Comparing Dynamic Capabilities in Digital Banking: Economic Integration and Women in the East African Community

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Abstract. This study sought to identify the "comparing dynamic capabilities in digital banking institutions in developed and developing countries" through a Quantitative research approach. The population of the study comprised 101 participants who were the IT managers, innovation officers, compliance staff, and executives. They were selected through purposive sampling and Stratified Random Sampling techniques. Questionnaires and interviews were used to collect data. Data were analysed with the aid of the Statistical Package for Social Sciences (SPSS) version 25. The findings of the current study indicate a significant positive correlation with sustainable competitive advantage. Ambidexterity had the strongest correlation (r = .49), followed by UTAUT2 (r = .44), government regulation (r = .41), and digital transformation (r = .38). The strong inter correlations among UTAUT2, ambidexterity, and digital transformation highlight potential overlap in their influence. This means that digital banking in developed countries is more advanced than in developing countries. It is concluded that digital banking in developing countries, Tanzania, particularly, is not satisfied related to developed countries. It is recommended that there is a need to invest in digital technology, particularly for developing countries, to bridge the gap that exists between developed and developing countries.

Keywords: Digital Banking, Dynamic Capabilities, Institution

1. Introduction

The banking sector has experienced a significant transformation in the digital age, with institutions globally striving to adopt advanced digital capabilities to improve service delivery, operational efficiency, and customer engagement [21]. These capabilities, rooted in organisational agility, innovation, and adaptability. Digital banking has changed the global financial landscape over the past few years. Globally, banking institutions are leveraging digital platforms to provide more accessible, personalised, and efficient services. Currently, more people are using digital means of transaction since

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technology is developing quickly and customers' needs are changing. Hence, developed countries seem to lead the world. The growth of fintech, artificial intelligence, block chain, mobile banking applications, and open banking Application Programming Interfaces (APIs) has increased and changed the traditional banking model [19]. Dynamic capabilities are essential for this change. [2] illustrate that dynamic capabilities are a company's ability to build, integrate, and adjust external and internal competencies to adapt to quickly changing environments. These capabilities are necessary to keep a competitive advantage in the digital market.

Various dimensions of digital banking, such as user adoption models like the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) [3], technological aptitude, and digital innovation encourage innovation, such as being able to do two things at once and balancing exploration with exploitation [6]. According to the Organisation for Economic Co-operation and Development (OECD) in developed countries, digital banking is already widely used and supported by advanced infrastructure, digital literacy, strong regulatory systems, and willing customers [1]. Banks in these countries have embedded digital technologies and innovation for rapid and continuous transformation. Moreover, in the developed contexts, there is a strong positive correlation between digital transformation and sustainable competitive advantage. Awad and Martín-Rojas (2024) examine European banking institutions and observe that banks have fully digitised services from front-end channels to back-office infrastructure, realising long-term gains such as higher customer lifetime value, shorter product-innovation cycles, and heightened strategic agility [3].

In developing countries, the Global System for Mobile Communications Association (GSMA) revealed that less developed countries are lagging behind in digital banking compared to developed countries [9]. For instance, digital transformation and competitive advantage in African banking seem more incoherent and often bound to short-term performance improvements. Shanti et al in a multi-country study of banks in developed countries, reported that digital transformation improves transactional efficiency and customer reach, yet it does not always generate sustainable strategic outcomes [16].

In Africa, sub-Saharan Africa (SSA), digital transformation in banking has been irregular compared to developed countries. Although some countries have made significant progress, others remain far behind. Most financial institutions face limitations in digital transformation due to organisational inaction, weak capability development, and limited strategic agility [4]. This marked discrepancy exists between developed and developing nations in building and applying dynamic capabilities within digital banking. In countries like Kenya, mobile money services like M-Pesa have amplified financial inclusion; many banks still struggle in terms of dynamic capabilities to compete in a fast-changing digital landscape [3].

In Tanzania, the adoption of digital banking is increasing, supported by initiatives from the Bank of Tanzania (BOT), private banks, and mobile network operators. One of the greatest obstacles, as observed in the Tanzanian setting, is the absence of digital vision and leadership: in the absence of an executive-level buy-in to digital strategy as a strategic business driver, the digital transformation initiative will be either reactive or superficial, and thus be limited in its ability to deliver sustainable competitiveness.

Therefore, this study compared dynamic capabilities in digital banking institutions in developed and developing countries in Tanzania, particularly. Hence, the paper examined the relationship between UTAUT2 constructs and sustainable competitive advantage among digital banking institutions in developed and developing countries, as well as the relationship between organisational ambidexterity and sustainable competitive advantage among digital banking institutions in developed and developing countries.

2. Related Literature Review

This section presents a review of related literature and studies related to the topic.

2.1 The relationship between UTAUT2 constructs and sustainable competitive advantage among digital banking institutions in developed and developing countries

The Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) has been routinely employed to elucidate user intentions and behaviour in the adoption of digital technologies; nevertheless, its association with macro-level outcomes, notably sustainable competitive advantage (SCA), has received limited scholarly attention, particularly in banking institutions operating across divergent economic contexts.

In developed banking industries, empirical research studies have shown that the UTAUT2 constructs are indirect facilitators of SCA, as they affect both internal and external adoption of digital services. [10] examined mobile banking in Malaysia and demonstrated that performance expectancy and facilitating conditions functioned as powerful predictors of user acceptance, thereby encouraging greater digital service uptake, customer retention, and improved brand perception. These results support long-term differentiation and long-term competitive advantage

Dash et al.conducted a systematic review of technology adoption in financial services and concluded that banks that deliver user-centric digital experiences predicated on performance and effort expectations derive reputational and operational advantages that enhance long-term competitiveness. Despite UTAUT2 not measuring SCA directly, its constructs are revealed to affect customer loyalty, personalisation of the service, and brand strength, which are part of sustainable advantage [7].

Nguyen et al., analysing digital banking adoption in Vietnam, discovered that social influence plays a pivotal role in shaping customer trust and engagement, especially among early adopters. This trust is the key to supporting the digital transformation processes and achieving the returns of the investment in innovation. As a result, aligned with the internal strategy, UTAUT2 constructs may be used to form the larger structure of competitive advantage [13].

Alalwan et al, in an investigation of mobile banking in Jordan, relevant given its developing-market characteristics, found that effort expectancy was a more salient determinant than performance expectations. As customers find it easy to use banking digital platforms, there are increased levels of engagement, hence market penetration and strategic positioning by the banks [1].

Sengura et al., examining digital transformation strategies in East African banks, observed that institutions embedding UTAUT2-informed design principles into their platforms achieved superior user retention and service continuity, key pillars of SCA. [16] Nonetheless, the research also found that a variety of organisations in the developing context fail to systematically connect user adoption measures to strategic goals like market penetration or differentiation of operations. Consequently, the association between adoption behaviour and competitive outcomes tend to be indirect or unstructured. Awad and Martín further demonstrated, within African markets, that social influence and facilitating conditions are mediated by societal trust in financial institutions. In instances where such trust is lacking, even the best-performing platforms find it hard to achieve long-term user commitment, and thus they fail to generate a strong strategic influence [1].

UTAUT2 and SCA are still at an early stage of inquiry in Tanzania. Kweka et al, examined UTAUT2 factors among bank employees and clients and concluded that facilitating conditions—such as system availability, internet access, and training were the most significant drivers of adoption [12]. However, such conditions were not always convertible into long-term usage or loyalty as a result of technical variations and poor follow-up of customer service, constraining the long-run competitive advantage of the early adopter advantage.

Mwaijande and Lubawa noted that, in Tanzania, performance expectancy, the belief that digital systems enhance efficiency and outcome, was positively associated with internal adoption [17]. However, the authors emphasised that most organisations cannot sustain a competitive edge over their rivals unless they keep their system continually innovative and their customer-centred service design. They promote the alignment of technology adoption measures and overall performance objectives to achieve long-term returns.

To conclude, empirical evidence has shown that, in developed banking environments, UTAUT2 constructs have an indirect impact on SCA due to their influence on internal and external adoption of digital services; in developing environments, the constructs tend to have a direct effect on user retention and service continuity, which are the major pillars of SCA. Nevertheless, the complete positive effect is constrained in both environments unless adoption measures are combined with the strategic goals, like market expansion or operational differentiation.

2.2 The relationship between organisational ambidexterity and sustainable competitive advantage among digital banking institutions in developed and developing countries

Warner and Wäger ., researched qualitative examination in European banks involved in digital transformation in developed markets; the findings show that organisational

ambidexterity is linked to better performance of innovation and sustainable competitiveness [1]. The findings further indicated that institutions adept at balancing incremental refinement of traditional processes with the pursuit of radical digital innovation are more likely to sustain competitive differentiation. These banks invested in agile teams to experiment and, at the same time, strengthened their compliance and risk-management systems.

A global, multi-country survey by Farzaneh and colleagues further demonstrates that exploration initiatives, such as AI-enabled services and fintech collaborations, when combined with exploitation of established IT systems, yield superior digital product development and market resilience [9]. The study reveals that ambidexterity improves digital maturity and learning velocity, which are two crucial qualities of maintaining the edge in highly dynamic conditions.

Analogous results emerge from Bresciani et al., in their analysis of high-performing Italian banks, where ambidexterity enables continuous adaptation without sacrificing operational efficiency, a prerequisite for sustained performance. Ambidexterity enables flexibility of strategy, enabling firms to take a U-turn and still deliver a reliable service, which is very important in finance [18]. Less systematic adoption of organisational ambidexterity can be seen, however, in African case studies. Sengura et al examine commercial banks in East Africa and discover that few establishments maintain formal strategies to balance innovation with operational enhancement. Exceptions, mostly foreign-owned or regionally networked banks, perform better in the market, retain their customers and yield a higher output in innovation [12].

In a Zimbabwean context, Mushangai reports that limited resources often lead banks to prioritise exploitation, such as cost optimisation, with scant emphasis on structured exploration [19]. This leads to the short-term operational advantages and limited innovation capacity, and the capacity to be strategic. Unless banks in developing countries strategically invest in exploration, through pilot technologies and fintech connections, they will lose their competitive advantage.

Kweka et al., studying internal ambidexterity in several Tanzanian banks, show that systematic training for employees on legacy systems and emergent technologies is linked to improved customer experience and process agility [16]. Nonetheless, ambidextrous ability is still dependent on the strong leadership, sound resource utilisation, and organisational culture that is receptive to changes- all of which vary significantly among institutions.

2.3 Knowledge Gap

Overall, organisational ambidexterity is a conceptualised yet less operationalized concept in the African banking sector. The evidence highlights the fact that ambidexterity creates competitive advantage, but its systematic execution requires a careful strategy, effective leadership, and organisational support. However, there is little evidence of this in Tanzania, but a few pioneering commercial banks are building innovation centres and digital advisory teams and growing mobile banking networks. Such practices offer an elementary illustration of ambidextrous activities designed to extend

the scope of operations and service innovations; however, most banks fail to implement a comprehensive framework of ambidexterity, which leads to incoherent strategies and reduced repeatability of innovation. The study may contribute to rise the knowledge of increasing sustainable competitive digital banking in developing countries with satisfied glassy especial in Tanzania by looking Comparing dynamic capabilities in digital banking institutions in developed and developing countries.

3. Methodology

3.1 Research Approach

This study employed a quantitative approach to gather numerical information during the research process. Quantitative research produces objective data that can be communicated through statistics or numbers change[5]. Thus, researchers used a questionnaire. To attain greater knowledge and understanding of Digital Transformation and Sustainable Competitive Advantage in Digital Banking Institutions between developed and developing countries.

3.2 Research design

The study employed a cross-sectional research design. To examine the comparison of dynamic capabilities in digital banking institutions in developed and developing countries. Cross-sectional studies are observational studies that analyse data from a population at a single point in time. They are often used to measure the prevalence of well-being outcomes, understand determinants of strength, and describe the future of a population. The design helped a researcher to collect, analyse, interpret and report quantitative data when answering questions about the difference between developing and developed countries in terms of digital banking.

3.3 Sample size

A total of 81 out of 135 responses were used to provide the required data. The sample size was determined from the formula developed by [23].

$$n = \frac{N}{1 + N\,(e)^2}$$

Whereby 'n' is the sample size to be calculated; 'N' is the total population of the study, and 'e' is the level of precision or margin of error measured by a probability scale of 5%. Therefore, plugging data into the formula, the following is in order:

{Whereby n=? N=101; e=0.05}

$$n = \frac{135}{1 + 135\,(0.05)^2}$$

$$= \frac{135}{1 + 0.0025}$$

$$n = \frac{1135}{1.33}$$
$$n = 101$$

Therefore, the total sample size for this study involved 101 respondents whereby researcher considered developing country like Tanzania with 50 participants, Kenya 10 participants and Rwanda with 30 participants and developed country like Italy with 10 participants both males and females. Twenty females and thirty males from Tanzania, six males and four females from Kenya, twenty females and ten males from Rwanda as well as six females and four males from Italy were involved.

3.4 Sampling Techniques

The researcher used six months to collect data hence, purposive and stratified random sampling techniques were used to select an appropriate sample for the study, as explained in the following subsections.

3.4.1 Purposive sampling technique

A purposive sampling technique was used to select research participants from a selected area.

3.4.2 Stratified Random Sampling.

A stratified random sampling technique is also used to select research respondents. Stratified random sampling increases the likelihood of equal representativeness of the sample and ensures that all key characteristics of individuals in the population are represented [1].

3.5 Validity and Reliability

Validity and reliability increase transparency and decrease opportunities to insert researcher bias in qualitative research [17]. For all secondary data, a detailed assessment of reliability and validity involves an appraisal of the methods used to collect data [25]. The reliability of the scales was examined using Cronbach's alpha, with all constructs meeting acceptable thresholds ($\alpha \geq .70$). Descriptive statistics were generated to summarise responses, Pearson's correlation was employed to test associations among variables, and multiple regression analysis was used to assess the predictive power of the independent variables on sustainable competitive advantage. Collinearity statistics were also checked to ensure the validity of regression results.

3.6 Data Collection Methods and Instruments

Questionnaire survey and key informant interviews were used for data collection. In the current study, in-depth interviews were administered to IT managers and executives. Each interview took approximately 30 to 45 minutes and was conducted face-to-face. On the other hand, the researcher prepared quantitative information. A list of both

open and closed-ended questions were given to research respondents. The respondents (innovation officers and compliance staff) required to read and understand the question and then write down the answers. The questionnaire was organised into two main constructs: UTAUT2 (four items) were measured on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).and ambidexterity (two items) measured by the balance between exploration and exploitation activities.

3.7 Data analysis

Kothari defines data analysis as the computation of certain measures that make it possible to make comparisons and discern patterns of relationship existing among the data. Therefore, data analysis is simply the process of converting the gathered data into meaningful information [11]. In this study, the quantitative data collected from the questionnaires were analysed using descriptive statistics with the assistance of the Statistical Package for Social Sciences (SPSS) version 25. The Data was then presented in tables for easy interpretation.

4. Results

4.1 The relationship between UTAUT2 constructs and sustainable competitive advantage among digital banking institutions in developed and developing countries

The findings of the current study illustrate that respondents generally perceive digital banking capabilities, regulation, and competitive advantage positively; hence, digital banking in developed countries is advanced than in developing countries. The lowest variability (SD = .52) was observed in sustainable competitive advantage, indicating consistent perceptions across respondents. The data presented in the table below;

Table 1.

Descriptive Statistics for Study Variables (N= 101)

Variable	Min	Max	M	SD
UTAUT2	2.00	5.00	3.97	0.66
Ambidexterity	1.00	5.00	4.03	0.75
Digital Transformation	1.00	5.00	4.15	0.77
Government Regulation	1.25	5.00	3.92	0.79
Sustainable Competitive Advantage	2.75	5.00	3.89	0.52

As presented in Table 1, the mean scores for all variables were above 3.8 on a five-point scale, suggesting generally positive perceptions of digital banking capabilities and outcomes. Sustainable competitive advantage had the lowest variability (M = 3.89, SD = 0.52), indicating greater consistency in responses compared to other constructs.

4.2 Relationship between organisational ambidexterity and sustainable competitive advantage among digital banking institutions in developed and developing countries.

The findings of the current study indicate there was a significant positive correlation with sustainable competitive advantage. Ambidexterity had the strongest correlation (r = .49), followed by UTAUT2 (r = .44), government regulation (r = .41), and digital transformation (r = .38). The strong intercorrelations among UTAUT2, ambidexterity, and digital transformation highlight potential overlap in their influence. This means that digital banking in developed countries is highly developed than in developing countries. This information is presented in the table below;

Table 2.

Correlations Among Study Variables (N = 101)

Variable	1	2	3	4	5
1. UTAUT2	—				
2. Ambidexterity	.672**	—			
3. Digital Transformation	.545**	.743**	—		
4. Government Regulation	.267**	.348**	.318**	—	
5. Sustainable Competitive Advantage	.435**	.487**	.375**	.408**	—

Note. $p < .01$ (2-tailed).

Table 3.

Multiple Regression Predicting Sustainable Competitive Advantage (N = 101)

Predictor	B	SE B	β	t	p	VIF
Constant	1.90	0.32	—	6.00	.000	—
UTAUT2	0.14	0.09	.18	1.60	.114	1.84
Ambidexterity	0.20	0.10	.29	2.01	.047	2.94
Digital Transformation	-0.02	0.09	-.02	-0.19	.848	2.27
Government Regulation	0.18	0.06	.27	2.94	.004	1.15

Model Summary: $R = .565$, $R^2 = .320$, Adjusted $R^2 = .291$, $F(4, 96) = 11.27$, $p < .001$.

Interpretation:

The model explained 32% of the variance in sustainable competitive advantage. Ambidexterity ($\beta = .29$, $p = .047$) and government regulation ($\beta = .27$, $p = .004$) emerged as significant positive predictors. UTAUT2 and digital transformation, although positively correlated with SCA, were not significant predictors when considered alongside other variables. This suggests that organisational ambidexterity and supportive regulation are the strongest drivers of sustainable competitive advantage in digital banking.

4.3 Correlations

Table 2 shows that all predictors were significantly positively correlated with sustainable competitive advantage ($p < .01$). Ambidexterity had the strongest correlation with SCA ($r = .49$), followed by UTAUT2 ($r = .44$), government regulation ($r = .41$), and digital transformation ($r = .38$). Strong intercorrelations were also observed among UTAUT2, ambidexterity, and digital transformation, suggesting overlapping influences on competitive advantage.

Ambidexterity ($\beta = .29$, $p = .047$) and government regulation ($\beta = .27$, $p = .004$) were significant predictors of SCA, indicating that the ability to balance exploration and exploitation of digital resources and the presence of supportive regulatory frameworks are central to sustaining competitive advantage. UTAUT2 ($\beta = .18$, $p = .114$) and digital transformation ($\beta = –.02$, $p = .848$) were not statistically significant when considered alongside the other variables

5. Conclusion and recommendation

Digital banking is capabilities, regulation, and competitive advantage positively; hence, digital banking in developed countries is advanced than in developing countries. Moreover, it is concluded that organisational ambidexterity and supportive regulation are the strongest drivers of sustainable competitive advantage in digital banking. It is recommended that there is a need to invest in digital technology, particularly for developing countries, to bridge the gap that exists between developed and developing countries.

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