
Editorial: ChatGPT, the metaverse and artificial intelligence: implications for family business management education

Editorial

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Introduction

ChatGPT is one of the most talked about new technologies that is rapidly changing the education industry (Ali and OpenAI Inc C, 2023). The full name of ChatGPT is Chat Generative Pre-trained Transformer. Since launching in November 2022, it has become one of the fastest growing computer applications. Its usefulness stems from its ability to predict what people want to say by putting it into words (Chatterjee and Dethlefs, 2023). ChatGPT is a form of artificial intelligence that enables people to ask questions in an online format and obtain answers (Dibble, 2023). It was developed by OpenAI as a way to engage consumers with computer-aided generated answers. OpenAI was founded in 2015 by Elon Musk, Sam Altman, Greg Brockman, Ilya Sutskever and Wojciech Zaremba. One of the founders, Elon Musk, is well-known for his technological entrepreneurship and association with Tesla.

ChatGPT sorts through an existing pool of data to find answers (Dowling and Lucey, 2023). This mostly refers to knowledge sourced from the Internet. It has multiple language functions making it culturally accessible. The benefit of ChatGPT is in its quickness in terms of responding in real time because it is a computer science in terms of being able to perform human tasks (Hammer, 2023). It links humans with computers in order to recognise language. It can analyse language through algorithms that analyse data and generate output.

ChatGPT uses a neural network that functions based on information acquired (Hu, 2023). Each source of information is stored in a way that makes it possible to retrieve later. In this way, data are continually collected then processed through a problem-solving technique. By adjusting to new information in real time, more relevant and contextual answers occur. This helps to generate credibility in the technology through producing authentic replies.

ChatGPT is an approach to transfer learning as from previous computer entries it learns what a person is wanting to describe in a written format (Kung *et al.*, 2023). It has become popular in the global marketplace due to its ability to provide detailed responses on a range of topics. The responses tend to be mostly accurate but there can be mistakes. The program was developed with human trainers in order to improve its efficiency. This means that the human trainer asked questions but also engaged in conversations. By doing so, a process of supervised learning occurred in that repetitive tasks were completed. The program acts like a human in remembering past discussions and patterns.

ChatGPT goes beyond just mimicking human conversations by also composing music and writing poetry (Liebrenz *et al.*, 2023). This means it engages in complex tasks that involve creativity and invention (Lim *et al.*, 2022). ChatGPT tries to decrease the level of wrong responses by framing the answer in a way that is based on previous information (Lukpat, 2023). It has a moderation system to try and limit wrong answers being provided. Sometimes a form of artificial intelligence hallucination occurs as the responses sound plausible but actually do not make sense. This means there are still some limitations in terms of providing incorrect answers. ChatGPT tries to be politically neutral in terms of the responses it provides (Lund and Wang, 2023). This means it does not express political opinions or engage in any form of political debate.



The aim of this article is to explore how ChatGPT will influence family business management education. To do this, a discussion on generative artificial intelligence is conducted that leads to an analysis of how the metaverse is used in family business management education. The last part of the article explores what ChatGPT means for management educators.

Generative artificial intelligence

The use of generative artificial intelligence is becoming a popular topic due to its impact on student learning (Lundmark, 2022). This is generating tension between students, educators and the community regarding how to integrate new technology in the classroom whilst maintaining authentic learning principles. Generative artificial intelligence is a game changer for management educators in terms of delivering content whilst providing real time information (Moy and Gadgil, 2022). ChatGPT is the most well-known forms of generative artificial intelligence but DALL-E is another example (Mollman, 2022). It is similar to ChatGPT but uses digital images as outputs thereby facilitating a different type of interaction. ChatGPT and DALL-E are forms of machine learning in that a machine obtains information that then leads to new knowledge being formed. Thus, it is a form of deep learning in terms of obtaining and responding to information.

Many family business management educators are confused and frightened by the use of generative artificial intelligence. As the technology has quickly developed, there are many unknowns regarding how to properly use it due to assisted cheating and plagiarism occurring from its use. The COVID-19 pandemic made educators use online educational tools such as video conferencing including Zoom and Microsoft Teams to facilitate interaction. In conjunction with this, online technology has been the reliance on other multi-media platforms such as Twitter and YouTube. This means ChatGPT is the next form of educational technology that should be embraced (Nature, 2023). Educators have tended to have polarised views regarding the use of ChatGPT in terms of loving or hating it. Those who love it realise it is inevitable that artificial intelligence will play a part in learning and are proactive about its usage. People who hate it are more traditionalists who prefer to the status quo and are reluctant to change.

The metaverse and family business management education

The metaverse is a new form of educational technology that blends real life with digital environments. Buhalis *et al.* (2023, p. 2) defines the metaverse as “the convergence of physical and digital universes, where users can seamlessly traverse between them for working, education and training, health, exploring interests and socialising with others”. It has become a popular topic in the media due to Facebook changing its name to meta in terms of facilitating future investments into the metaverse. Sparks (2021, p. 18) states that metaverse can solely be considered as “a shared online space that incorporates three-dimensional graphics, either on a screen or in virtual reality.” The metaverse can be considered as a layer between a person and others through a virtual interface. This means it stimulates the real world whilst not actually interacting in a face-to-face way.

Family business management educators have utilised the metaverse as a way through simulations and games, but there is still much to do in how to combine learning practices. This is because the metaverse is not yet a commercial reality for management educators and there is still much experimentation with its usage (O'Connor and ChatGPT, 2023). Currently the metaverse is being used more in the way people consume and buy products and socialise but less in an educational environment. In the metaverse, users can create their own avatar in order to engage with others and to explore learning resources on a digital platform. Damar

(2022) defined metaverse as a “3D virtual shared world where all activities can be carried out with the help of augmented and virtual reality services”. The benefit of the metaverse for management educators is that it can facilitate experiential and role playing in a safe environment, thus enabling hyper-realistic transactions that build on virtual engagements in a real-time environment (OpenAI, 2022). It builds on the benefits of digitalisation that arose with the COVID-19 pandemic in terms of consulting with others and learning on an online meeting platform.

The metaverse tries to build on a three-dimensional environment that is more real than the previous two-dimensional artificial and stagnant digital worlds. In the metaverse, students can immerse themselves in a context that facilitates mutual and peer-based learning. Lundmark (2022, p. 1) states that the metaverse is “the coming together of complementary technologies, including cloud and edge (near the data source) computing, artificial intelligence, blockchain, the Internet of things, virtual reality, augmented reality and digital twins, augmented reality and digital twins.” Now most devices are digitally connected so the metaverse can capitalise on the use of augmented and virtual reality technologies through avatars and holograms. The virtual world is a driver of the metaverse and enables immersive learning environments to take place in a seamless way. Moy and Gadgil (2022, p. 3) conceptualise the metaverse as “a seamless convergence of our physical and digital lives, creating a unified, virtual community where we can work, play, relax, transact and socialize.” In the metaverse, users can show movements and express comments in the same way they do in real life. This means a person’s presence is embodied online, thereby making transformative learning to take place (OpenAI, 2023).

Some people have grown up with digital technology in terms of online communication and are more comfortable interacting in an online format. As most people now have access to smartphones and mobile technology, the metaverse can enable co-creation to take place. This empowers students to add to and comment to content in an online context. Engaging students in the content creation process can increase subject engagement.

The metaverse as a word was originally coined in 1992 but only recently have more people become aware of its meaning and usage. Davis *et al.* (2009, p. 91) stated that the metaverse is “an immersive three-dimensional virtual world in which people interact as avatars with each other and with software agents, using the metaphor of the real world but without its physical limitations.” Therefore, the metaverse can be considered as a seamless convergence of digital and physical universes that uses information technology (Buhalis and Karatay, 2022). It is sometimes referred to as the virtual universe before the wording of the metaverse became popular.

Learning tool

There has been much discussion about whether the metaverse and ChatGPT helps or hinders learning (Open Culture, 2023). This is due to artificial intelligence in general being a new learning tool. For digital natives who grew up with the Internet, ChatGPT is a natural evolution arising from the use of information technology (Pavlik, 2023). For others it can be viewed as detrimental as it involves technology instead of pure human thought. However, as computers and other technologies are now common place in educational institutions, the use of artificial intelligence is increasing. When computers were first introduced into classes, there was a natural apprehension to their usage which lessened over time (Pechenkina, 2023). Moreover, it is now expected by workplaces as in social situations to use technology. Educators have different views about the use of ChatGPT (Stokel-Walker, 2022). Some view it as a form of plagiarism or cheating, whilst others consider it an important learning tool. Recently the Los Angeles Unified School District and New York City Public schools banned access to ChatGPT. This was a pre-emptive move that made others think about whether the

technology impeded rather than facilitated learning (Terwiesch, 2023). However, similar to other technology learning systems, there are advantages and disadvantages to its usage. Initially when any form of innovation such as ChatGPT enters the marketplace, there is a sense of apprehension about it (Taecharungroj, 2023). This decreases over time as people learn about the technology. At the early stage of technology adoption, there are people who are interested in using and experimenting with the technology. There are then followers who are people who take a wait and see approach to the new technology as well as laggards who adopt the technology at later stages.

ChatGPT being a new educational technology has been tested, but there is still negative connotations regarding its usage in terms of content (Yeo-The and Tang, 2023). This is due to parental control and safety issues associated with its information. However, due to the increased usage of real-time information and technology-assisted learning, there are many educators who view it in a beneficial way (Van Dis *et al.*, 2023). This means educators should use it but in a fair and transparent way, thereby encouraging others to learn about it smartly.

Generative learning

ChatGPT is a generative learning tool that is trained on previous responses and answers. This makes it good at creating responses that are similar to what a human would say. The advantage of this is that it is a new form of computer program with educational benefits. The concern though is that it is a machine and can lessen the learning benefits if a real human engaged in the activity. Thus, many educators are concerned that instead of actually doing a task, a student will just use ChatGPT to do the task. This means management educators need to reconsider assessment tasks in order to make them more authentic.

Similar concerns by educators were made when Wikipedia was introduced. Over time these concerns have decreased due to the realisation that the use of new technology is inevitable. Thus, society needs to integrate innovation into educational experiences rather than criticising it. This means supplementing learning activities that combine using ChatGPT with other tasks.

ChatGPT produces individualised and personalised information. This means there is no source attribution unlike other types of software packages. As a consequence, it produces information in a way that is hard to source. Thus, students need to be taught how to engage with ChatGPT in an ethical way. This involves understanding its opportunities but acknowledging its weaknesses. This can be done by replicating examples from existing technology such as calculators. Due to the increased usage of tap and go payment systems, there is less usage of real money. Therefore, people are not using arithmetic on a daily basis that was a form of intellectual exercise. In higher education situations, the use of calculators is expected but is not used exclusively in primary schools. Therefore, there is an acknowledgement that mathematics is a skill that needs to be taught. This means that societal attitudes regarding technology changes. The growth of ChatGPT has been faster than other technologies such as Instagram and TikTok.

How can family business management educators use ChatGPT?

Educators can use ChatGPT by making tasks more efficient. Student questions can be answered via ChatGPT thereby reducing teacher time. This makes it a useful teaching tool and assists students who want 24/7 support. It can assist students by connecting them to other sources of information, thereby creating content but also providing knowledge management tasks. Students when using ChatGPT need to be aware that answers are not always right. This means there is no guarantee about information accuracy as ChatGPT can struggle to find appropriate answers. In addition, ChatGPT is not a human and cannot fully

understand non-verbal behaviour such as body language. Non-verbal cues such as the tone of voice and intonation can be hard to translate. This means the way something is said or inputted into the computer can be misinterpreted. In addition, humour is hard to translate as well as cultural inferences. This means whilst ChatGPT is trained to understand sentiment, it cannot fully understand human qualities.

Concluding implications and future directions

The introduction of ChatGPT marks a new step in the integration of artificial intelligence into family business management education. It is a major change that will shake things up in terms of how and why students learn. It is considered an intelligence software program unlike others as it provides more real life and contextual answers. This makes it an authentic learning tool when used in the right way. ChatGPT has caused panic amongst family business management educators for its game changing nature. This has led to alarmist articles about its usage and bans by management educators.

Raising awareness about the advantages and disadvantages of ChatGPT enables better discussion to occur. This helps in our general understanding about the use of artificial intelligence like the metaverse in management education. When considering holistically the impact of ChatGPT, a transformative approach can be taken. This enables students and educators to utilise ChatGPT as a way of moving forward with new educational practices.

Users of ChatGPT and generative artificial intelligence need to provide feedback and advice on its usage. This can involve keeping up to date with new developments whilst acknowledging weaknesses. This will secure the best results for educators and enable timely suggestions. The newness of ChatGPT means there is a need to explore and utilise the technology in order to enrich management education. Thus, the insights discussed in this article provide a way to shape the dialogue around ChatGPT and management education.

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