

LEVEL 7 ASSESSMENT SPECIFICATION

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Programme:	MBA		
Module:	Change & Stability Management		
Module code:	HKBM7015	Contribution to Overall Module Assessment (%):	75%
Lecturer:	Dr. Joe Leung	Internal Verifier:	Dr. Poon Che Cheong
Assignment Title:	IT Architecture Change for ICBCA	Word count (or equivalent):	3000 words (maximum)
Submission deadline:	18 April 2022	Return date of provisional marks & written feedback:	17 May 2022
Submission method:	All written assessments, where practical and possible, must be submitted via Turnitin unless otherwise instructed by the Lecturer. (Please DO NOT put this assessment specification into Turnitin or it will match many similarities with other students' submissions.) Alternative submission method (if applicable): Late submission of the assessment will result in a late penalty mark. Penalties for late submission: Up to one week late, maximum mark of 50%. Over one week late, 0%. Only the Extenuating Circumstances Panel may approve a change to submission dates.		
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IT Architecture Change for ICBCA

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Abstract

Change is inevitable in any organization and must adapt to changing environments for survival and thriving. ICBCA assesses to alter its IT architecture for adapting to changing business environment. The assessment is based on the culture of ICBCA and internal, external, and industry factors to evaluate whether the stability is attainable in a modern business environment or if the change is beneficial for organizational survival. Finally, the recommendations are proposed and ways forward for ICBCA.

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1. Introduction

Globalization influences business worldwide. It eliminates the boundaries of business and creates opportunities for extending business. On the other hand, the company is affected by the new competitors. The company needs to regularly reconsider its business and vision and then change its business models to adapt to the change in the external environment. Most of the company's business is being extended to the global market by leveraging technology and directly providing service to their customers. The general trend of society is pushing companies toward digitalization and catering to customer needs through technology. Otherwise, they will face extinction. Most of the new business models are facilitated by technology, so technology has grown fast over the years. The objectives of using new technologies are to improve the efficiency of processes and deliver a better customer experience. In recent years, companies created digitized data to replace physical objects such as paper documents replaced by digital documents (e.g., pdf, doc, etc.) (Gupta, 2020). The company is based on digitized data to enhance and improve processes by leveraging technologies to change its business models. The new business models focus more on e-channels (e.g., Internet, B2B, B2C, mobile applications, etc.). It is because the customers not only consume in a retail or local country but and consume on the internet shop from worldwide. Technologies have influenced customer behaviors, and business models have been affected by customer behaviors. The change showed a correlation between technology and customer behaviors. It is permanent and inevitable in each company, especially in the business environment in these two years. The worldwide economy is a "cliff-like" drop after the COVID-19 outbreak. The business activities in tourism, retail, and catering industries are nearly frozen due to disease prevention measures. The companies have changed their operations and target customers from visitors or tourists to local customers to keep their business survival. Change is inevitable for many reasons, so companies should accept the change and be willing to change.

2. Company Background

Industrial and Commercial Bank of China (Asia) Limited (“ICBCA”) is the overseas business of the ICBC group that is the largest commercial bank in China. ICBCA, formerly known as Union Bank of Hong Kong Limited, was founded in 1964 and changed its name to “Industrial and Commercial bank of China (Asia) Limited” in Aug 2000. In Dec 2010, ICBC finished the privatization process of ICBCA and withdrew from listing on the Stock Exchange of Hong Kong Ltd. As a result of the privatization, ICBC (Asia) now has better access to funding, greater flexibility in receiving ICBC assistance, and more effective business linkage and integration within the ICBC Group. It provides comprehensive banking and financial services, including corporate, retail, investment banking, insurance, funds, and securities. For extending the business in the global market, Worldsec Asset Management Limited was acquired by ICBCA and renamed ICBC Asset Management (Global) Company Limited (icbcasia, no date).

ICBCA is a typical traditional bank in Hong Kong with a low-risk appetite and hierarchy company culture. The number of employees grows to around 3,000 after completing several mergers and acquisitions in 20 years. According to the company’s scale, investment, and assets in Hong Kong, the bank is classified as a domestic systemically important bank (D-SIBs) in Hong Kong. Building a first-class, leading innovation and modern financial enterprise in Hong Kong is the company’s vision. By sticking to its business strategy of "Taking Root in Hong Kong, Connecting with Mainland China, Spanning Asia Pacific, Facing the World," ICBCA takes advantage of Hong Kong's advantageous position as an offshore Renminbi center and actively pursues Renminbi businesses, cross-border banking services, and global market businesses (icbcasia, no date).

3. Organizational Change

Organizational change has a major influence on the whole organization. It refers to steps the organization or business takes to modify an essential aspect of its operations, such as its technology, infrastructure, service offering, culture, or internal procedures. There are different reasons for organizational change, such as new company leadership, corporate restructure, deployment of new technology, new business models adoption, business and financial crisis, and identification of opportunities. In recent five years, technology has influenced the world. It affects not only the business models and operations but also human life and consumption behavior. So, it is pushing companies to make a change.

Change is always happening, and organizations should accept the change. In the biology theory “Red Queen Hypothesis”, organisms must constantly adapt to be competitive. If a species does not adapt, it will be at a disadvantage compared to other species. It is significant not just in biology but also in business. If a company does not regularly adopt and adapt to the external business environment, it will lose its competitive advantage (Barnett and Hansen, 2007).

ICBCA is one of the traditional banks in Hong Kong. The company’s technology and IT facilities are always behind the market because the management of IT allows too much complacency on current IT facilities and architectures, concerns the stability of new technology, and violates the regulation. Thus, the company was still using a traditional IT infrastructure and architecture to provide its bank services to customers. However, technology will be more critical for their business in this digital age. Key change drives (e.g., AI, Robotic, Big data, Machine learning, cognitive technology, etc.) affect how top management manages complex business environments. The company should analyze internal, external, and industry environments and develop the IT roadmap on the organization’s vision, business strategies, and objectives.

3.1 Stability in the Modern Business Environment

Digitalization has been very popular in recent ten years. The companies have converted their physical objects to digitized data and migrated business processes into digital platforms to enhance efficiency and deliver a better customer experience. Digital activities (e.g., internet access, data transmissions, usages, etc.) are more active in business environments. It also triggered technology growth to facilitate the correlation of these digital activities in their business models and enhanced the output. The new trends emphasized rapid response (e.g., Robotic), interactive, intelligence (e.g., machine learning), and automation (e.g., AI). All these characteristics rely on high computing resources and elastic scalability. The current IT infrastructure and architecture of ICBCA are not elastic scalability and comprehensive enough to fulfill the requirement for rapid technology change and support the company strategies.

By influenced by globalization, many factors are correlated and causation in the global market. For aligning the strategies of ICBCA to global market business, big data analytics is the essential technique for the company that operates and analyzes the global businesses. The data can be collected from different sources such as stock exchanges, trading platforms, news, forum, etc.) and the characteristics are high volume, high variety, and high velocity (Ohlhorst, 2012). A

comprehensive ecosystem (e.g., flexible data processing, cost-effective storage, etc.) is necessary to handle the huge volume of daily data (Taylor, 2020).

From a peer industry perspective, eight virtual banks have launched their businesses since March 2019. These new entrants have built up their businesses on the latest technologies and platforms (e.g., cloud platforms). The new entrants have already ahead of the traditional banks in terms of technology. The convenience of banking service is crucial for customer satisfaction, intention for using our banking services, and retaining the customer relationship (Shin, 2021).

The stability is not sustainable for business development and market position in the future after analyzing the internal, external, and industry factors for the current situation of ICBCA. The internal IT facilities cannot align with company strategies; the external business environment and customer behaviors are changed, and technology is behind the market; the challenges are from new entrants. All these factors are pushing ICBCA to conduct the changes. Otherwise, the company will lose competitiveness in the modern business environment.

3.2 Benefits of Organizational Change

The IT facilities and architecture cannot be sustainable for the development of ICBCA after analysis in the last section. The IT architecture transformation is proposed for ICBCA to change from traditional to cloud architecture. These changes fundamentally convert current IT to next-generation architecture and facilities. The characteristic of cloud computing includes cost-effectiveness, efficient resource utilization, rapid elasticity, and scalability (Rashid and Chaturvedi, 2019). ICBCA needs the capabilities to implement the new digitalization technologies (e.g., AI, big data, etc.). The AI, machine learning, and cognitive technology require high computing processing to learn and analyze the sample data and simulate the human behaviors for repeatability tasks (e.g., screening applications from customers, asking common inquiries online, etc.). The rapid elasticity provides necessary computing processing power to reduce the labor resources and make it more cost-effective to operate on traditional platforms. This resource on-demand capability is not easily fulfilled by traditional architecture. Even the company can purchase many resources in advance for readiness. However, it is not a cost-effectiveness approach if the part of the machine is operated in a standby role.

ICBCA is engaged in global market business, but globalization makes the world economy more complex. The powerful analytic techniques are necessary to analyze the trends of the global economy that are influenced by different factors. The cloud architecture enables the implementation of analytical techniques such as big data analytics because of the sheer amount of data storage, software services, and computing resources needed to support the efforts. The data storage and computing processing power are keys resource for this technique. Especially, there is huge of data will be generated per day. For example, the New York Stock Exchange generates about one terabyte of new trade data per day and 500 terabytes of social media data from Facebook (Taylor, 2020). The ultimate benefit is that top management utilizes intelligence while faster decision-making, modeling and predicting future outcomes, early identification of risk to the business, and customer contentment. The United Overseas Bank, JPMorgan, and Bank of America

have successful cases on big data analytics (DataFlair, no date). Finally, the technological capabilities make us stay competitive in the industry by providing innovative services for customers and going further ahead of the other banks.

3.3 Change Management Models

Well begun is half done for every project. For implementing change smoothly, planning and structuring the whole project is essential. The change management models are theories, guidelines, and frameworks that predict the issues in change and provide an analysis of the processes. The models offer a roadmap for initialing a change, ensuring the change is accepted, and navigating the change processes. The change team makes changes easier for implementing and tracking by following the steps of the model. Choosing the correct change management models is essential to the change project's success. The change efforts often change the internal processes of current business, organizational structure, roles and responsibilities, and technologies used in the company. However, the most important change management is always to overcome the human factor of organizational change (Martic, 2020). The models can provide a clear outline for the change management team to implement the change step by step and guidelines to address the predicted challenges in change processes. Two change management models are proposed for this IT architecture change for ICBCA. One is McKinsey 7-S Change Model, and the other is Kotter 8-Step Change Model.

3.3.1 McKinsey 7-S Change Model

This model was developed by McKinsey consultants Robert Waterman and Tom Peters in 1980 (Bhatti, 2011). This model is a tool used by organizations to analyze changes in the organization's internal status and recognizes 7 elements of the organization that should work together for effective change management. These 7 elements are divided into two categories: hard and soft elements.

Hard elements: Strategy, Structure, Systems

Soft elements: Style, Staff, Skills, Shared values

3.3.2 Kotter 8-Step Change Model

This model was developed by John P. Kotter and presented in his book “Leading Change” (Kotter, 2012). This approach focuses on building a change-friendly environment in the workplace, engaging and empowering employees, and executing and maintaining change. The change manager always chooses this model because it provides clear steps and outlines to follow even if the change manager is less experienced in change management. The change manager follows the detail in each stage to implement and keep track of the change project. It emphasizes generating the urgency to effect change. In eight phases, it leads you through 3 areas: initiating, managing, and sustaining change.



Source: <https://expertprogrammanagement.com/2021/02/kotters-8-step-change-model/>

3.3.3 Change Model for ICBCA

According to company background, organizational structure, scale, and culture against the two model's characteristics, Kotter's 8-Step Model is more fit and used for ICBCA's change project. Table-1 shows the comparison of the two models.

Table-1: Change models comparison

ICBCA's Internal Environment		Kotter's 8-Step Model	McKinsey 7-S Model	Benefit Model
Company Scale	Enterprise	Fit for Enterprise Company.	All company size	McKinsey 7-S Model
Company Culture	Hierarchy (Control)	It is a top-down model.	Different key parts of the company work together	Kotter's 8-Step Model
Leadership Style	Directive			
Change Scale	Organization Change	Most often for large-scale change.	Use for assessing the effects of future changes in the company.	Kotter's 8-Step Model
Company Structure	Bureaucracy	Clear outlines, fit for a traditional structure.	All company structure	Kotter's 8-Step Model
Staff behavioural	Willing to learn with detailed instructions	It provides the steps clearly to guide you through the change process.	Requires the company to do some research and benchmarking.	Kotter's 8-Step Model

ICBCA follows 8-Steps of John Kotter's model to outline the preparation for this change, and these steps could be grouped into 3 areas:

1. Create a situation for change

The capabilities of ICBCA are behind the market and their new entrants' competitors in terms of technology. ICBCA should enhance its technology and IT architecture to stay in the marketplace. Especially since it is an enterprise-scale company, the project may be implemented over a year due to different internal processes, workflow, and administration efforts. It is urgent, and the change should start now. Otherwise, the gap will be enormous with the competitor.

A strong team must have the essential skills and qualifications, initiate the change, and communicate with stakeholders. The members came from different departments of ICBCA and established a clear goal and worked to foster a culture of trust and commitment at all levels of the organization. The ICBCA is a typical hierarchical culture, so senior management should join the team, and team members share the understanding of the necessity for change with related colleagues and the team's mission. This change makes ICBCA stay the leader in innovation in the future and get reasonable customer satisfaction over the digital services.

2. Team engagement to effect change within the organization

The senior roles of the change team need to communicate with the other stakeholder what the ICBCA future looks like and win their hearts and minds to execute the change in the same direction. The change team needs to prepare and remove any barriers that include technical training for the cloud platform, a new IT structure, a reward system to motivate the team, identify the resistance to change, and remove it. The project will be divided into several phases and set a simple achievement to get quick wins in the initial phase. Early success is a terrific approach to getting your team excited and motivated.

3. Implement and institutionalize the change

Finally, implementation for cloud platform transformation and embedded this new architecture into business development.

3.4 Major Challenges of Change Management

Leading ICBCA through a successful change is not straightforward because human factors and non-human factors (e.g., technical issues, regulation, etc.) resist the changes. Especially the barriers are human that is the most uncertain, and the change team should be handling these barriers more carefully. Around 70 percent of change fail to achieve the goals due to human factors that are employee resistance and lack of executive support (Ewenstein, Smith, and Sologar, 2015).

Many executives are unaware of their position in change management, the resources needed, or the change's objective. Because of this misperception, internal communication, visibility, and openness are all skewed. Executive sponsorship also contributes to declining support after go-live, a general lack of buy-in for the change, and infrequent interaction (Prosci, no date).

The employees have a natural aversion to change when asked to change. Change causes anxiety because processes will be designed and performed in new ways. The employees cannot imagine the situation after the change, so they prefer to keep it unchanged rather than welcome the unknown status (Osuedu, no date). Moreover, some employees are more worried about self-interest instead of the company after implementing changes.

3.5 Recommendations for the Company

To overcome the significant challenges in a change project, communication is important to address resistance and inform executive management beforehand to know their position in the change project and what resources are needed. Moreover, executive management could participate in the change as the project owner. It increases the project's success in the bureaucracy's organizational structure and resolves the conflicts between departments. The employee's resistance is usually social change but not technical change. The change team could increase the involvement of employees and provide a complete picture of what this change will look like in the future. The executive management may make genuine efforts to address these employee attitudes positively. The efforts include highlighting new performance requirements for staff experts and pushing them

to think in new ways. Moreover, change management effectiveness should be defined before implementing the change and measuring the result. Each phase is completed on time, and the majority of employees are willing to change what is proposed for short-term measurement. The cloud structure is go-live, and digitalization platform readiness is proposed for long-term measurement.

4. Conclusion

Change is permanent and inevitable in the world. There is no exception in ICBCA. The executive management should have a sense of change before forming trends in society and catching up with the movement. Otherwise, ICBCA will lose the edge in the market. The change improves and renews the processes of the company. Moreover, it gives the employees opportunity to develop their potential and influence the work environment. Even though there have different challenges in each organization's change. Especially, ICBCA is a hierarchical company culture bureaucracy structure. Communicating between each layer is a major challenge in change management. However, management support and education could solve the conflict and resistance from employees. Change is the only way to keep going forward for ICBCA and keep the business surviving.

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