

## **What are the Security Implications of the Digital Economy?**

### **What do you consider as a fully digital enterprise?**

A fully digital enterprise may be defined as an enterprise leveraging technology to deliver effective services to their customer base. 'In the digital age, customers expect a seamless, personalised, and convenient experience across all channels ('frictionless business')' (Evans & Fernando, 2025). While the terms fully digital enterprise and exclusively enterprise are often used interchangeably, there are some differences. An exclusively digital enterprise may be represented by company with no physical presence and offers only digital services, such as the streaming service, Spotify or the online bank, Starling. A fully digital enterprise could still have some involvement in the physical space but offer all of the services of an exclusively digital enterprise. For example, most high street banks will retain a physical presence, but offer all of the online services provided by their exclusively online competitors. Both fully and exclusively digital enterprises will be presented with similar cyber security challenges.

### **What are the cyber security challenges/concerns with a fully digital enterprise?**

The cyber security challenges for a fully digital enterprise can relate to:

1. The system architecture
2. Social engineering
3. The insider threat

#### **The system architecture**

The most obvious challenge for cyber security is the system design itself. However, 'Insecure Design' was not recognised as a category in its own right by OSWAP until 2021. 'Insecure Design is a new category for 2021, with a focus on risks related to design flaws. If we genuinely want to "move left" as an industry, it calls for more use of threat modelling, secure design patterns and principles, and reference architectures.' (OSWAP, 2021).

## **Social engineering**

‘A social engineering attack is a cybersecurity attack that relies on the psychological manipulation of human behavior to disclose sensitive data, share credentials, grant access to a personal device or otherwise compromise their digital security’ (CrowdStrike, 2023). Fully digital enterprises are at risk from the behaviour of their users and it is important for companies to mitigate the risks through both education and enhanced authentication methods such as multi-factor authentication MFA.

## **The insider threat**

The insider threat originated from employees ‘who intentionally or accidentally misuse their legitimate access’ (IBM, 2024). The malicious threat can be traced to aggrieved employees and company executive leaders can take steps to mitigate this risk through improved employee relations and their company ethos and values, as well as sensible IT protocols for access when employees leave or are subject to HR processes. This risk can also be unintentional and underlines the importance of excellent employee training and continuous professional development led by the IT department.

## **What are the cyber security challenges for a bricks and mortar SME wanting to become a digital enterprise?**

The cyber security challenges for a bricks and mortar SME wanting to become a digital enterprise could be represented a lack of expertise alongside change management and finance. When any company embarks on change, they will need to manage the knowledge, implementation and culture. The cyber security risks could be in terms of securing IT expertise alongside the potential insider threat from employees who are either not onboard with the change or lack the training to maintain security.

## References

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