that most business activity is in some way affected by digital technologies (Leiponen, Thomas & Wang, 2022).

The gig economy focuses on task-based work with set time periods. Online employment platforms advertising for work have fuelled the growth of electronically mediated jobs (Rolf et al., 2022). Kaine and Josserand (2019) state that there are two main categories of gig work: 'crowdwork' and 'work on demand'. Crowdwork refers to work normally undertaken in any geographic environment that includes a person's home. It focuses on technology-based tasks that can be completed at any time. This means it relies on the use of humans to input and interpret data. Normally this kind of work is repetitive and does not require a high level of training. Although it can include knowledge intensive business services that involve professional service workers. Increasingly these highly educated individuals have become digital nomads in their ability to work from any location for a set job task. Work on demand involves more specific tasks that include the coordination of others (Cockayne, 2016). This can include specific events or other types of work that need specific attention. Normally work on demand tasks rely on the practical environment and are based on current market conditions (Van Doorn, 2017).

The growth in the gig economy has changed the way management educators teach and interact with students (Shaw, Fiers, & Hargittai, 2022). Due to the highly uncertain nature of the gig economy, more intensive and experiential forms of classes have become the norm. Instead of relying on multinational and large company examples for teaching materials, educators have had to introduce more gig economy examples. Thereby reflecting the entrepreneurial nature of these positions. Despite the practical relevance of the gig economy research from a management education perspective is limited (Tirapani & Willmott, 2022).

2.3. Virtual classrooms

Virtual classrooms are a new type of education experience (Harper, Chen, & Yen, 2004). They became popular during the COVID-19 pandemic due to necessity but have now become an integral part of educational experiences (Willermark & Gellerstedt, 2022). Virtual classrooms use augmented and virtual reality to bring a new perspective to students (Blaine, 2019). This enables tasks to be done in a virtual format without using real products. One of the most well-known virtual classrooms is Google classroom as it is a free to use tool that enables a virtual class to be built. This enables videos, questions and updates to be posted so that students can interact in an online environment.

Although the technology has been around for some time it is only recently that virtual classrooms have become popular. This is due to the technology becoming better and more sophisticated. As a consequence, it can be cheaper to set up a virtual classroom and less maintenance costs (Govindarajan & Srivastava, 2020). It can enable students to experiment and try new things in a virtual format enabling them to gain experience. This then avoids or minimizes potential risk from mistakes.

The benefit of virtual classrooms is that there is no need for physical spaces and room bookings, which means they can occur at any time or geographical location (Neuwirth, Jović, & Mukherji, 2021). They enable students to try different things without negative repercussions. Thereby enabling students to learn at their own pace without time restrictions (Kuechler & Stedham, 2018). The advantage of this is that it decreases peer pressure giving students more autonomy.

Virtual classes mean that written resources or links to websites can be incorporated then updated in a real time format (Swan et al., 2000). Thereby enabling the use of social media and other interactive technology. Due to the range of online material available it is helpful to incorporate this material. It also supplements the learning activity with other useful material.

Whilst there are numerous advantages to virtual classrooms there are some drawbacks in terms of lack of direct interaction. As non-verbal communication is an important part of overall communication mechanisms seeing people in a virtual format means some communication will be lost (Smith, 1979). Moreover, spontaneous and unplanned interactions with other students may not be possible. This decreases the role that social and peer learning plays in the educational experience (Latifi, Noroozi & Talae, 2021). Whilst networking is possible in a virtual format it occurs in a different way.

Another disadvantage is that teachers cannot see all students in a set time period as the virtual environment focuses more on individual learning. This means some students might find it difficult to focus on the task at hand without adequate supervision (Ratten, 2020). In addition, some students might have difficulty in using technology that they do not want to acknowledge. This means they pretend to do the task without actually completing it.

2.4. Metaverse

The metaverse is a term that has been widely discussed in the media due to its emphasis on virtual technologies. Kim (2021:141) defines the metaverse as “a three-dimensional virtual world inhabited by avatars of real people”. It has been criticised for being too vague and not having a specific technology focus due to its wide ranging application (Buhalis & Karatay, 2022). Despite this drawback it is increasingly being discussed in terms of its impact on management education. The metaverse is part of the next evolution of the web in terms of reimagining technology and changing the way people interact in real life and virtual formats (Buhalis, Lin & Leung, 2022). In the metaverse people can imagine new contexts through digital technology. Thereby enabling people or their avatars to interact. The metaverse differs to other types of digital technology as it supports an immersive experience through digital interactivity (Gursoy Malodia & Dhir, 2022). For management educators, the metaverse means more sophisticated and complex types of online learning methods (Chen, 2022). This means that avatars instead of real people can be used to depict engagement and interaction in classes (Wankel, 2009). Due to the newness of the metaverse more information is required by management education researchers on its applicability to practice (Ng, 2022). This is due to a change in the way students and teachers interact in the classroom (Um, Kim, Kim, Lee, Koo & Chung, 2022).

2.5. Work/life balance

Students studying management education are more likely to want teaching material that relates to their work. This is due to many studying management due to their desire to be promoted or be placed in a managerial role. One way to emphasis real life business contexts in management learning is through work engagement practices (Palumbo, 2022b). Work engagement involves “a positive fulfilling work-related state of mind that is characterised by vigour, dedication and absorption” (Schaufeli, Bakker, & Salanova, 2007:702). This means that there is more of a focus on work/life balance which is becoming an increasingly important issue in society. Being associated with real life management issues management education involves a need to study real, practical and timely business issues (Moosmayer et al., 2019). This is likely to mean a focus on context as it applies to a business setting.

During the COVID-19 pandemic, many people particularly in the tourism and hospitality industry had to move into other industry fields due to social distancing requirements. Whilst many of these people moved back into the tourism and hospitality sectors once the restrictions were lifted some have decided to pursue different career paths. This has resulted in some skill shortages in critical industries that is particularly evident in countries like Australia that had their international borders closed for a long time period.

There has been talk in the media about the ‘great retirement’ stemming from that COVID-19 pandemic in which even young people quit their jobs and seek other forms of enlightenment. Due to the crisis situation of the COVID-19 pandemic it meant that many people re-evaluated their lives. This then affected their study and work habits as well as personal preferences for management education. At the same time the phrase ‘digital nomad’ became popular due to people having the ability to work from any geographic location.

Countries around the world have encouraged this practice by implementing specific tax policies to encourage mobility. Thus, more research is required on the effects of the COVID-19 pandemic on new types of management courses.

2.6. Games and simulations

During the COVID-19 pandemic the use of games for management education purposes increased. This was due to a need to make things interesting whilst students learnt from home. In the past games were often used in the classroom but this typically involved group or teamwork activity. Moreover, there were set time periods in which the class would focus on a game activity that normally resulted in further class discussion. During the COVID-19 pandemic games became more complex and interactive, largely due to more sophisticated technology being used. Due to the reliance on individual learning and an emphasis on self-motivated study, games took on a different role. As a consequence, games helped teachers facilitate knowledge transfer in a fun and informative way.

Games are part of today's educational experience and are expected by many students. This has led to more innovative and creative games being developed that can replace real life experiences to some extent. Video games are used as a way to recreate the physical world. Existing videogames such as Minecraft have been adapted or used to explain knowledge concepts. This change in usage of games for both education and fun purposes was largely made during the COVID-19 pandemic. As students swiftly moved to home learning it required educators to make use of existing technology (Spataro & Bloch, 2018). This led to gaming companies making available their platforms to educators as a form of value co-creation. Teachers then demonstrated learning objectives through games that aided in knowledge exchange.

Simulations are sometimes included as part of gaming experiences. An example of this is the game Assassin's Creed being utilised for management education reasons due to its ability to digitally recreate experiences. As many existing video games already existed before the COVID-19 pandemic, they could be utilised for more educational reasons. This alteration was significant as it showcased how by simulating real life environments games can be a good way for students to learn fundamental management principles (Ratten & Usmanij, 2021).

2.7. Virtual internships and work experience

During the COVID-19 pandemic, it was not possible for students to undertake real life internships and work experience placements. This resulted in virtual internships and work experience being utilised in order to facilitate learning experiences. Due to the short time length that students have available to them it became necessary for management educators to think of alternatives. In the past, virtual internships would not meet the necessary requirements but due to the ongoing COVID-19 crisis it became necessary for management educators to alter their thinking. Using virtual environments are well suited for students requiring in-person experience. Activities such as manager role playing and leadership can still be evident in online environments.

Managers can create activities online that enable students to see how things occur. Virtual workplaces can be created and adapted to suit specific learning needs. This can include more detailed experiences than would be possible in real life due to decreased time and travel costs. Coming after the COVID-19 pandemic it is expected that the use of virtual workplaces will continue due to their ease of use and risk minimalization.

2.8. Social media

Social media became one of the most popular communication mechanisms during the COVID-19 pandemic. Facebook, Instagram and Twitter are amongst the most well known social media platforms but new ones such as Tiktok have rapidly gained market acceptance (López-Carril, Escamilla-Fajardo, González-Serrano, Ratten, & González-García, 2020). Online classrooms on a specific topic in which any student can center and study online with others became popular. The online classrooms mimicked the real life classroom but facilitated more geographically diverse interaction. Management educators made use of these new learning environments on social media as a form of peer learning.

Students have developed learning communities on social media platforms. This has changed the way management educators teach by making the process more interactive and ongoing (Ratten & Jones, 2021b). Furthermore, YouTube videos that teach different topics present another new learning mechanisms as individuals can learn at their own pace and in different formats.

3. Limitations and future research directions

As the COVID-19 pandemic has only recently subsided there are many opportunities for management education researchers to pursue specific research avenues. This article has provided an overview of the current state of research regarding COVID-19 and management education by focusing on specific themes. The limitation of this is that it is emerging research based on the need for further studies. However, it provides a good way to highlight specific worthy research avenues. The type of research pursued will depend on the capability of the researcher to find data related to the topic as well as the final results. This means a holistic perspective is required about how, when and why management education in the post COVID-19 era has changed. The following section details some specific examples of topics that can be addressed by management educators.

1. Coordinating diverse teaching methods

With students now back in face-to-face classes there is an expectation to include digital learning material. This form of hybrid teaching makes use of digital communication whilst relying on physical interaction. More research is required on how management educators are including different forms of teaching methods in their classes in light of the COVID-19 pandemic. Interesting research questions can include: whether the student experience has increased based on the use of hybrid teaching methods? And how have management educators adjusted to coordinating digital with face-to-face interaction? Research on these questions will yield valuable insights into how management educators are changing and whether this has resulted in an increase in workload.

2. Providing individualised and personalised teaching material

The COVID-19 pandemic led to a realization that digital materials can in some cases replace physical materials. This means that more information is needed on how this has led to increased individualised teaching material. Often all class material is offered at the start of the teaching semester enabling students to learn at their own pace. This creates a self-motivated learning environment where accountability is placed on the student. Future research needs to focus more on what type of personalisation is occurring regarding teaching material. This will enable best practices to be identified that can help management educators improve their delivery.

3. Implementing responsible management education principles

The COVID-19 pandemic was a crisis that occurred at the same time more emphasis was being placed on sustainability issues. Thus, there is now coming after the crisis a re-emphasis on sustainability but from a responsible management perspective. This means more research is required on how to embed a COVID-19 perspective together with responsible management provisions in management education. This can be difficult due to crisis situations necessitating entrepreneurial action that might not involve responsible management practices.

4. New research methodologies

As many of the effects of the COVID-19 pandemic are still ongoing, new methodologies are needed to research the topic (McKimm et al., 2022). This includes longitudinal as well as direct and immediate research data. In order to do this, traditional methodologies such as interviews, case studies and experiments can be utilised but in conjunction with alternative and more technologically focused methodologies. This will help to keep the research up to date and to enable further progress to be made. Potential future research avenues include utilising real time data with document analysis in order to understand teaching trends. This can include interviewing students, teachers and other participants in order to understand the COVID-19 effects. Thereby producing useful and innovative results.

4. Practical implications

This article provides practical suggestions for management education researchers in terms of highlighting relevant areas of future research. This is important as management education has changed and progressed due to the COVID-19 pandemic. Currently there is still many adjustments being made from the COVID-19 pandemic in terms of virtual classrooms and online teaching. Whether these trends remain due to the emphasis on digital technology is still unknown although there seems to have been a fundamental change in the way students learn and educators teach. This article suggested that the COVID-19 management education changes can be analysed in terms of time periods from pre, during and post the COVID-19 pandemic. This offers a practical way of understanding management education changes resulting from the COVID-19 pandemic.

4.1. Theoretical implications

Much of the current management education is based on the pre-COVID-19 context. This means new theories are needed that take into account the health, social and economic effects of the COVID-19 pandemic. Existing management education theories can be utilised but supplemented by new ideas that emphasis the crisis management situation that occurred during the COVID-19 pandemic. This will enable existing literature to be utilised in a way that makes sense but adapted to new conditions. In addition, new theories are required that change existing commonly used management education assumptions. This will help to advance the research and scholarship related to management education.

5. Conclusion

This article has focused on discussing how management education will change in the post COVID-19 environment. This enabled answering the two research questions about how the COVID-19 pandemic has affected management education. The first research question was answered in terms of changes in virtual classrooms and the use of the metaverse. The second research question was addressed through future research suggestions that incorporated an emphasis on new theory development. It will be interesting to see how management education is changed and the pace of this change. Currently much of the focus is on sustainability and digitalization changes that are affecting the management education industry. However, as discussed in this article the metaverse and resulting use of artificial intelligence are likely to have profound changes. This means the future research suggestions stated in this article provide a

roadmap for management educator researchers to pursue impactful research.

Data availability

No data was used for the research described in the article.

References

- Aguinis, H., Ramani, R. S., Alabduljader, N., Bailey, J. R., & Lee, J. (2019). A pluralist conceptualization of scholarly impact in management education: Students as stakeholders. *The Academy of Management Learning and Education*, 18(1), 11–42.
- Allen, S. J. (2020). On the cutting edge or the chopping block? Fostering a digital mindset and tech literacy in business management education. *Journal of Management Education*, 44(3), 362–393.
- Allen, S., Cunliffe, A. L., & Easterby-Smith, M. (2019). Understanding sustainability through the lens of ecocentric radical-reflexivity: Implications for management education. *Journal of Business Ethics*, 154(3), 781–795.
- Anderson, L., Hibbert, P., Mason, K., & Rivers, C. (2018). Management education in turbulent times. *Journal of Management Education*, 42(4), 423–440.
- Anicich, E. M. (2022). Flexing and floundering in the on-demand economy: Narrative identity construction under algorithmic management. *Organizational Behavior and Human Decision Processes*, 169, Article 104138.
- Babbar, M., & Gupta, T. (2022). Response of educational institutions to COVID-19 pandemic: An inter-country comparison. *Policy Futures in Education*, 20(4), 469–491.
- Baber, H. (2021). Modelling the acceptance of e-learning during the pandemic of COVID-19-A study of South Korea. *International Journal of Management in Education*, 19(2), Article 100503.
- Barnes, S. J. (2020). Information management research and practice in the post-COVID-19 world. *International Journal of Information Management*, 55, Article 102175.
- Bell, R. G., Filatotchev, I., Krause, R., & Hitt, M. (2018). From the guest editors: Opportunities and challenges for advancing strategic management education. *The Academy of Management Learning and Education*, 17(3), 233–240.
- Blaine, A. M. (2019). Interaction and presence in the virtual classroom: An analysis of the perceptions of students and teachers in online and blended Advanced Placement courses. *Computers & Education*, 132, 31–43.
- Bridgman, T., Cummings, S., & Ballard, J. (2019). Who built Maslow's pyramid? A history of the creation of management studies' most famous symbol and its implications for management education. *The Academy of Management Learning and Education*, 18(1), 81–98.
- Buhalis, D., & Karatay, N. (2022). Mixed reality (MR) for generation z in cultural heritage tourism towards metaverse. In J. L. Stienmetz, B. Ferrer-Rosell, & D. Massimo (Eds.), *Information and communication technologies in tourism 2022* (pp. 16–27). Cham: Springer.
- Buhalis, D., Lin, M. S., & Leung, D. (2022). Metaverse as a driver for customer experience and value co-creation: Implications for hospitality and tourism management and marketing. *International Journal of Contemporary Hospitality Management* (ahead-of-print).
- Chen, Z. (2022). Exploring the application scenarios and issues facing Metaverse technology in education. *Interactive Learning Environments*, 1–13.
- Cockayne, D. G. (2016). Sharing and neoliberal discourse: The economic function of sharing in the digital on-demand economy. *Geoforum*, 77, 73–82.
- Eringfield, S. (2021). Higher education and its post-colonial future: Utopian hopes and dystopian fears at Cambridge University during Covid-19. *Studies in Higher Education*, 46(1), 146–157.
- Ferreira, J. J., Fayolle, A., Ratten, V., & Raposo, M. (Eds.). (2018). *Entrepreneurial Universities*. Edward Elgar Publishing.
- Friga, P. N., Bettis, R. A., & Sullivan, R. S. (2003). Changes in graduate management education and new business school strategies for the 21st century. *The Academy of Management Learning and Education*, 2(3), 233–249.
- Garcez, A., Silva, R., & Franco, M. (2022). Digital transformation shaping structural pillars for academic entrepreneurship: A framework proposal and research agenda. *Education and Information Technologies*, 27(1), 1159–1182.
- Govindarajan, V., & Srivastava, A. (2020). What the shift to virtual learning could mean for the future of higher education. *Harvard Business Review*, 31(1), 3–8.
- Gursoy, D., Malodia, S., & Dhir, A. (2022). The metaverse in the hospitality and tourism industry: An overview of current trends and future research directions. *Journal of Hospitality Marketing & Management*, 31(5), 527–534.
- Harper, K. C., Chen, K., & Yen, D. C. (2004). Distance learning, virtual classrooms, and teaching pedagogy in the Internet environment. *Technology in Society*, 26(4), 585–598.
- Haslam, M. B. (2021). What might COVID-19 have taught us about the delivery of Nurse Education, in a post-COVID-19 world? *Nurse Education Today*, 97, Article 104707.
- Høgda, C., Rasche, A., Schoeneborn, D., & Scotti, L. (2021). Exploring student perceptions of the hidden curriculum in responsible management education. *Journal of Business Ethics*, 168(1), 173–193.
- Jones, P., Ratten, V., Klapper, R., & Fayolle, A. (2019). Entrepreneurial identity and context: Current trends and an agenda for future research. *The International Journal of Entrepreneurship and Innovation*, 20(1), 3–7.
- Kaine, S., & Josserand, E. (2019). The organisation and experience of work in the gig economy. *Journal of Industrial Relations*, 61(4), 479–501.
- Kim, J. (2021). Advertising in the metaverse: Research agenda. *Journal of Interactive Advertising*, 21(3), 141–144.
- Kuechler, W., & Stedham, Y. (2018). Management education and transformational learning: The integration of mindfulness in an MBA course. *Journal of Management Education*, 42(1), 8–33.
- Latifi, S., Noroozi, O., & Talaei, E. (2021). Peer feedback or peer feedback? Enhancing students' argumentative peer learning processes and outcomes. *British Journal of Educational Technology*, 52(2), 768–784.
- Leiponen, A., Thomas, L. D., & Wang, Q. (2022). The dApp economy: A new platform for distributed innovation? *Innovation*, 24(1), 125–143.
- López-Carril, S., Escamilla-Fajardo, P., González-Serrano, M. H., Ratten, V., & González-García, R. J. (2020). The rise of social media in sport: A bibliometric analysis. *International Journal of Innovation and Technology Management*, 17(6), Article 2050041.
- McKimm, J., Ramani, S., Forrest, K., Bishop, J., Findyartini, A., Mills, C., et al. (2022). *Adaptive leadership during challenging times: Effective strategies for health professions educators: AMEE Guide No. 148* (pp. 1–11). Medical Teacher.
- Moosmayer, D. C., Waddock, S., Wang, L., Hühn, M. P., Dierksmeier, C., & Gohl, C. (2019). Leaving the road to Abilene: A pragmatic approach to addressing the normative paradox of responsible management education. *Journal of Business Ethics*, 157(4), 913–932.
- Mousa, M., Massoud, H., & Ayoubi, R. (2022). Responsible management education in time of crisis: A conceptual framework for public business schools in Egypt and similar middle eastern context. *Public Organization Review*, 22(2), 403–419.
- Neuwirth, L. S., Jović, S., & Mukherji, B. R. (2021). Reimagining higher education during and post-COVID-19: Challenges and opportunities. *Journal of Adult and Continuing Education*, 27(2), 141–156.
- Ng, D. T. K. (2022). What is the metaverse? Definitions, technologies and the community of inquiry. *Australasian Journal of Educational Technology*, 38(4), 190–205.
- Nieken, P. (2022). Charisma in the gig economy: The impact of digital leadership and communication channels on performance. *The Leadership Quarterly*, Article 101631.
- Nwagwu, I. (2020). Driving sustainable banking in Nigeria through responsible management education: The case of Lagos Business School. *International Journal of Management in Education*, 18(1), Article 100332.
- Ozcan-Deniz, G. (2022). Construction management education in cyberspace: A critical review and analysis. *International Journal of Construction Management*, 22(1), 8–18.
- Palumbo, R. (2022a). *Thriving in the post-Covid-19 era: A new normality for libraries' service offering*. Library Management (ahead-of-print).

- Palumbo, R. (2022b). A 'Dark Side' of humane entrepreneurship? Unveiling the side effects of humane entrepreneurship on work–life balance. *Journal of Entrepreneurship*, 31(1), 121–152.
- Però, D., & Downey, J. (2022). *Advancing workers' rights in the gig economy through discursive power: The communicative strategies of indie unions*. Work: Employment and Society, Article 09500170221103160.
- Ratten, V. (2020). Coronavirus (Covid-19) and the entrepreneurship education community. *Journal of Enterprising Communities: People and Places in the Global Economy*, 14(5), 753–764.
- Ratten, V., & Jones, P. (2021a). Entrepreneurship and management education: Exploring trends and gaps. *International Journal of Management in Education*, 19(1), Article 100431.
- Ratten, V., & Jones, P. (2021b). Covid-19 and entrepreneurship education: Implications for advancing research and practice. *International Journal of Management in Education*, 19(1), Article 100432.
- Ratten, V., & Usmanij, P. (2021). Entrepreneurship education: Time for a change in research direction? *International Journal of Management in Education*, 19(1), Article 100367.
- Rolf, S., O'Reilly, J., & Meryon, M. (2022). Towards privatized social and employment protections in the platform economy? Evidence from the UK courier sector. *Research Policy*, 51(5), Article 104492.
- Salamzadeh, A., Tajpour, M., & Hosseini, E. (2022). Measuring the impact of simulation-based teaching on entrepreneurial skills of the MBA/DBA students. In *Technology and entrepreneurship education* (pp. 77–104). Cham: Palgrave Macmillan.
- Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2007). The measurement of work engagement with a short questionnaire. *Educational and Psychological Measurement*, 66(4), 701–716.
- Shahzad, A., Hassan, R., Aremu, A. Y., Hussain, A., & Lodhi, R. N. (2021). Effects of COVID-19 in E-learning on higher education institution students: The group comparison between male and female. *Quality and Quantity*, 55(3), 805–826.
- Shaw, A., Fiers, F., & Hargittai, E. (2022). *Participation inequality in the gig economy* (pp. 1–18). Information, Communication & Society.
- Smith, H. A. (1979). Nonverbal communication in teaching. *Review of Educational Research*, 49(4), 631–672.
- Spataro, S. E., & Bloch, J. (2018). Can you repeat that?" Teaching active listening in management education. *Journal of Management Education*, 42(2), 168–198.
- Swan, K., Shea, P., Fredericksen, E., Pickett, A., Pelz, W., & Maher, G. (2000). Building knowledge building communities: Consistency, contact and communication in the virtual classroom. *Journal of Educational Computing Research*, 23(4), 359–383.
- Szopiński, T., & Bachnik, K. (2022). Student evaluation of online learning during the COVID-19 pandemic. *Technological Forecasting and Social Change*, 174, Article 121203.
- Tirapani, A. N., & Willmott, H. (2022). *Revisiting conflict: Neoliberalism at work in the gig economy*. Human Relations, Article 00187267211064596.
- Tiwari, P., Séraphin, S., & Chowdhary, N. R. (2021). Impacts of COVID-19 on tourism education: Analysis and perspectives. *Journal of Teaching in Travel & Tourism*, 21(4), 313–338.
- tourism management Um, T., Kim, H., Kim, H., Lee, J., Koo, C., & Chung, N. (2022). Travel incheon as a metaverse: Smart tourism cities development case in Korea. In J. L. Stienmetz, B. Ferrer-Rosell, & D. Hospitality Massimo (Eds.), *Information and communication technologies in tourism 2022* (pp. 226–231). Cham: Springer.
- Van Doorn, N. (2017). Platform labor: On the gendered and racialized exploitation of low-income service work in the 'on-demand' economy. *Information, Communication & Society*, 20(6), 898–914.
- Wankel, C. (2009). Management education using social media. *Organization Management Journal*, 6(4), 251–262.
- Wheelahlan, L., & Moodie, G. (2022). Gig qualifications for the gig economy: Micro-credentials and the 'hungry mile'. *Higher Education*, 83(6), 1279–1295.
- Willermark, S., & Gellerstedt, M. (2022). Facing radical digitalization: Capturing teachers' transition to virtual classrooms through ideal type experiences. *Journal of Educational Computing Research*, Article 07356331211069424.
- Wood, G. (2022). The global market for management education. In *The future of management education* (pp. 13–27). Routledge.