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Editorial

Professor Dr Kyriakos Kouveliotis FRSA

Provost & Chief Academic Officer,
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For this week's editorial I want to share an amzing inspirational poem by Edgar Guest:

It Couldn't Be Done

Somebody said that it couldn't be done,
But, he with a chuckle replied
That "maybe it couldn't," but he would be one
Who wouldn't say so till he had tried.
So he buckled right in with the trace of a grin
On his face. If he worried he hid it.
He started to sing as he tackled the thing
That couldn't be done, and he did it.
Somebody scoffed: "Oh, you'll never do that;
At least no one has done it";
But he took off his coat and he took off his hat,
And the first thing we knew he'd begun it.
With a lift of his chin and a bit of a grin,
Without any doubting,
He started to sing as he tackled the thing
That couldn't be done, and he did it.
There are thousands to tell you it cannot be done,
There are thousands to prophesy failure;
There are thousands to point out to you one by one,
The dangers that wait to assail you. But just buckle it in with a bit of a grin,
Just take off your coat and go to it;
Just start to sing as you tackle the thing
That "couldn't be done" and you'll do it.

Photo of the Week

Inspirational Quotes

Success is walking from failure to failure with no loss of enthusiasm.
— Winston Churchill

I alone cannot change the world, but I can cast a stone across the water to create many ripples.
— Mother Teresa

Dream big and dare to fail.
— Norman Vaughan

Do not go where the path may lead, go instead where there is no path and leave a trail.
— Ralph Waldo Emerson

"

Don't be afraid to give up the good to go for the great.

— John D. Rockefeller

Article of the Week

Dr Farshad Badie
Vice-Dean of the Faculty of
Computer Science and Informatics

Areas of expertise:
Logic; Knowledge Representation;
Information Science; Cognitive Science

How does Computational Thinking Support Business Development?

1. Introduction

Computational thinking is a viable problem-solving approach that can be applied to various domains, including business development. As an information and knowledge scientist, I have seen first-hand how computational thinking can help organisations streamline processes, improve decision-making and achieve their strategic objectives. In this article, I will explore the concept of computational thinking and its application in business development.

2. What is Computational Thinking?

Computational thinking is a way of thinking about and solving, problems that draws on computer science. It involves breaking down complex problems into smaller, and more manageable parts, identifying patterns and relationships among those parts, and using algorithms and logical reasoning to develop solutions. Note that computational thinking is not limited to computer programming and software development, but is a way of thinking that can be applied in various fields, including business development.

3. Components of Computational Thinking

Computational thinking consists of four key components: decomposition, pattern recognition, abstraction, and algorithmic thinking. 'Decomposition' involves breaking down complex problems into smaller, more manageable parts. In business development, this could mean breaking down a large project into smaller tasks that can be assigned to different team members. 'Pattern recognition' involves identifying similarities and differences between different parts of a problem. In business development, this could mean identifying patterns in customer behaviour as well as market trends. 'Abstraction' involves focusing on the essential features of a problem and ignoring the irrelevant details. In business development processes, this could mean identifying the key performance indicators (KPIs) that are most relevant to any organisation's goals. Finally, 'algorithmic thinking' involves developing a step-by-step process for solving a problem. In business development, this could mean developing a decision-making framework or a process for evaluating different strategies.

5. Applications of Computational Thinking in Business Development

In my opinion, computational thinking can be applied in various aspects of business development, including strategy development, process improvement, and decision-making. Let me be more specific.

5.1. Towards Strategy Development

Computational thinking can help organisations develop and implement effective strategies. By breaking down complex problems into smaller, more manageable parts, organisations can identify the key drivers of success and develop strategies that are tailored to their unique needs. For example, an organisation may use decomposition to break down a market opportunity into smaller segments, pattern recognition to identify the most promising segments, abstraction to focus on the essential features of those segments, and algorithmic thinking to develop a step-by-step process for entering those segments.

5.2. Towards Process Improvement

Computational thinking can also be used to streamline processes and improve efficiency. By breaking down complex processes into smaller parts, organisations can identify various areas of inefficiency and develop solutions that improve productivity and reduce costs. For example, an organisation may use decomposition to break down one of its manufacturing processes into smaller steps, pattern recognition to identify areas of waste, abstraction to focus on the essential features of the process, and algorithmic thinking to develop a step-by-step process for improving efficiency.

5.3. Towards Decision-Making

Computational thinking can also be used to improve decision-making. By deconstructing the decision organisations can identify the key factors that drive success and develop decision-making frameworks that are based on data and logic. For example, an organisation may use decomposition to break down a complex decision into smaller parts, pattern recognition to identify the most relevant data points, abstraction to focus on the essential features of the decision, and algorithmic thinking to develop a decision-making framework that takes into account multiple factors.

6. Conclusion

Computational thinking is a valuable tool for organisations looking to streamline processes, improve decision-making, and drive innovation in business development. In my opinion, by adopting a computational thinking approach, organisations can break down complex problems into smaller, more manageable parts, identify patterns and relationships and use algorithms and logical reasoning to develop effective solutions. I believe that computational thinking has the potential to revolutionise the way we approach business development and drive growth and innovation in the 21st century.

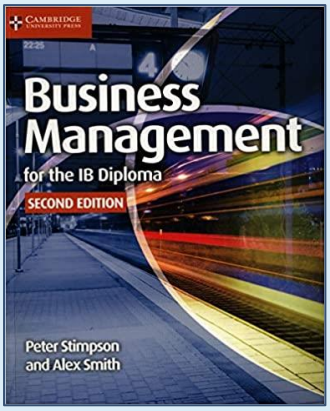
Some Related Scientific Works

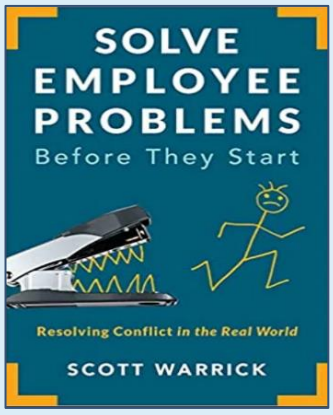
- Barr, V. (2014). Computational Thinking. In T. F. Gonzalez, J. Diaz-Herrera & A. Tucker (ed.), *Computing Handbook, 3rd ed. (1)* (pp. 2: 1-12). CRC Press . ISBN: 978-1-43-989852-9.
- Hjorland, B. (2007). Bulletin of the American Society for Information Science & Technology: Domain Analysis: A Socio-Cognitive Orientation for Information Science Research
- Kong, S.-C., Abelson, H. (2019). *Computational thinking education*. Springer Nature. ISBN: 978-981-13-6527-0
- Maia, T. T. & de Pádua Braga, A. (2010). Introduction to Computational Intelligence Business Applications. *ESANN*.
- Rode, J. A., Marshall, A., Weibert, A., Aal, K., von Rekowski, T., el Mimouni, H., Sharma, A., Jobs, J., Schleeter, A. & Booker, J. (2015). From computational thinking to computational making. In K. Mase, M. Langheinrich, D. Gatica-Perez, H. Gellersen, T. Choudhury & K. Yatani (eds.), *UbiComp/ISWC Adjunct* (p./pp. 401-402), ACM. ISBN: 978-1-4503-3575-1
- Shute, V. J., Sun, C. & Asbell-Clarke, J. (2017). Demystifying computational thinking. *Educational Research Review*, 22, 142-158.

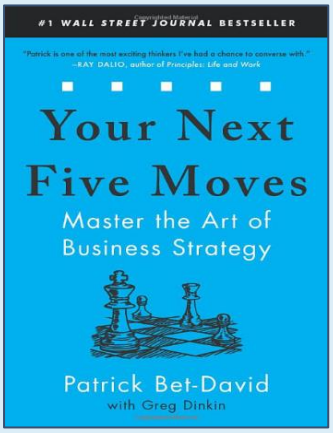
Websites of the Week

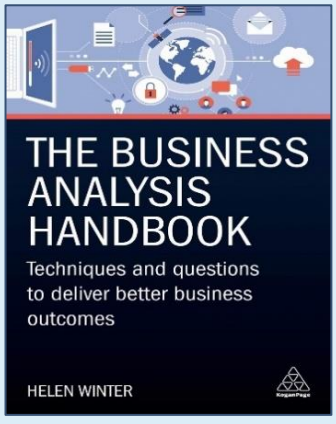
- Organisation Design
- Business Mgmt: Types of Planning
- Winning Business Plans
- Mission vs. Vision Statements
- Who is an Entrepreneur?

Books of the Week







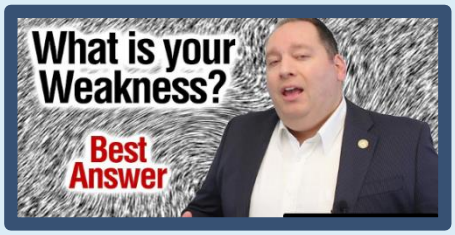


Videos of the Week

How to make more rational decisions at work?

Effective time management tips

Let's be better managers



What is your weakness?!!

Top managerial interview questions and answers

BERLIN SCHOOL OF BUSINESS & INNOVATION

Week in Review

All you need to know about everything that matters

Dr Niloufar Aminpour
Lecturer

Areas of expertise:
Gender Studies, 20th Century American Drama, Literary Criticism

ENGLISH LITERATURE

English literature in the twenty-first century has seen a diverse range of movements, styles, and themes emerge, reflecting the complexities of contemporary society and the ongoing evolution of the English language. Some of the key movements and trends are Postmodernism, global literature, digital literature, and Neo-Victorianism. Postmodernism remains a significant influence on English literature in the twenty-first century. This movement challenges traditional notions of authority, authenticity and coherence, often blurring the boundaries between high and low culture, fiction and non-fiction and reality and representation. The twenty-first century has seen a growing interest in literature from around the world, reflecting the increasing interconnectedness of global cultures. Many contemporary writers have explored the experiences of marginalized groups, including immigrants, refugees and people of colour. The rise of digital technology has opened up new avenues for literary expression, leading to the emergence of new forms of writing and storytelling, including hypertext fiction, interactive narrative, and social media-based literature. Some writers have looked back to the Victorian era for inspiration, using elements of Victorian literature, culture, and aesthetics to create contemporary works that explore themes of gender, class and power. Of course, these movements and trends are not mutually exclusive and many writers have drawn from multiple influences in their work. English literature in the twenty-first century is diverse and dynamic, reflecting the complex and ever-changing world we live in.

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Dr Duraisamy Balaganesh
Lecturer

Areas of expertise:
Database Systems, Artificial Intelligence, Li-Fi Technology

NEURO SECURITY

What is a neuro security technique to store a password in your brain without having to work hard to remember it? We know people default to creating bad passwords, whether for their computers or banking PINs. In a research experiment, infographics were used to visualize this and researchers took all of the possible combinations and mapped them based on frequency of use. A data set of 3.4 million pins was used. The first two digits are on the horizontal end; the second two on the vertical end. That perfectly diagonal yellow line streaking across the graph shows the frequency of 1111, 2222, etc. Data Genetics crunched came up with some fascinating finds:

- You can crack more than 10 percent of random PINs by typing in 1234. The simple combinations of 1234, 0000, and 1111, make up about 20 percent.
- 26.83 percent of passwords can be cracked using the top 20 combinations. That would be 0.2 percent of the passwords if they were randomly distributed.
- From the data set used, 8068 is the 'safest' password, used just 25 times out of 3.4 million.
- Birthday years are big. The 1900 PINs – 1986, 1960, 1991, and so on–are extremely popular, with PINs from later in the century used the most.
- A full 17.8 percent of PINs are couplets, such as 7878, 8181.
- 2580 seems random, but comes in as the 22nd most-used on the list. Why? Because it's straight down the middle row on a telephone keypad.

A new technique has been devised to create passwords which can be stored in the brains of users. The particularly unique aspect of this technology is that the passwords cannot be recited or recalled by users, thus keeping them safe from being discovered by other parties. In other words, you know the password, you just can't recall it. Of course, this may come off as a bit strange and confusing, but the technique makes use of cryptography and neuroscience and works based on an idea known as implicit learning, in which the brain subconsciously learns a pattern without consciously recognising it.

Hristo Bojinov and his colleagues at Stanford University California created a test in which participants played a computer game where they had to catch falling objects on the screen by pressing a key, with each key corresponding to one of six positions on the screen.

However, the positions of the objects were not always random. Hidden within the game was a sequence of 30 successive positions that repeated more than 100 times over during the 30 to 45 minutes of game play. Their brains unconsciously learned the patterns and the players were making fewer errors by the end of their time at the console, even though they had no idea the sequence was there. Two weeks later their brains still remembered the sequences and the players made even fewer errors, despite the fact none of them could consciously identify the sequence when asked.

Researchers believe that the results suggest that the game could form the basis of a security system. "Authentication doesn't require explicit effort on the part of the user," says Ari Juels, director of RSA Laboratories in Cambridge, Massachusetts. "If the time required for training and authentication can be reduced, then some of the benefits of biometrics, namely effortlessness and minimal risk of loss, can be coupled with a feature that biometrics lack: the ability to replace a biometric that has been compromised."

Hristo Bojinov is scheduled to present his work on the 8th August at the USENIX Security Symposium in Bellevue, Washington.

Dr Kamyar EsmaeiliNasrabadi
Lecturer

Areas of expertise:
Human Resource Management, Business Management, Tourism, Customs

ORGANISATIONAL COMMUNICATION

In this issue, we will review clarity, concision and consistency in communication. These three factors play a vital role in correctly communicating your message. Good communication means saying just enough (i.e., not talking too much or too little). Try to convey your message in as few words as possible. Say what you want clearly and directly, whether you are speaking to someone in person, on the phone, or via email. If you ramble on, your listener will either tune you out or will be unsure of exactly what you want. Think about what you want to say before you say it; this will help you to avoid talking excessively or confusing your audience. For clarity, you need to identify your key messages (the main ideas you want to embed in your audience's mind), as this is an important part of communicating clearly. You should also write down your central idea and spend time thinking about your audience. Its also important to develop your key messages before communicating and be prepared to provide context and a quick recap to bridge any knowledge gaps. Avoid jargon and other language that could confuse your audience or distract them from your central idea. Technical language or high levels of detail may seem important to you, but this can be a barrier to audience engagement. Keep your message concise. Aim for short, direct sentences. Saying less forces you to focus, and the more focused you are, the higher your chances of getting your message across. Consistency in communication usually means two things: repetition and frequency. Don't be afraid to repeat your key messages—it's hard for people to miss a point when they've seen or heard it multiple times. Make sure you communicate regularly and be proactive and responsive. Below is a link to a comprehensive study. This research titled 'Complex to Clear' was done by Martin J. Eppler and Nicole Bischof at the University of St. Gallen: Link.

Mostafa Gaballa
Lecturer

Areas of expertise:
Tourism, Hospitality, Travel

TOURISM

The first G20 Tourism Working Group meeting, held under the Indian Presidency, placed the focus on the sector's role in advancing the 2030 Agenda.

UNWTO is working as the knowledge partner for the Presidency to deliver the Goa Roadmap for Tourism as a Vehicle for Achieving the SDGs. This week's meeting, held in the Rann of Kutch (7-9 February), was dedicated to rural tourism for community development and poverty alleviation and also featured a side event. UNWTO shared its recently launched Tourism for Rural Development Programme, including the Best Tourism Villages Initiative. For more information visit the link.

The side event was an opportunity to highlight opportunities for rural tourism, including new consumer behaviours and growing interest in new destinations. The meeting also explored the main challenges facing the sector, particularly with regards to digital and non-digital infrastructure, the empowerment of local communities and skills development. The findings presented were the result of an analysis of more than 200 candidacies by villages from around the world to the Best Tourism Villages Initiative as well as UNWTO Member States priorities and policies.

Representatives from Indonesia, Spain, Italy, and Japan joined UNWTO, the UN Environmental Programme, the International Labor Organization, and the South Asia Women's Network (SWAN) in discussing how tourism policy can support tourism's contribution to rural development. Participants stressed that the sustainability of tourism in rural areas is dependent on adopting a comprehensive planning strategy, based on a multi-action and multi-stakeholder participatory approach. Furthermore, it was noted that rural tourism requires the support of regional and local governments, the private sector, industry associations, civil society, communities and tourists.

Dr Konstantinos Kiousis
Lecturer

Areas of expertise:
Human Resource Management, Leadership, Counselling & Career Guidance, Modern Educational Approaches

ARTIFICIAL INTELLIGENCE

ChatGPT, an AI language model, is a powerful tool for natural language processing that is changing the way we interact with technology. With the ability to understand and respond to human language, ChatGPT has the potential to revolutionise industries such as customer service, education and healthcare. ChatGPT was developed by OpenAI, an artificial intelligence research laboratory that aims to create safe and beneficial AI that can benefit humanity as a whole. The technology behind ChatGPT is based on a neural network, a type of machine learning algorithm that can learn from data to perform tasks such as language translation, image recognition and speech synthesis. One of the key features of ChatGPT is its ability to generate natural-sounding responses to open-ended questions and statements. This is achieved through the use of a technique called 'unsupervised learning', where the model is trained on a large corpus of text data without any specific instructions or feedback. The potential applications for ChatGPT are vast and varied. For example, ChatGPT could be used to provide personalised customer service in industries such as banking, e-commerce, and telecommunications. It could also be used to create virtual assistants and chatbots that can answer questions, provide information and even entertain users. Another potential application of ChatGPT is in the field of education. It could be used to create interactive learning experiences that can adapt to the individual needs and learning styles of students. For example, a language learning app could use ChatGPT to provide conversational practice for learners. However, it is important to note that there are also ethical concerns surrounding the use of AI language models like ChatGPT. For example, there is a risk that these models could be used to spread disinformation, manipulate public opinion, or perpetuate bias and discrimination. Overall, ChatGPT represents a

significant development in the field of natural language processing, and has the potential to transform the way we interact with technology. However, it is important to ensure that its use is guided by ethical principles and a commitment to creating beneficial outcomes for all.

On the other hand, Google has been developing its own language model called 'Switch Transformer', which is aimed at replicating the capabilities of OpenAI's ChatGPT. According to Google, Switch Transformer is designed to be more efficient than existing models, enabling it to handle larger data sets and produce more accurate results. One of the key differences between Switch Transformer and ChatGPT is that Switch Transformer uses a technique called 'dynamic routing', which allows it to selectively route information through different parts of the neural network. This is intended to make the model more efficient and capable of handling larger data sets. While it is too early to tell how successful Google's efforts to replicate ChatGPT will be, it is clear that there is a growing interest in developing more advanced AI language models. These models have the potential to transform a wide range of industries and improve the way we interact with technology, but it is important to ensure that their development and use is guided by ethical principles and a commitment to creating beneficial outcomes for all. For more information regarding this very interesting topic, please visit Link1 and Link2.

Dr Anna Rostomyan
Lecturer

Areas of expertise:
Emotions, Emotional Intelligence, Communication Management, Neuroleadership

EMOTION / COMMUNICATION

What is the Significance of Emotions in Communication? Emotions constitute a large part in our lives. We are almost always experiencing a certain emotion or feeling, which can vary throughout the whole day depending on the various external stimuli that we may perceive. Since they are such a fluctuating part of our daily lives, we are often governed by our emotions. As Daniel Goleman said, 'In essence we have two minds', i.e., the rational and the emotional minds, which are constantly cooperating with one another, sometimes vetoing or endorsing certain emotions.

In the process of interpersonal interaction, we mostly make use of diverse verbal and non-verbal manifestations of emotions that make us understand each other's internal states better. If we appraise the role of emotions in communication, it will make human interactions smoother, since by means of overtly expressing emotions in our speech, we can encode subtle pieces of important information that can be unveiled in the process of communicative interaction.

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All students are kindly invited to send their original texts to Dr Farshad Badie to the email address
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