

# **Assessing The Role of Cloud Computing in the Strategic Agility of Banking**

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## **Introduction**

This manuscript assesses the role of a relatively new technology ‘cloud computing’ in achieving strategic agility within the UK banking sector. While there is research on how ‘cloud’ can enhance innovation capacity, there is little on the implications for strategic agility - an increasingly important topic in the IS/IT literature (Doz and Kosonen, 2010). Mell and Grance (2010) define cloud as: “a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction.” Such new technologies have accelerated global competition per se and as a result organizations must be able to rapidly adapt their strategies as well as their operations; agility is ‘cascading’ up the organization from operations to C-Suite. Banking is no exception (Baskerville et al., 2005) and given the industry’s reputation for conservatism, we felt this was ripe for study since cloud and strategic agility are in tension with the industry’s usual pace of change. According to Lewis et al. (2014) organizational survival today very much depends on strategic agility, which in brief involves flexible and mindful responses to constantly changing environments. Our question is whether cloud enables or constrains such responses. According to Doz and Kosonen (2010) there are three dimensions to strategic agility: (i) Strategic sensitivity; (ii) Leadership unity; (iii) Resource fluidity. Can cloud deliver on all three dimensions for banking? We set out to explore these questions.

## **Cloud in Banking**

Literature on Cloud technology in banking has given insights into how the cloud has affected the sector thus far. Accenture (2016) have identified some key trends that have arisen as a result of the uptake of cloud computing within the banking industry. These include: Distributed IT, Disaggregation of business process flows and infrastructure, Data-driven insights. Rapid digitization enables more sophisticated customer intelligence, enabling banks to migrate to “social enterprises” and reinvent their relationships with customers. While there is a broad range of literature on the putative benefits of using Cloud technology for banks, more research is needed into how organizational wide strategy can change in order to become as agile as possible.

## **Strategic Agility**

Further to the three capabilities of strategic agility (Lewis et al 2014), contradictions underlie them. Firstly, strategic sensitivity is the ability for an organization to be alert and able to integrate new possibilities, however it also raises tensions due to the learning from and then letting go of experiences as well as the need to engage ideas from the top to the bottom. This may be a new way of working for many organizations, in particularly in the banking industry, which historically has a hierarchical communication systems. Doz and Kosonen

(2010) note that strategic sensitivity “is fostered by the combination of a strong externally oriented and internally participative strategy process, a high level of tension and attentiveness and a rich, intense, and open dialogue.” Secondly, leadership unity is defined by bold and strategic decision making which means demonstrating strong commitment from top management through to the middle managers. This means that teamwork is valued for an organization wanting to become agile. Indeed, Lewis et al (2014) highlight that achieving leadership unity depends on the promotion of collectiveness, including convergent thinking, homogenous perspectives and collective agreements. Thirdly, resource fluidity requires change and switching of resources but this all depends on the consistency of the organization making full use of their resources to start with. Ultimately, strategic agility depends on leaders’ and management’s response to competing demands.

### **Summary of Literatures**

After the above literature review some conclusions can be made. There is a wide range of literature published by both academics and organizations around cloud technology and the many uses in industries it has. However, there is little evidence of the specific uses of cloud technology within the banking industry. There may also be lack of literature due to organizations wanting to keep confidentiality about the technology they possess. There is a range of non-academic articles discussing the slower uptake of cloud within the industry, pertaining to the barriers of uptake – more specifically security concerns. Although there is extensive literature regarding cloud in general, and some specific to other industries, this may not be relevant to the industry explored in this paper. This therefore highlights the need for further research into assessing the role cloud computing has in achieving strategic agility with the banking industry. The paper aims to explore all of the areas put forward within current literature by the conduct of further research with industry experts allowing for the creation of more realistic set of theory development, giving a better understanding of cloud technology’s role in facilitating strategic agility within the sector.

### **Methodology**

We adopted an exploratory approach in view of the paucity of literature on cloud technology use within the Banking industry. Given the relative ‘bluewater’ nature of the research, we decided on an inductive means of generating theory, allowing for new and previously unexplored categories to be identified. The basis of the data collection was one-to-one semi-structured interviews with banking directors and employees, technological consultants and cloud solution providers (Jansen, 2010). The table below shows the different types of participants involved in the study.

**Table 1 – Interviewees**

<b>Participant Type</b>	<b>Number of Participants</b>	<b>Participant Codes</b>
Directors within Banking Sector	2	Director A, Director B
Employees within a Large Banking Organisation	2	Employee A, Employee B
Strategy Analysts	2	Analyst A, Analyst B
Cloud Solution Providers	2	Provider A, Provider B

In addition to interviews, email was used in order to initiate contact and follow up with participants where clarification was required. Burns (2010) notes that combining the uses of email and interviews can provide useful results as well as helping to build a rapport with the participants. Each interview was subject to extensive note taking. This allowed us to collate as much data as possible in order to ensure results could be utilized effectively. Audio recordings were used in every interview so that they could be transcribed after the interviews had taken place and also meant that we could revisit the interview to ensure important data was not missed from the study. The basis of the questions asked were to understand the areas of the banking industry that had seen cloud advancements, the main facilitators to cloud adoption as well as the main barriers to adoption, the uses of cloud within the banking industry and the key success factors to effective cloud solutions. The questions also explore the ability of cloud to enhance organizations strategic agility before asking the participant on their thoughts on the direction of cloud in the next five to ten years. Data analysis involved open and axial coding in order to induce themes.

### **Findings**

The findings indicate that private cloud solutions were the most popular deployment for organizations within the sector. There has also been a recent trend of Hybrid systems in which providers handle legacy data for their clients. Infrastructure as a Service (IaaS) remains the preferred choice of service types although there were suggestions from participants that recognize that Platform and Software as a Service (PaaS, SaaS) may become prominent in the future. Barriers to the adoption of cloud found that culture and data security ranked the highest. Many banks, perhaps unsurprisingly, suffered from conservatism when discussing implementation of cloud solutions. There was also a lack of trust from organization with third party cloud providers. Another barrier identified was data security although there was recognition that that there were improvements in that there are now industry wide standards that are required to be followed by law. The findings noted that the key facilitator for cloud adoption in the banking industry was change management. There was a focus on stakeholder buy-in, in which all parties involved with the bank must be on board with the technological changes and all strategies must be aligned with the changes in order to take full advantage of what is on offer. Communications was also theme identified as theme, with the view that it was vital to ensure awareness for new initiatives throughout an organization. Back office functions and Fintech were identified as the main business functions that implemented cloud solutions. Back office could deploy the use of cloud as the

data used was on the whole not confidential. Fintech benefited as it allowed for quicker response times to market movement. Findings assessing the role cloud played in the agility of strategy showed that the cloud benefited the capability of strategy. Strategy can be more sensitive as a result of the cloud allowing organizations to be more reactive to the environments, allowing strategy to be shaped depending on the position of the organization. Leadership can be improved as result of the sharing of insights and also the collaborative working the cloud promotes. Resources could also become more fluid due to cloud as it facilitates quicker changes in resource deployment. All participants agreed that SME's were making bigger breakthroughs with the adoption of cloud compared to larger organizations. The main reason found is that smaller organizations do not have the capital to host their own datacenters.

### **Discussion: Strategic Agility Enabled?**

All research participants recognized the importance of strategic agility noting that the implementation of cloud solutions allowed banking organizations to be agile in their processes. In terms of the three capabilities of strategic agility discussed above, all participants agreed that the adoption of cloud led to capabilities of strategic agility being reached. Participants noted that strategic sensitivity occurred, as the adoption of cloud technology allows the shortening of process times. This means the organization can find out if a strategy works or not and if not they are able to tailor the strategy at a quicker rate. In essence, cloud allows an organization to react to their environment faster. Leadership unity could also be achieved through the adoption of cloud. The participants noted that the cloud enabled heightened involvement for all stakeholders as information could be shared easily and allowed leadership decisions to be justified. Finally, resource fluidity can be reached as a result of the implementation of cloud solutions. The participants noted that the cloud allowed for quicker redeployment of resources, meaning that organizations can be more agile in their processes as a whole.

### **Conclusion**

This study explored the role of cloud computing on achieving strategic agility within the banking industry. Different types of deployment and services were analyzed from the data collected in order to ascertain the key barriers and facilitators to their adoption. The study collated the views of a variety of banking professionals concerning their views on cloud within the sector and understand how cloud is enabling/constraining strategic agility. The study shows that all three dimensions or capabilities of strategic agility are enabled by cloud in the sector, i.e. strategic sensitivity, leadership unity and resource fluidity. The preferred cloud model is a privately deployed IaaS. Therefore, banks are embracing new technologies such as cloud and 'allowing' them to cascade across the organizational hierarchies but this is tempered by or managed in accordance with engrained principles of conservatism which in turn engender a lack of trust and data security fears. This study has therefore addressed a gap in the literature concerning how cloud links to strategic agility within the specific context of banking.

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