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Key challenges and strategies towards a sustainable business environment by 2030

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Abstract— Existing research has focused on discussing various issues in isolation, e.g., climate change or deglobalisation, without capturing the geo-political, legal, socio-economic, and technological implications in a holistic manner, especially in China and Southeast Asia. This has hindered the derivation of clear guidelines to navigate the business environment in the next decade, thus leaving the business world with fragmented theories and concepts that are hard to amalgamate and turn into tangible business strategies. Thus, this study illustrates the key challenges that are likely to influence the stability and sustainability of the global business environment by 2030, as well as suggests the main business strategies to leverage to mitigate them. This contribution, for the first time, proposes an alternative holistic approach by highlighting the key threats to global business in the next decade, as well as suggesting clear action points to account for the main ones from geo-political, legal, socio-economic, and technological standpoints in a unified theory. Local and more tailored strategies are described and discussed as referred to various industries to help in navigating a deglobalised and more competitive market by 2030.

Keywords—Technology; Law; Society; Economics; Business Strategy; Globalisation; Deglobalisation

1. Introduction

By 2030, global warming caused by greenhouse gases (Fig. 1, Gaub, 2019) is likely to increase the average temperature worldwide by 1.5 degrees Celsius (Hoegh-Guldberg et al., 2018; Gaub, 2019), accompanied by a rise in the incidence of natural cataclysms of a considerable magnitude (Kojm, 2012; Oxan, 2017; Carter & Lovegrove, 2018; Bremmer, 2020).

Climate change is likely to represent the largest risk to the global business environment with respect to its impact in the next decade and being the second most likely one (World Economic Forum, 2020). This is expected to drastically reduce the biodiversity and disrupt entire supply chains, as well as heightened burden on healthcare systems leading to increased costs (Schmeltz et al., 2016; Gaub, 2019).

In turn, the global landscape is expected to be characterised by an increase in inter- and intra-state conflicts, especially in the Middle East, the sub-Saharan Africa, and South Asia (Gleick, 2014; Shiva, 2016; Gaub, 2019; Bremmer, 2020; World Economic Forum, 2020), since limiting emissions will impact profitability. For instance, climate change, along with controversial constructions of dams, will likely cause unprecedented impact on hydrologic and agricultural and ecological systems in the

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Mekong River basin (Pokhrel et al., 2018; Yang et al, 2019), leading to more conflicts between China and Southeast Asian countries in the lower Mekong River basin.

Global warming is likely to yield a loss in productivity of impact quantifiable as over 1.5 trillion GBP globally (Chambwera, 2010; Johnston, 2016; Orlik et al., 2019) and about 1 billion migrants by 2030 (Oxan, 2017; Park, 2018). Terrorism linked to populism leveraging social inequality may pose further environmental challenges to policymakers (Oxan, 2017; Carter & Lovegrove, 2018; Gaub, 2019; Orlik et al., 2019), e.g., biohacking, engineered viruses and bacteria, and 3D-printed weapons, with increased risk of pandemics, ultimately influencing the global business environment further.

Thus, this study aims to provide a critical analysis of the largest geo-political, legal, and socio-economic challenges to the sustainability of global business in the next ten years, considering environmental concerns, along with their impact, including relevant business theories and concepts. Moreover, key debates are described, detailing how the market system will further increase the competitiveness of the business environment. The main business strategies corporations will leverage to manage an uncertain global business environment are presented, as referred to various industries. Furthermore, salient ideas and theories regarding the dynamics of the global economy are also discussed.

The rest of the paper is organised as follows: in *section 2*, business theories and concepts that help in contextualising these challenges are introduced and leveraged in *section 3* to understand which key debates are likely to influence the competitiveness of the global business environment in the next decade. In *section 4*, related business recommendations and systematic strategies are suggested to apply a holistic approach to understand and adapt to the dynamics of the global economy discussed in *section 5*.

2. Relevant business insights

To gain a deeper understanding of current and future challenges to the global business environment, introduced in *section 1*, analysing their context to gain actionable insights via relevant business theories and concepts is of the utmost importance. In 2030, more than ever before, to generate sustainable business activities (Macht et al., 2020; Rosato et al., 2021), corporations will have to strive to fulfil the 'triple bottom line' (Tullberg, 2012), considering people, planet, and profit. Global power is likely to shift from the US to China and India that are expected to dominate the global business ecosystem from 2028 (Kojm, 2012; Gros & Alcidi, 2013; Carter & Lovegrove, 2018).

As per the updated Uppsala Internationalisation Model, these intricate business relationships or 'outsiderships' (Johanson & Vahlne, 2009) may pose further uncertainties to global business. Particularly, relationships between countries and companies are pivotal in the Chinese cultural background (Lin et al., 2018; Pizzi et al., 2021). For example, the recent trade war between the Chinese government and the Australian one led to many Australian industries, such as those involving coal, wine, and copper ores, be hit by Chinese import restrictions (Giesecke et al., 2020). The three main economies (China, the US, and India) will be more noticeably distinct from any others (Manyika *et al*., 2017; World Economic Forum, 2020), especially when considering technological progress and its impact on society. Asian and Western countries are likely to incur demographical increases and reductions respectively, with the population increasing by 1 billion worldwide (**Table 1**) (United Nations, 2015) and the associated energy consumption by 1.7% yearly, ultimately heightening global warming (**Fig. 2**) (OPEC, 2017).

The fragmentation of the global business environment will also induce radical changes in region-specific business operational frameworks (Oxan, 2017; Carter & Lovegrove, 2018; Burrows, 2019), posing further cybersecurity risks. As the most populated region worldwide, East Asia is characterised by overwork. Countries in

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this business environment are likely to adopt different operational frameworks, although technologies such as autonomous production and Artificial Intelligence (AI) will be shared. Large companies not investing adequately in innovative technologies to mitigate such risks by design and from a process standpoint are likely to fail.

Aggravated by climate change, increased urbanisation will cause the disruption of entire supply chains. At the same time, populism, and protectionism (Etzioni, 2009) are likely to lead to heightened inequality (Hantke-Domas, 2003), ultimately being detrimental to the public interest.

3. Salient socio-economic and environmental conundrums

The business theories and concepts described in *section 2* help in critically discerning the fundamental debates that are influencing the current competitive market, which are likely to have a long-term footprint in impacting that of the next decade too. Although the US may become the biggest producer of natural gas globally (Kojm, 2012; Oxan, 2017), China's GDP is expected to be higher than that of the US (**Fig. 3**, Gaub, 2019) (Smith, 2013; World Trade Organization, 2018; Gaub, 2019; Bremmer, 2020). Nevertheless, Asia may be fragmented between China and India (Kojm, 2012), as a well-established political and legal framework may be still lacking by then to decrease its impact on the global economy, as demonstrated by India stepping out of the Regional Comprehensive Economic Partnership (RCEP), as well as the intermittent Sino-Indian border dispute, leading to worsened relations between the two countries (Bradsher, K., & Swanson, 2020).

An increased integration in Latin America and Sub-Saharan Africa would partly mitigate this challenge (Kojm, 2012). However, protectionism and associated intra-state conflicts are expected to increase (Carter & Lovegrove, 2018; Gaub, 2019; Orlik *et al*., 2019; Bremmer, 2020), also leading to further pervasiveness of private organisations striving to compete towards a monopolisation for providing public services.

Social inequality, with 1% of the global population owning 67% of wealth by 2030, is likely to lead to increases in civil wars (Cederman *et al*., 2013; Milanovic, 2016; Gaub, 2019). The geo-political, legal, and socio-economic fragmentation will also lead to a virtual fragmentation of the cyber world, with new cyber-vulnerabilities manipulated to draw economic and military benefits (Burrows, 2019; Gaub, 2019; World Economic Forum, 2020). Robotic process automation (RPA) and Artificial Intelligence (AI) technologies are likely to disrupt entire job markets, at first making millions of manual and repetitive jobs obsolete (Oxan, 2017; Carter & Lovegrove, 2018).

Nevertheless, new jobs and fields may be created, but governments will have to set governance frameworks with multinational companies (MNCs), to prevent them from monopolising such technologies and fostering societal development to reduce social inequality. Due to different political systems, China can more effectively restrict MNCs through administrative means, as demonstrated by the immediate stop of Ant Group's IPO (Zhang, 2020), although the regulatory framework may be debated. Instead, in other countries, such as some Southeast Asian countries, where corruption is still widespread (Sari et al., 2020), may need to further improve the efficiency of and adherence to laws and regulations.

4. A local but holistic approach to business strategies

Considering how key debates have impacted and will influence the geo-political and socio-economic landscape of the global market, as described, and discussed in *section 3*, developing a set of recommendations and a holistic business strategy is essential to the sustained success of organisations in such a more competitive business environment. A global trade war between the US and China could disrupt

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many MNCs' supply chain, for instance, AstraZeneca and GlaxoSmithKline (GSK) in the pharmaceutical industry.

This risk can be partly mitigated by starting to invest in expanding own markets in China's new Asia-Pacific free-trade area (India, Japan, and Malaysia) (Gaub, 2019). RCEP, although without India, helps to offset the distortions caused by the US-China trade barriers (Petri et al., 2020), despite it cannot overcome the impacts of the trade war globally (Mahadevan et al., 2019). The US' incapacity in managing the COVID-19 pandemic is likely to accelerate such investments. At the same time, bioinformatics companies are expected to provide more pervasive data-driven services to pharmaceutical companies to ensure a sustainable growth.

Regardless of the industry considered, companies should start scaling their business activities across multiple geographies progressively, along with strategic acquisitions/mergers to succeed across regional markets with a local, tailored approach. Holistic methodologies, e.g., the Dunning's Eclectic Paradigm focused on ownership, location, and internationalisation benefits (Dunning, 2015), and the strategic theory for improved decision making (Hill et al., 2014) can be adopted in this direction.

Developing and expanding partnerships with local and national governments and other businesses will be pivotal in navigating through their regional political, legal, and regulatory environments (Carter & Lovegrove, 2018), leveraging various business methods, such as the PWC's Growth Markets Strategy toolkit (PwC, 2015). Gaining insights into national cultures and market dynamics, maintaining it over time to ensure it is up-to-date, and investing in improving local economies in emerging markets will be key towards a sustained success in these regions (PwC, 2015).

AI and 3D-printing are expected to be leveraged to produce new drugs, decreasing the environmental footprint in transporting them (Gaub, 2019). Prompt and strategic investments in these technologies, as well as in related research and development, across both academia and industry, will decide the future global market leaders (Jiang et al., 2017; Oxan, 2017; Gaub, 2019; Mahroof, 2019; Orlik et al., 2019; World Economic Forum, 2020).

5. The dynamics of the global economy

The deglobalised geo-politics, society and economy require holistic business strategies, such as the ones in *section 4*, and are likely to be exacerbated by climate change and the rise of populisms. Moreover, the current COVID-19 pandemic is widening the gap between the lowest and highest social classes (Sumner *et al.*, 2020), increasing unemployment rates, limiting access to clean energy, and representing a hindrance towards fulfilling the Sustainable Development Goals by 2030 (United Nations, 2020). This globally widespread polarisation will be amplified by the decoupling between China and the US regarding strategic technologies, such as semiconductors, RPA and AI, quantum computing and 5G (Bremmer, 2020).

An increasingly autonomous Europe from a geopolitical standpoint, including regulations, trade, and security, may heighten the tension between US and China (Gaub, 2019; Bremmer, 2020). The failure of the US policy in the Middle East will exacerbate local instability and produce further pressures that are likely to increase oil prices (Gaub, 2019; Bremmer, 2020). Therefore, additional investments will be required to prevent and resolve conflicts, including in cybersecurity. Younger populations in South Asia, the Middle East, and the sub-Saharan Africa (Oxan, 2017) will demand new socio-economically sustainable policies, as urbanization in these regions is relatively rapid. Recently, for example, the term 'involution' has been widely used by young Chinese urbanites to express the negative side of their modern lives (Pan, 2020), suggesting new socio-economically sustainable policies are

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increasingly in need, even though the Chinese economy has experienced more than 40 years of fast growth.

However, non-communicable diseases, such as cardiovascular pathologies, mental health disorders, and cancers, will be the main aetiology leading to mortality worldwide (Gaub, 2019; World Economic Forum, 2020). Hence, investing in policies and innovative technologies that are geographically and socio-economically tailored will be key to attain healthy ageing and ensure sustainable growth. Nevertheless, progress against pandemics will be hindered by the reluctance to vaccines and physiological drug resistance.

6. Conclusion

This study critically analysed the largest threats to global business by 2030, including challenges with environmental impact in *section 1*, relevant business theories and concepts in *section 2*, key debates on upcoming geo-political risks in *section 3*, related business strategies in *section 4*, dynamics of the global economy in *section 5*. The importance of highlighting key threats and defining clear business strategies to mitigate them was emphasised.

Strategic partnerships with governments and other business organisations, as well as tailoring industry-specific market development and growth strategies based on various geo-political and socio-economic factors are pivotal to penetrate regional markets in a fragmented, deglobalised world. Dynamically moulding them based on the varying nature of the global economy, such as the geo-political and socio-economic peculiarities of China and Southeast Asian countries discussed in this study, will be key to ensure sustained business success.

Declarations

Availability of data and material: All sources regarding data and materials mentioned have been referenced appropriately throughout the study.

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Authors' contributions: First and corresponding author: Conceptualisation; Data curation; Formal analysis; Investigation; Methodology; Project administration; Resources; Software; Supervision; Validation; Visualization; Roles/Writing - original draft; Writing - review & editing.

Second author: Conceptualisation; Data curation; Formal analysis; Investigation; Methodology; Resources; Software; Validation; Roles/Writing - original draft; Writing - review & editing.

Third author: Conceptualisation; Data curation; Formal analysis; Investigation; Methodology; Resources; Software; Validation; Roles/Writing - original draft; Writing - review & editing.

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	Population (millions)			
Region	***2017***	***2030***	***2050***	***2100***
World	7550	8551	9772	11184
Africa	1256	1704	2528	4468
Asia	4504	4947	5257	4780
Europe	742	739	716	653
Latin America and the Caribbean	646	718	780	712
Northern America	361	395	435	499
Oceania	41	48	57	72

Table 1. Population for each main region worldwide in 2017 and related projections for 2030, 2050 and 2100 (Gaub, 2019).

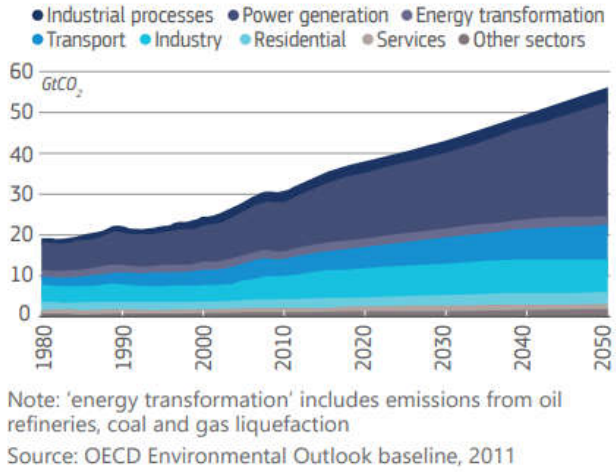

Figure 1. Emissions of CO_2 globally, based on source, 1980-2050 (Gaub, 2019).

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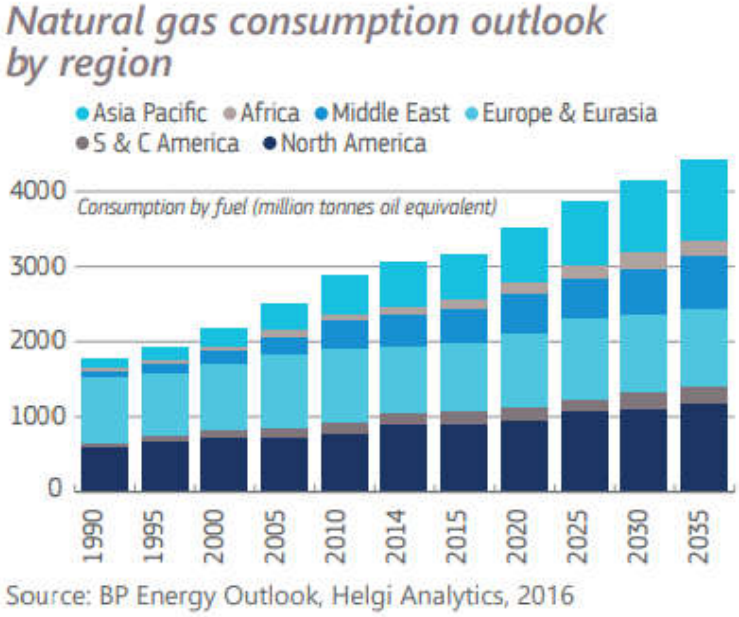

Figure 2. Natural gas consumption outlook by region globally, from 1990 to 2035 (Gaub, 2019).

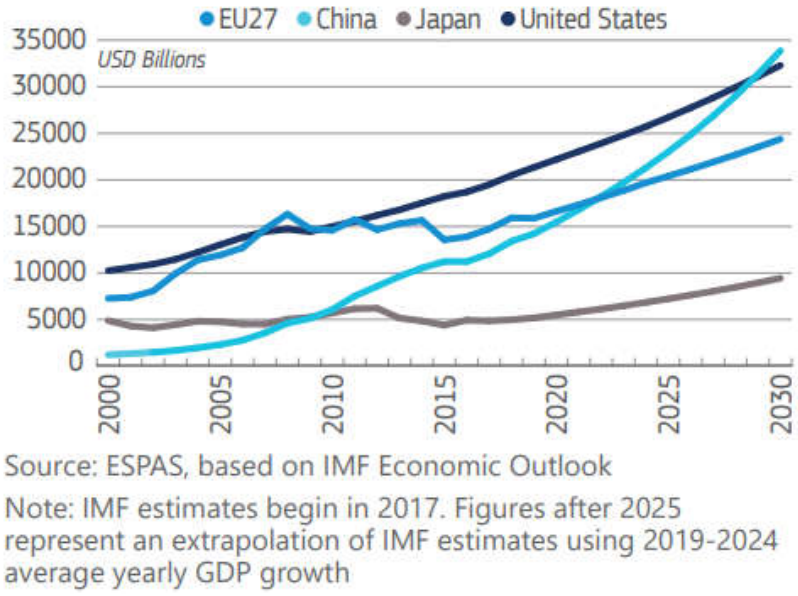

Figure 3. Projections of nominal GDP growth until 2030, considering EU, China, Japan, and the US. (Gaub, 2019).

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Dr Luca Parisi holds a PhD in Applied AI for Clinical Decision Support Systems from the University of Bradford, United Kingdom (UK), and is currently an MBA Candidate with AI Specialism at Coventry University, UK. He is one of the co-founders and was the first president of the University of Auckland Rehabilitative Technologies Association (UARTA) in New Zealand (NZ). He serves as a Lead Guest Editor and Editorial Board Member of the journal 'Neural Computing and Applications', as a Guest Associate Editor and Research Topic Editor of the journal 'Frontiers in Medical Technology', and as Honorary Visiting Research Fellow in Applied AI in Healthcare and as a Computing Industry Advisory Board Member at the University of Bradford.

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