

Topic

Preamble

Technology and the rise in digital technologies is giving rise to new challenges for global businesses and consumers. Listening to Elon Musk and his talk on innovation and about trying new things and creating an environment which allows for the opportunity for new things to be created and tried was really an eye opener to myself. He also talks about having development and production close together when making the first prototype of a product. All this got me to think about how do we get all these together? What approach and what part can technology play in creating these sort of opportunities.



Then I decided my journey and interest on technology strategy as a tool for successful and competitive advantage for businesses.

Introduction

Technology strategy decisions is one of the biggest challenges affecting millions of organisations and IT executives carrying out product innovations. Management scholars have used different concepts like the resource-based theory, organisational capability theories, institutional theories, knowledge-based view theories and many others to provide useful insight and address the issue.

However, implementing new technologies still remains an issue with research indicating that 25 to 40 percent of these programs still exceed their budgets and time lines despite the number of new digital practices and technologies that have emerged the past few years (McKinsey November 2020 by Katya Defossez, Mark McMillan and Hrishika Vuppala, Managing large technology programs in the digital Era).

Technology strategy therefore enables the organisation to gain competitive advantages by driving technological innovations to meet these demands (Lopez-Vega and Tell, 2021).

Aims and objectives

The research aim to critically evaluate and analyse technology strategies used by IT executives within the telecoms and banking industry and its implication for product innovation. The research objectives were focused on

- Undertaking an extant literature review on the various technology strategies used within the UK IT telecoms and banking industries.
- Identifying and evaluating factors influencing these strategies
- Finally, to develop recommendations for the application of these strategies.

Methodology

- A pilot study was conducted using a comparative case study qualitative research method.
- The comparative case study approach was used to identify and explore different technology strategies arising amongst these two companies and industry
- The findings were then analysed and discussed using a combination of two conceptual framework models; Latour's (2005) Actor-Network theory and Barney's (1991) Resource-based theory.
- The case studies used where referenced "A" a large UK mobile telecommunications provider and another reference "B" a large financial services provider within the UK banking industry. A & B are not the real names but pseudonyms.
- Fieldwork data which included semi-structured, open-ended, face-to-face interviews were conducted via MS teams and recorded.
- Participants included two middle IT managers in company A (telecoms industry) and another middle IT manager in company B (financial services banking company).
- A total of 3 interviews were carried out corresponding to these two industries.
- Interviews lasted a minimum of 45 mins and respondents were allowed to discuss on the various types of technology strategies and product innovation activities.
- The interview results were transcribed and results confirmed with participants.
- In the first stage codes were inductively generated from the data open coded by hand and in the second stage axial coding and selective coding was done.

Pilot Study

Gatekeeper

Individual interviews

Findings.

The findings are split into different drivers:

- Technology strategy, Technology strategy approach and socio-technical factors influencing technology strategy and product innovation.
The firms technology strategy is influenced by socio-technical factors like management, organisational culture, governance, resources and knowledge within the organisation.
- Five technology strategies were identified in the Telecoms and Banking industry in the UK.
 - Partnership, adoption-based, Software-based, insourcing and enhancement strategies.
 - 1) Partnership strategy was used when the organisation did not own the technology or they wanted to jointly produce the technology.
 - 2) An adoption strategy was used in cases where the organisation did not own the technology but required less customisation for their processes.
 - 3) Enhancement strategy was used in cases where the organisation wanted to use the technology and also required extensive customisation for their use.
 - 4) Insourcing strategy was used in instances where the organisation wanted to bring technology inhouse to reduce dependency on vendors and was more the case in the telecoms firm.
 - 5) Finally the software based approach was mainly used to enhance business processes within the organisation.
- Three technology strategy approaches were identified;
 - Internally driven approach, Business driven and Agile approach.

Discussion

Research on technology strategy and its impact on product innovation has provided contrasting views between industries, companies with respect to the degree of influence and other sociotechnical factors (Alessandro, 2020; Urbano et al. 2019).

The findings indicate that technology strategy within the telecommunications and banking industry is influenced by technological IT capabilities (Teubner & Stockinger, 2020) which is linked to the resource-based theory of the firm first introduced by Barney (1991) and knowledge resources through technological partnerships and collaborations (Lind & Melander, 2019; Rusu et al. 2020).

The findings also indicate that organisation obtained knowledge through partnerships and collaboration with other organisations which is a very explorative approach (Chung-Jen et al., 2020)

The findings also shed more insight on the challenges faced by technology managers within the banking and telecoms industry when developing strategies which is linked issues around management and organisation, organisation culture, resource constraints and communications issues which influence product innovation activity.

Conclusion

The pilot study was designed to study technology strategy and its influence on product innovation within the UK telecoms and banking industry sectors. The research focus on the resource-based theory from Barney (1991) and the actor-network theory from Latour (2005) tenets of management and organisational culture, resource and knowledge implications, communication and technological partnerships.

The research findings offered useful managerial and policy impact for organisations. The research provides organisations with a guidance when deciding on technology strategies to use and its implications for innovation. It also provides insights to organisations on the socio-technical drivers of technology strategy and its implications for product innovation. Finally, it contributes to extant literature on technology strategy by filling the gap within the UK banking and telecoms industry.

References

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