Effects of Dynamic Capabilities and Multichannel Integration Quality on Bank Performance: A Moderated Mediation Model Analysis

Negash Geleta Etana[1], Chalchissa Amentie Kero[2], Misganu Getahun[3]

Abstract

This study investigates the effects of dynamic capabilities and multichannel integration quality on the performance of banks. It explores the moderating role of environmental dynamism in the banking industry, using a moderated mediation model. Quantitative analyses were employed to examine data collected from multiple banks. Structural equation modeling was used to test the relationships between variables, while moderation and mediation effects were analyzed using SEM-AMOS. The findings reveal that dynamic capabilities and multichannel integration quality significantly enhance bank performance. Furthermore, environmental dynamism moderates the relationship between these variables, intensifying their effects on performance under high levels of dynamism. The results provide actionable insights for bank managers, emphasizing the importance of fostering dynamic capabilities and enhancing multichannel integration quality to sustain performance in rapidly changing environments. The findings highlight significant social benefits, as improved dynamic capabilities and critical information quality enhance bank performance, fostering economic stability, financial inclusion, and customer trust. By enabling resilience and innovation in dynamic environments, banks contribute to broader societal goals, including sustainable development and socio-economic growth.

Keywords: *Dynamic Capabilities, multichannel integration quality, Performance, Environmental Dynamism, Moderated Mediation Model*

---

[1]PhD Candidate at Wallaga University, Ethiopia: kenu2002@gmail.com ORCiD: https://orcid.org/000-0002-2493-7426
[2] Associate Professor, Ethiopian Civil Service University, Ethiopia. Email: chalchoko@gmail.com ORCiD: https://orcid.org/0000-0002-1453-2652
[3]Assistant.Professor, Wallaga University, Department of Management, Ethiopia. Email: biiftuuf@yahoo.com ORCiD: :https://orcid.org/0009-0001-1409-1324

Received: 07/12/2024

Accepted on: 25/ 01/2025

Doi: https://dx.doi.org/10.4314/ajebr.v4i1.3

1. Introduction

In any economy, the financial sector serves as a key vehicle with the banking system acting as a barometer and a pillar for development (Kaur, 2010). In Ethiopia, a sector like the Commercial Bank of Ethiopia (CBE) is playing a significant role, holding assets worth approximately Birr 1.3 trillion with 11,381 branches, showing rapid expansion (CBE, 2023). This development in bank service aligns with global trends where technological innovations, market dynamics, and competitive pressures have disrupted traditional banking service systems (Singh & Rao, 2017). Such changes highlight the need for banks to adopt strategic approaches to sustain and enhance performance in increasingly dynamic environments (Teece, 2018). In such conditions, Dynamic capabilities (DCs) are essential for banks to navigate rapidly evolving environments.

According to Teece et al., (1997), DCs represent a firm's ability to integrate, build, and reconfigure internal and external competencies in response to changing market conditions which are rooted in three core functions sensing, seizing, and reconfiguring(Schilke et al., 2018). Sensing involves identifying opportunities and threats in the external environment, such as technological advancements, customer needs, and competitive trends. Seizing entails mobilizing resources to capitalize on identified opportunities, which may include launching innovative products, investing in digital platforms, and improving customer service. Reconfiguration focuses on realigning resources and processes to maintain competitiveness, such as restructuring branch networks, implementing integrated systems, or upskilling employees for digital transformation (Teece, 2014).

Accordingly, DCs enable banks to extend, modify, or create operational capabilities (OCs), which are essential for organizational agility and adaptability (Kaur & Mehta, 2017). As complementary to DCs, MCIQ plays a key role in banks' OCs, referring to the coordination of physical and virtual to create synergies and enhance customer experiences (Cao & Li, 2018). In this case, MCIQ (Hossain, 2020) collectively improves service quality.

In the Capabilities–Service Quality–Performance framework (Sorkun et al., 2020) MCIQ represents the mediating role in the relationship between DCs and bank performance (BP). Studies suggest that DCs foster OCs like MCIQ, translating strategic adaptability into improved service delivery and performance outcomes (Fainshmidt et al., 2016). This relationship is conditional to ED which represents presents significant challenges for banks, characterized by rapid technological changes, evolving customer demands, and heightened competition. In such contexts, the interplay of DCs, MCIQ, and BP becomes critical. In such situations sensing capabilities allow banks to identify emerging trends and opportunities, ensuring responsiveness to shifting customer needs and market conditions. Seizing capabilities enable banks to mobilize resources and implement strategies that capitalize on these opportunities, such as developing innovative digital service platforms. Additionally, reconfiguration capabilities support the ongoing transformation of resources and processes, ensuring banks remain agile and competitive amidst environmental changes. For this case, this study examines the impact of DCs on BP, with MCIQ as a mediator and ED as a moderating factor. While prior research has explored the relationship between DCs and BP (Handoyo et al., 2023), the integration of MCIQ and the moderating effects of ED remain underexplored in the banking industry. The findings underscore the strategic importance of leveraging DCs to enhance MCIQ, which directly contributes to superior BP, particularly in dynamic environments. By addressing these gaps, the study provides valuable insights into how banks can strategically utilize sensing, seizing, and reconfiguring capabilities to optimize multichannel integration and overall performance in a rapidly evolving financial landscape.

Based on this, the study tested the following objectives.

1) To examine the mediating effects of MCIQ between DC and BP.
2) To examine the moderating effect of ED on the relationship between DC and BP.
3) To examine the moderating effects of ED on the relationship between DC and MCIQ.
4) To examine the moderating effects of ED on the relationship between MCIQ and BP.
5) To examine the mediating effects of MCIQ the moderated mediation model.

2. Theoretical Review

2.1. Dynamic Capability Theory (DCT)

The dynamic capability view, as introduced by Teece et al., (1997), extends the Resource-Based View (RBV) by focusing on a firm's ability to adapt its resources in response to rapidly changing environments. DC is defined as the ability to integrate, build, and reconfigure internal and external competencies to address dynamic conditions. It encompasses three dimensions sensing opportunities and threats (Liu & Song, 2023), seizing opportunities (Matysiak et al., 2018), and reconfiguring resources to sustain competitiveness (Jantunen et al., 2018). In highly dynamic environments, such as the banking industry, DC enables firms to innovate and transform by responding effectively to changing market demands and emerging opportunities(Warner et al., 2019; Shang et al., 2020).

MCIQ complements DC by ensuring consistent and seamless customer experiences across multiple interaction channels, such as physical branches, mobile banking, and online platforms. It focuses on integrating these channels to meet customer expectations and provide uniform service quality(Svahn et al., 2017). MCIQ aligns with the seizing and reconfiguration dimensions of DC, allowing firms to adapt their service delivery mechanisms to address environmental changes and enhance customer satisfaction.

A strong MCIQ is vital for banks in a dynamic environment, as it helps maintain customer loyalty and trust by offering cohesive and personalized experiences across channels (Shang, Chen, Li, et al., 2020). The integration of DC and MCIQ directly impacts BP, which is measured by metrics such as profitability, operational efficiency, customer retention, and market share. DC allows banks to sense market trends, seize emerging opportunities, and reconfigure their resources, while MCIQ ensures these actions translate into consistent and effective customer engagement.

This synergy is particularly relevant in digital transformation and channel integration, which have become central to competitive success in the banking sector(Warner & Wäger, 2019). Moreover, as environmental dynamism intensifies, the ability to leverage DC and MCIQ enhances BP by fostering innovation, optimizing resource allocation, and maintaining strategic agility (Liu & Song, 2023; Schilke et al., 2018). By aligning operational capabilities with dynamic capabilities, banks can achieve resilience and sustained growth in an ever-changing market landscape(Teece, 2018).

2.2. Multichannel Integration Model

To ensure service quality, banks initially relied on separate physical and virtual channels to meet customer needs (Parasuraman et al., 2005). Over time, the concept of integrated channels emerged, combining physical and virtual interactions to create a unified service experience (Banerjee, 2014). This evolution emphasized the importance of multichannel strategies that ensure a consistent customer experience across all touch points. Research demonstrates that multichannel integration improves service outcomes (Lee et al., 2019), enhances customer satisfaction (Li et al., 2018), and boosts customer engagement(Zhu & Jin, 2023).

Recently, researchers and practitioners have increasingly focused on achieving harmonious service quality across multiple channels (Shi et al., 2020), further emphasizing the role of multichannel integration quality (MCIQ) in creating seamless customer experiences (Lee et al., 2019). In the context of digital transformation, MCIQ has become even more critical. Digital transformation represents the organizational change driven by the adoption of digital technologies, aiming to integrate these technologies with existing resources to enhance sustainable development (Hanelt et al., 2021). For commercial banks operating in dynamic environments, MCIQ enables rapid responses to the financial needs of enterprises and customers through digital financial services (Hossain et al., 2020). The role of Dynamic Capabilities (DC) is particularly vital in this process, as they facilitate sensing opportunities, integrating resources, and transforming operations to align with changing conditions (Teece, 2014). By leveraging DCs, banks can achieve flexibility, innovation, and sustainable growth, which are essential for successful digital transformation (Niemand et al., 2021; Yu & Moon, 2021).

Therefore, aligning DCs with strategic orientations like MCIQ is crucial for achieving competitiveness in a dynamic environment (Fainshmidt et al., 2016). This alignment underscores the increasing importance of organizational capabilities in adapting resources and strategies to evolving market conditions, ensuring banks can effectively meet customer demands while sustaining long-term growth and innovation.

2.3. Empirical Review, Hypothesis, and Conceptual Framework

2.3.1. Dynamic Capability and Bank Performance

Dynamic capabilities (DCs) are essential drivers of firm performance such as banks, enabling them to sense and seize opportunities and reconfigure resources to respond to market shifts. Through sensing capabilities, firms identify emerging trends and risks, helping them proactively address opportunities and threats (Teece et al., 1997). Seizing capabilities involves the effective mobilizing of resources to capitalize on these opportunities, such as introducing new products or adopting innovative technologies (Eisenhardt & Martin, 2000).

Reconfiguration allows firms to adapt their structures and processes to align with changing market demands, maintaining competitive advantage (Helfat & Peteraf, 2009). Even though, the relationship between DCs and performance is not always direct (Barreto, 2010), emphasized that the impact of DCs on firm performance is often mediated by operational capabilities (OCs), which enable firms to execute their strategies effectively. In this case, operational capability such as multichannel integration is critical for delivering a seamless customer experience across multiple touchpoints (Li et al., 2018). DCs help to enhance MCIQ by improving the integration of digital and traditional channels, which in turn increases customer satisfaction, loyalty, and retention—key drivers of financial success(Frasquet et al., 2019). By sensing customer preferences, seizing new opportunities, and reconfiguring resources, firms improve their MCIQ and adapt to customer needs, technological changes, and competitive pressures (Teece, 2014).

Hypothesis 1: Dynamic Capabilities have a significant effect on bank performance.

2.3.2. Dynamic Capability and Multichannel Integration Quality

Dynamic capabilities (DCs) significantly influence a bank’s multichannel integration quality (MCIQ) by enhancing operational capabilities, which are essential for managing and integrating daily service activities across multiple channels. In this context, MCIQ is viewed as a lower-order capability, reflecting the bank's ability to execute seamless multichannel operations. DCs, seen as higher-order capabilities, help to extend, modify, and create these operational capabilities by leveraging resources to adapt to changing market conditions (Teece, 2014). Specifically, DCs consist of sensing, seizing, and reconfiguration capabilities, each of which contributes to improving MCIQ. Through these three interconnected dynamic capabilities, banks can enhance their MCIQ by effectively coordinating and integrating digital and traditional service channels, thereby improving customer satisfaction and competitive performance(Matarazzo et al., 2021; Morgan et al., 2018)). Thus, DCs—through sensing, seizing, and reconfiguration functions—play a crucial role in driving successful multichannel integration, positioning banks to respond to changing market demands, and sustaining long-term performance.

Hypothesis 2: Dynamic capabilities have a significant impact on service MCIQ.

2.3.3. Multichannel Integration Quality and Bank Performance

Multichannel integration quality (MCIQ) significantly affects both the market and financial performance of banks. Multichannel integration quality enhances customer experiences by ensuring seamless interaction across channels, which, in turn, influences a variety of market performance outcomes such as perceived value, purchase intentions, customer equity, and overall satisfaction(Chang, 2016; Hammerschmidt et al., 2016). Specifically, effective MCIQ drives customer loyalty and trust, which are crucial for banks looking to maintain a competitive edge (Schramm-Klein et al., 2011). Moreover, MCIQ fosters flexibility in consumer choices, facilitating cross-buying intentions and increasing customer value through more diversified purchases (Cao & Li, 2018). For financial performance (FP), MCIQ's impact extends to profitability, sales growth, and customer satisfaction, all of which contribute to a bank's financial success (Buallay, 2019; Wang et al., 2015). By ensuring consistency and availability across channels, MCIQ helps banks improve their operational efficiency, ultimately leading to better financial outcomes (Li et al., 2018). Furthermore, the integration of marketing channels through MCIQ provides synergies that enhance the effectiveness of each channel, driving both customer satisfaction and financial performance (Frasquet et al., 2019; Gao et al., 2020).

Hypothesis 3: Service MCIQ has a significant impact on banks' performance.

2.3.4. Mediating Role of Multichannel Integration Quality

In the context of dynamic capabilities (DCs) and bank performance (BP), multichannel integration quality (MCIQ) serves as a key mediator in how DCs influence performance. According to the Capabilities–Service

Quality–Performance framework (Sorkun et al., 2020), DCs enable firms to sense, seize, and reconfigure resources to adapt to environmental changes. As Teece (2014) and Schilke (2014) suggest, DCs are higher-order capabilities that enhance lower-order operational capabilities, such as MCIQ, by reconfiguring operational routines to better align with market dynamics. DCs, such as sensing market intelligence, seizing opportunities, integrating knowledge, and coordinating resources, are crucial in developing MCIQ, which impacts performance (Helfat & Peteraf, 2009; Eisenhardt & Martin, 2000). By enhancing MCIQ, firms can create seamless and consistent customer experiences across various channels, which is critical for improving performance in competitive environments (Goraya et al., 2020; Li et al., 2018). In this way, MCIQ mediates the relationship between DCs and BP by ensuring that the capabilities enable firms to effectively integrate across channels, leading to improved customer satisfaction and performance. Therefore, the quality of multichannel integration, which depends on firms' DCs, acts as a conduit through which DCs influence bank performance. DCs influence firm performance and enable a deeper understanding of how firms adapt to dynamic environments (Rotjanakorn et al., 2020).

Hypothesis 4: MCIQ mediates the relationship between banks' dynamic capability and performance.

2.3.5. Moderating Effects of Environmental Dynamisms (ED)

Environmental dynamism (ED) plays a significant moderating role in the relationships between dynamic capabilities (DCs) and bank performance, DCs and multichannel integration quality (MCIQ), and MCIQ and bank performance by influencing how well banks can adapt their strategies to changing market conditions.

Moderating the relationship between DCs and BP: ED, driven by competition, technological advancements, and market shifts, creates external uncertainty that pushes banks to deploy DCs to sense, seize, and reconfigure resources (Akhtar et al., 2020; Paez et al., 2022). Strong DCs enable banks to adapt, thereby enhancing performance (Protogerou et al., 2012). However, when ED is high, factors such as organizational rigidity, path dependence, and inertia can hinder adaptation, weakening the positive impact of DCs on performance (Pavlou et al., 2006; Schreyögg & Sydow, 2011). Thus, ED moderates this relationship by either strengthening the role of DCs when firms can adapt or weakening it when internal barriers impede responsiveness (Teece, 2017; Li and Liu, 2014).

Hypothesis 5: Environmental dynamism moderates the relationship between DC and BP.

Moderating the relationship between DCs and MCIQ: ED also affects how well DCs enhance multichannel integration quality (MCIQ). In dynamic environments, shifts in customer preferences, technological changes, and competitive pressures challenge firms to maintain consistent multichannel strategies (Teece, 2017; Li et al., 2018). DCs help firms sense these changes and reconfigure resources to adapt their multichannel approaches (Paez et al., 2022). However, when ED is high, firms with weak DCs may struggle to maintain high-quality integration across channels, diminishing the positive relationship between DCs and MCIQ (Schilke, 2014; Pavlou et al., 2006). On the other hand, firms with strong DCs are better positioned to leverage ED to enhance MCIQ(Protogerou et al., 2012), with ED moderating the extent to which DCs improve MCIQ.

Hypothesis 6: Environmental dynamism moderates the relationship between, DC and MCIQ.

Moderating the relationship between MCIQ and BP: Finally, ED moderates the link between MCIQ and BP. Multichannel integration (MC) enables banks to connect traditional and online channels, ensuring a consistent flow of information and improving customer experience (Goraya et al., 2020; Li et al., 2018). In dynamic environments, the ability to leverage DCs to reconfigure resources and adapt to environmental shifts is crucial for maintaining high-quality MCIQ (Frasquet et al., 2018). However, excessive ED can introduce challenges such as organizational inertia and rigidity, undermining the effectiveness of MCIQ in driving performance (Pavlou et al., 2020; Schreyögg & Sydow, 2021). Thus, ED moderates the relationship between MCIQ and BP, increasing its impact when banks effectively adapt to market changes, but diminishing it when internal factors prevent effective adaptation (Fainshmidt et al., 2021; Schilke, 2024). Overall, ED serves as a critical moderating factor across all these relationships, determining whether the firm can harness the potential of its DCs and multichannel integration to enhance performance.

Hypothesis 7: Environmental dynamism moderates the relationship between MCIQ and BP.

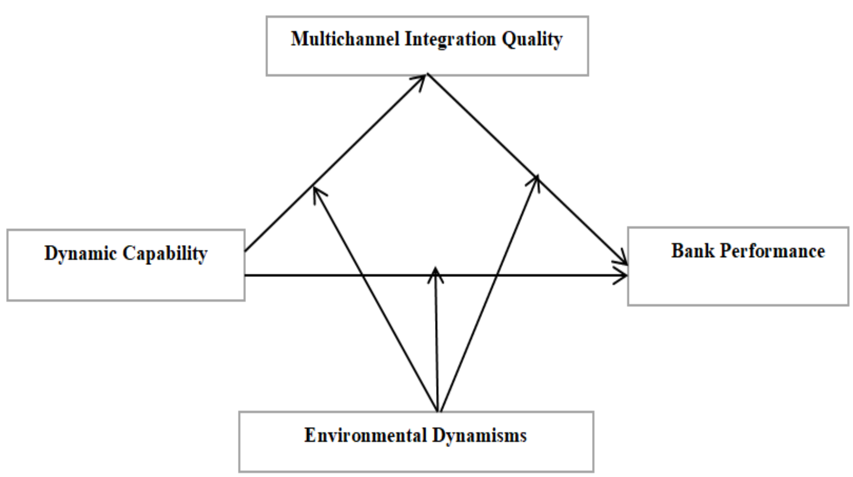


Figure 1: Conceptual Framework (Hayes Model 59)

3. Study Method

3.1. Study Area

The study was conducted in Ethiopia in the case of the Commercial Bank of Ethiopia (CBE) relating to its capabilities, service multichannel integration, and performance in a changing environment. Ethiopia, located in East Africa, and has about 132 million populations (Worldometer, 2024). The area of the country is 1,104,300 km², and her economy is based on service, industry, and agriculture. For this economy, the Ethiopian economy CBE played a key role with total assets of about Birr 1.3 trillion. CBE was established in 1942 and now pioneered with ATM services supporting socio-economic development. The country's economy grew by 7.2% during the 2022/23 fiscal year. Sector-wise, outputs of the agriculture, industry, and service sectors rose by 6.3%, 6.9%, and 8%, respectively (MoPD, 2023). Further, CBE has about 1,937 branches (CBE, 2023).

3.2. Study Design, Population, and Sampling

The study employed an explanatory research design and examined cause-effect relationships between DC, multichannel integration, and bank performance in the dynamism environments. The unit of analysis was the Commercial Bank of Ethiopia (CBE), the southwest region of Ambo District which contains 65 branches and 1,282 permanent employees. In this case, the sample size was determined using a finite population formula (Dhakar & Mattheiss, 1989) and corrected as follows.

$$n = \frac{(Z)^2\, p*q*N}{e^2(N-1)+Z^2*p*q} \qquad n = \frac{(1.96)^2\, 0.5*0.5*1282}{0.05^2(1282-1)+1.96^2*0.5*0.5} = \frac{1,231.2328}{4.1629} = 295.763 \cong 296 \text{ employees}$$

In this formula, "p" represents sample proportion (with p= 0.5, q=1−p) ensuring the maximum sample size for desired precision. The standard “z” links to the confidence level, “n” indicates the sample size, “N” is the total population, and “e” is the error. In this case, the finite population correction (FPC) is employed. In this view, if the result of n/N is greater than 5% (i.e. c=n/N>5%), FPC must be adjusted to the final sample size(Dhakar & Mattheiss, 1989). Accordingly, the ratio of n/N (c=296/1282) is 0.23, which is greater than 5%. Then the nf(final sample size) was corrected as n/(1+c) = (296/1.23) =240.65 ≅ 241 employees. In this case c=n/N. However, sometimes model/software may limit the amount sample size used for analysis. In this view, some researchers suggest that the sample size for SEM should be between 200-500 (Civelek, 2018). So in both cases, the sample size satisfied the criteria. For sample selection, the study utilized various sampling techniques. First, from the three regions (North, central, and southwest), the southwest was selected with Ambo districts (from 31 districts) based on cluster sampling. Ambo District was chosen since it has large branches about 65 branches. From these 20 branches were selected using convenience sampling and finally, simple random sampling was employed to select respondents which ensured equal chances.

3.3. Measures and Data Collection

The study used four main constructs with their sub-dimensions and the constructs were considered multidimensional (Wright et al., 2012). In this case, DC's sub-dimensions were sensing, seizing, and reconfiguration capabilities. Further MCIQ was measured using channel service configuration, channel content consistency, channel process consistency & assurance quality. Likewise, the sub-dimensions of ED were market, competition, and technological dynamism. Finally, the sub-dimensions of BP were financial & market performances see Table 1. For data collection, the study employed a structured questionnaire with a five-point Likert scale which was collected using self-administered because this method is cost-effective, easy to manage large groups, and appropriate for sensitive topics. Before collecting data, the participants were informed of the purpose of the study based on the respondent's consent. In this case, two hundred forty-one (241) questionnaires were distributed. However, due to missing and inappropriate, 6 questions were excluded. Finally, the study used 235 questions for analysis yielding a 95.5% response rate which is acceptable and preferable.

Table 1: Measures

Main variables	Sub-dimensions	Items	Scale= Likert	Sources
Dynamic Capability (DC=DV)	sc	five	1 to 5	(Cataltepe et al., 2023; Danneels, 2015; Janssen et al., 2016; Shafia et al., 2016)
	szc	five	1 to 5	
	rc	five	1 to 5	
Multichannel Integration Quality (MCIQ =Mediator)	csc	five	1 to 5	(Hossain et al., 2019; Shen et al., 2018; Sousa & Voss, 2006)
	ccc	five	1 to 5	
	cpc	five	1 to 5	
	aq	five	1 to 5	
Bank Performance (BP =Dependent Variable)	fp	five	1 to 5	(Hooley et al., 2005; Pezeshkan et al., 2015)
	mp	five	1 to 5	
Environmental Dynamism (ED =Moderator)	md	five	1 to 5	Wilden et al., 2013; Jaworski and Kohli, 1993; Miller and Friesen, 1983.
	td	five	1 to 5	
	cd	five	1 to 5	

3.4. Data Analysis

First, the study conducted a descriptive analysis. Next, it employed structural equation modeling (SEM) using AMOS V.23 which consists of a measurement and structural model. In the measurement model items and related sub-dimensions were assessed using confirmatory factor analysis (CFA) and then the structural model examined the relationships among latent variables such as DCs, MCIQ, ED, and BP in detail to see the effects in both models; first mediation and then moderated mediation model.

3.4.1. Descriptive Analysis

The descriptive analysis was performed for both main variables and their subdomains, presenting means and standard deviations for each variable see Table 3.

3.4.2. Measurement Model Analysis

The measurement model examines how measured variables (items/observed) come together to represent constructs. Under this model reliability and validity (convergent and discriminant validity) were confirmed using confirmatory factor analysis (CFA). Reliability (internal consistency) is measured based on Cronbach's Alpha (α) criteria which is above 0.7 indicating reliable scales. Convergent validity indicates how indicators of the same construct share variance and are positively correlated in this case, for factor loading and composite/construct reliability (CR) > 0.7, for average variance extracted (AVE) > 0.50 were checked using AMOS master validity(Dolce & Lauro, 2015). AVE implies the squared standardized factor loadings (AVE= R^2). Discriminant validity implies how two constructs are theoretically similar and distinct from one another empirically. This concept is valid if the square root of AVE for a construct is greater than its correlation with another construct (Fornell & Larcker, 1981). In this study, this criterion was assessed using AMOS master validity.

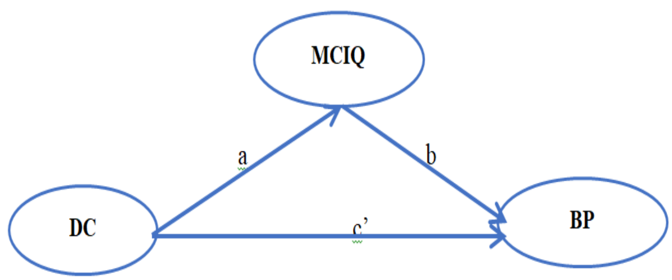
3.4.3. Structural Model Analysis

Mediation Model Analysis: In this analysis, both the direct and indirect effect was tested. In Figure 3, DC represents independent variables that influence bank performance (BP), while MCIQ is a mediator that can mediate the relationship between DC and BP. The mediation model can test both the Sobel Test (1982) product coefficient and bootstrapping methods.

The Sobel test: This method calculates the indirect effect by multiplying the coefficients of the two paths (a*b). In this case, $M=a_0+a_1X+e_1$ where: M is the mediator (MCIQ), X is dynamic capability (DC), a_0 is the intercept, a_1 is the coefficient for the effect of X on M, and e_1 is the error term. While $Y=b_0+b_1m+c'x+e_2$, where Y represents BP, M is MCIQ, X is dc, b_0 is the intercept, $b_1$is the coefficient for the effect of M on Y, c′ is the direct effect of X on Y, and e_2 is the error term. The indirect effect of X on Y through M is calculated as a1*b1, while the total effect of X on Y is expressed as $c=c'+ (a_1 \times b_1)$. The Sobel test method assumes the normality assumption of the regression which is not supported by SEM.

Bootstrapping Method: This method is used to estimate effects without the assumption of normality, providing robust inference and confidence intervals for indirect effects. So in the case of this study, the bootstrapping method was employed to overcome the assumption of linear regression. Further, the model fit was tested using fit indices AMOS plugin extension (Dolce & Lauro, 2015). In this view chi-square p-value > 0.05, CMIN/df ratio < 3, goodness-of-fit index (GFI), standardized root mean square residual (SRMR) < 0.05, and root mean square error of approximation (RMSEA) < 0.08, Tucker-Lewis index (TLI) and Normed Fit Index (NFI) > 0.90, and Comparative Fit Index (CFI) > 0.95 were used.

Figure 2: Mediation Model



Notice: DC=Dynamic Capability, MCIQ=Multichannel Integration Quality, BP=Bank Performance

3.3.3.4. Moderated Mediation Model Analysis

This model also called the conditional/interaction model which combines both the mediation and moderation model (Hayes & Preacher, 2013). As depicted in Figure 4, three interaction or moderation points are identified: DC with BP, DC with MCIQ, and MCIQ with BP. The moderation effects were tested by centering DC, MCIQ, and ED to reduce multicollinearity, and then creating interaction terms by multiplying the centered variables (standardized). Then the regression analysis was conducted using AMOS including the interaction term as one variable (dc*ed and mciq*ed). In this case, the significance of the interaction indicates the presence of moderation. Such a model is more compatible with structural equation methods (Hayes & Preacher, 2013). In this study, Hayes moderated mediation Model 59 was used to test the moderation effects. Accordingly, the following equation is proposed in this study; where: y=bp, x=dc, m=mciq, and w=ed, b_0 and a_0 are constant, b_1,b_2,a_1,a_2,a_3 c_1’,c_2’,and c_3’ are coefficients, e= error).

$y=b_0+b_1m+b_2mw+c_1'x+c_2'w+c_3'xw+e;$

$m=a_0+a_1x+a_2w+a_3xw+e.$

Substitute “m” into y: $y=b_0+b_1\ (a_0+a_1x+a_2w+a_3xw)+b_2(a_0+a_1x+a_2w+a_3xw)w+c_1'x+c_2'w+c_3'xw.$

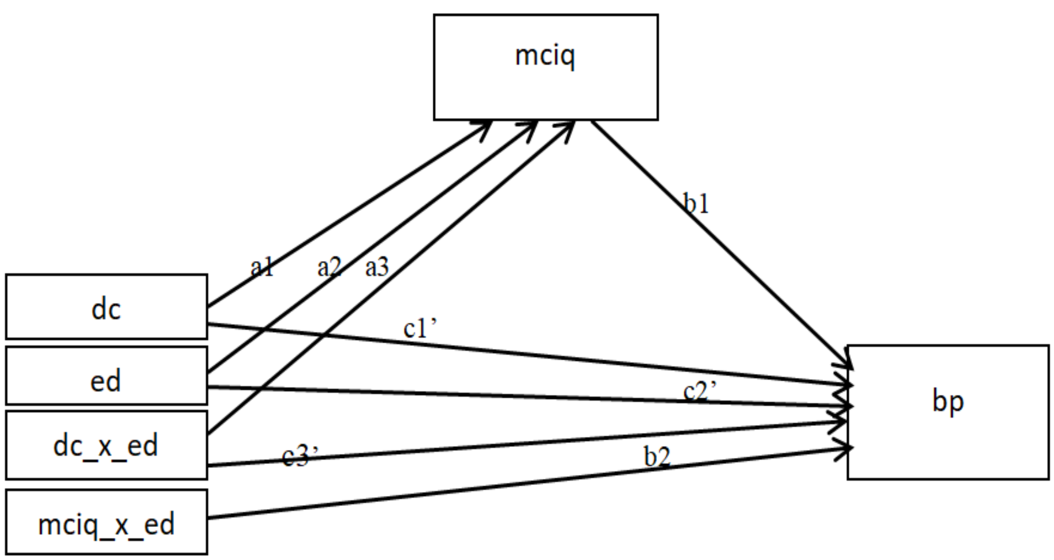
$y=b_0+a_0b_1+a_1b_1x+a_2b_1w+a_3b_1xw+a_0b_2w+a_1b_2xw+a_2b_2w_2+a_3b_2xw_2+c1'x+c2'w+c3'xw$

Group in the form of y=a+bx: $y=(b_0+a_0b_1+a_2b_1w + a_0b_2w\ a_2b_2ww + c_2'w) +$

$(a_1b_1+a_3b_1w+a_1b_2w+a_3b_2ww+ c_1'+c_3'w)\ x.$

From these equations, the indirect effect of X on Y, through M conditional on W is equal to $(a_1+a_3)\ (b_1+b_2)$ $=a_1b_1+ a_1b_2+ a_3b_1 +a_3b_2.$ The direct effect of X on Y, conditional on W is $c_1'+c_3'$. Notice, in mediation the indirect effect is the product of a*b. In this case “a” implies the effect of X on M and “b” the effects of M on Y. But in the case of moderation, the effect of X on M is a_1+a_3 and the effect of M on Y in moderation is b_1+b_2. However, the direct effect of X on Y moderated by W is c′1+c′3. Accordingly, Figure 4 displays the results obtained using AMOS output.

Figure 3: Moderated Mediation Model



4. Results and Discussion

4.1 Results

4.1.1 Respondents Profile

Table 2: Respondents Profile

Profile	Category	Frequency	Percent
Gender	Male	221	94.0
	Female	14	6.0
	Total	235	100.0
Age	20-25	10	4.3
	26-30	93	39.6
	Above 31	132	56.2
	Total	235	100.0
Education	Diploma	8	3.4
	BA degree	116	49.4
	MA/MBA and above	111	47.2
	Total	235	100.0
Qualification	Accounting and Finance	91	38.7
	Economics	60	25.5
	Bank managers	28	11.9
	Marketing	33	14.0
	Others	23	9.8
	Total	235	100.0
Experience	1-5	57	24.3
	6-10	83	35.3
	11-15	62	26.4
	Above 16	33	14.0
	Total	235	100.0

In Table 2 the profile of 235 respondents were presented. Accordingly, most of them were male (94.0%, or 221) and aged over 31 years (56.2%). Nearly half held a bachelor's degree (49.4%, or 116), while 47.2% (111) had a master's degree or higher. The most common field of study was accounting and Finance (38.7%, or 91). But the experience levels varied, with 35.3% having 6-10 years, 26.4% with 11-15 years, 24.3% with 1-5 years, and 14.0% having over 16 years of experience.

4.1.2. Descriptive Analysis

Table 3: Description Analysis

Main variables	Mean	Std. Deviation	Sub-dimensions	Mean	Std. Deviation
BP	2.9901	.45334	mp	3.4958	.71092
			fp	3.5264	.65522
ED	3.3844	.70012	td	3.3573	.83238
			cd	3.5426	.79794
			md	3.4594	.79269
MCIQ	2.3915	.32376	aq	3.5043	.62076
			cpc	3.4016	.62447
			ccc	3.6602	.64074

			csc	3.7198	.63133
DC	3.2121	.63622	rc	3.6503	.85304
			szc	3.6775	.85509
			sc	3.6517	.88500

In Table 3 descriptive analysis was presented for all main and sub-dimensions using mean and SD. Accordingly, BP has a mean score of 2.99 while ED scored higher at 3.3844, suggesting that banks perceive the environment dynamic. Next MCIQ has a mean score of 2.3915, emphasizing the need for improvement in integrating various customer interaction channels. DC also reflects a moderate ability to adapt, with a mean score of 3.2121. In terms of sub-dimensions, for mp, the mean score was 3.4958 and for fp, the mean was 3.5264. Further ED sub-dimensions td (m =3.3573,), cd (m=3.5426), and md (m=3.4594) indicate strong alertness to market changes. For MCIQ, aq (m=3.50) and ccc (m=3.66) are strong, while cpc (m=3.40) and csc (m=3.72) suggest areas for improvement. Finally, DC sub-dimensions show strong means, with rc at 3.6503 szc at 3.6775, and sc at 3.6517 emphasizing the banks' ability to adapt to changing conditions. This descriptive result shows moderate performance, needing strategic improvement adapting to a volatile market, and challenges in MCIQ opportunities which result in strong performance in mp and fp in the banking sector.

4.1.3. Measurement Model Analysis

Table 4: Reliability and Factor Loading Analysis

Main Variables	Loading : Main Variables on the Sub-dimensions	Sub-dimensions	Loading: Sub-dimensions on Items	Items	Reliability
Dynamic Capability(DC)	.895	--> sc	.991	--> sc5	.992
			.978	--> sc4	
			.961	--> sc3	
			.988	--> sc2	
			.982	--> sc1	
	.809	-->szc	.976	--> czc5	.994
			.968	--> czc4	
			.992	--> czc3	
			.995	--> czc2	
			.990	--> szc1	
	.792	-->rc	.996	--> rc5	.961
			.988	--> rc4	
			.997	--> rc3	
			.990	--> rc2	
			.998	--> rc1	
Multichannel Integration Quality MCIQ	.780	-->csc	.991	--> csc5	.993
			.998	--> csc4	
			.956	--> csc3	
			.990	--> csc2	
			.971	--> csc1	

	.818	-->cc	.954	--> cc5	.978
			.958	--> cc4	
			.942	--> cc3	
			.948	--> cc2	
			.936	--> cc1	
	.647	-->pc	.953	--> pc5	.991
			.963	--> pc4	
			.986	--> pc3	
			.995	--> pc2	
			.995	--> pc1	
	.570	-->aq	.964	--> aq5	.989
			.933	--> aq4	
			.993	--> aq3	
			.992	--> aq2	
			.980	--> aq1	
Environmental Dynamisms(ED)	.889	-->md	.978	--> md5	.992
			.981	--> md4	
			.969	--> md3	
			.994	--> md2	
			.985	--> md1	
	.902	-->cd	.976	--> cd5	.984
			.962	--> cd4	
			.968	--> cd3	
			.951	--> cd2	
			.955	--> cd1	
	.874	-->td	.980	--> td5	.990
			.981	--> td4	
			.975	--> td3	
			.965	--> td2	
			.978	--> td1	
Bank Performance (BP)	.797	-->fp	.981	--> fp5	.996
			.995	--> fp4	
			.990	--> fp3	
			.897	--> fp2	
			.980	--> fp1	
	.727	-->nfp	.959	--> nfp5	.982
			.973	--> nfp4	
			.951	--> nfp3	
			.971	--> nfp2	
			.940	--> nfp1	

In Table 4 the results of factor loading and reliability tests were presented for main and sub-dimensions of the variables. Accordingly, the analysis of the main variables indicates strong relationships with their respective sub-dimensions, each indicating significant loadings. Hence dynamic capability has a loading of 0.895, suggesting a strong impact on its sub-dimensions, which include sc, szc, and rc, with respective loadings of 0.809, 0.792, and 0.792.

This signifies that DC is well represented using these sub-dimensions. Next multichannel integration quality also shows a loading of 0.780, highlighting its importance in the model. The sub-dimensions under MCIQ, namely csc, cc, pc, and aq, exhibit varying loadings: csc at 0.818, cc at 0.647, PC at 0.570, and AQ at 0.570. The range of loadings indicates that while csc has a significant contribution, the other sub-dimensions also play their roles, although with less impact compared to csc. Further bank performance has a loading of 0.797, reflecting its relevance in assessing the effectiveness of banking operations.

Its sub-dimensions, fp, and mp, show loadings of 0.727 and 0.727, respectively, indicating meaningful contributions to the overall construct of bank performance. Generally, these loadings reinforce the relationships between the main variables and their sub-dimensions, confirming the reliability of the measurement model and its capacity to effectively capture the underlying constructs.

Table 5: Main Variables Validity Analysis

	Convergent Validity		**Discriminant Validity**			
Measures	CR	AVE	DC	MCIQ	ED	BP
DC	0.872	0.694	**0.833**			
MCIQ	0.800	0.505	0.389***	**0.711**		
ED	0.919	0.790	0.201**	0.349***	**0.889**	
BP	0.735	0.582	0.395***	0.395***	0.283**	**0.763**

In Table 5 convergent and discriminant validity results were displayed. The composite reliability (CR) values DC (0.872), MCIQ (0.799), and BP (0.739) are well above the threshold of 0.7, confirming good internal consistency and reliability for each construct. The average variance extracted (AVE) values further support this, as all variables meet or exceed the minimum threshold of 0.50, demonstrating adequate convergent validity. Specifically, ED has an AVE of 0.790, which is excellent, while MCIQ and BP have AVE values of 0.505 and 0.582, respectively, indicating acceptable levels of shared variance among their indicators. Moreover, the discriminant validity of the variables is confirmed using the criterion Fornell & Larcker, (1981) which is the square root of the AVE for each construct is greater than its correlations with other variables, indicating that each construct is distinct. For example, DC has a square root of AVE (0.833) greater than its correlations with MCIQ (0.389) and BP (0.395). Similarly, MCIQ and BP also demonstrate good discriminant validity with no correlations exceeding the square root of their respective AVEs. In sum, the test results indicate the main variables exhibit strong reliability, convergent validity, and discriminant validity, ensuring that the constructs are both well-measured and distinct from one another.

Table 6: Sub-Dimensions Validity Analysis

	Convergent Validity		**Discriminant Validity**											
Sub-dimensions	CR	AVE	sc	szc	rc	csc	cc	pc	aq	md	cd	td	fp	mp
sc	0.992	0.961	**0.980**											
szc	0.994	0.969	0.721***	**0.984**										
rc	0.997	0.987	0.710***	0.645***	**0.994**									
csc	0.992	0.963	0.264***	0.212**	0.244***	**0.981**								
cc	0.978	0.898	0.293***	0.258***	0.254***	0.662***	**0.948**							
pc	0.991	0.957	0.218**	0.199**	0.234***	0.481***	0.522***	**0.978**						
aq	0.989	0.946	0.202**	0.235***	0.151*	0.434***	0.423***	0.438***	**0.973**					
md	0.992	0.963	0.167*	0.243***	0.115†	0.209**	0.300***	0.271***	0.306***	**0.981**				
cd	0.984	0.926	0.104	0.166*	0.102	0.194**	0.228***	0.224***	0.239***	0.802***	**0.962**			
td	0.990	0.952	0.158*	0.206**	0.133*	0.164*	0.227***	0.207**	0.239***	0.774***	0.793***	**0.976**		
fp	0.996	0.979	0.291***	0.246***	0.191**	0.288***	0.263***	0.229***	0.216**	0.179**	0.173**	0.190*	**0.989**	
mp	0.983	0.919	0.285***	0.263***	0.204**	0.184**	0.200**	0.088	0.212**	0.239***	0.188**	0.217*	0.580**	**0.959**

Note: sc=sensing capability, szc=sesing capability,rc=reconfiguration capability,csc=channel service configuration, cc=channel consistency, pc=process consistency, aq=assurance quality, fp=finitial performance and mp= market performance, md=market dynamism, cd=competitors dynamisms, td=technological dynamisms

Similarly, table 6 presents the results of validity for sub-dimensions of the variables. In this case, each sub-dimension demonstrates excellent internal consistency, as indicated by CR values that are well above the threshold of 0.70. Specifically, the CR values range from 0.978 for cc to 0.997 for rc, confirming the reliability of the constructs. Similarly, the average variance extracted (AVE) values, which measure the proportion of variance captured by the indicators relative to error, are all above the recommended threshold of 0.50. This ensures adequate convergent validity, with values such as 0.961 for sc, 0.969 for szc, and 0.987 for rc, showing that these sub-dimensions accurately reflect their underlying constructs. Moreover, the discriminant validity is confirmed through the criterion as the square root of the AVE for each sub-dimension exceeds the correlations with other sub-dimensions.

Accordingly, the square root of the AVE for sc (0.980) is greater than its correlations with other sub-dimensions like szc (0.721) and rc (0.710), indicating that SC is distinct from the other constructs. Also, csc (0.981), fp (0.989), and mp (0.959) also exhibit discriminant validity, with their AVE values surpassing their inter-construct correlations. In this analysis, all the sub-dimensions show strong reliability and valid measurement properties and it can adequately represent constructs, confirming their appropriateness for use in the model.

4.1.4. Structural Model Analysis

Following the measurement model analysis, the structural model examined the relationship between the latent variables. In this case model fit, total, direct, and indirect analysis were presented.

Table 7: Model Fit Analysis

Measure	**Estimate**	**Threshold**	**Interpretation**
CMIN/DF	2.220	Between 1 and 3	Excellent
CFI	0.958	>0.95	Excellent
SRMR	0.038	<0.08	Excellent
RMSEA	0.072	<0.06	Acceptable

In the case of model fit the Chi- (CMIN/DF) is 2.220, which falls within the acceptable range of 1 to 3, suggesting an excellent fit. The Comparative Fit Index (CFI) is 0.958, exceeding the threshold of 0.95, indicating that the model fits the data very well when compared to a null model. Similarly, the Standardized Root Mean Square Residual (SRMR) is 0.038, well below the 0.08 threshold, which reflects an excellent fit by showing minimal differences between the observed and predicted covariance matrices. However, the Root Mean Square Error of Approximation (RMSEA) is 0.072, which, while still reasonable, exceeds the desired value of 0.06, indicating only an acceptable fit. Overall, the model exhibits a strong fit, but there is room for improvement.

Table 8: Mediation Result and Hypothesis Testing

	Hypothesis Paths	Hypothesis	Effects	P-Value	Decision	Mediation
Direct Effect	dc→bp	H1	0.27	0.017	Accepted	Partial
	dc→mciq	H2	0.39	0.008	Accepted	
	mciq→mp	H3	0.30	0.015	Accepted	
Indirect Effect	dc→mciq→bp	H4	0.116	0.014	Accepted	
Total Effect			0.385	0.007		

After the outer models' reliability and validity were checked, in Table 8 the hypothesized relationships of the inner models were evaluated based on AMOS output. Accordingly, the hypothesis testing results indicate a positive and statistically significant relationship across all proposed paths, supporting each hypothesis. Accordingly, the direct effect of dynamic capability on bank performance shows a 0.27 with a p-value of 0.017, which confirms a direct and positive influence of dynamic capability on bank performance and leads to the approval of H1. Likewise, the path from dynamic capability to multichannel integration quality is also significant, with β of 0.39 and a p-value of 0.008, indicating that dynamic capability positively influences MCIQ, thereby also supporting H2.

Additionally, the impact of MCIQ on market performance has a coefficient of 0.30 and a p-value of 0.015, allowing H3 to be accepted and demonstrating that improved multichannel integration quality positively affects bank performance. Moreover, the mediating effect of MCIQ in the relationship between DC and BP is also significant with β=.116 and a p-value of 0.014, supporting H4 and showing that MCIQ partially mediates the relationship between DC and BP. The total effect, combining both direct and indirect impacts of DC on BP through MCIQ, is 0.385 with a p-value of 0.007, underlining the strong positive impact of DC on bank performance.

These findings indicate the importance of dynamic capability and multichannel integration quality in enhancing overall bank performance, suggesting that while DC has a direct effect, and also MCIQ plays a critical mediating role that increases the impact on both market and financial outcomes.

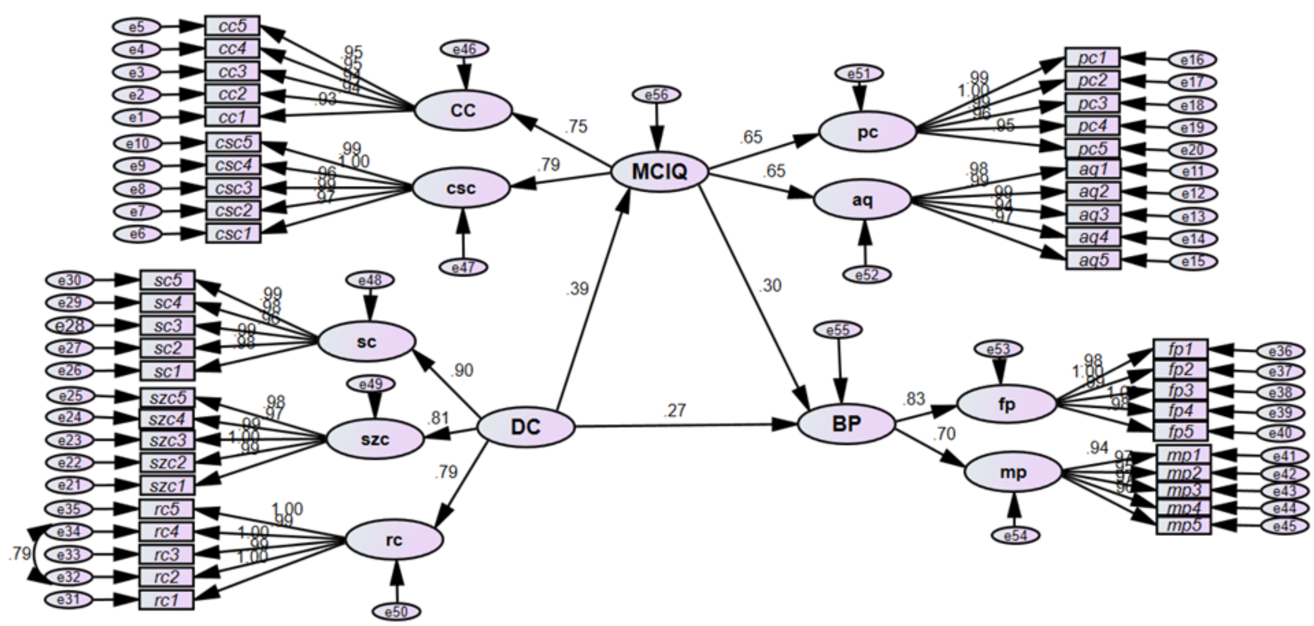


Figure 4: Mediation Model

Moderated mediation analysis investigates a scenario where a mediation effect—where one variable (mediator) transmits the effect of an independent variable to a dependent variable—is contingent on the levels of a moderator variable. This means that the strength or direction of the mediation effect changes based on the moderator, allowing researchers to explore conditional relationships and assess whether the indirect effect of a predictor on an outcome varies across different contexts or subgroups (Hayes, 2013).

Table 9: Moderated Mediation Model Testing

Paths	Predicting Variable	Outcome Variable	Effects	P-Value	Sig.	Decision
Direct	dc→	mciq	0.190	***	sig.	
	ed→	mciq	0.135	***	sig.	
	Moderation: dc_x_ed→	mciq	0.023	.143	Insig.+ve	Not accepted
	dc→	bp	0.228	***	sig.	
	ed→	bp	0.114	.002	sig.	
	mciq→	bp	0.398	***	sig.	
	Moderation; dc_x_ed→	bp	0.048	.025	sig.+ve	Accepted
	Moderation; mciq_x_ed→	bp	0-.058	.004	sig.-ve	Accepted
Indirect	Conditional dc-->mciq-->bp→	bp	0.076	***	sig.	Accepted

In Table 9 and Figure 6, the results of the moderated mediation model were presented. In this model the potential interaction effects of predictors were tested, examining how the interaction of dc and ed influences MCIQ and BP, as well as the interaction of MCIQ and ed influences BP. The interaction effect of dc_x_ed on MCIQ, is insignificant (p-value=.143), with a small positive effect size of .023. This suggests that, while dc and ed individually predict MCIQ, their interaction does not significantly alter this prediction.

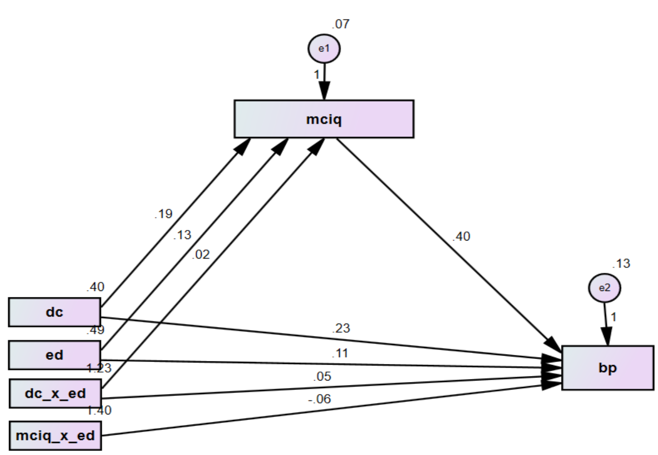


Figure 5: Moderated Mediation Model

Importantly, the moderated effect of dc and ed (dc_x_ed) on BP is significant with a positive effect (.048, p=.025), meaning that the interaction between dc and ed positively influences BP. This indicates that the combined influence of DCs and ED enhances BP, reinforcing that this moderation effect is essential to include in the model. Moreover, the moderation effect of mciq and ed (mciq_x_ed) on BP is significant and negative, with an effect size of -.058 (p = .004). This negative moderation suggests that higher levels of ed weaken the positive effect of MCIQ on BP, specifying a complex interaction where ed reduces the effect of MCIQ in predicting BP. Finally, the indirect effect of DC on BP through MCIQ is significant, with an effect size of .076 (***).

This finding confirms the presence of a significant mediation pathway, meaning that DC influences BP indirectly via its impact on MCIQ. This mediated effect, combined with the significant direct effect of DC on BP, highlights a partial mediation scenario where DC affects BP both directly and indirectly through MCIQ. Overall, the model reveals elaborate relationships, showing that while DC and ED independently and in interaction influence both MCIQ and BP, the effect of MCIQ on BP is moderated by ed, indicating nuanced pathways of influence that can inform targeted strategies based on the individual and combined effects of these variables.

4.2. Discussion

The discussion is based on the moderated mediation model. The mediation model was tested to evaluate the relationships in the DC-MCIQ-BP framework, while the moderated mediation model examined the effects of environmental dynamism (ED) on the relationships among DC, MCIQ, and BP. The findings revealed positive and significant effects across all paths in the mediation model, highlighting the role of DCs in influencing MCIQ and BP, the impact of MCIQ on BP, and the mediating effect of MCIQ between DC and BP. A strong and positive association between DC and MCIQ was identified, suggesting that robust DCs foster superior MCIQ, a key indicator of service quality in the banking industry. The findings are consistent with earlier research (Cannas, 2023; Matarazzo et al., 2021) that emphasizes DCs as mechanisms to exploit new or refresh existing resources.

Besides, fostering intangible functional capabilities like MCIQ is a vital aspect of digital transformation aimed at driving superior performance (Ellström et al., 2022). The study also demonstrated a significant correlation between MCIQ and BP. Implementing MCIQ strategies, including customer service consistency (CSC), channel coordination (CC), process consistency (PC), and accessibility quality (AQ), was found crucial for improving service quality, market share, and financial performance. This supports earlier findings (Hossain et al., 2019) that successful MCIQ implementation enhances business performance and fosters sustainable growth. By conceptualizing MCIQ as an operational capability, the study aligns with prior research (Hossain et al., 2019) demonstrating its potential to sustain bank performance. Moreover, the literature suggests MCIQ leads to numerous positive outcomes, such as perceived value, purchase intention, sales growth, customer equity, satisfaction, search intentions, and loyalty (Cao & Li, 2018; Chang, 2016; Hammerschmidt et al., 2016).

The study also explored the mediating role of MCIQ in the DC-BP relationship and found evidence of partial mediation. This finding underscores the importance of effectively applying DCs in banking operations to deliver high-quality services and achieve superior financial and customer satisfaction outcomes. The interaction effect of ED on the DC-MCIQ relationship was insignificant, with only a marginal positive influence. In contrast, the interaction effect of MCIQ and ED on BP was negative, suggesting that a turbulent environment can diminish the positive effects of MCIQ on performance. This finding aligns with Zhou & Li (2015), who noted that environmental turbulence could weaken a company's competitive advantage due to factors such as organizational inertia, unwillingness to change, rigidity, and path dependence (Vergne & Durand, 2011). Similarly, Pavlou & El Sawy (2006) argued that environmental dynamism might negatively moderate the relationship between operational capabilities and performance.

Overall, these findings underscore the critical role of DCs and MCIQ in enhancing BP, especially in dynamic environments. While DCs exhibit consistent positive effects on MCIQ and BP, the moderating role of ED introduces complexities that require banks to adopt flexible strategies to mitigate adverse effects and capitalize on opportunities within turbulent conditions.

This research, from a theoretical perspective, extends the Dynamic Capabilities Theory (DCT) and the Channel Integration Model by exploring how the interaction of resources and capabilities enhances bank performance in dynamic environments. It delves into the role of Dynamic Capabilities (DC) and MCIQ of DCT in the banking sector. By incorporating moderated mediation effects, the conceptual model deepens our understanding of the interplay between DC, Environmental Dynamics (ED), and MCIQ, highlighting their collective impact on performance. Additionally, this study positions MCIQ as an innovative strategy in the banking industry, contributing to the theoretical framework on how adaptive capabilities and cognitive strategies can drive improved performance in the face of rapid environmental change.

The practical implications of this research offer valuable insights for bank managers seeking to improve the sustainability of multichannel integration quality (MCIQ) such as channel service configuration, content consistency, process consistency, and assurance quality. This allows banks to address existing weaknesses and boost their MCIQ, which in turn enhances service quality for customers and contributes to better financial performance in dynamic environments. Channel integration is also identified as a critical factor in improving both market and financial performance. The findings provide actionable guidance for the banking sector on how to leverage Dynamic Capabilities (DC) to stay competitive and navigate a rapidly changing environment.

Managers are encouraged to focus on managing DCs and MCIQ, as these are essential for maintaining and improving performance. By investing in strong MCIQ, banks can gain a competitive edge, ensuring long-term success. Additionally, the research highlights the importance of disseminating information about effective practices within channel-based businesses to foster sustainable practices. Policymakers can also utilize the study's findings to develop strategies and policies that support MCIQ activities, fostering high-quality service and sustaining bank performance at a larger scale.

5. Conclusion, Limitations and Future Research

Conclusion: This study enhances the understanding of how DC and MCIQ affect bank performance in dynamic environments. By focusing on Ethiopian commercial banks, it underscores the importance of managing resources to improve service quality and financial performance. The findings highlight the need for banks to manage DCs and MCIQ to stay competitive in the evolving banking sector. Despite limitations, this study offers practical implications for bank managers and policymakers, laying the foundation for future research on the DC-performance relationship in banking.

Limitations: This study has limitations. The sample is confined to Ethiopian public commercial banks, which may limit the generalizability to private or international contexts. It also focuses on only three constructs — DCs, Environmental Dynamics (ED), and MCIQ—leaving out other potential factors affecting performance. The cross-sectional design limits causal conclusions, suggesting the need for longitudinal studies. Future research could include additional variables like omnichannel approaches, and digital transformation, and explore more performance outcomes, mediators, and moderators.

Future Research: Future research could expand by including variables like omnichannel approaches, digital transformation, and other emerging trends to deepen our understanding of DCs and bank performance. Longitudinal studies would help establish causality and assess the long-term impact of dynamic capabilities. Further exploration of performance outcomes, mediators, and moderators would enhance understanding of this complex relationship. The development of Dynamic Capabilities Theory in the banking sector is still in its early stages, and further research is essential to extend its application.

Funding: This research received no external funding sources.
Data Availability: The data support the findings are available upon reasonable request.

Acknowledgment: The authors extend their gratitude to all partners for their insightful guidance and invaluable feedback on every aspect of this work.

References

Akhtar, P., Ullah, S., Amin, S. H., Kabra, G., & Shaw, S. (2020). Dynamic capabilities and environmental sustainability for emerging economies' multinational enterprises. *International Studies of Management and Organization*, *50*(1), 27–42. https://doi.org/10.1080/00208825.2019.1703376

Banerjee, M. (2014). Misalignment and Its Influence on Integration Quality in Multichannel Services. *Journal of Service Research*, *17*(4), 460–474. https://doi.org/10.1177/1094670514539395

Barreto, I. (2010). Dynamic Capabilities: A review of past research and an agenda for the future. *Journal of Management*, *36*(1), 256–280. https://doi.org/10.1177/0149206309350776

Buallay, A. (2019). Is sustainability reporting (ESG) associated with performance? Evidence from the European banking sector. *Management of Environmental Quality: An International Journal*, *30*(1), 98–115. https://doi.org/10.1108/MEQ-12-2017-0149

Cao, L., & Li, L. (2018). Determinants of Retailers' Cross-channel Integration: An Innovation Diffusion Perspective on Omni-channel Retailing. *Journal of Interactive Marketing*, *44*, 1–16. https://doi.org/10.1016/j.intmar.2018.04.003

Cataltepe, V., Kamasak, R., Bulutlar, F., Palalar Alkan, D., Alkan, D. P., & Palalar Alkan, D. (2023). Dynamic and marketing capabilities as determinants of firm performance: evidence from the automotive industry. *Journal of Asia Business Studies*, *17*(3), 617–638. https://doi.org/10.1108/JABS-11-2021-0475

CBE, R. (2023). A*Annual Report CBE*, *7*(November), 14–25.

Chang, J.-F. W. Y. P. (2016). Multichannel integration quality, online perceived value, and online purchase intention: A perspective of land-based retailers. *Communication Studies: The Essential Resource*, 139–145. https://doi.org/10.1053/jevs.2002.34307

Civelek, M. E. (2018). Essentials of Structural Equation Modeling. In *Zea Books*. https://doi.org/10.13014/k2sj1hr5

Danneels, E. (2015). SURVEY MEASURES OF FIRST- AND SECOND-ORDER COMPETENCES. *Strategic Management Journal*, *920*(October), 1–43. https://doi.org/10.1002/smj

Dhakar, T., & Mattheiss, T. H. (1989). Determining the size of A Finite Population of Different Objects From A Finite Sample Taken at Random with Replacement. *Communications in Statistics - Simulation and Computation*, *18*(4), 1311–1323. https://doi.org/10.1080/03610918908812823

Dolce, P., & Lauro, N. C. (2015). Comparing maximum likelihood and PLS estimates for structural equation modeling with formative blocks. *Quality and Quantity*, *49*(3), 891–902. https://doi.org/10.1007/s11135-014-0106-8

Edwards, J. R. (2001). Multidimensional Constructs in Organizational Behavior Research: An Integrative Analytical Framework. *Organizational Research Methods*, *4*(2), 144–192. https://doi.org/10.1177/109442810142004

Eisenhardt, K. M., & Martin, J. A. (2000). Dynamic capabilities: What are they? *Strategic Management Journal*, *21*(10–11), 1105–1121. https://doi.org/10.1002/1097-0266(200010/11)21:10/11<1105::AID-SMJ133>3.0.CO;2-E

Fainshmidt, S., Pezeshkan, A., Lance Frazier, M., Nair, A., & Markowski, E. (2016). Dynamic Capabilities and Organizational Performance: A Meta-Analytic Evaluation and Extension. *Journal of Management Studies*, *53*(8), 1348–1380. https://doi.org/10.1111/joms.12213

Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, *18*(1), 39. https://doi.org/10.2307/3151312

Frasquet, M., Ieva, M., & Ziliani, C. (2019). Understanding complaint channel usage in multichannel retailing. *Journal of Retailing and Consumer Services*, *47*(July 2018), 94–103. https://doi.org/10.1016/j.jretconser.2018.11.007

Gao, L., Melero, I., & Sese, F. J. (2020). Multichannel integration along the customer journey: a systematic review and research agenda. *Service Industries Journal*, *40*(15), 1087–1118. https://doi.org/10.1080/02642069.2019.1652600

Hammerschmidt, M., Falk, T., & Weijters, B. (2016). Channels in the Mirror: An Alignable Model for Assessing Customer Satisfaction in Concurrent Channel Systems. *Journal of Service Research*, *19*(1), 88–101. https://doi.org/10.1177/1094670515589084

Handoyo, S., Suharman, H., Ghani, E. K., & Soedarsono, S. (2023). A business strategy, operational efficiency, ownership structure, and manufacturing performance: The moderating role of market uncertainty and competition intensity and its implication on open innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, *9*(2), 100039. https://doi.org/10.1016/j.joitmc.2023.100039

Hanelt, A., Bohnsack, R., Marz, D., & Antunes Marante, C. (2021). A Systematic Review of the Literature on Digital Transformation: Insights and Implications for Strategy and Organizational Change. *Journal of Management Studies*, *58*(5), 1159–1197. https://doi.org/10.1111/joms.12639

Helfat, C. E., & Peteraf, M. A. (2009). Understanding dynamic capabilities: Progress along a developmental path. *Strategic Organization*, *7*(1), 91–102. https://doi.org/10.1177/1476127008100133

Hooley, G. J., Greenley, G. E., Cadogan, J. W., & Fahy, J. (2005). The performance impact of marketing resources. *Journal of Business Research*, *58*(1 SPEC.ISS), 18–27. https://doi.org/10.1016/S0148-2963(03)00109-7

Hossain, T. M. T., Akter, S., Kattiyapornpong, U., & Dwivedi, Y. (2020). Reconceptualizing Integration Quality Dynamics for Omnichannel Marketing. *Industrial Marketing Management*, *87*(May), 225–241. https://doi.org/10.1016/j.indmarman.2019.12.006

Hossain, T. M. T., Akter, S., Kattiyapornpong, U., & Dwivedi, Y. K. (2019). Multichannel integration quality: A systematic review and agenda for future research. *Journal of Retailing and Consumer Services*, *49*(January), 154–163. https://doi.org/10.1016/j.jretconser.2019.03.019

Janssen, M. J., Castaldi, C., & Alexiev, A. (2016). Dynamic capabilities for service innovation: conceptualization and measurement. *R and D Management*, *46*(4), 797–811. https://doi.org/10.1111/radm.12147

Jantunen, A., Tarkiainen, A., Chari, S., & Oghazi, P. (2018). Dynamic capabilities, operational changes, and performance outcomes in the media industry. *Journal of Business Research*, *89*(January), 251–257. https://doi.org/10.1016/j.jbusres.2018.01.037

Katsikeas, C. S., Samiee, S., & Theodosiou, M. (2006). Strategy fit and performance consequences of international marketing standardization. *Strategic Management Journal*, *27*(9), 867–890. https://doi.org/10.1002/smj.549

Kaur, H. V. (2010). Analysis of banks in India-a CAMEL approach. *Global Business Review*, *11*(2), 257–280. https://doi.org/10.1177/097215091001100209

Kaur, V., & Mehta, V. (2017). Dynamic Capabilities for Competitive Advantage. *Paradigm*, *21*(1), 31–51. https://doi.org/10.1177/0971890717701781

Lee, Z. W. Y., Chan, T. K. H., Chong, A. Y. L., & Thadani, D. R. (2019). Customer engagement through omnichannel retailing: The effects of channel integration quality. *Industrial Marketing Management*, *77*(October), 90–101. https://doi.org/10.1016/j.indmarman.2018.12.004

Li, Y., Liu, H., Lim, E. T. K., Goh, J. M., Yang, F., & Lee, M. K. O. (2018). Customer's reaction to cross-channel integration in omnichannel retailing: The mediating roles of retailer uncertainty, identity attractiveness, and switching costs. *Decision Support Systems*, *109*, 50–60. https://doi.org/10.1016/j.dss.2017.12.010

Liu, Y., & Song, G. (2023). Role of Logistics Integration Capability in Enhancing Performance in Omni-Channel Retailing: Supply Chain Integration as Mediator. *Sustainability (Switzerland)*, *15*(11). https://doi.org/10.3390/su15119053

Matarazzo, M., Penco, L., Profumo, G., & Quaglia, R. (2021). Digital transformation and customer value creation in Made in Italy SMEs: A dynamic capabilities perspective. *Journal of Business Research*, *123*(February 2020), 642–656. https://doi.org/10.1016/j.jbusres.2020.10.033

Matysiak, L., Rugman, A. M., & Bausch, A. (2018). Dynamic Capabilities of Multinational Enterprises: The Dominant Logics Behind Sensing, Seizing, and Transforming Matter! *Management International Review*, *58*(2), 225–250. https://doi.org/10.1007/s11575-017-0337-8

Morgan, N. A., Feng, H., & Whitler, K. A. (2018). Marketing Capabilities in International Marketing. *Journal of Marketing*, *26*(1), 61–95. https://doi.org/10.1509/jim.17.0056

Niemand, T., Rigtering, J. P. C., Kallmünzer, A., Kraus, S., & Maalaoui, A. (2021). Digitalization in the financial industry: A contingency approach of entrepreneurial orientation and strategic vision on digitalization. *European Management Journal*, *39*(3), 317–326. https://doi.org/10.1016/j.emj.2020.04.008

Paez, L. C. C., Pinho, J. C. J. C., Cordero Páez, L. C., Pinho, J. C. J. C., Prange, C., Pinho, L. C. C. P. and J. C., Cordero Páez, L. C., Pinho, J. C. J. C., & Prange, C. (2022). Dynamic capabilities configurations: the firm lifecycle and the interplay of DC dimensions. *International Journal of Entrepreneurial Behaviour and Research*, *28*(4), 910–934. https://doi.org/10.1108/IJEBR-05-2021-0322

Parasuraman, A., Zeithaml, V. A., & Malhotra, A. (2005). E-S-QUAL a multiple-item scale for assessing electronic service quality. *Journal of Service Research*, *7*(3), 213–233. https://doi.org/10.1177/1094670504271156

Pavlou, P. A., Sawy, O. A. El, & El Sawy, O. A. (2006). From IT leveraging competence to competitive advantage in turbulent environments: The case of new product development. *Information Systems Research*, *17*(3), 198–227. https://doi.org/10.1287/isre.1060.0094

Pezeshkan, A., Fainshmidt, S., Nair, A., Frazier, M. L., & Markowski, E. (2015). An empirical assessment of the dynamic capabilities – performance relationship. *Journal of Business Research*. https://doi.org/10.1016/j.jbusres.2015.10.152

Protogerou, A., Caloghirou, Y., & Lioukas, S. (2012). Dynamic capabilities and their indirect impact on firm performance. *Industrial and Corporate Change*, *21*(3), 615–647. https://doi.org/10.1093/icc/dtr049

Rotjanakorn, A., Sadangharn, P., & Na-Nan, K. (2020). Development of dynamic capabilities for automotive industry performance under disruptive innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, *6*(4), 1–19. https://doi.org/10.3390/joitmc6040097

Schilke, O., Hu, S., & Helfat, C. E. (2018). Quo vadis, dynamic capabilities? A content-analytic review of the current state of knowledge and recommendations for future research. *Academy of Management Annals*, *12*(1), 390–439. https://doi.org/10.5465/annals.2016.0014

Schramm-Klein, H., Wagner, G., Steinmann, S., & Morschett, D. (2011). Cross-channel integration - is it valued by customers? *International Review of Retail, Distribution and Consumer Research*, *21*(5), 501–511. https://doi.org/10.1080/09593969.2011.618886

Schreyögg, G., & Sydow, J. (2011). Organizational path dependence: A process view. *Organization Studies*, *32*(3), 321–335. https://doi.org/10.1177/0170840610397481

Shafia, M. A., Shavvalpour, S., Hosseini, M., & Hosseini, R. (2016). The mediating effect of technological innovation capabilities between dynamic capabilities and competitiveness of research and technology organizations. *Technology Analysis and Strategic Management*, *28*(7), 811–826. https://doi.org/10.1080/09537325.2016.1158404

Shang, H., Chen, R., & Li, Z. (2020). Dynamic sustainability capabilities and corporate sustainability performance: The mediating effect of resource management capabilities. *Sustainable Development*, *28*(4), 595–612. https://doi.org/10.1002/sd.2011

Shen, X. L., Li, Y. J., Sun, Y., & Wang, N. (2018). Channel integration quality, perceived fluency and omnichannel service usage: The moderating roles of internal and external usage experience. *Decision Support Systems*, *109*(2017), 61–73. https://doi.org/10.1016/j.dss.2018.01.006

Shi, S., Wang, Y., Chen, X., & Zhang, Q. (2020). Conceptualization of omnichannel customer experience and its impact on shopping intention: A mixed-method approach. *International Journal of Information Management*, *50*(February 2019), 325–336. https://doi.org/10.1016/j.ijinfomgt.2019.09.001

Singh, B., & Rao, M. K. (2017). To Gear Up Firm Performance in Banking Industry: The Role of Dynamic Capability. *Global Business Review*, *18*(4), 1019–1040. https://doi.org/10.1177/0972150917692404

Sorkun, M. F., Yumurtacı Hüseyinoğlu, I. Ö., & Börühan, G. (2020). Omni-channel capability and customer satisfaction: mediating roles of flexibility and operational logistics service quality. *International Journal of Retail and Distribution Management*, *48*(6), 629–648. https://doi.org/10.1108/IJRDM-07-2019-0235

Sousa, R., & Voss, C. A. (2006). Service quality in multichannel services employing virtual channels. *Journal of Service Research*, *8*(4), 356–371. https://doi.org/10.1177/1094670506286324

Svahn, F., Mathiassen, L., & Lindgren, R. (2017). Embracing digital innovation in incumbent firms: How Volvo Cars managed competing concerns. *MIS Quarterly: Management Information Systems*, *41*(1), 239–253. https://doi.org/10.25300/MISQ/2017/41.1.12

Teece, D. J. (2014). The foundations of enterprise performance: Dynamic and ordinary capabilities in an (economic) theory of firms. *Academy of Management Perspectives*, *28*(4), 328–352. https://doi.org/10.5465/amp.2013.0116

Teece, D. J. (2018). Profiting from innovation in the digital economy: Enabling technologies, standards, and licensing models in the wireless world. *Research Policy*, *47*(8), 1367–1387.

https://doi.org/10.1016/j.respol.2017.01.015

Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, *18*(March), 77–116. https://doi.org/10.1093/0199248540.003.0013

Wang, C. L., Senaratne, C., & Rafiq, M. (2015). Success traps, dynamic capabilities, and firm performance. *British Journal of Management*, *26*(1), 26–44. https://doi.org/10.1111/1467-8551.12066

Warner, K. S. R., & Wäger, M. (2019). Building dynamic capabilities for digital transformation: An ongoing process of strategic renewal. *Long Range Planning*, *52*(3), 326–349. https://doi.org/10.1016/j.lrp.2018.12.001

Wright, R. T., Campbell, D. E., Thatcher, J. B., & Roberts, N. (2012). Operationalizing Multidimensional Constructs in Structural Equation Modeling: Recommendations for IS Research. *Communications of the Association for Information Systems*, *30*. https://doi.org/10.17705/1cais.03023

Yu, J., & Moon, T. (2021). Impact of digital strategic orientation on organizational performance through digital competence. *Sustainability (Switzerland)*, *13*(17). https://doi.org/10.3390/su13179766

Zhu, Y., & Jin, S. (2023). COVID-19, Digital Transformation of Banks, and Operational Capabilities of Commercial Banks. *Sustainability (Switzerland)*, *15*(11). https://doi.org/10.3390/su15118783