

Research Article

The Effect of Dynamic Capability and Multichannel Integration Quality on Bank Performance in Case of Commercial Bank of Ethiopia: Application of Sequential QUAN-qual Explanatory Design

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Abstract

The main objective of this study was to examine the effects of dynamic capability (DC) on bank performance (BP), mediated by multichannel integration quality (MCIQ) in the case of the Commercial Bank of Ethiopia (CBE), Ambo District. The study employed an explanatory sequential QUAN-qual design, a mixed-methods approach that begins with a quantitative phase to identify patterns and relationships, followed by a qualitative phase to provide deeper insights and explanations for the initial findings. Primary data were collected from 235 bank employees using simple random sampling to ensure representation across branches. The data were gathered through a standardized questionnaire and analyzed using AMOS version 23 and SPSS version 25, applying structural equation modeling to test the hypothesized relationships. The results revealed that both DC and MCIQ have significant positive effects on BP. Additionally, the effect of DC on BP was found to be partially mediated by MCIQ. The study contributes to existing literature by providing empirical evidence on the role of DC and MCIQ in enhancing bank performance. Based on these findings, it is recommended that practitioners and decision-makers focus on developing dynamic capabilities and enhancing multichannel integration quality to achieve sustainable performance. Future research could explore other mediating or moderating factors, and extend the study to other sectors or countries to improve generalizability.

Keywords

Dynamic Capability, Multichannel Integration Quality, Firm Performance

1. Introduction

In today's digital age, banks' performance is increasingly driven by their dynamic capabilities and the quality of multichannel integration in a rapidly changing environment. In this case, strong dynamic capabilities [1] which is critical

for banks to remain competitive. In this view, capabilities can allow banks to respond effectively to technological, customer, and competitive changes. In parallel, seamless multichannel integration ensures consistent customer experience across

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Received: 24 February 2025; Accepted: 21 June 2025; Published: 28 July 2025



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multiple services, thereby improving overall performance. Studies [2] have emphasized that MCIQ is essential for providing a consistent and seamless service experience to customers. Given the fast-paced evolution of technology, markets, and competition, banks so need to be proactive to maintain responsiveness and survive in dynamic service environments [3]. This environment necessitates banks to quickly adapt to external changes while ensuring high service standards across available service channels [4]. In this view dynamic capabilities view, posits firms with superior dynamic capabilities can achieve long-term competitive advantage by reconfiguring their resources to fit in changing environments [5]. However, despite extensive literature on the relationship between DCs and firm performance, a clear strategic framework for achieving performance remains elusive [6]. To address this gap, the study investigates the DC-MCIQ-FP relationship within the banking industry. While DCs are known to enhance competitive advantage, there remains ambiguity about how they directly or indirectly affect performance [7]. Further dynamic capabilities enhance firms' operational capabilities by enabling the continuous improvement of core processes [8].

In this context, MCIQ is conceptualized as an operational capability that represents banks' daily processes for delivering seamless and integrated services across multiple channels. Building on this theoretical foundation, banks must integrate their available service channels into core operations to maintain consistency in response to the dynamic service landscape [9]. Accordingly multichannel integration quality has become essential due to changes in customer behaviors, which demand more cohesive and personalized service experiences [10]. In the banking sector, multichannel integration plays a vital role in enhancing service quality and performance [11]. However, despite its importance, it remains fragmented and conceptual, with limited empirical research on how it mediates the relationship between DCs and FP [12]. Further MCIQ relies on firms' ability to reconfigure their resources and processes, which is critical for developing actionable strategies. While previous studies such as [13] have linked DCs to firm performance, they failed to explain the mechanisms through which DCs influence performance in dynamic environments. Based on this the following objectives were developed and tested.

- 1) To examine the effect of dynamic capability on bank performance.
- 2) To explore the effect of dynamic capability on multichannel integration quality.
- 3) To examine the effect of multichannel integration quality on bank performance.
- 4) To examine the mediating effect of MCIQ between DC and bank performance.
- 5) To explore the practice of DC and MCIQ to enhance bank performance.

2. Theoretical Review

Dynamic Capability View: Primarily this study employed DCV [5], which is the extension of the resource-based view. According to these authors, DC implies firms' ability to integrate, build, and reconfigure internal and external competencies which encompass three elements (1) sensing opportunities and threats [14], (2) seizing opportunities [15], and (3) reconfiguration to sustain competitive [16]. These capabilities enable firms to adapt and transform their services into changing environments [17, 18]. Further DCs support banks by ensuring MCIQ provides consistent and seamless customer experiences across multiple service channels. In this condition, DCs play a great role in integrating service channels to meet customer expectations and provide uniform service quality [19]. Further, MCIQ aligned with the seizing and reconfiguration dimensions of DC, allowing firms to adapt service delivery in a changing environment to enhance customer satisfaction. So in this case a strong MCIQ is vital for banking services in a dynamic environment [18] which depends on firms' DCs. Further DCs may allow banks to sense market, seize opportunities, and reconfigure to design MCIQ for effective customer retention. So this complex interaction between DCs and MCI has become a central issue in the banking service industry [17] which is tangent to environmental dynamism [14, 20] to generate opportunities.

Multichannel Integration Model: To ensure service quality in service delivery more banks relied on separate physical and virtual channels to meet customer needs [21]. Over time combining both physical and virtual channels becomes the best choice in the service industry [22] which emphasizes the importance of multichannel integration to ensure customer touch points across available all service channels. In the bank service sector using MCIQ is becoming very acceptable and the best strategy. Designing MCIQ has a great impact on service outcomes such as customer loyalty, satisfaction, and engagement in different service delivery channels [23]. MCIQ is now uncommon in service quality delivery, according to more researchers [24]. Further emphasizing the role of MCIQ in creating seamless customer experiences [25]. In this context, MCIQ has become more critical in service sectors such as banks [26]. In this condition, banks operating in dynamic environments, MCIQ may enable rapid responses to the financial needs of firms and customers through digital services [27] which are more supportive in the current situations.

3. Hypothesis Development and Conceptual Framework

Dynamic Capability and Firm Performance: Scholars have reached a consensus on the importance of DCs in improving corporate performance. Accordingly, DCs are the secret to sustained performance under speedy transformation. In this

case, DCs enable enterprises to develop intangible assets to maintain processes in a sustainable performance [1]. DCs have been frequently suggested as a concept to enhance company performance through digital transformation [28].

H1: Dynamic capability has a significant effect on bank performance.

Dynamic Capability & Multichannel Integration Quality: According to research by [29], firms must integrate digital and traditional channels to enhance firm performance. Integrating capability allows banks to effectively coordinate and allocate resources enabling them to respond to changes [30]. Meanwhile, transforming/reconfiguration ensure a flexible structure, allowing banks to adapt and innovate resource deployment [31]. By leveraging these combined capabilities, banks can effectively respond to evolving customer demands and technology requirements, positioning themselves to capture timely information and achieve successful multichannel integration.

H2: Dynamic capability has a significant effect on multichannel integration quality.

Multichannel Integration Quality & Bank Performance: Channel integration practices allow flexibility for consumer choice [32]. Further, [33] demonstrates that customized logistics service increases online shoppers' satisfaction. As a sub-dimension of MCIQ, channel consistency increases the likelihood that consumers find the items in stock when needed without delay at convenient delivery points. Integrating marketing channels can provide synergies that increase the effectiveness of each channel and contribute to enhancing performance [29]. The integration of branding and promotion across channels allows customers to perceive a positive brand image and gain a consistent expectation of a company [34].

H3: Multichannel integration quality has a significant effect on banks' performance.

Mediation: It analyzes how an independent variable (X) influences a dependent variable (Y) through a mediator [35]. Based on this, the current study follows the Capabilities-Service Quality-Performance framework [36] and investigates the relationship between DC-MCIQ- FP. In this relationship, DCs play a great role by modifying firm resources. Based on dynamic capability theory, [37] suggest omni /multichannel integration quality dimensions as critical capabilities of a firm.

H4: MCIQ significantly mediates the relationship between dynamic capability and banks' performance.

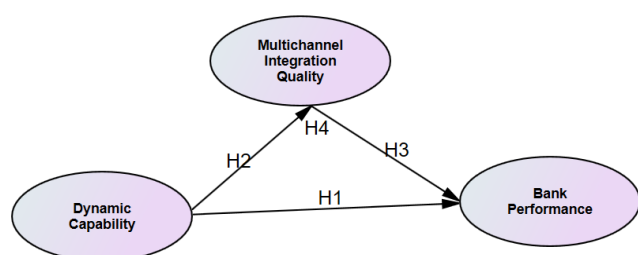


Figure 1. Conceptual Framework.

4. Research Methodology

Study Area: The study was conducted in the Oromia region in the case of Commercial Bank of Ethiopia's (CBE) Ambo district relating to its dynamic capability, multichannel integration quality, and performance. CBE was established in 1942, and it is a key financial sector pioneering ATM services. By June 2023, CBE had 1,937 branches, assets of Birr 1.3 trillion, and over 50,000 employees [38].

Study Design, Population, and Sampling: The study employed explanatory sequential QUAN-qual design which is a mixed-methods research approach that begins with a quantitative phase to identify patterns and relationships, followed by a qualitative phase to provide deeper insights and explanations for the initial findings [39]. This design ensures that the statistical rigor and generalizability of quantitative data are complemented by the contextual richness of qualitative analysis, making it particularly useful in business and management research [40]. For instance, in banking studies, a researcher might first use surveys to measure the impact of dynamic capabilities on bank performance, followed by interviews with bank managers to explore how these capabilities are practically implemented [41]. By integrating numerical and contextual data, this approach strengthens research validity, offering a comprehensive understanding of both the "what" and "why" behind complex organizational phenomena [42]. The unit of analysis was the CBE Southwest region, ambo district which contains 65 branches and 1,282 permanent staff (610 managers and 672 front-line employees). The sample size was calculated using a finite population formula [43].

$$n = \frac{(Z)^2 p \cdot q \cdot N}{e^2 (N-1) + Z^2 \cdot p \cdot q} \quad n = \frac{(1.96)^2 0.5 \cdot 0.5 \cdot 1282}{0.05^2 (1282-1) + 1.96^2 \cdot 0.5 \cdot 0.5} = \frac{1,231.2328}{4.1629} = 295.763 \approx 296$$

In this study, the sample size was initially calculated using a standard formula for sample proportion ($p=0.5$, $q=1-p$), aiming for maximum sample size with desired precision. The finite population correction (FPC) formula was applied because the ratio n/N ($296/1282=0.23$) exceeded 5%, resulting in a final sample size of 241 employees. For sample selection, a multi-stage approach was employed. Cluster sampling was first used to choose South West region and Ambo District from the three regions of CBE (South West, Central, and Northeast) and 31 districts. Next convenience sampling was used to select 20 branches from 65 total branches in Ambo District. Convenience sampling is used due to its ease of implementation, cost-effectiveness, and time-saving, especially when participants are readily accessible. Finally, respondents were chosen from the selected branches through simple random sampling using a lottery method to ensure equal chances for all.

Variables and Data Collection: Dynamic capabilities are measured through sensing, seizing, and reconfiguration—sensing involves monitoring opportunities

and threats, seizing focuses on knowledge creation and sharing, and reconfiguration integrates capabilities [44]. Multichannel integration quality ensures seamless service

across channels, coordinating design and deployment for synergy [32]. MCIQ was measured with four sub-dimensions in this study, with questions adapted from multiple sources.

Table 1. Study Variables.

Main variables	Sub-measures	Items	Likert Scale	Sources
Dynamic Capability	SC	five	1 to 5	[44-46]
	SZC	five	1 to 5	
	RC	five	1 to 5	
Multichannel integration Quality	CSC	five	1 to 5	[44, 45, 47, 48]
	CCC	five	1 to 5	
	CPC	five	1 to 5	
	AQ	five	1 to 5	
Bank Performance	FP	five	1 to 5	[49]
	MP	five	1 to 5	

Source: Literature Review

Where: sc=sensing capability, szc=seizing capability, rc=reconfiguration capability, csc=channel service configuration, ccc=channel content consistency, cpc=channel process consistency, aq=assurance quality, fp=financial performance and mp= marker performance. 1=SDA (strongly disagree), 2=D (Disagree), 3=N (Neutral/moderate), 4=A (Agree), 5= SA (Strongly agree)

For data collection, the study used 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, all participants were told the purpose of the study as an ethical guideline and based on the respondent's informed consent. In this case, two hundred forty-one (241) questionnaires were distributed. Due to missing and inappropriate, 6 questions were excluded. Finally, the study used 235 questions, yielding a 95.5% response rate which is acceptable and preferable.

Quantitative Data Analysis: In the case of qualitative this study used structural equation modeling (SEM) with Amos version 23, employing both a measurement model to assess relationships between observed and latent variables, and a structural model to examine latent variable interactions. Descriptive analysis provided insights into data distribution, with means and standard deviations for dynamic capability, environmental dynamism, channel integration quality, and bank performance. The measurement model's reliability and validity were evaluated through confirmatory factor analysis (CFA). Reliability was assessed using Cronbach α , with values above 0.7 indicating consistency. Validity was checked for convergent (AVE > 0.50, CR > 0.70) and discriminant validity, ensuring constructs were distinct. Analyses were conducted using Amos software. This analysis examines both the direct and indirect effects of dynamic capability on bank performance

through multichannel integration quality. It assesses the direct influence of dc on MCIQ and bp, as well as the mediating role of MCIQ between them, following the causal sequence: DC→MCIQ→BP. The indirect effect of dc on bp through MCIQ is tested using the Sobel test ($a*b$) and bootstrapping techniques in SEM-AMOS, which provide robust estimates without assuming normality. Model fit is evaluated using several indices, including chi-square p-value > 0.05, CMIN/DF < 3, GFI and adjusted GFI > 0.95 and 0.90, SRMR < 0.05, RMSEA < 0.08, TLI and NFI > 0.90, and CFI > 0.95, confirming a good fit and supporting the study's conclusions.

Qualitative Data Analysis: Thematic analysis is a widely used qualitative data analysis method that involves identifying, analyzing, and interpreting patterns or themes within data, often collected from interviews, focus groups, or open-ended surveys. The process follows six key steps: familiarizing with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report [50]. This approach is flexible and can be applied within different research paradigms, including positivist, interpretivist, and pragmatic approaches, allowing researchers to explore participants' experiences and perceptions in depth [51]. Thematic analysis is particularly useful for uncovering key insights in complex phenomena, such as customer behavior or organizational processes, and requires careful coding to ensure reliability and avoid researcher bias, often using

techniques like triangulation, peer debriefing, and member checking to enhance rigor [40]. By systematically identifying themes, thematic analysis provides a rich and nuanced understanding of qualitative data [50].

Phase 1: Quantitative Analysis

Respondents Profile: Of 235 respondents most of them were male (94.0%, or 221 respondents) and aged over 31 years (56.2%). Nearly half held a bachelor's degree (49.4%, or 116 respondents), while 47.2% (111 respondents) had a master's degree or higher. The most common field of study was accounting and Finance (38.7%, or 91 respondents).

But the experience levels varied, with 35.3% (83 respondents) having 6-10 years, 26.4% (62 participants) with 11-15 years, 24.3% (57 participants) with 1-5 years, and 14.0% (33 participants) having over 16 years of experience.

Descriptive Analysis: Descriptive analysis provides an overview of the central tendency and dispersion of the collected data. In this study, mean and standard deviation (SD) were used to summarize respondents' perceptions of key variables: dynamic capability, multichannel integration quality, and bank performance.

Table 2. Descriptive Analysis.

Main Variables		Mean	Std. Deviation
Bank Performance		2.99	.45
Multichannel Integration Quality		2.39	.32
Dynamic Capability		3.21	.64
Sub-dimensions			
BP	Non-financial performance	3.49	.71
	Financial performance	3.53	.66
	Assurance quality	3.50	.62
MCIQ	Channel process consistency	3.40	.62
	Channel content consistency	3.66	.64
	Channel service configuration	3.72	.63
	Reconfiguration capability	3.65	.85
DC	Seizing capability	3.68	.86
	Sensing capability	3.65	.89

Source: Survey Data Analysis

The descriptive analysis reveals moderate bank performance with a mean of 2.99 (SD = 0.45) and room for improvement in multichannel integration quality (MCIQ), which scored 2.39 (SD = 0.32). Dynamic capability shows moderate adaptability (mean = 3.21, SD = 0.64). BP includes strong market performance (mean = 3.49, SD = 0.71) and financial performance (mean = 3.5, SD = 0.65). MCIQ sub-dimensions like assurance quality (mean = 3.50, SD = 0.62) and channel content consistency (mean = 3.66, SD = 0.64) are strengths, but channel process consistency and service configuration need improvement. DC

sub-dimensions—reconfiguration, seizing, and sensing capabilities—are strong, indicating adaptability.

Measurement Model Analysis: The measurement model analysis was conducted to assess the reliability, validity, and overall fit of the constructs used in the study. This process ensures that the observed variables accurately reflect the latent constructs, such as dynamic capability, multichannel integration quality, and bank performance. The analysis includes evaluating convergent validity, discriminant validity, and model fit indices using structural equation modeling (SEM) in AMOS.

Table 3. Factor Loading and Reliability Analysis.

Main Variables	Factor Loading	Sub-dimensions	Factor Loading	Items	Reliability
Dynamic Capability	.895	--> sc	.991	--> sc5	.992
			.978	--> sc4	
			.961	--> sc3	
			.988	--> sc2	
			.982	--> sc1	
	.809	-->szc	.976	--> szc5	.994
			.968	--> szc4	
			.992	--> szc3	
			.995	--> szc2	
			.990	--> szc1	
			.996	--> rc5	
			.988	--> rc4	
			.792	--> rc3	
			.990	--> rc2	
			.998	--> rc1	
Multichannel Integration Quality	.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	

Main Variables	Factor Loading	Sub-dimensions	Factor Loading	Items	Reliability
Bank Performance	.797	-->fp	.981	--> td4	.996
			.975	--> td3	
			.965	--> td2	
			.978	--> td1	
			.981	--> fp5	
			.995	--> fp4	
			.990	--> fp3	
			.897	--> fp2	
			.980	--> fp1	
			.959	--> mp5	
			.973	--> mp4	
			.951	--> mp3	
			.971	--> mp2	
			.940	--> mp1	
	.727	-->mp			.982

Source: Survey Data Analysis

The measurement model analysis shows strong factor loadings, confirming reliable relationships between main variables and their sub-dimensions. The dynamic capability has a high loading of 0.895, with sub-dimensions sc, szc, and rc showing loadings of 0.809, 0.792, and 0.792, indicating a well-represented concept. Multichannel integration quality

loads at 0.780, with csc as the strongest sub-dimension (0.818) among cc, pc, and aq. Bank Performance loads at 0.797, with both fp and mp contributing significantly at 0.727 each. Overall, these loadings confirm the model's reliability in capturing key constructs.

Table 4. Main Variables Validity Analysis.

Main Variables	CR	AVE	DC	MCIQ	BP
Dynamic Capability	0.872	0.694	0.833		
Multichannel Integration Quality	0.799	0.505	0.389	0.710	
Bank Performance	0.739	0.588	0.395	0.396	0.767

Source: Survey Data Analysis

The validity test results for the main variables indicate that the constructs are reliable and distinct. The Composite reliability values for DC (0.872), MCIQ (0.799), and BP (0.739) exceed 0.7, confirming strong internal consistency. Average Variance Extracted (AVE) values also meet the 0.50 threshold, supporting adequate convergent validity: DC

(0.694), MCIQ (0.505), and BP (0.588). Discriminant validity is established as each construct's AVE square root surpasses its correlations with other variables, indicating distinctiveness (DC's AVE square root of 0.833 exceeds its correlations with MCIQ and BP). Overall, the variables exhibit strong reliability, convergent validity, and discriminant validity.

Table 5. Sub-Dimensions Validity Analysis.

Sub-dimensions	CR	AVE	Sc	szc	rc	csc	cc	pc	aq	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	0.64	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	0.66	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		
fp	0.996	0.979	0.291	0.246	0.191	0.288	0.263	0.229	0.216	0.989	
mp	0.983	0.919	0.285	0.263	0.204	0.184	0.200	0.088	0.212	0.580	0.959

Source: Survey Data Analysis

Note: sc=sensing capability, szc=sensing capability, rc=reconfiguration capability, csc=channel service configuration, cc=channel consistency, pc=process consistency, aq=assurance quality, fp=financial performance and mp= market performance

The validity test for sub-dimensions confirms strong reliability, convergent validity, and discriminant validity. CR values, all above 0.70, range from 0.978 (cc) to 0.997 (rc), confirming internal consistency. AVE values exceed the 0.50 threshold, ensuring adequate convergent validity: sc (0.961), szc (0.969), and RC (0.987) accurately reflect their constructs. Discriminant validity is confirmed, as each sub-dimension's AVE square root surpasses its correlations with others (e.g., SC's AVE square root of 0.980 exceeds its correlations with szc and rc). These findings validate the sub-dimensions as reliable and distinct within the model.

Structural Model Analysis: This section examines the indirect effects of dynamic capabilities on bank performance through the mediating role of multichannel integration quality. The indirect effect of DC on BP via MCIQ underlines the importance of aligning dynamic capabilities with multichannel integration strategies. By doing so, banks can maximize their performance, benefiting from both operational improvements and enhanced customer relationships. This finding reinforces the mediating role of MCIQ as a critical mechanism linking DC to BP.

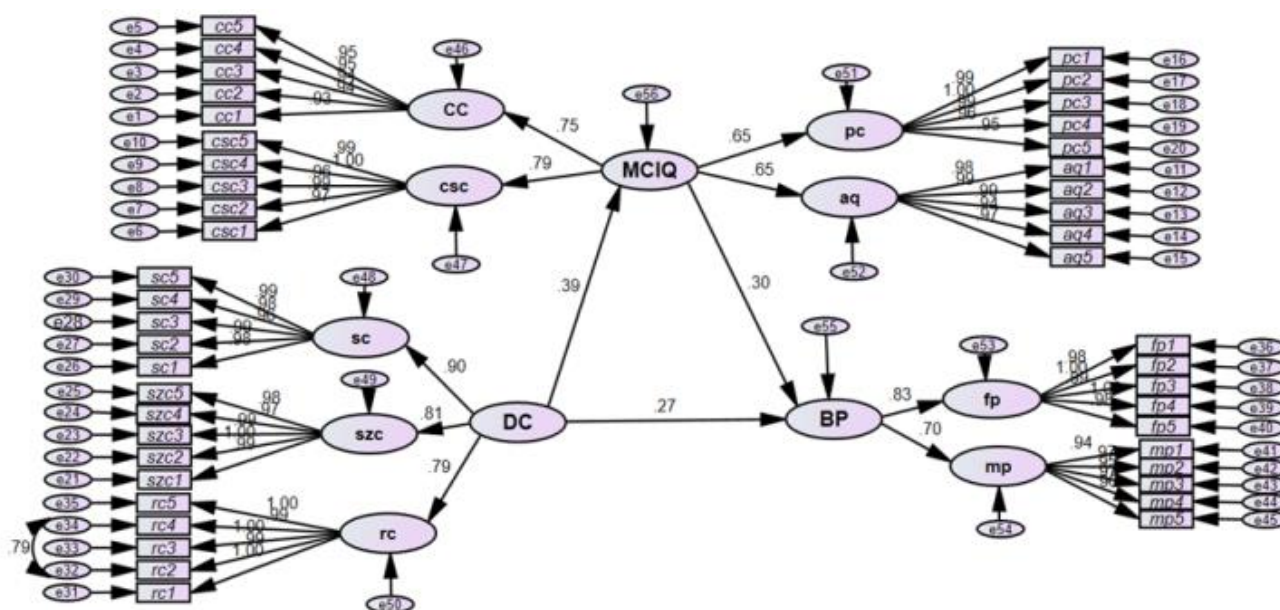
**Figure 2.** Mediation Model.

Table 6. Model Fit for Indirect Effect of DC on BP.

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

Source: Survey Data Analysis

Table 7 presents a model fit for the indirect effect of DC on BP. In this case, the model fit for the Chi- CMIN/DF is 2.220, which falls within the acceptable range of 1 to 3, suggesting an excellent fit. Next 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 7. Mediated Direct, Indirect, and Total Effects.

Hypothesis	Path	Estimate	LL	UL	P-value	Support
H1	DC → BP	0.27	0.045	0.428	0.018	Supported
H2	DC → MCIQ	0.39	0.206	0.535	0.008	Supported
H3	MCIQ → BP	0.30	0.095	0.473	0.016	Supported
H4	DC → MCIQ → BP	0.12	0.037	0.208	0.015	Supported
Total Effects	DC → BP (Direct + Indirect)	0.387	0.195	0.528	0.007	Supported

Source: Survey Data Analysis

This section provides a detailed analysis of the hypothesis testing results, which examine both the direct and indirect effects of dynamic capability on the bank performance, with the mediating role of multichannel integration quality. The findings are based on structural equation modeling (SEM), and statistical significance is assessed using confidence intervals (CIs) and p-values. In addition to the four hypotheses, the total effects of DC on BP, including both direct and indirect effects, are also analyzed.

H1: Effect of DC on BP (Direct Path= c'): The direct effect (c') represents the impact of dynamic capability on bank performance after controlling for the mediating variable, multichannel integration quality. In this analysis, the total effect (c) of DC on BP is 0.387, while the indirect effect (ab) through MCIQ is 0.117. The direct effect (c') is calculated as: $c' = c - ab$ $c' = 0.387 - 0.117 = 0.27$. This result indicates that after accounting for the mediation of MCIQ, DC still has a direct positive effect of 0.27 on BP. This suggests that while MCIQ partially mediates the relationship between DC and BP, DC

independently contributes to BP beyond its influence through MCIQ. The presence of both direct and indirect effects highlights the dual role of DC in enhancing BP, both through improving MCIQ and through its independent influence. Further statistical testing, such as bootstrapping, can be conducted to assess the significance of this mediation effect.

Accordingly, the analysis found that DC has a significant direct effect on BP, with an estimate of 0.27 ($p = 0.018$), and a 95% confidence interval ranging from 0.045 to 0.428. Since the confidence interval does not include zero, the direct effect is statistically significant. This finding suggests that banks with strong dynamic capabilities, such as the ability to sense market changes, seize opportunities, and reconfigure resources, tend to achieve higher performance outcomes. So the first hypothesis (H1) “DC has a significant direct effect on bank performance.” was accepted.

H2: Effect of DC on MCIQ (Indirect Effect Path 1): The second hypothesis (H2) suggested that DC positively

influences MCIQ, meaning that banks with stronger dynamic capabilities would exhibit higher multichannel integration quality. The results revealed that DC has a significant effect on MCIQ, with an estimate of 0.39 ($p = 0.008$), and a confidence interval of [0.206, 0.535]. Since the confidence interval does not include zero, this relationship is statistically significant. This indicates that banks with enhanced dynamic capabilities—such as the ability to adapt to market changes and leverage resources effectively—are more likely to improve the quality of their multichannel integration. So the second hypothesis (H2) “*dynamic capability has a significant direct effect on MCIQ.*” was accepted.

H3: Effect of MCIQ on BP (Indirect Effect Path 2): The third hypothesis proposed that MCIQ has a significant effect on BP, implying that banks with better multichannel integration quality will experience higher performance. The findings confirmed a significant effect of MCIQ on BP, with an estimate of 0.30 ($p = 0.016$), and a confidence interval of [0.095, 0.473]. Since the confidence interval does not include zero, this suggests that MCIQ contributes to improved bank performance. Banks that offer well-integrated service channels, providing a seamless and consistent customer experience across various platforms, tend to perform better in terms of customer satisfaction, operational efficiency, and financial outcomes. Therefore, H3 is supported, highlighting the importance of MCIQ in driving bank performance. So the third hypothesis (H3) “*MCIQ has a significant direct effect on bank performance.*” was accepted.

H4: The Indirect Effect of DC on BP via MCIQ: For the fourth hypothesis, it was checked if MCIQ mediates the relationship between DC and BP meaning that the influence of DC on BP may be partly or fully mediated by MCIQ. In this case, the indirect effect is quantified by the product of the effects of the two paths: a) the effect of dynamic capability on multichannel integration quality and b) the effect of MCIQ on bank performance. Accordingly, the indirect effect of DC on BP is obtained by multiplying the two coefficients that are $0.39 \times 0.30 = 0.12$. This means that in addition to the direct effect of DC on BP, a mean increase in BP of 0.12 units is added due to the impact of DC through MCIQ. This mediation analysis explains that MCIQ significantly mediates the association between DC and BP with the estimate of 0.12 ($p = 0.015$) at a confidence interval of [0.037 0.208]. Since the width of this confidence interval does not include zero that shows the partial mediation effect. Stated differently, the factor MCIQ partly mediates the effect of DC to boost its impact on BP. Therefore, H4: “*MCIQ significantly mediates the relationship between dynamic capability and bank performance*”, was accepted.

Total Effects: Direct + Indirect Effects of DC on BP: Since the total effect of DC on BP is computed by summing both the direct effect and the indirect effect via MCIQ, the direct effect of DC on BP is 0.27 and the indirect effect through MCIQ is 0.12. The total effect of DC on BP is thus the sum of these, estimated at 0.385 with a confidence interval of [0.195, 0.528],

with a p-value of 0.007. Since this confidence interval does not include zero, this shall be an estimate of the statistically significant total effect. This insinuates that DC has a huge influence on changing BP through both direct and indirect channels. The findings suggest that dynamic capabilities act to reinforce bank performance influences indirectly through the impact on the quality of multichannel integration toward improved performance. More precisely, DC leads to BP improvement through improvements in MCIQ, which in turn enhances bank performance. These findings highlight that dynamic capabilities significantly affect the ability of banks to adapt to changing market conditions and improve multichannel service integration. The analysis further underlines the mediating role of MCIQ between DC and BP, thus showing that those banks that invest in dynamic capabilities and integrated service delivery are likely to realize superior performance. The total effect analysis further emphasizes the fact that the effect of DC on BP is sizeable, both directly and indirectly via MCIQ.

Phase 2: Qualitative Data Analysis

Respondents Profile: The sample size in qualitative research is flexible and dependent on study design and population characteristics [52]. In this case, more researchers recommended data saturation is critical, ensuring comprehensive coverage by marking the point where no new insights or patterns emerge [53]. However it may vary across designs: theoretical saturation (no new theoretical insights), data saturation (no new patterns), code saturation (all codes captured), and meaning saturation (deep understanding achieved). Recommended sample sizes vary by method thematic analysis (12-20 participants), focus groups (4-12 groups), case studies (4-10 cases), grounded theory (20-30 participants), phenomenology (5-25 participants), narrative inquiry (3-10 narratives), ethnography (30-50 participants), content analysis (depends on text volume) and discourse analysis (15-30 texts) [53]. Based on the concept of data saturation, seven managers out of the 20 CBE branches of the Ambo district for qualitative data collection were used. By focusing on these seven branches, the study aimed to reach saturation in capturing the relevant perspectives and experiences of the bank managers. In the case of this study, 7 managers were used from the selected CBE branches based on the saturation principles. The qualitative data for this study was collected from seven bank managers across selected branches. In terms of gender distribution, all respondents were male (100%), with no female participants in the sample. Regarding educational qualifications, all participants held a master's degree or higher, while none had only a bachelor's degree. In terms of specialization, the majority of respondents had a background in accounting (57.14%), followed by management (28.57%) and economics (14.29%). This indicates that most participants had expertise in financial and managerial fields. Additionally, all respondents had more than 11 years of work experience, demonstrating significant industry expertise.

Thematic Analysis: Qualitative analysis is a broad approach that examines non-numerical data (interviews, focus groups, observations) to uncover patterns and meanings [39]. Thematic analysis (TA) is a specific qualitative method used to identify, analyze, and interpret themes within the data. As described by [50], TA involves coding data and organizing these codes into meaningful themes. TA may use deductive and inductive approaches. The deductive TA uses pre-existing theories to guide the analysis, searching for evidence of those

theories in the data, which is useful for testing hypotheses. Conversely, the inductive approach generates themes directly from the data without preconceived theories. For this study, the key measures were first identified using SLR for DCs including sensing capability (sc), seizing capability (szc), and reconfiguration capability (rc). For MCIQ channel service configuration (csc), channel consistency (cc), process consistency (pc), and assurance quality (aq) were used. Based on [50] the following steps were used.

Table 8. Thematic Analysis Process.

Step	Activities
1. Familiarization with Data	Interviews were carefully reviewed to understand the respondents' responses.
2. Generating Initial Codes	Codes were generated based on the systematic literature review (SLR) defined measures: For DCs: sc, szc, and rc, for MCIQ: csc, pc, cc, and aq.
3. Searching for Themes	The generated codes were grouped under pre-defined SLR themes across respondents' responses.
4. Reviewing Themes	The themes were refined to ensure accuracy with respondents' feedback.
5. Defining & Naming Themes	The themes were finalized: validated and refined.
6. Writing the Report	The final report integrated with SLR-derived measures and respondents' feedback, presenting insights for variables.

Source: [50]

Theme 1 Dynamic Capabilities Analysis: The interview results provide valuable insights into how the CBE applies the DCs, specifically based on the three sub-dimensions of sensing, seizing, and reconfiguration capability. These themes were identified through a systematic literature review (SLR) and then confirmed through responses provided by the interviewees. More in detail the responses of the respondents are discussed in the below paragraphs.

The first leading question was *“Does CBE use dynamic capability to explore opportunities and threats to improve bank performance, and how?”* In this case, the response to the respondents was YES. Based on this the first question was provided for respondents *“Does CBE sense opportunities and threats to improve its bank performance or MCIQ, and how?”* In case more respondents shared that “CBE senses opportunities utilizing its capacity by scanning its environments.” Further, the bank identifies customer trends to uncover unmet needs and develops targeted services that align with current market situations. Furthermore, respondents emphasized that “CBE senses external sources such as competitor shifts.” Another interviewee noted, “CBE stays ahead of the industry by identifying emerging technologies and customer preferences.” So these responses imply that the CBE trying to adapt, maintain competitiveness, and improve its overall performance by responding effectively to changes in the banking environment.

Further, the second question, *“Does CBE seize*

opportunities to improve its bank performance, MCIQ, and how?” was asked to respondents. For this more respondents explained that “CBE seizes opportunities by allocating resources to adapt to market changes.” By doing so, CBE ensures it can capitalize on emerging market opportunities swiftly, thereby enhancing its competitiveness and performance. Other respondents also emphasized that “CBE ensures opportunities,” which facilitates efficient rapid implementation of new strategies. Further respondents emphasized that “CBE fosters a culture of innovation, encouraging teams to develop creative solutions and new products tailored to evolving customer needs,” allowing the bank to continuously improve its performance and sustain long-term growth in a dynamic banking environment.

Further, the third question, *“Does CBE reconfigure resources and new capabilities to improve its performance, and how?”* was posed to respondents. They replied that “CBE reconfigures its internal processes by reallocating resources, integrating new technologies, and providing training programs to address skill gaps.” Other respondents elaborated, “CBE frequently reallocates resources to strategic initiatives, ensuring that key areas receive the necessary support to drive growth and performance.” Moreover, respondents highlighted that “CBE integrates new technologies into its operations, such as digital banking platforms and automation tools, to enhance operational efficiency and service delivery.” Further, respondents pointed out “CBE provides continuous training

programs for its employees to address skill gaps and improve their adaptability to new processes and technologies.” So these responses imply CBE is working to ensure sustained performance in long-term competitiveness.

Theme 2 Multichannel Integration Quality Analysis: In this case, the interview results provide a comprehensive understanding of how CBE uses MCIQ specifically focusing on four key sub-dimensions: channel service configuration (csc), channel consistency (cc), process consistency (pc), and assurance quality (aq).

Leading question *“Does CBE enhance its MCIQ to improve bank performance, and how?”* Also, in this case, more respondents replied YES. This basic question was analyzed using four specific questions. The first question was *“Does CBE configure service channels to improve bank performance, and how?”* For this question, more respondents replied that “CBE strategically improves its service channels to enhance customer experience and performance. Other interviewees explained, “The bank configures its channels by continuously enhancing functionality to ensure ease of access and use, which improves overall customer satisfaction and contributes to performance.” Also, other respondents emphasized that “integrating both digital and physical channels allows customers to choose their preferred mode of banking enhancing service delivery.”

The second question was *“Does CBE work for service channel content consistency to improve bank performance, and how?”* In this case, most interviewees emphasized that “CBE ensures content consistency by messaging across all service channels”. One participant noted, “CBE service content is aligned with core values and messaging across various platforms, which builds trust and strengthens brand recognition.” Another respondent added that “maintaining content consistency across channels created by a unifying customer experience,” which leads to higher satisfaction and customer loyalty, further improving the bank's performance.

The third question was *“Does CBE work for channel process consistency to improve its bank performance, and how?”* Also in this case the interviewees emphasized that “the bank works more for standardizing processes across all service channels.” Further in cases the participants shared, “the bank ensures process consistency across online banking, and branches by providing a smoother customer experience by contributing to better performance.”

Finally, the fourth question was *“Does CBE work for service assurance quality to improve its bank performance, and how?”* In this case, more respondents indicated that “CBE prioritizes service quality and reliability.” In this case, more interviewees explained, that “CBE conducts regular quality assurance checks and ensures high service standards through continuous staff training, leading to reliable, secure services.” Another respondent mentioned that “the bank focuses on service assurance by enhancing customer confidence”, which in turn improves customer satisfaction, loyalty, and the bank's performance in the market. In sum in

the case of the role of MCIQ for bank performance, the interview findings reveal that CBE strategically applies MCIQ to enhance bank performance through four key dimensions: channel service configuration, channel consistency, process consistency, and assurance quality. Overall, CBE's focus on improving MCIQ significantly boosts its performance by enhancing customer experience and operational effectiveness.

5. Mixed Result Analysis

Quantitative Key Findings of DC: In this case, the results of the mediation model were presented based on the analysis. Accordingly, for the first mediation model, the results showed a significant positive relationship across hypotheses. First, dynamic capability has a direct and positive impact on bank performance, with a coefficient of 0.27 and a p-value of 0.017, supporting H1. Second, DC positively influences multichannel integration quality, with a coefficient of 0.39 and a p-value of 0.008, supporting H2. Further MCIQ partially mediates the relationship between DC and BP, with a mediating effect of 0.116 and a p-value of 0.014, supporting H4. The total effect of DC on BP, combining both direct and indirect impacts through MCIQ, is 0.385 (p-value=0.007), emphasizing the critical role of DC and MCIQ in enhancing bank performance.

Quantitative Key Findings of MCIQ: The study finds a significant positive relationship between MCIQ and bank performance, with a coefficient of 0.30 and a p-value of 0.015, supporting Hypothesis 3. This implies that an improvement in MCIQ provides seamless and consistent service across various service multichannel integrations. The findings suggest that CBE enhances performance by investing in multichannel integration, which boosts customer satisfaction, and competitive advantage. These results align with existing literature, reinforcing the importance of MCIQ in driving bank performance and customer loyalty.

Qualitative Key Findings of DC: The interview findings confirm that the Commercial Bank of Ethiopia (CBE) effectively applies dynamic capabilities to enhance its bank performance and multichannel integration quality through sensing, seizing, and reconfiguration. CBE demonstrates a strong sensing capability by continuously scanning its environment to identify opportunities and threats. The bank analyzes customer trends to uncover unmet needs, monitors competitor shifts and market changes, and identifies emerging technologies and evolving customer preferences, allowing it to respond proactively to industry changes. In terms of seizing capability, CBE actively captures opportunities by allocating resources efficiently and fostering innovation. By directing resources towards capitalizing on market changes, the bank ensures swift responses to new opportunities, implements new strategies efficiently, and encourages employees to develop creative solutions and new banking products that align with evolving customer needs. Furthermore, CBE excels in

reconfiguration capability by continuously realigning internal resources and processes to maintain competitiveness. The bank reallocates resources strategically, integrates digital banking and automation for efficiency, and provides continuous training to bridge skill gaps and enhance adaptability.

Qualitative Key Findings of MCIQ: CBE enhances multichannel integration quality through four key dimensions: channel service configuration, channel consistency, process consistency, and assurance quality, all contributing to improved bank performance. The bank upgrades digital and physical platforms to enhance accessibility and offer customers multiple tailored banking options. To maintain a unified customer experience, CBE ensures content consistency across all service channels, fostering brand recognition, strengthening trust, and improving customer retention. The bank standardizes processes across service channels to reduce errors, improve efficiency, and ensure a seamless banking experience. Furthermore, CBE prioritizes service reliability and quality assurance through regular evaluations and continuous staff training, ensuring secure and high-standard banking services. By optimizing service delivery, ensuring consistency, and maintaining high standards, CBE improves operational effectiveness, customer experience, and overall performance.

6. Integrated Discussion

Dynamic Capability Discussion: Dynamic capability plays a great role in enhancing bank performance and multichannel integration quality. Specifically, sensing, seizing, and reconfiguration capabilities enable banks to adapt to market changes, optimize resources, and restructure operations to maintain competitiveness. Sensing capabilities allow CBE to monitor external changes, identify market opportunities, and anticipate risks [54, 55]. Seizing capabilities ensure effective resource allocation, helping CBE capitalize on opportunities such as digital banking expansion [56, 57]. Reconfiguration capabilities enable CBE to adjust internal processes and integrate new technologies for improved service delivery [58, 59]. The study finds that MCIQ partially mediates the relationship between DCs and BP, meaning that while DCs enhance bank performance, this effect is amplified when digital and physical service channels are seamlessly integrated. These findings align with prior research on the role of DCs in firm performance, particularly in dynamic and uncertain environments [16]. Financially, DCs improve profitability, revenue growth, and financial stability, while also strengthening customer satisfaction, resilience, and supply chain capabilities [60]. Additionally, reconfiguration fosters innovation by enabling CBE to introduce new products, services, and digital solutions [29, 61]. A key finding is the role of DCs in MCIQ adoption, facilitating digital banking integration and operational efficiency. This confirms prior research on how dynamic capabilities drive digital transformation and business model innovation [62, 63].

Furthermore, in emerging economies, DCs help firms navigate regulatory uncertainty and market volatility, reinforcing adaptability and long-term sustainability [13, 64]. Overall, this study highlights the critical role of DCs in improving BP through MCIQ, emphasizing their importance for banks seeking to maintain competitive advantage in a rapidly evolving financial landscape.

Multichannel Integration Quality Discussion: Further the study examines the impact of multichannel integration quality on bank performance, revealing a significant positive relationship. Both financial and non-financial aspects of BP benefit from enhanced MCIQ, as seamless service across multiple channels improves customer satisfaction and competitiveness, ultimately contributing to financial performance and overall success. The findings align with previous research. [48] Emphasized key dimensions of MCIQ, including channel choice breadth, service transparency, content consistency, and process consistency, which are reflected in CBE's strategy of enhancing channel-service configuration and content consistency. Similarly [65], highlighted the importance of integrated interactions for successful multichannel integration, which aligns with CBE's approach of synchronizing digital and physical platforms. [66] Further stressed the role of process consistency, content consistency, and assurance quality, showing that CBE's focus on these factors enhances efficiency, reduces errors, and builds customer trust. Additionally, [67] emphasized the significance of service quality across pre-purchase, purchase, and post-purchase phases, which CBE integrates to ensure a consistent customer experience, fostering loyalty and long-term success. Financially, the study's quantitative findings indicate that improved MCIQ positively influences profitability, revenue growth, and cost efficiency. Banks that successfully integrate digital and physical platforms offer seamless service experiences, leading to higher customer satisfaction. Aligning transaction information management, product and pricing management, and order fulfillment across all touch points enhances customer trust and minimizes financial risks. These findings are consistent with [2], who emphasized that channel-service configuration quality, content consistency, and assurance quality drive cost-effectiveness and financial stability, ultimately boosting revenue and profitability. Beyond financial outcomes, the study highlights significant non-financial benefits of MCIQ. Enhanced MCIQ improves customer experience, loyalty, and brand reputation by ensuring service reliability and consistency. [68] Supported this by demonstrating how service consistency and channel integration directly influence customer satisfaction and performance outcomes. One of the most critical non-financial outcomes is increased customer trust. [69] Highlighted that effective integration of transaction management, product pricing, and order fulfillment ensures accurate and timely information across multiple channels, strengthening customer trust and loyalty.

Table 9. Summary of Mixed Method.

Areas		Quantitative	Qualitative	Mixed Method
Introduction	Background	Focus on measurable relationships between variables.	Focus on in-depth exploration of the phenomenon.	Integrates both empirical and interpretative
	Research problem	Framed around gaps in empirical studies.	Focuses on gaps in understanding lived experiences.	Justifies the need for both quantitative and qualitative insights.
	Hypotheses	Clearly defined hypotheses.	No hypotheses; open-ended research questions.	Includes for hypotheses quantitative and research questions for qualitative.
	Objectives	Aim at hypothesis testing.	Emphasize deep insight into concepts.	Combine testing and exploration.
	Research questions	Focus on statistical relationships.	No hypotheses; open-ended research questions.	common
	Significance	Emphasizes numerical impact.	Emphasizes theoretical and practical contributions.	common
Literature Review	Theoretical framework	Built on empirical studies with statistical models.	Based on interpretive and conceptual models.	Integrates from both methodologies.
	Research gap	Focuses on lack of statistical clarity.	Focuses on conceptual limitations.	Highlights the lack of integrated perspectives.
	Empirical review	Focuses on quantitative studies.	Emphasizes qualitative studies.	Discusses both quantitative and qualitative studies.

Source: Survey Data

Table 10. Summary of Mixed Method.

Research Methodology	Research Approach	Deductive hypothesis testing.	Inductive theory building.	Combines both deductive (hypothesis testing) and inductive (exploratory)
	Philosophical Paradigm	Post-positivism.	Constructivism.	Pragmatic
	Sample Size	Large sample size,	Small sample size	Combines both.
	Sampling	Random and stratified sampling.	Purposive/saturation sampling.	Both used.
	Data Collection	Structured questionnaire.	Interviews	Surveys (quantitative) + interviews (qualitative).
	Data Analysis	SEM-AMOS	Thematic analysis.	Integrated analysis
	Validity & Reliability	Cronbach's alpha, CFA.	Credibility, dependability.	Validity through comparison of results.

Source: Survey Data

Table 11. Summary of Mixed Method.

Measurement Model Analysis	Uses reliability testing, factor analysis, and SEM for construct validity. - Focus on model fit.	Not applicable (qualitative research doesn't use measurement models).	Uses measurement models for QUAN and validates QUAL themes. Triangulation of findings
Descriptive Analysis	Uses tables and graphs with mean, and standard deviation.	Describes respondents' profiles with narrative summaries.	Integrates findings using a comparative approach.
Structural Mediation Model Analysis	Uses SEM models to assess mediation effects.	Not applicable (qualitative research does not use SEM).	Uses SEM for QUAN mediation analysis. Integrated discussion of findings.
Qualitative Data Analysis	Not applicable (quantitative research does not use qualitative data analysis).	Thematic analysis of interview transcripts using key themes.	The 4 themes were analysed to support QUAN findings.
Mixed Analysis	Purely quantitative.	Purely qualitative.	Integrates QUAN and qual findings.
Summary, Conclusions, and Implications	Summarizes key statistical findings.	Summarizes key qualitative themes.	Provides integrated Summary, conclusions, and recommendations.

Source: Survey Data

7. Summary

The study integrates quantitative and qualitative approaches to examine the role of dynamic capabilities (DC) and multichannel integration quality (MCIQ) in enhancing bank performance (BP) at the Commercial Bank of Ethiopia (CBE). Quantitative findings reveal a significant positive relationship between DC and BP (H1), DC and MCIQ (H2), and a partial mediating effect of MCIQ between DC and BP (H4). MCIQ also directly influences BP (H3). The qualitative analysis confirms that CBE effectively applies sensing, seizing, and reconfiguration capabilities, with strong MCIQ dimensions, such as service configuration and consistency, driving performance. The integration of both methods provides a deeper understanding of the mechanisms that link DC and MCIQ to BP, supporting the relevance of these capabilities for organizational adaptability, customer satisfaction, and competitive advantage.

8. Conclusion

The study underscores the significant role of dynamic capabilities and multichannel integration quality in driving bank performance. The findings suggest that CBE's use of DCs enables it to anticipate and respond to market changes, fostering operational efficiency and competitive advantage. The partial mediating role of MCIQ highlights the importance of seamless service integration across channels in enhancing customer experience and financial outcomes. Both quantitative and qualitative insights demonstrate that strategic investments in digital and physical service channels significantly improve performance metrics like customer satisfaction, loyalty, and profitability.

9. Implications

The results have practical implications for banking institutions, particularly in emerging economies. Financial institutions should focus on building dynamic capabilities, especially in sensing, seizing, and reconfiguration, to remain adaptable and competitive. Additionally, enhancing MCIQ through consistent service across multichannel platforms can boost customer satisfaction and financial performance. For future research, exploring the specific mechanisms of how DCs influence MCIQ adoption and its impact on BP could provide further insights. The integration of quantitative and qualitative methods in this study offers a comprehensive view, suggesting that similar approaches can be valuable for future research in banking and other service industries.

10. Future Research

Future studies could extend this research by investigating the role of environmental factors such as market dynamism or technological disruptions in shaping the relationship between DC, MCIQ, and BP. Furthermore, research could explore how different dimensions of MCIQ, such as process and content consistency, influence various aspects of BP in other sectors. Longitudinal studies could also be beneficial in examining how the impact of dynamic capabilities evolves in response to shifting market conditions. Additionally, future research might focus on cross-country comparisons, particularly in emerging markets, to explore the universal applicability of the findings and the contextual variations in implementing DCs and MCIQ.

Abbreviations

DC	Dynamic Capability
MCIQ	Multichannel Integration Quality
BP	Bank Performance
CBE	Commercial Bank of Ethiopia
SEM	Structural Equation Modeling
AMOS	Analysis of Moment Structures
QUAN-qual	Quantitative-qualitative

Author Contributions

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Conflicts of Interest

The authors declare no conflicts of interest.

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