



The Impact of E-Marketing on Improving Banking Service Quality from the Employees' Perspective: A Field Study at Al-Aman Bank – Abu Salim Branch

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أثر التسويق الإلكتروني في تحسين جودة الخدمات المصرفية من وجهة نظر الموظفين: دراسة ميدانية
على مصرف الأمان فرع أبوسليم

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Abstract

This study examines how e-marketing can improve banking service quality from the perspective of employees at Aman Bank's Abu Salim Branch. It combines a reanalysis of an employee questionnaire (n = 40) with a contemporary literature synthesis and an applied managerial framework. The supplied survey contains eleven five-point Likert items covering perceived service-quality benefits, organizational enablers, employee readiness, and implementation barriers. Item means, sample standard deviations, confidence intervals, relative-importance indices, and favorable-response shares were calculated from the published frequency counts. Employees reported strong agreement that e-marketing helps the branch meet customer requirements (M = 4.55) and that staff training is crucial (M = 4.50). The five direct service-quality benefit items averaged 4.23, while the four readiness/enabler items averaged 4.08. However, technical constraints (M = 4.03) and high implementation cost (M = 4.13) were also salient. Employee participation in strategy design was the weakest positive item (M = 3.63; 65% favorable), identifying a governance gap between digital ambition and operational ownership. Recent official evidence shows that Libya's digital environment is expanding rapidly: internet penetration reached 88.5% in late 2025, and the Central Bank of Libya reported strong growth in electronic-payment activity during the first half of 2025. The results support an employee-centred, closed-loop view of e-marketing: digital communications improve service quality when messages, channels, branch processes, staff competence, and service recovery are aligned. Because only aggregate employee responses were available and the fieldwork date was unspecified, causal inference, scale reliability, and customer-side validation are not possible. The report therefore separates observed findings from illustrative cases and proposes a phased measurement architecture for future branch-level testing.

Keywords: e-marketing; electronic banking; service quality; employee perspective; digital transformation; Aman Bank; Libya; Abu Salim.

الملخص

تبحث هذه الدراسة في كيفية مساهمة التسويق الإلكتروني في تحسين جودة الخدمات المصرفية من وجهة نظر موظفي فرع مصرف الأمان بمدينة أبوسليم. وتجمع الدراسة بين إعادة تحليل استبيان موجه للموظفين (عدد أفراد العينة = 40) مع

مراجعة تركيبية للأدبيات الحديثة، إضافة إلى تقديم إطار إداري تطبيقي. يتضمن الاستبيان المتوفر أحد عشر بنداً وفق مقياس ليكرت الخماسي، تغطي الفوائد المتصورة لجودة الخدمة، والعوامل التنظيمية المساندة، واستعداد الموظفين، ومعوقات التنفيذ. وقد تم حساب المتوسطات الحسابية، والانحرافات المعيارية للعينة، وفواصل الثقة، ومؤشرات الأهمية النسبية، ونسب الاستجابات الإيجابية بالاعتماد على التكرارات المنشورة.

أظهرت نتائج الدراسة وجود مستوى مرتفع من الاتفاق بين الموظفين حول مساهمة التسويق الإلكتروني في مساعدة الفرع على تلبية احتياجات العملاء (المتوسط = 4.55)، وكذلك أهمية تدريب الموظفين (المتوسط = 4.50) وبلغ المتوسط العام لبنود فوائد تحسين جودة الخدمة المباشرة الخمسة 4.23، في حين بلغ متوسط بنود الجاهزية والعوامل الداعمة الأربعة 4.08. ومع ذلك، برزت القيود التقنية (المتوسط = 4.03) وارتفاع تكاليف التنفيذ (المتوسط = 4.13) باعتبارها من أبرز التحديات المؤثرة.

كما أظهرت النتائج أن مشاركة الموظفين في تصميم استراتيجيات التسويق الإلكتروني كانت أضعف البنود الإيجابية (المتوسط = 3.63؛ بنسبة استجابة إيجابية بلغت 65%)، مما يشير إلى وجود فجوة إدارية بين الطموح نحو التحول الرقمي وبين امتلاك الموظفين للدور التشغيلي في عملية التنفيذ.

وتشير الأدلة الرسمية الحديثة إلى أن البيئة الرقمية في ليبيا تشهد توسعاً متسارعاً؛ حيث بلغت نسبة انتشار الإنترنت 88.5% في أواخر عام 2025، كما أشار مصرف ليبيا المركزي إلى نمو ملحوظ في نشاط خدمات الدفع الإلكتروني خلال النصف الأول من عام 2025. وتدعم نتائج الدراسة تبني منظور يركز على الموظفين ضمن نموذج حلقي متكامل للتسويق الإلكتروني، بحيث تسهم الاتصالات الرقمية في تحسين جودة الخدمات عندما تكون الرسائل الرقمية، والقنوات المستخدمة، وإجراءات الفروع، وكفاءة الموظفين، والبيانات معالجة شكاوى العملاء مترابطة ومتناسقة.

ونظراً لأن البيانات المتاحة اقتصر على الاستجابات الإجمالية للموظفين، مع عدم تحديد تاريخ إجراء الدراسة الميدانية، فإن الدراسة لا تسمح باستخلاص علاقات سببية أو اختبار موثوقية المقياس أو التحقق من وجهة نظر العملاء. لذلك، تميز الدراسة بين النتائج المرصودة والحالات التوضيحية، وتقترح إطاراً تدريجياً للمقياس يمكن استخدامه مستقبلاً لاختبار أثر التسويق الإلكتروني على مستوى فروع المصارف.

الكلمات المفتاحية: التسويق الإلكتروني؛ الخدمات المصرفية الإلكترونية؛ جودة الخدمة؛ منظور الموظفين؛ التحول الرقمي؛ مصرف الأمان؛ ليبيا؛ أبو سليم.

1. Introduction

1.1 Background

Bank e-marketing is no longer limited to promotional posts or online advertisements. It is an integrated system of digital content, customer acquisition, relationship management, service education, feedback, and recovery operating across websites, mobile applications, messaging platforms, social media, email, and branch-assisted digital touchpoints. In retail banking, the promise communicated by a campaign is experienced through account access, transaction completion, response time, information accuracy, privacy, security, and the quality of human support. Consequently, e-marketing and service delivery are analytically distinct but operationally interdependent. A message that raises demand without strengthening response capacity can reduce perceived quality; conversely, service improvements that are not communicated clearly may remain underused.

This interdependence is especially important in Libya's rapidly expanding digital environment. DataReportal estimates 6.62 million internet users and 88.5% internet penetration in late 2025, alongside 14.9 million active cellular connections and 94.4% broadband-capable connections (Kemp, 2025). The Central Bank of Libya (CBL) reported that point-of-sale terminals increased by 92% and electronic transactions by 75% in the first half of 2025 compared with the same period of 2024 (Central Bank of Libya, 2025b). The launch of the LYPay website and complaint/inquiry channel further indicates an institutional emphasis on secure, accessible instant-payment services (Central Bank of Libya, 2025a). These developments make the quality of digital communication and channel execution a core managerial concern rather than a peripheral marketing issue.

Aman Bank is listed by the CBL as a Libyan commercial bank, and its current Aman Bank mobile app provides account information, transfers, OnePay and LYPay services, card management, and foreign-currency account functions (Central Bank of Libya, 2026; Google Play, 2026). The Abu Salim Branch therefore operates inside a national and bank-level digital

ecosystem, even when many customer journeys still depend on branch employees. Employees translate digital promises into explanations, troubleshooting, complaint handling, cross-channel continuity, and trust. Their perspective is strategically useful because they observe recurring service failures and customer questions, but it is not identical to the customer's evaluation of quality.

1.2 Problem statement

The central problem is not whether a bank uses digital marketing tools, but whether those tools measurably improve reliable, responsive, clear, secure, and customer-centred service. The supplied field study reports substantial employee support for e-marketing, yet it also indicates infrastructure and cost barriers and relatively weaker employee participation in strategy design. Without a measurement architecture linking campaign activity to customer journeys and operational outcomes, favorable attitudes may coexist with service bottlenecks. The study therefore asks how employees' perceptions can be interpreted rigorously and converted into a testable branch-level improvement program.

1.3 Aim, objectives, and contribution

The aim is to evaluate the perceived impact of e-marketing on banking service quality at Aman Bank–Abu Salim Branch and to expand the original field study into an evidence-oriented managerial framework.

- Recalculate the employee questionnaire using transparent Likert equations and uncertainty estimates.
- Synthesize recent e-banking, social-media marketing, service-quality, and employee digital-transformation literature.
- Compare traditional promotion with integrated e-marketing and compare alternative service-quality measurement frameworks.
- Develop applied, explicitly illustrative cases linking digital campaigns to conversion, service performance, and economic value.
- Recommend a phased dashboard and research design that can validate employee perceptions with customer and operational evidence.

The contribution is threefold. Empirically, the report extracts more information from the available aggregate frequencies while preserving their limits. Conceptually, it positions employee capability and participation as mechanisms between e-marketing and service quality. Managerially, it supplies equations, decision rules, and an implementation roadmap that a branch can apply without confusing illustrative numbers with observed results.

2. Literature Review

2.1 From digital promotion to customer-journey management

Contemporary digital marketing combines market insight, value communication, channel design, data, automation, and iterative optimization rather than treating the internet as a simple advertising medium (Chaffey & Ellis-Chadwick, 2022). Marketing 5.0 similarly emphasizes technology applied to human needs and customer experience rather than technology as an end in itself (Kotler et al., 2021). In banking, this broader interpretation is essential because the marketed object is an ongoing relationship governed by trust, regulation, service recovery, and repeated transactions. Relevant e-marketing dimensions therefore include information quality, interactivity, personalization, accessibility, responsiveness, and trust-building communication. Social media can strengthen bank loyalty through customization, entertainment, promotions, and—critically—brand trust (Althuwaini, 2022). Yet reach and engagement are intermediate indicators. A post may attract attention while the subsequent digital or branch process remains slow or unclear. Effective banking e-marketing should therefore be evaluated against customer-journey outcomes such as successful onboarding, first-contact resolution, abandonment, complaint incidence, and continued use.

2.2 Service-quality models for banking and digital channels

Banking service quality can be examined through several complementary lenses. The Bank Service Quality (BSQ) scale adapts quality measurement to banking through effectiveness and assurance, access, price, tangibles, service portfolio, and reliability (Bahia & Nantel, 2000). E-S-QUAL focuses on online efficiency, fulfilment, system availability, and privacy, with recovery dimensions for responsiveness, compensation, and contact (Parasuraman et al., 2005). Mobile-banking research extends the domain to convenience, accuracy, ease of use, speed, security, application features, communication, and continuous improvement (Jun & Palacios, 2016). Arcand et al. (2017) further show that security/privacy and practical utility support trust, while enjoyment and sociality can influence relational quality.

These models should not be treated as interchangeable. BSQ covers the wider bank relationship and includes price, branch tangibles, and portfolio breadth; E-S-QUAL is strongest for digital transaction execution; mobile-banking models capture device-specific convenience and interface experience. For the present employee study, a hybrid interpretation is appropriate: e-marketing influences what customers know and expect, while service quality is realized through both digital execution and employee-supported recovery.

2.3 Empirical relationships: quality, satisfaction, loyalty, and retention

Empirical work generally supports a positive relationship between electronic banking service quality and satisfaction or loyalty, although the relative importance of dimensions varies by context. Shankar and Jebarajakirthy (2019) model service quality, satisfaction, trust, and loyalty through moderated mediation. Ayinaddis et al. (2023) report that e-banking service quality contributes to satisfaction and loyalty in an emerging-market setting. Dangaiso et al. (2024) find that internet-banking quality supports e-satisfaction and electronic word of mouth, which in turn relate to retention. Kappil and Santhi (2025) show that reliability, website design, and privacy/security significantly influence satisfaction, while customer involvement moderates selected paths. Kim and Yang (2025) similarly emphasize digital quality as an antecedent of satisfaction and brand loyalty under uncertainty.

The combined evidence supports a sequence rather than a single direct effect: e-marketing shapes awareness, expectations, and use; digital and human service processes determine actual performance; perceived quality influences satisfaction and trust; and these relational outcomes affect advocacy and retention. This sequence also explains why campaign effectiveness cannot be inferred from impressions alone. The marketing message and the service system jointly determine the result.

2.4 Employee capability, participation, and digital transformation

Employees are not passive recipients of a bank's digital strategy. They explain products, identify repeated customer pain points, recover failed journeys, and provide the operational information required to improve content. Vignesh (2022) identifies training, skill enhancement, implementation obstacles, and perceived customer satisfaction as central topics in employees' assessment of digital banking. Annisa et al. (2024) find that digital culture, competence, and leadership contribute to banking employee performance, although self-efficacy does not mediate every relationship. These findings support a socio-technical view: technology investment matters, but participation, role clarity, competence, and leadership determine how effectively it is used.

From this perspective, employees influence service quality through three pathways. First, competence determines whether staff can explain and troubleshoot digital services. Second, participation allows frontline knowledge to shape campaign claims, frequently asked questions, and service design. Third, response ownership reduces the gap between a digital inquiry and a resolved banking need. Employee participation is therefore a governance variable, not merely a satisfaction variable.

2.5 Synthesis and research gap

Table 1. Literature synthesis and the unresolved integration problem

Stream	Core dimensions	Analytical value	Limitation for this case	Key sources
E-S-QUAL	Efficiency, fulfilment, availability, privacy; recovery	Strong digital execution lens	Not bank-specific; customer data required	Parasuraman et al. (2005)
BSQ	Assurance, access, price, tangibles, portfolio, reliability	Captures broader bank relationship	Predates mobile-first journeys	Bahia & Nantel (2000)
Mobile SQ	Convenience, accuracy, speed, security, features, support	Channel-specific detail	May omit campaign and branch integration	Jun & Palacios (2016); Arcand et al. (2017)
E-marketing	Content, interactivity, personalization, social engagement	Explains expectations and acquisition	Reach does not prove service improvement	Chaffey & Ellis-Chadwick (2022); Althuwaini (2022)
Employee digital capability	Culture, competence, leadership, participation	Explains implementation mechanism	Often separated from customer quality models	Vignesh (2022); Annisa et al. (2024)

Source: Author synthesis of the references listed in the final reference section.

Table 1 identifies the central gap: research often examines marketing, digital service quality, or employee transformation separately. The Abu Salim case requires an integrated model because a branch employee can observe the junction at which digital promises meet customer questions and operational constraints. The study therefore conceptualizes e-marketing as an upstream capability whose effect on service quality is transmitted through employee competence, participation, and cross-channel process alignment, and conditioned by infrastructure, cost, security, and governance.

3. Institutional and Digital Context

3.1 Aman Bank and current digital touchpoints

The CBL commercial-bank directory identifies Aman Bank and links to its institutional website (Central Bank of Libya, 2026). The current Aman Bank app listing describes instant, secure access to accounts, balance and statement inquiries, prepaid-card functions, transfers between Aman Bank accounts, OnePay and LYPay payments, local-card management, and dollar-account management (Google Play, 2026). This feature set means that branch e-marketing can support more than awareness: it can educate customers about specific self-service journeys, establish realistic expectations, reduce avoidable branch visits, and direct customers to recovery channels when a digital task fails.

Table 2. Public evidence shaping the Abu Salim e-marketing opportunity

Context	Published evidence	Implication	Source
National connectivity	6.62m internet users; 88.5% penetration at end-2025	Large reachable audience, but 11.5% remained offline	Kemp (2025)
Mobile environment	14.9m connections; 94.4% broadband-capable	Mobile-first design is logical; connections are not unique people	Kemp (2025)
Payments expansion	POS +92%; electronic transactions +75% in H1 2025 YoY	Growing use increases both opportunity and support demand	Central Bank of Libya (2025b)
Instant-payment ecosystem	LYPay information, participating banks, complaints and inquiries	Marketing must include education and recovery paths	Central Bank of Libya (2025a)
Bank app	Transfers, payments, cards, statements, foreign-currency functions	Content can be organized around real customer jobs	Google Play (2026)
Financial inclusion evidence	Libya-specific Global Findex 2025 microdata; national 2024 survey	Future research can benchmark account and digital-use patterns	World Bank (2025)

Sources are official or publisher-hosted pages; figures reflect the stated source dates.

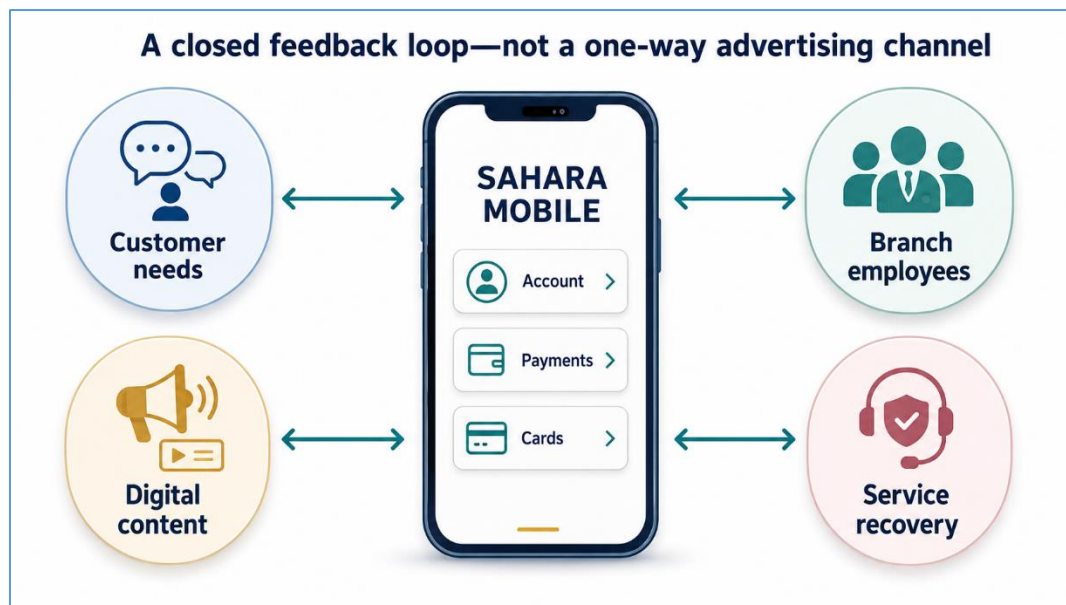


Figure 1. Aman Bank's employee-supported digital service ecosystem

Source: Original illustration developed for this study; touchpoints reflect the Aman Bank app feature description (Google Play, 2026).

4. Conceptual Framework, Propositions, and Equations

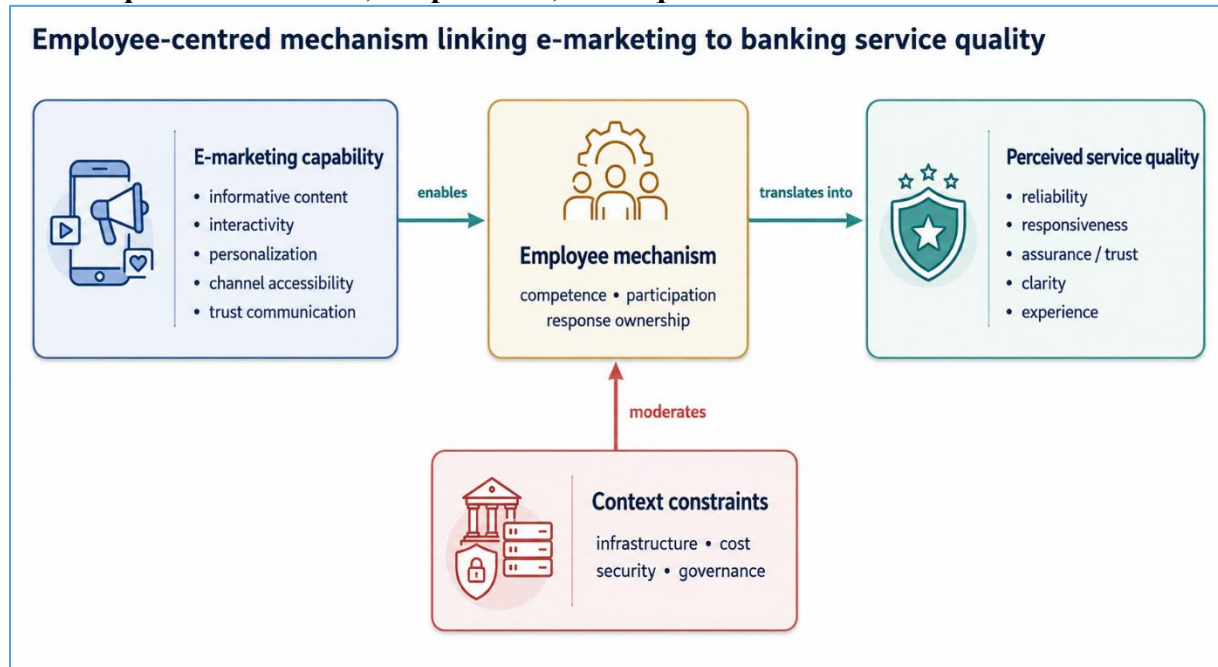


Figure 2. Conceptual framework linking e-marketing, employee mechanisms, and service quality

Source: Author-developed synthesis of Chaffey and Ellis-Chadwick (2022), Parasuraman *et al.* (2005), Vignesh (2022), and Annisa *et al.* (2024).

4.1 Constructs and propositions

Table 3. Operational definition of the conceptual constructs

Construct	Dimensions	Indicative measures
E-marketing capability	Information quality, interaction, personalization, accessibility, trust communication	Content accuracy; response SLA; targeted journeys; channel reach
Employee mechanism	Digital competence, participation, response ownership	Training completion; knowledge score; co-design rate; first-contact resolution
Service quality	Reliability, responsiveness, assurance, clarity, experience	Failure rate; response time; trust rating; comprehension; customer effort
Context constraints	Infrastructure, cost, security, governance	Uptime; budget; incident indicators; approval cycle time

- P1: Higher e-marketing capability is positively associated with employee-perceived banking service quality.
- P2: Employee digital competence and participation transmit part of e-marketing's association with service quality.
- P3: Infrastructure weakness, implementation cost, security concerns, and slow governance reduce the realized service-quality effect.
- P4: Service-quality outcomes mediate the relationship between campaign activity and customer satisfaction, advocacy, or retention.

4.2 Measurement equations

For an item with response frequencies f_k and Likert scores $x_k \in \{5, 4, 3, 2, 1\}$, the employee-perception mean is:

$$\bar{x}_j = (\sum_k f_{jk} x_k) / n_j \quad (1)$$

where j indexes the survey item and n_j is the sum of its category frequencies.

$$s_j = \sqrt{[\sum_k f_{jk}(x_k - \bar{x}_j)^2 / (n_j - 1)]} \quad (2)$$

This frequency-weighted sample standard deviation preserves within-item dispersion but cannot recover correlations between different items.

$$CI_{95\%} = \bar{x}_j \pm t_{0.975, n-1}(s_j / \sqrt{n_j}) \quad (3)$$

Intervals quantify uncertainty around an item mean under the usual independent-sampling approximation.

$$RII_j = (\bar{x}_j / 5) \times 100 \quad (4)$$

The relative-importance index rescales agreement to 0–100% of the maximum possible score.

$$\text{Favorable}_j = (f_{SA} + f_A) / n_j \times 100 \quad (5)$$

SA and A denote strongly agree and agree.

For a future respondent-level model, the testable relationship can be represented as:

$$SQ_i = \beta_0 + \beta_1 EM_i + \beta_2 COMP_i + \beta_3 PART_i + \beta_4 (EM_i \times INFRA_i) + \gamma' Z_i + \varepsilon_i \quad (6)$$

SQ is service quality; EM e-marketing capability; COMP competence; PART participation; INFRA infrastructure readiness; Z control variables. Equation 6 is proposed, not estimated from the aggregate data.

5. Methodology and Data-Quality Boundary

5.1 Design and source material

The empirical component is a secondary reanalysis of the supplied Arabic field-study document. That document states that 40 paper questionnaires were distributed directly to employees of Aman Bank–Abu Salim Branch and all 40 were returned over a ten-day collection period, producing a stated response rate of 100%. The fieldwork date, sampling frame, employee population, respondent selection procedure, interview protocol, and ethics/consent procedure are not reported. The questionnaire contains three demographic variables and eleven substantive Likert statements.

5.2 Data preparation and integrity checks

The eleven substantive items were transcribed from the summary frequency table and checked against the item-level tables. One inconsistency was found. The summary row for employee participation (Q9) reports 8, 18, 7, 5, and 0 responses, which sums to 38; the detailed Q9 table reports 8, 18, 7, 5, and 2, which sums to the stated sample of 40. The detailed table was used because it reconciles with $n = 40$. No other substantive row required reconciliation. This decision is disclosed so the analysis remains reproducible.

5.3 Analysis

Each response category was scored from 5 (strongly agree) to 1 (strongly disagree). Equations 1–5 were used to calculate item means, sample standard deviations, t-based 95% confidence intervals, RII values, and favorable-response shares. Three descriptive domains were formed: direct service-quality benefits (Q1–Q5), readiness/enablers (Q6–Q9), and perceived barriers

(Q10–Q11). The barrier domain is reported separately because higher agreement indicates a stronger constraint, not better performance. Domain means are unweighted averages of item means.

5.4 What cannot be estimated

NO PSEUDO-INFERENCE

Because the source provides aggregated marginal frequencies rather than respondent-level records, this report does not calculate Cronbach’s alpha, inter-item correlations, factor analysis, regression, mediation, moderation, or demographic subgroup tests. Those statistics require the row-level response matrix. A 100% response rate also does not eliminate coverage, social-desirability, or selection bias.

The survey measures employee perceptions of likely service-quality effects. It does not measure customers’ expectations or experiences, digital-channel uptime, transaction success, complaint resolution, or financial value. Accordingly, the results are best treated as diagnostic evidence about organizational beliefs and implementation priorities. Triangulation is required before causal or performance claims can be made.

6. Case Study I: Employee Survey Reanalysis

6.1 Respondent profile

Table 4. Demographic profile of employee respondents (n = 40)

Variable	Category	n	%
Gender	Male	34	85.0%
Gender	Female	6	15.0%
Age	Under 30	12	30.0%
Age	30–40	17	42.5%
Age	40–50	3	7.5%
Age	Over 50	8	20.0%
Experience	Under 5 years	2	5.0%
Experience	5–10 years	7	17.5%
Experience	10–15 years	19	47.5%
Experience	Over 15 years	12	30.0%

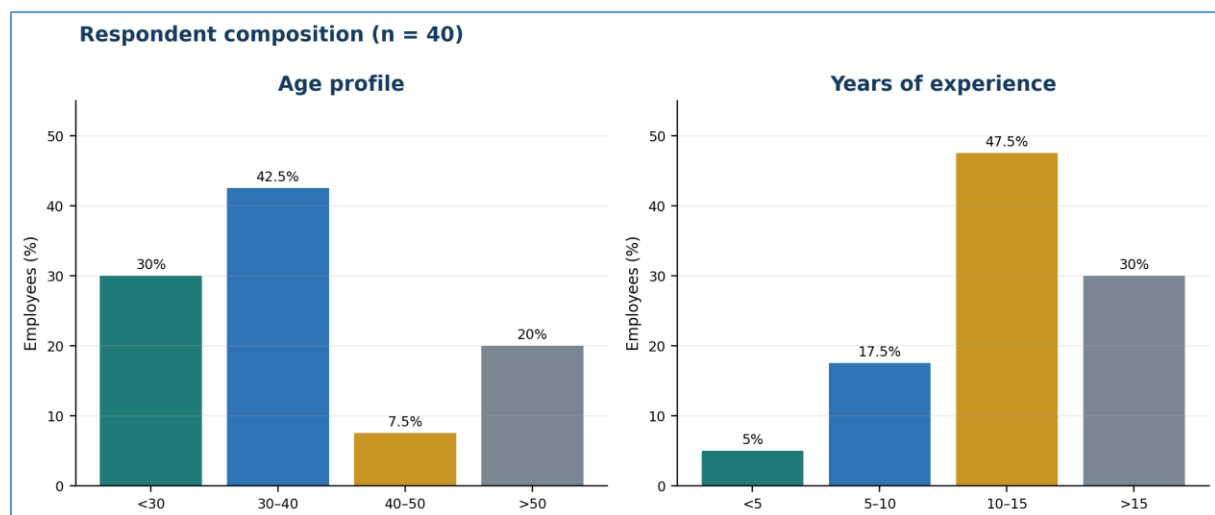


Figure 3. Age and experience distribution of respondents

Source: Author calculations from the supplied field-study document. Gender: 85% male, 15% female.

The sample is experienced: 77.5% report at least ten years of service. This can strengthen the operational relevance of the responses because long-tenured employees have observed customer needs and banking processes over time. However, the sample is also heavily male (85%), and the absence of a full employee sampling frame prevents an assessment of representativeness. The age distribution is concentrated in the 30–40 group (42.5%).

6.2 Item-level findings

Table 5. Employee perceptions of e-marketing and banking service quality

Item	Short label	Domain	Mean	SD	95% CI	RII %	Fav. %
Q1	Meet customer requirements	Benefit	4.55	0.71	4.32–4.78	91.0	92.5
Q2	Faster response to needs	Benefit	4.20	0.72	3.97–4.43	84.0	92.5
Q3	Clearer service information	Benefit	4.25	0.74	4.01–4.49	85.0	82.5
Q4	Better customer experience	Benefit	4.28	0.88	3.99–4.56	85.5	82.5
Q5	Stronger customer trust	Benefit	3.88	0.88	3.59–4.16	77.5	75.0
Q6	Training is crucial	Enabler	4.50	0.64	4.30–4.70	90.0	92.5
Q7	Technology investment matters	Enabler	3.93	1.07	3.58–4.27	78.5	70.0
Q8	Employees satisfied with use	Enabler	4.28	0.91	3.99–4.56	85.5	82.5
Q9	Employees participate in design	Enabler	3.63	1.10	3.27–3.98	72.5	65.0
Q10	Technical barriers constrain use	Barrier	4.03	0.86	3.75–4.30	80.5	75.0
Q11	Implementation cost is a barrier	Barrier	4.13	0.85	3.85–4.40	82.5	80.0

Scale: 1 = strongly disagree to 5 = strongly agree. CI = t-based 95% confidence interval; RII = relative-importance index; favorable = strongly agree + agree.

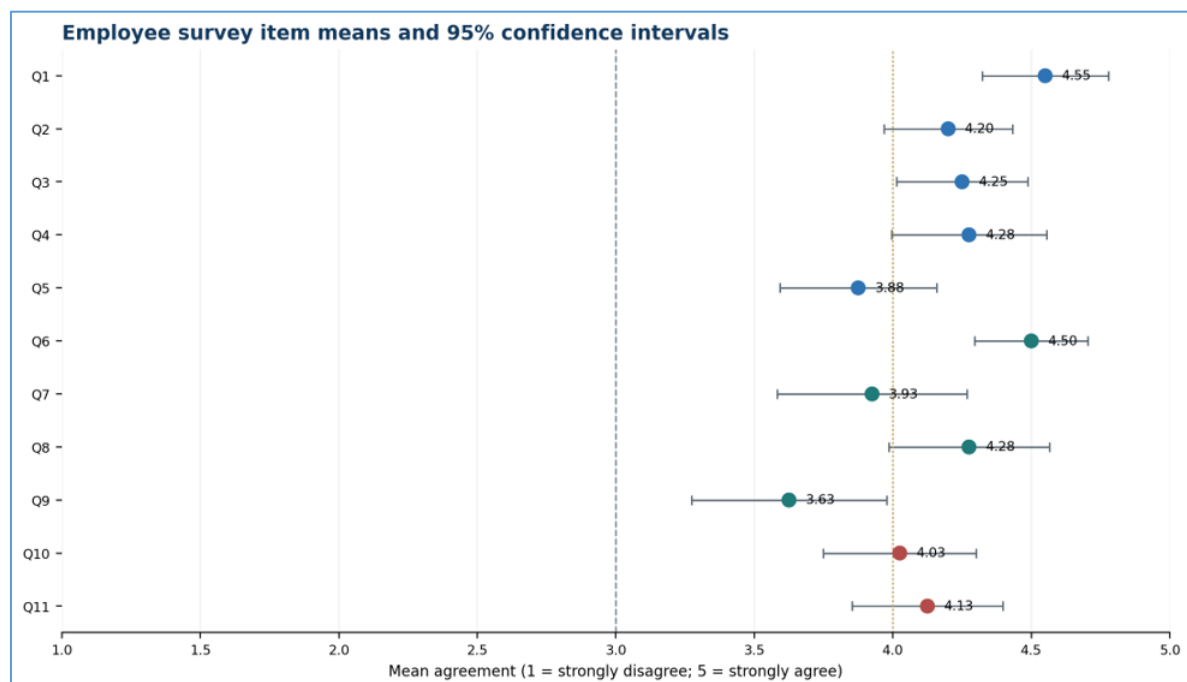


Figure 4. Employee survey item means and confidence intervals

Source: Author calculations from supplied aggregate frequency counts; $n = 40$ for each item after Q9 reconciliation.

The highest mean is Q1, meeting customer requirements ($M = 4.55$, $SD = 0.71$), followed by Q6, the importance of employee training ($M = 4.50$, $SD = 0.64$). Both have 92.5% favorable responses. These findings suggest that employees see e-marketing as useful when it is anchored in customer needs and supported by competence development. Clearer information (Q3) and better customer experience (Q4) also receive strong support.

Trust (Q5) is comparatively weaker than the other direct benefit items ($M = 3.88$; 75% favorable), indicating that communication alone may not be sufficient to establish confidence in a financial service. Trust requires consistent execution, privacy, security, accurate information, and effective recovery—dimensions emphasized in the digital-banking literature (Arcand et al., 2017; Kappil & Santhi, 2025).

Employee participation (Q9) is the weakest positive item ($M = 3.63$, $SD = 1.10$; 65% favorable). It also has one of the widest confidence intervals, reflecting disagreement within the branch. This is a practical warning: employees may support e-marketing yet feel insufficiently involved in its design and implementation. Participation should therefore be treated as a process metric, for example the share of campaigns reviewed by branch staff, the number of frontline insights incorporated, or the closure rate for employee-raised customer pain points.

6.3 Domain-level interpretation

Table 6. Descriptive domain summary

Domain	Items	Mean	Interpretation
Direct service-quality benefits	Q1–Q5	4.23	High perceived contribution
Readiness and enablers	Q6–Q9	4.08	Strong support, with participation gap
Perceived barriers	Q10–Q11	4.08	High constraint salience; higher is worse

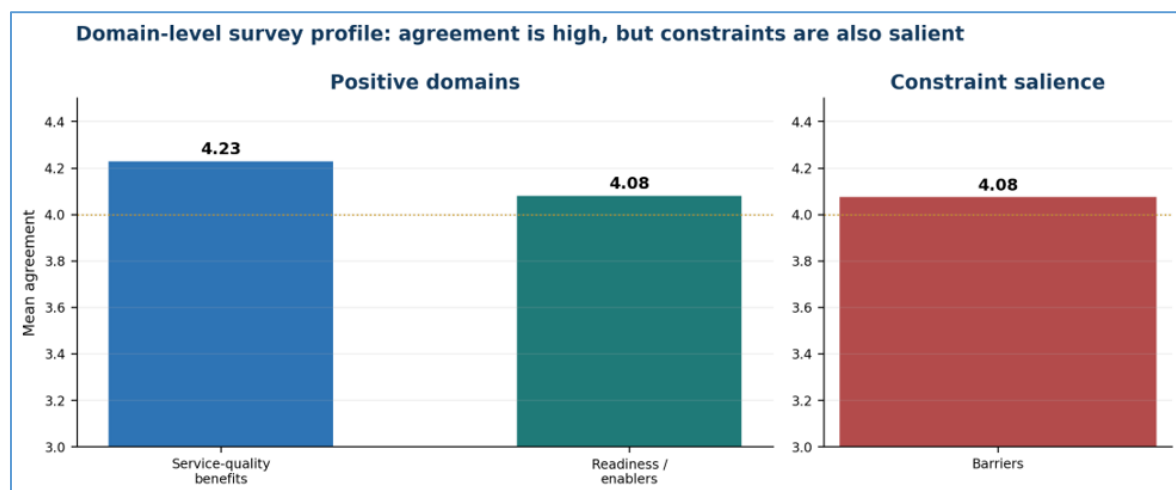


Figure 5. Domain-level profile of benefits, enablers, and barriers

Source: Author calculations. Barrier agreement denotes stronger constraints and must not be added to a positive performance index without reverse-coding.

The direct benefit mean of 4.23 is consistent with a strong employee belief that e-marketing can improve service quality. The readiness/enabler mean of 4.08 is also positive, but its composition matters: training and satisfaction are strong while participation is lower. The barrier mean of 4.08 shows that optimism is accompanied by serious concern about technical

capacity and implementation cost. The correct managerial interpretation is therefore conditional: employees expect benefits, provided that capability, participation, infrastructure, and resource constraints are addressed.

7. Case Study II: Illustrative Campaign and Service-Quality Analytics

7.1 A/B test of a service-quality message

Assume the branch tests two compliant digital messages for the same account-service journey. The control emphasizes availability; the test message adds a concise benefit, expected processing time, required documentation, security assurance, and a clearly identified support path. Sessions are randomly assigned and a completed digital application is the primary outcome

Table 7. Illustrative A/B campaign results

Variant	Sessions	Completions	Rate	Message
Control	1,800	108	6.00%	Current availability message
Test	1,750	158	9.03%	Service-quality information + support path

$$\hat{p} = x / n \quad (7)$$

For the control, $\hat{p}A = 108/1,800 = 0.0600$; for the test, $\hat{p}B = 158/1,750 = 0.0903$.

$$\text{Relative lift} = (\hat{p}B - \hat{p}A) / \hat{p}A \times 100 \quad (8)$$

The illustrative relative lift is 50.5%.

$$z = (\hat{p}B - \hat{p}A) / \sqrt{[\hat{p}(1-\hat{p})(1/nA + 1/nB)]} \quad (9)$$

With pooled $\hat{p} = (xA + xB)/(nA + nB)$, $z = 3.43$ and two-sided $p \approx .0006$. This suggests a statistically detectable difference under random assignment and standard test assumptions.

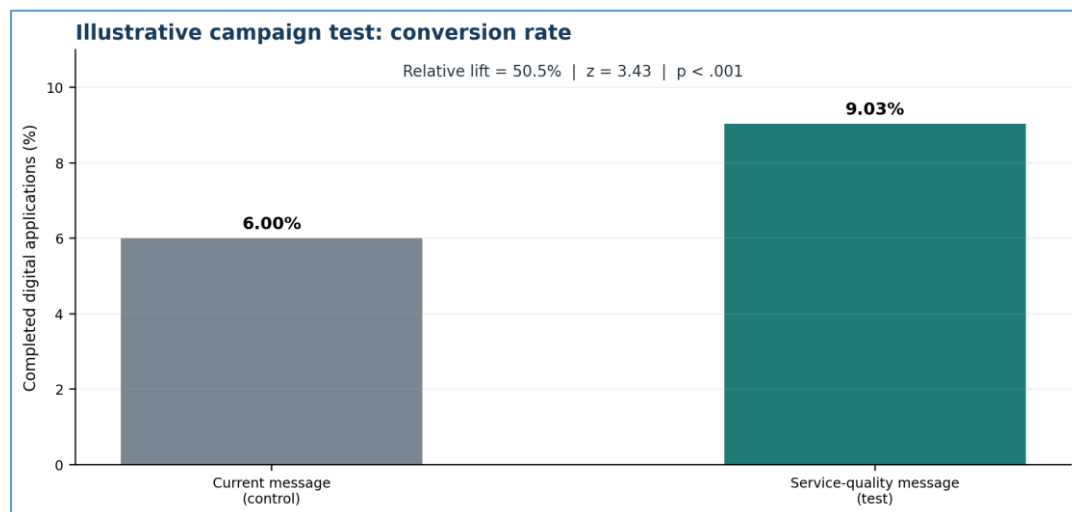


Figure 6. Illustrative conversion comparison for two digital messages

A significant conversion increase would not by itself prove better service quality. The test message may simply persuade more users. The pilot should therefore include guardrail metrics: error rate, incomplete documentation, response time, complaint incidence, successful

activation, and short post-journey satisfaction. A campaign should be scaled only if conversion improves without degrading these service measures.

7.2 Service-quality scorecard

Table 8. Illustrative before–after service-quality scorecard

Indicator	Baseline	Pilot	Target	Change	Assessment
Median response time	26 h	14 h	≤16 h	–46.2%	Improved
First-contact resolution	68%	82%	≥80%	+14 pp	Improved
Digital failure rate	8%	3%	≤4%	–5 pp	Improved
Complaints per 1,000 journeys	14	8	≤9	–42.9%	Improved
Customer trust rating	3.6/5	4.1/5	≥4.0	+0.5	Improved

$$\text{Improvement\%} = (\text{Baseline} - \text{Pilot}) / \text{Baseline} \times 100 \quad (10)$$

Used for adverse metrics such as response time, failure rate, and complaints. For positive metrics, report percentage-point or level change to avoid misleading denominators.

The scorecard operationalizes the conceptual model. Clear content reduces preventable documentation errors; an explicit support path improves routing; trained employees improve resolution; and reliable digital execution reduces failure and complaint load. The most credible design is a randomized or staggered rollout with a pre-registered primary outcome, stable eligibility rules, and an audit trail connecting campaign exposure to journey completion and service recovery.

7.3 Economic analysis and sensitivity

Suppose the test produces 53 incremental completed applications relative to the control conversion rate, campaign and implementation cost is LYD 42,000, and expected first-year contribution per incremental activated account is LYD 900. The contribution estimate should be risk-adjusted for activation, inactivity, support cost, and compliance exclusions.

$$\text{Incremental activations} = xB - (\hat{p}A \times nB) = 158 - (0.06 \times 1,750) = 53 \quad (11)$$

$$\text{ROI} = [(\text{Incremental activations} \times \text{Contribution}) - \text{Cost}] / \text{Cost} \times 100 \quad (12)$$

The illustrative base-case ROI is $[(53 \times 900) - 42,000] / 42,000 = 13.6\%$.

$$\text{Break-even contribution} = \text{Cost} / \text{Incremental activations} \quad (13)$$

The break-even first-year contribution is approximately LYD 792 per incremental activation.

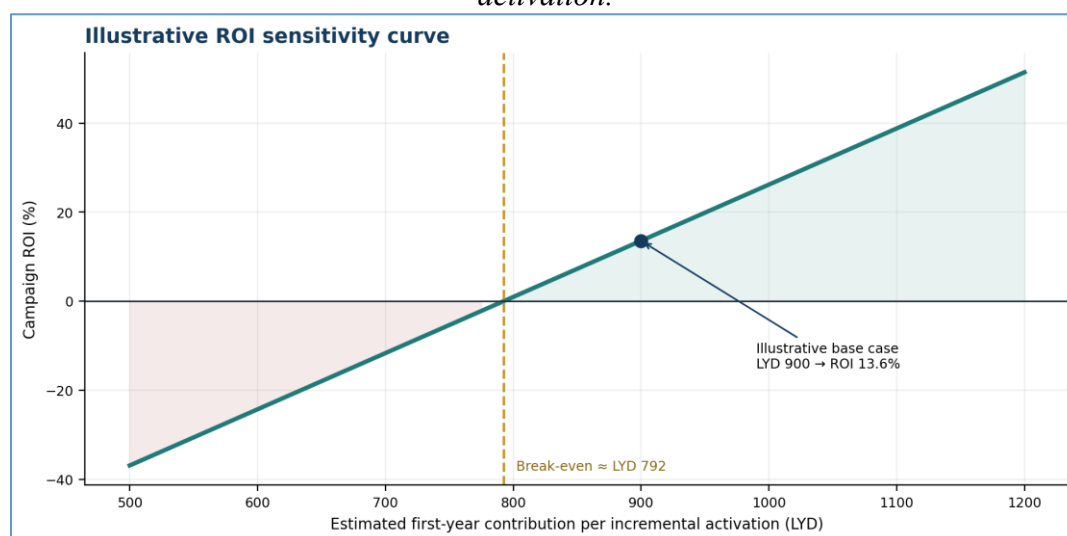


Figure 7. Illustrative campaign ROI sensitivity to value per incremental activation

Figure 7 demonstrates why a single-point ROI estimate is insufficient. If realized contribution is below approximately LYD 792, the campaign destroys value even though conversion rises. A robust decision should report a range of contribution assumptions, activation confidence intervals, and any quality-related cost savings. The branch should also distinguish incremental value from customers who would have converted without the campaign.

8. Comparative Analysis

8.1 Traditional promotion versus integrated e-marketing

Table 9. Comparison of traditional promotion and integrated banking e-marketing

Dimension	Traditional promotion	Integrated e-marketing	Implication for Abu Salim
Primary logic	One-way awareness	Interactive customer journey	Integrate—not eliminate—branch communication
Targeting	Broad segments	Behavioral/need-based, subject to governance	Start with service needs, not opaque profiling
Speed	Slow campaign cycles	Near-real-time testing and updates	Use approval SLAs and version control
Measurement	Reach and recall	Exposure → completion → quality → value	Adopt journey-linked KPIs
Employee role	Campaign recipient	Co-designer, educator, resolver	Formalize frontline feedback
Service recovery	Separate from promotion	Embedded in the digital path	Publish support and escalation routes
Risk	Message inconsistency	Privacy, security, automation, channel failures	Compliance-by-design and incident playbooks
Inclusion	Strong for offline customers	Strong for connected customers	Maintain assisted and offline alternatives

The comparison shows that e-marketing is superior for measurability and journey integration, but it also introduces new operational and ethical risks. The appropriate strategy is omnichannel: use digital tools to improve relevance and convenience while retaining assisted alternatives for customers who are offline, less digitally confident, or dealing with complex transactions.

8.2 Comparison of service-quality frameworks

Table 10. Comparison of service-quality measurement approaches

Approach	Best scope	Key dimensions	Recommended use
BSQ	Whole bank relationship	Access, reliability, assurance, price, portfolio, tangibles	Periodic customer relationship survey
E-S-QUAL / E-RecS-QUAL	Digital transaction and recovery	Efficiency, fulfilment, availability, privacy, responsiveness, contact	Journey-level digital survey and logs
Mobile service quality	App experience	Convenience, speed, features, security, interface, communication	In-app analytics and task surveys

Employee-perception diagnostic	Internal implementation readiness	Beliefs about benefits, training, participation, barriers	Pulse survey; cannot replace customer measures
Proposed integrated scorecard	End-to-end journey	Campaign, employee, service, customer, value, risk	Monthly branch review with control limits

No single instrument is sufficient. The employee diagnostic identifies implementation beliefs and organizational friction; E-S-QUAL-style measures assess digital execution; BSQ captures the broader bank relationship; operational logs verify response and reliability; financial metrics establish economic value. The integrated scorecard should therefore preserve separate layers and avoid combining unlike indicators into an opaque total.

9. Results

Table 11. Consolidated empirical results and managerial meaning

No.	Result	Evidence	Interpretation
R1	Employees strongly associate e-marketing with direct service-quality benefits.	Q1–Q5 mean = 4.23; Q1 M = 4.55.	Supports P1 descriptively, not causally.
R2	Training is the strongest organizational enabler.	Q6 M = 4.50; 92.5% favorable.	Digital competence should be a lead implementation measure.
R3	Employee participation is the principal internal governance gap.	Q9 M = 3.63; 65% favorable; widest positive-item dispersion.	Create formal co-design and feedback mechanisms.
R4	Trust is positive but weaker than need fulfilment, clarity, and experience.	Q5 M = 3.88; 75% favorable.	Security, reliability, and recovery must substantiate marketing claims.
R5	Infrastructure and cost concerns are simultaneously high.	Barrier domain mean = 4.08.	Benefits depend on technical and resource readiness.
R6	The current dataset cannot establish reliability, subgroup effects, or causation.	Only aggregate frequencies; fieldwork date unspecified.	Future work requires row-level, customer, operational, and experimental data.

Overall, the employee evidence is favorable but conditional. The branch appears to possess strong perceived legitimacy for e-marketing and training, yet the same respondents recognize infrastructure and cost constraints. The most defensible conclusion is that e-marketing is viewed as a promising service-quality lever whose realization depends on employee involvement and operational capacity.

10. Discussion

10.1 Alignment with prior research

The strong employee ratings for customer requirements, response, information clarity, and experience align with the literature that links digital service quality to satisfaction and relationship outcomes (Ayinaddis et al., 2023; Dangaiso et al., 2024; Kappil & Santhi, 2025). The relatively weaker trust item is theoretically plausible: trust is not generated by exposure

alone. Mobile-banking studies connect trust to security, privacy, practical utility, and reliable execution (Arcand et al., 2017). Social-media marketing may support trust, but its effect depends on the credibility and consistency of the bank relationship (Althuwaini, 2022).

The importance assigned to training is consistent with employee-centred digital-transformation research. Vignesh (2022) foregrounds training, skills, obstacles, and employee perceptions of digital banking, while Annisa et al. (2024) identify digital competence, culture, and leadership as performance-relevant. The Abu Salim findings add a practical nuance: participation is weaker than general satisfaction or training support. Competence without voice can produce compliance with centrally designed campaigns, but not necessarily local learning or customer-journey improvement.

10.2 The paradox of high benefits and high barriers

High perceived benefits and high perceived barriers are not contradictory. Employees can believe that e-marketing is useful while observing unreliable connectivity, system limitations, cost pressure, or slow approval processes. This pattern is characteristic of a capability gap: strategic intent exceeds the organization's current ability to deliver consistently. A premature focus on campaign volume could widen the gap by generating more inquiries or transactions than the branch can resolve. The implementation sequence should therefore prioritize service readiness and measurement before scaling reach.

10.3 Libya-specific implications

Libya's high reported internet penetration and growing electronic-payment activity create a strong opportunity for mobile-first service education and customer acquisition (Central Bank of Libya, 2025b; Kemp, 2025). However, mobile connections exceed the population because individuals may hold multiple subscriptions, and social-media identities are not necessarily unique people. Digital reach estimates must therefore not be converted directly into addressable customers. Moreover, a meaningful offline minority remains, and connectivity quality is not uniform. The branch should retain assisted options, use low-bandwidth content, and make digital support accessible through clear, trusted routes.

10.4 Theoretical implications

The study supports an expanded service-quality model in which e-marketing is an upstream expectation-and-navigation capability, employees provide a translation and recovery mechanism, and infrastructure and governance condition execution. This model helps reconcile marketing and operations: a campaign affects service quality not only through persuasion, but by clarifying requirements, routing customers, reducing uncertainty, setting realistic timelines, and initiating recoverable digital journeys. The model also implies that employee participation can be tested as a mediator or moderator in future research rather than treated only as a descriptive attitude.

10.5 Limitations

- Single-branch, employee-only design limits external validity and omits direct customer evaluation.
- The source does not disclose the fieldwork date, population size, sampling method, consent process, or validated scale provenance.
- Aggregate frequencies prevent respondent-level reliability, construct validity, correlation, regression, mediation, and subgroup analysis.
- A 100% response rate may reflect administrative completeness but does not eliminate noncoverage or social-desirability bias.
- The eleven items mix perceived outcomes, enablers, satisfaction, participation, and barriers; they should not be treated as a single unidimensional scale.
- Official digital statistics provide context, not branch-level performance or proof that digital reach translates into account use.
- The applied cases in Section 7 are illustrative and must not be cited as Aman Bank results.

11. Conclusions and Recommendations

11.1 Conclusion

Employees at Aman Bank–Abu Salim Branch perceive e-marketing as a strong contributor to banking service quality. Their responses are most positive about meeting customer requirements and the importance of training. They are also favorable about faster response, clearer information, customer experience, trust, technology investment, and their own satisfaction with e-marketing. However, the evidence also reveals a practical fault line: employee participation in strategy design is weaker, while technical and cost barriers are strongly recognized.

The appropriate conclusion is conditional, not causal. E-marketing can improve service quality when it functions as an end-to-end customer-journey capability supported by reliable channels, accurate content, trained and involved employees, fast recovery, and disciplined measurement. The current survey establishes employee support and identifies implementation priorities; it does not demonstrate customer-side improvement or financial return. The next stage should therefore convert the positive employee climate into controlled pilots and a balanced evidence system.

11.2 Priority recommendations

Table 12. Phased implementation roadmap for Aman Bank–Abu Salim Branch

Action	What to do	Timing	Owner	Evidence
1. Establish governance	Create a branch e-marketing and service-quality cell with marketing, operations, IT, compliance, customer service, and rotating frontline employees.	First 30 days	Branch manager	Terms of reference; meeting cadence; issue log
2. Baseline journeys	Map the five highest-volume digital/customer journeys and record response time, abandonment, failure, complaints, and repeat contact.	Days 1–45	Operations + IT	Baseline dashboard with definitions
3. Train for tasks	Deliver role-based microlearning on app functions, security explanations, customer guidance, and recovery scripts; assess competence.	Days 20–75	HR + service lead	Completion $\geq 95\%$; post-test $\geq 80\%$
4. Institutionalize participation	Require frontline review before launching branch-relevant content and close the loop on employee-submitted pain points.	From day 30	Marketing + branch staff	Review rate; accepted insights; closure time
5. Pilot, do not scale blindly	Run a pre-registered A/B or staggered pilot with conversion plus service-quality guardrails.	Days 60–120	Analytics + compliance	Effect estimate; no adverse guardrail breach
6. Strengthen trust	Publish accurate processing expectations, eligibility, fees	Ongoing	Compliance + marketing	Content audit; trust and

	where applicable, data-use notices, and recovery channels.			comprehension score
7. Preserve inclusion	Use low-bandwidth, plain-language content and assisted alternatives for customers who are offline or need branch help.	Ongoing	Branch operations	Assisted completion; accessibility checks
8. Evaluate quarterly	Triangulate employees, customers, channel logs, complaints, and financial metrics; stop or redesign weak initiatives.	Quarterly	Management committee	Decision memo with evidence and actions

11.3 Proposed balanced dashboard

Table 13. Balanced e-marketing–service-quality dashboard

Layer	Core indicators	Review	Minimum disaggregation
Marketing	Qualified reach; click-to-task rate; cost per qualified journey	Weekly	Channel / campaign
Employee	Training score; participation rate; knowledge-base use	Monthly	Role / team
Operations	Completion; response time; first-contact resolution; failure	Weekly	Journey / channel
Customer	Effort; trust; satisfaction; complaint rate	Monthly	Journey / segment
Value	Incremental activation; contribution; ROI; retention	Quarterly	Cohort
Risk and inclusion	Incidents; consent exceptions; accessibility; assisted completion	Monthly	Channel / vulnerability indicator

The dashboard should be interpreted as a chain rather than a league table. Marketing reach is valuable only when it generates qualified journeys; employee readiness matters when it improves resolution; operational performance matters when customers perceive clarity and trust; and financial value is acceptable only when risk and inclusion guardrails remain within tolerance.

11.4 Future research design

1. Collect anonymized respondent-level employee data using validated multi-item constructs for e-marketing capability, digital competence, participation, infrastructure readiness, and perceived service quality.
2. Add a matched customer survey using selected BSQ, E-S-QUAL, and mobile-service-quality dimensions, with Arabic translation/back-translation and cognitive pretesting.
3. Link survey records at an aggregate journey-period level to uptime, transaction success, response, complaint, and recovery data while preserving privacy.
4. Use a power analysis and a multi-branch or staggered design to distinguish branch effects, time trends, and campaign exposure.
5. Pre-register primary outcomes, analysis rules, missing-data treatment, and stopping criteria; report effect sizes and confidence intervals rather than significance alone.

6. Repeat employee measurement after implementation to test whether participation and competence improve and whether barrier salience declines.

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Compliance with ethical standards*Disclosure of conflict of interest*

The authors declare that they have no conflict of interest.

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