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Challenges of adopting IR4.0

VOICES OF REASON by Dr Akram Al-Khaled

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THIS article will describe the challenges associated with adopting the Fourth Industrial Revolution technologies within the sphere of international business. Also known as Industry 4.0 (IR4.0), the term is used to describe the integration of advanced technologies, such as artificial intelligence, the Internet of Things (IoT), and big data analytics, into manufacturing and industrial processes.

The main objective of IR4.0 is to create smart factories and supply chains that are highly automated, connected and responsive to changing customer needs.

The most valuable features of IR4.0 include increased efficiency, customisation and flexibility, as well as the ability to collect and analyse vast amounts of data to make real-time decisions. This new approach to manufacturing and industry is expected to lead to significant improvements in productivity, quality and sustainability for international business.

It is a revolutionary set of technologies that promises to bring about great accomplishments and outcomes. While IR4.0 has the potential to transform international business, it also presents a number of significant challenges. These challenges are described below.

One of the biggest challenges is the need for investment in new technologies and infrastructure. The adoption of IR4.0 technology can be expensive, and small and medium-sized enterprises may not have the resources to make the necessary

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investments. Adopting IR4.0 often requires significant capital expenditures, including the cost of new machinery, software and training.

For international businesses, these costs can be more significant due to the need to implement IR4.0 in multiple countries, each with its own infrastructure, regulations and cultural attitudes towards technology. Therefore, companies that are doing business in the international domain from developing parts of the world may not necessarily be able to implement these technologies comprehensively and thus obtain the promised benefits.

Another challenge is the shortage of talent and expertise. It is a fact that these technologies can bring about significant number of technical complexities. IR4.0 relies on advanced technology, such as artificial intelligence, IoT, and big data analytics, which can be difficult to implement and integrate into existing systems.

Implementing IR4.0 technologies often requires a high level of technical skills. In particular, when it comes to artificial intelligence, a number of international companies are struggling to find individuals with the necessary skills to develop,

implement and maintain artificial intelligence systems, which can slow the pace of innovation and limit the potential benefits of artificial intelligence.

Finding the right talent to lead and implement IR4.0 initiatives can be difficult, especially in regions where there is a shortage of skilled workers. Hence, it may be difficult for organisations that are engaged in international business to benefit from such technologies because they do not have the required talent to work with such technologies in a productive way.

Special training would be required in order to update the skills of the existing workforce, and such training can be quite costly and difficult to implement.

Regulatory and data privacy concerns are also significant challenges for international businesses adopting IR4.0.

Different countries may have different regulations, which can make it difficult for international businesses to operate across borders. As IR4.0 relies on the collection and analysis of vast amounts of data, companies must also ensure that sensitive information is protected from cyber threats.

Different countries have different regulations and data protection laws,

making it difficult for international businesses to ensure the security and privacy of sensitive data generated by IR4.0 technologies. Without proper measures being taken to safeguard such data, it can become risky for organisations to embrace such technologies as they will make themselves vulnerable to threats which exist in the international business environment.

Another challenge is the need for change management and cultural alignment. Adopting IR4.0 often requires significant changes to existing systems, processes and organisational structures, which can be difficult to implement, and can lead to resistance from employees, customers and suppliers.

Employees may resist the adoption of IR4.0 technology due to concerns over job security and the impact on their work processes. Different cultural attitudes towards technology and automation can also present barriers, i.e. in communication barriers in different regions.

Language and cultural differences can make it difficult for international businesses to effectively communicate and collaborate, leading to misunderstandings and misaligned goals.

Also, different countries may have

different work practices and expectations, which can make aligning work processes across borders difficult.

All these factors can generate significant resistance, which can result in low levels of acceptance, hence, creating problems in changing these organisations to be compliant with such technologies.

Also, integrating new IR4.0 technologies with existing systems and processes can be complex and time-consuming. Older systems may not be equipped to handle this advanced technology, making it challenging to integrate the two.

Integrating new technology with existing systems requires careful planning and execution to minimise disruptions to business operations. This can be especially challenging for international businesses.

In conclusion, while IR4.0 presents significant opportunities for international businesses, it also presents a number of challenges, including investment costs, talent shortages, regulatory and data privacy concerns, cultural and communication barriers and integration difficulties.

To overcome these challenges, international businesses need to develop a clear strategy for IR4.0 technology adoption. They need to invest in the right technologies, and cultivate a culture of innovation and continuous improvement.

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