

Iraqi Society for Quality
Management Systems
Journal (ISQMS)

Iraq / Baghdad / Al-Jadriya /
Headquarters of the ISQMS/ National
Deposit No. 2946/2026



PRINT ISSN: 3105-8787
ONLINE ISSN: 3105-8795

مجلة الجمعية العراقية لنظم
إدارة الجودة

المجلد 1 – العدد 2 – 2025

العراق / بغداد / الجادرية / ايداع وطني رقم
2026 / 2946/

The Importance of Implementing the AIDA Model in Organizations from a Total Quality Management–Based PDCA Perspective: A Descriptive Analytical Study

أهمية تطبيق نموذج AIDA في المؤسسات من منظور PDCA الخاص بالجودة الشاملة

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Received: 10 OCT, 2025

Accepted: 10 DEC, 2025

Published: 20 DEC, 2025

Abstract:

This paper analyzes the application of the AIDA model (Attention–Interest–Desire–Action) within organizations by embedding it in the PDCA (Plan–Do–Check–Act)

cycle as a continuous improvement mechanism aligned with Total Quality Management (TQM). The study conceptually links AIDA as a customer journey map to each phase of PDCA and supports this integration with evidence from case studies in marketing communication, digital analytics, and operations. It offers practical guidance in the form of implementation steps, key performance indicators (KPIs), experimental designs (such as A/B tests), and measurement methods that connect sales outcomes to quality indicators. The findings suggest that systematically integrating AIDA into PDCA can increase campaign effectiveness and conversion rates, enhance customer experience, and reduce post-sale complaints when supported by robust data integration and rigorous performance monitoring.

Keywords: AIDA, PDCA, Total Quality Management (TQM), customer journey, marketing performance

الخلاصة :

تُحلّل هذه الورقة تطبيق نموذج AIDA (الانتباه - الاهتمام - الرغبة - الفعل) داخل المنظمات من خلال تضمينه في دورة PDCA (خطّ - نفذ - تحقّق - اتّخذ الإجراء) بوصفها آلية للتحسين المستمر متوافقة مع إدارة الجودة الشاملة (TQM). تربط الدراسة ربطاً مفاهيمياً بين نموذج AIDA بوصفه خريطة لمسار العميل وبين كل مرحلة من مراحل دورة PDCA ، وتدعم هذا الدمج بأدلة مستمدة من دراسات حالة في الاتصال التسويقي، والتحليلات الرقمية، والعمليات. كما تقدّم إرشادات عملية في صورة خطوات تنفيذية، ومؤشرات أداء رئيسية (KPIs) ، وتصميم تجارب) مثل اختبارات (A/B) ، وأساليب قياس تربط مخرجات المبيعات بمؤشرات الجودة. وتُشير النتائج إلى أن الدمج المنهجي لنموذج AIDA داخل دورة PDCA يمكن أن يزيد من فاعلية الحملات ومعدلات التحويل، ويحسن تجربة العميل، ويقلّل من الشكاوى بعد البيع، عندما يكون مدعوماً بتكامل قوي للبيانات ورقابة صارمة على الأداء.

الكلمات المفتاحية: نموذج AIDA ، دائرة ديمينغ PDCA ، إدارة الجودة الشاملة (TQM) ، مسار العميل ، أداء التسويق.

Introduction:

Considering global competitiveness and the transformation of marketing channels toward digital platforms, business organizations have become increasingly in need of methodological tools that integrate an understanding of customer behavior with structured managerial approaches to continuous improvement. The AIDA model represents a classical marketing framework that describes the customer's progressive journey from awareness to action (Pashootanzadeh & Khalilian, 2018; Tristante, 2021). The PDCA cycle provides a systematic framework for process improvement and the assurance of continuous quality. The integration of the two models enables organizations to: (1) design marketing experiences based on customer behavioral pathways, (2) implement them as structured and organized experiments, and (3) measure and improve them periodically in accordance with the principles of Total Quality Management (Řepová, Lendelová, & Lendel, 2025).

The objective of this study is to demonstrate the importance of applying the AIDA model from the perspective of PDCA and TQM, to identify applicable implementation mechanisms and measurable performance indicators, and to present practical lessons derived from prior empirical studies.

Research Problem.

Despite the widespread use of the AIDA model in marketing practices, there remains a methodological gap in how this model is embedded within the formal continuous

improvement mechanisms adopted by organizations (PDCA/TQM). Many organizations apply AIDA-based tactics (such as attraction campaigns, motivational content, and promotional offers); however, they lack a structured cycle for systematic measurement and periodic improvement (i.e., the full implementation of the PDCA cycle). As a result, the impact of sales improvements on customer experience quality is not systematically monitored, and available data are not effectively utilized for continuous improvement cycles.

Main Research Question.

How can the AIDA model be systematically integrated into the PDCA cycle in a way that enables organizations to improve sales performance and the quality of customer experience within the framework of Total Quality Management?

Research Objectives.

1. To clarify the theoretical framework of both the AIDA model and the PDCA continuous improvement cycle, and to explain the role of each in improving marketing performance and overall quality within organizations (Pashootanzadeh & Khalilian, 2018; Tristante, 2021; Řepová et al., 2025).
2. To analyze the integrative relationship between the AIDA model and the PDCA cycle in supporting the improvement of marketing processes and achieving customer satisfaction in accordance with the TQM approach (Řepová et al., 2025).
3. To review and analyze the most significant international practical applications that have employed the principles of AIDA and PDCA, either directly or indirectly, in improving sales performance and organizational effectiveness.

4. To explore the role of integrating marketing concepts with TQM tools in enhancing Key Performance Indicators (KPIs), such as customer satisfaction, conversion rate, customer loyalty, and customer lifetime value.
5. To develop a proposed integrative framework for combining the AIDA model with the PDCA cycle that clarifies the mechanism of practical implementation within organizations for the purpose of improving marketing performance and achieving continuous improvement in accordance with the philosophy of TQM (Řepová et al., 2025).

Literature review:

The literature on AIDA and PDCA demonstrates growing interest in combining behavioral marketing models with systematic quality and process-improvement approaches, particularly in digital marketing, communication strategy, and operations management. Recent contributions show that PDCA can serve as a managerial backbone for continuously improving marketing communication and operations, while AIDA provides a structured view of the customer journey that can be operationalized through analytics and customer relationship management (CRM) systems (Djubair, 2022; Řepová et al., 2025; Tristante, 2021). Together, these studies support the development of an integrative AIDA–PDCA–TQM framework aimed at improving sales performance and customer experience quality.

PDCA in marketing communication

Řepová et al. (2025) propose a PDCA-based decision-making framework for sustainable marketing communication strategies in a Slovak telecommunications company, illustrating how communication processes can be managed as continuous improvement cycles. Their framework links the Plan phase to the definition of

communication objectives, stakeholder analysis, and channel selection; the Do phase to the implementation of communication campaigns; the Check phase to the monitoring of performance indicators such as customer responses and environmental impacts; and the Act phase to the refinement of strategy and content based on feedback (Řepová et al., 2025). The case study shows that PDCA enhances transparency and alignment between marketing, sustainability, and top management, and that communication activities become iterative learning loops rather than isolated campaigns (Řepová et al., 2025). This work provides a concrete structural precedent for embedding PDCA within marketing communication processes, which is directly relevant to the integration of PDCA with AIDA stages.

PDCA in defect reduction and operations optimization:

In an operational context, Realyvásquez-Vargas et al. (2018) apply the PDCA cycle to reduce product defects, demonstrating PDCA as a robust method for problem solving and quality improvement in manufacturing. Through systematic progression from problem identification and root-cause analysis (Plan) to implementation of corrective actions (Do), evaluation of defect rates and process performance (Check), and standardization of successful practices (Act), the study reports substantial reductions in defect levels and improved process stability (Realyvásquez-Vargas et al., 2018). Although focused on production rather than marketing, the study highlights the importance of clear indicators, data-driven diagnosis, and disciplined iteration—elements that can be analogously applied to marketing funnels, where “defects” can be interpreted as drop-offs between attention, interest, desire, and action.

Similarly, the “Operations Optimization Model under the PDCA Approach” (2023) extends PDCA from defect reduction to broader operations optimization, positioning the cycle as a foundational architecture for aligning process design, performance measurement, and resource allocation. The model integrates PDCA with operational performance metrics and suggests that continuous improvement efforts are more effective when supported by real-time monitoring and standardized procedures (Operations Optimization Model under the PDCA Approach, 2023). This contribution reinforces the idea that PDCA is not merely a task-level tool but an overarching management system that can be adapted to different organizational functions, including marketing and customer service. In the present study, such insights justify treating the AIDA-structured customer journey as an “operation” that can be optimized using PDCA and assessed through TQM-oriented indicators.

AIDA in digital marketing and consumer buying interest:

Within the marketing domain, AIDA remains a widely used framework for structuring persuasive efforts, particularly in digital contexts. Tristante (2021) investigates the AIDA model as a marketing strategy to influence consumer buying interest in the digital age, focusing on how online promotions and content guide consumers through the stages of attention, interest, desire, and action. The study finds that digital campaigns capable of effectively capturing attention (e.g., through attractive visuals and headlines), sustaining interest (e.g., through relevant and informative content), and building desire (e.g., through emotional appeals and perceived value) have a significant positive impact on purchase intention (Tristante, 2021). Moreover, the research emphasizes that the effectiveness of marketing efforts depends on tailoring messages and stimuli to each AIDA stage rather than treating the customer journey as a homogeneous process (Tristante, 2021). These findings

are crucial for the current research, as they highlight specific behavioral points at which PDCA-driven monitoring and improvement can be applied.

AIDA, CRM, and data analytics:

Djubair (2022) examines the relationship between the AIDA model, data analytics, and CRM in digital marketing, arguing that contemporary analytics and CRM platforms make it possible to operationalize AIDA stages as measurable process steps. By using engagement metrics, clickstream data, and transaction records, organizations can observe where customers are concentrated within the AIDA funnel and at which stages they drop out (Djubair, 2022). The study suggests that analytics can inform targeted interventions—for example, adjusting content to strengthen interest and desire, or optimizing checkout processes to facilitate action—thereby transforming AIDA from a purely conceptual model into a data-driven management tool (Djubair, 2022). This integration of AIDA with CRM and analytics aligns strongly with TQM principles, as it enables continuous monitoring through defined Key Performance Indicators (KPIs) such as conversion rates, customer satisfaction, and customer lifetime value.

Synthesis and research gap

Taken together, the reviewed studies demonstrate that PDCA has been successfully applied to marketing communication and operations to foster continuous improvement, while AIDA continues to serve as a robust framework for understanding and influencing consumer behavior in digital environments (Djubair, 2022; Operations Optimization Model under the PDCA Approach, 2023; Realyvásquez-Vargas et al., 2018; Řepová et al., 2025; Tristante, 2021). PDCA-focused research underscores the importance of structured cycles, performance measurement, and TQM culture; AIDA-focused research highlights the stage-based

design of marketing content and the use of analytics and CRM to manage the customer journey (Djubair, 2022; Tristante, 2021). The intersection of these literatures suggests that AIDA can define the behavioral structure of the marketing process, while PDCA provides the process-improvement mechanism and TQM offers the overarching philosophy and organizational support.

However, despite these advances, existing studies tend to address AIDA and PDCA separately or only implicitly link them through analytics or communication strategy, without developing a comprehensive integrative framework. None of the reviewed works fully formalize an AIDA–PDCA–TQM model that simultaneously maps AIDA stages onto PDCA phases, defines corresponding TQM-based KPIs, and clarifies practical implementation mechanisms at the organizational level (Djubair, 2022; Řepová et al., 2025). This gap indicates a need for a model that bridges behavioral marketing concepts and formal quality management cycles, thereby enabling organizations to treat the customer journey as a continuously improved process rather than a series of isolated campaigns. The present study responds to this gap by proposing and analyzing such an integrative framework, with the aim of enhancing both sales performance and the quality of customer experience.

AIDA Model: is a classical marketing communication model that describes the stages through which a consumer progresses from the first exposure to a message or offering until a purchase decision is made: Attention, Interest, Desire, and Action (Vakratsas & Ambler, 1999). This model is used to structure promotional activities and evaluate how effectively communication moves audiences from mere awareness to actual buying behavior (Vakratsas & Ambler, 1999).

PDCA cycle: The Plan–Do–Check–Act (PDCA) cycle is a structured framework for the continuous improvement of organizational processes across production, services,

and administrative activities (American Society for Quality, 2024). It consists of four iterative phases—Plan (designing changes and setting objectives), Do (implementing changes on a limited scale), Check (measuring and analyzing results), and Act (standardizing successful practices and initiating a new cycle)—with the aim of enhancing quality and reducing variation over time (American Society for Quality, 2024).

Total Quality Management (TQM): is a comprehensive management philosophy that seeks to embed quality in all organizational processes and engage all departments—such as production, marketing, sales, and service—in continuous improvement efforts (Wikipedia contributors, 2024). Rather than focusing solely on final product inspection, TQM emphasizes prevention of defects, employee participation, process standardization, and long-term customer satisfaction as central drivers of organizational performance (Wikipedia contributors, 2024).

Key Performance Indicators (KPIs): are quantitative or ratio-based metrics used to evaluate the effectiveness of specific activities or processes in achieving predefined objectives in areas such as marketing, sales, service, and operations (Investopedia, 2024). KPIs support progress tracking, performance benchmarking, and data-driven decision-making by revealing strengths, weaknesses, and trends that inform corrective or strategic actions (Investopedia, 2024).

Customer Relationship Management (CRM): Customer Relationship Management (CRM) refers to a strategic approach—supported by policies, processes, and technologies—used to manage an organization’s interactions with current and potential customers (Investopedia, 2024). CRM systems centralize and analyze customer data and interaction histories to better understand behavior,

personalize offers, strengthen relationships, and improve decisions related to sales, marketing, and after-sales service (Investopedia, 2024).

Cost Per Acquisition (CPA): is a performance metric that represents the average cost of acquiring a new customer or achieving a specific conversion (such as a purchase or registration) through a marketing or advertising campaign (Wikipedia contributors, 2024). It is commonly calculated by dividing the total campaign cost by the number of acquired customers or completed actions and is used to assess the cost-effectiveness and return on investment of marketing activities (Wikipedia contributors, 2024).

Net Promoter Score (NPS): is a widely used metric of customer loyalty and advocacy based on responses to the question, “How likely are you to recommend this product/service to a friend or colleague?” (Net Promoter Network, 2024). NPS is computed by subtracting the percentage of detractors from the percentage of promoters, and higher scores are associated with stronger loyalty, higher repeat purchase likelihood, and positive word-of-mouth effects (Net Promoter Network, 2024).

Customer Satisfaction Score (CSAT): is a metric that captures the proportion of customers who report being satisfied with a specific product, service, or interaction (Qualtrics, 2024). It is typically calculated as $(\text{Number of respondents with positive satisfaction ratings} \div \text{Total number of respondents}) \times 100$, and is frequently used to evaluate service encounters and post-purchase experiences against customer expectations (Qualtrics, 2024).

Customer Lifetime Value (CLV)

Customer Lifetime Value (CLV) estimates the total revenue or profit expected from a customer over the entire duration of the relationship with the organization (Wikipedia contributors, 2024). CLV highlights the importance of customer retention and long-term value creation, and guides strategic decisions in marketing, service design, and loyalty programs by emphasizing segments with high contribution potential (Wikipedia contributors, 2024).

Click-Through Rate (CTR)

Click-Through Rate (CTR) is a digital marketing KPI that measures the percentage of users who click on an advertisement or link out of the total number of users who viewed it (impressions) (Wikipedia contributors, 2024). It is generally calculated as $(\text{Number of clicks} \div \text{Number of impressions}) \times 100$, and serves as an indicator of the attractiveness and relevance of advertising creatives, headlines, and calls to action (Wikipedia contributors, 2024).

Standard Operating Procedure (SOP): A Standard Operating Procedure (SOP) is a formal, written set of step-by-step instructions that describe how to perform routine organizational tasks in a consistent and standardized manner (Lucidchart, 2024). SOPs aim to reduce variability, ensure compliance with quality and safety standards, and improve efficiency by clarifying responsibilities and procedures regardless of who performs the task (Lucidchart, 2024).

The Theoretical Framework — Integrating the AIDA Model within the PDCA Cycle: Fundamentals and Justifications

This section presents a conceptual framework that explains why and how the AIDA model, as a customer journey mapping tool, can be embedded within each

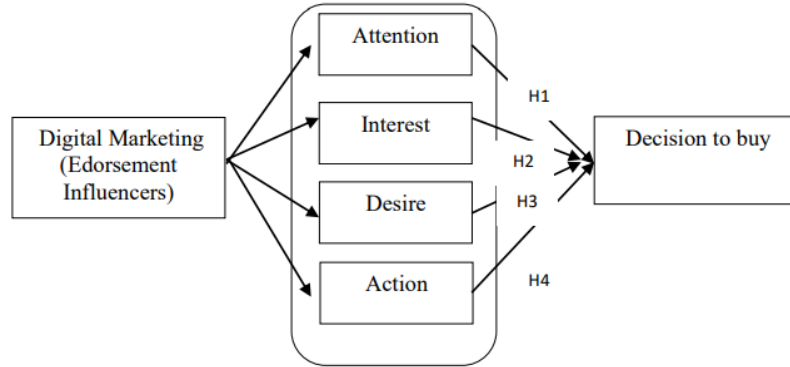


Figure 1. Thinking framework for AIDA (adapted from Tristante, 2021).

iteration of the PDCA cycle to support Total Quality Management (TQM)–driven improvement. The core premise is that AIDA represents the “customer pathway” from attention to action, while PDCA represents the “operational cycle” through which that pathway is tested, measured, and improved (Řepová et al., 2025; Tristante, 2021). Their integration equips organizations with a systematic capability for design, implementation, measurement, and continuous improvement at every touchpoint in the customer journey (Djubair, 2022; Realyvásquez-Vargas et al., 2018; Řepová et al., 2025; Tristante, 2021).

First : Importance of the interconnection: theoretical justifications

1. Customer pathways require measurable experiments

The AIDA sequence (Attention → Interest → Desire → Action) can be operationalized through measurable indicators such as impressions, click-through rate (CTR), add-to-cart rate, and final conversion rate (Djubair, 2022; Tristante, 2021). Within this context, PDCA provides the experimental framework for designing controlled tests, executing interventions, and analyzing outcomes to refine each stage of the pathway (Realyvásquez-Vargas et al., 2018).

By treating each AIDA stage as a hypothesis-driven experimental domain, organizations can move from intuitive campaign design to evidence-based optimization.

2. Integration with Total Quality Management

TQM emphasizes customer focus, process orientation, and systematic measurement of performance and service quality across all organizational functions, including marketing, sales, and after-sales service (Investopedia, 2024; Wikipedia contributors, 2024). When AIDA-driven sales and communication processes are embedded within PDCA cycles, improvements in conversion or engagement become part of the organization's overall quality strategy rather than isolated marketing initiatives (Řepová et al., 2025). This alignment ensures that marketing outcomes are evaluated not only in terms of short-term revenue but also in terms of their contribution to long-term customer satisfaction and organizational excellence.

3. Operational flexibility and iterative testing:

PDCA enables rapid, iterative experimentation such as A/B testing on elements that affect Attention (e.g., headlines, creatives) or on Landing Page and checkout designs that influence Desire and Action (Djubair, 2022; Operations Optimization Model under the PDCA Approach, 2023). Through repeated Plan–Do–Check–Act cycles, organizations can systematically compare alternative designs, shift toward superior variants based on objective evidence, and standardize successful practices as part of their operating procedures (Realyvásquez-Vargas et al., 2018). This operational flexibility makes the AIDA pathway a living, continuously improved system rather than a static funnel.

Integrated planning sequence: aligning PDCA with AIDA

Plan: In the integrated framework, the Plan phase begins with defining a clear primary objective, such as improving the purchasing process or increasing the overall conversion rate from visit to purchase (Djubair, 2022). Objectives are then decomposed across AIDA stages, for example:

- Attention: Increase impressions and qualified visits.
- Interest: Improve CTR and average engagement time.
- Desire: Strengthen perceived value through attributes such as bundles, guarantees, and discounts.
- Action: Reduce the number of steps in the payment process and improve checkout usability.

Testable hypotheses are formulated to link specific interventions to measurable outcomes, such as: “If the payment form is reduced to a single step, the Action (purchase) rate will increase by X% over 12 weeks.” Measurement tools may include web analytics platforms (e.g., Google Analytics), CRM systems, advertising dashboards, and quality indicators such as Net Promoter Score (NPS) and Customer Satisfaction Score (CSAT) (Djubair, 2022; Qualtrics, 2024; Tristante, 2021). These tools ensure that each AIDA stage is associated with explicit KPIs that can be evaluated in the subsequent Check phase.

Do: In the Do phase, the planned interventions are implemented as controlled experiments or pilot programs. This may involve launching experimental digital campaigns, modifying Landing Page layouts, or changing messaging strategies targeted at specific AIDA stages (Djubair, 2022; Tristante, 2021). Organizations may also train sales and service personnel on storytelling and consultative-selling techniques that transform Desire into Action during personal interactions or live chat sessions. To support TQM and future PDCA cycles, procedures, scripts, and data

collection methods are documented and, where appropriate, standardized as temporary operating practices (Realyvásquez-Vargas et al., 2018; Lucidchart, 2024).

Check: The Check phase focuses on systematic data collection and analysis. Key indicators might include impressions and CPM/CPA for Attention; CTR, bounce rate, and engagement time for Interest; add-to-cart rate, product inquiries, and form completions for Desire; and conversion rate, average order value, cancellation or complaint rate, NPS, and CSAT for Action (Djubair, 2022; Operations Optimization Model under the PDCA Approach, 2023; Qualtrics, 2024). The collected data are then compared against the Plan objectives and hypotheses to determine whether the interventions achieved the desired improvements across AIDA stages.

This analysis seeks to answer questions such as: Have Attention indicators improved among target segments? At which AIDA stage are the greatest drop-offs occurring? Do quality-related indicators (e.g., complaints, satisfaction scores) align with observed changes in sales performance? (Realyvásquez-Vargas et al., 2018; Řepová et al., 2025). The answers provide evidence for refining both marketing tactics and underlying processes.

Act: In the Act phase, organizations translate analytical findings into sustained changes and new standards. This may involve modifying messaging strategies, redesigning web or app interfaces, simplifying purchase steps, revising value propositions, or retraining front-line teams in response to observed weaknesses at particular AIDA stages (Djubair, 2022; Řepová et al., 2025). Successful configurations are codified into updated Standard Operating Procedures (SOPs), quality manuals, and playbooks, while lessons learned are documented for the next PDCA cycle (Lucidchart, 2024; Operations Optimization Model under the PDCA Approach, 2023). In this way, each iteration of the PDCA cycle incrementally

enhances the customer journey and embeds marketing improvements within the broader TQM system.

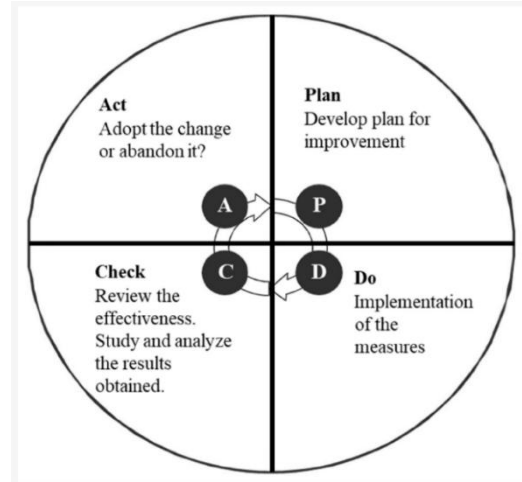


Figure 2. Processing framework for PDCA (adapted from Řepová et al., 2025).

Linking theory with practical tools

KPIs for each AIDA stage

The integrated framework specifies KPIs for each AIDA stage, which are evaluated primarily during the Check phase and used to guide Act decisions (Djubair, 2022; Operations Optimization Model under the PDCA Approach, 2023):

- Attention: Number of impressions, reach, and relevant cost indicators such as Cost Per Acquisition (CPA) for acquired visitors (Investopedia, 2024; Wikipedia contributors, 2024).
- Interest: Bounce rate, average engagement time, number of pages per session, and CTR on key calls to action (Djubair, 2022; Wikipedia contributors, 2024).
- Desire: Add-to-cart rate, product inquiry volume, downloads of product brochures, and completion of lead forms or trial requests (Djubair, 2022; Tristante, 2021).

- Action: Final conversion rate, average order value, refund or complaint rate, NPS, and CSAT (Net Promoter Network, 2024; Qualtrics, 2024).

By systematically tracking these indicators and linking them to specific interventions, organizations can precisely identify the stages and elements of the customer journey that require improvement.

Impact of integration on Total Quality Management

When PDCA is applied to AIDA-based customer journeys with clearly defined KPIs, improvements in sales performance and marketing communication become embedded within the TQM framework rather than treated as isolated commercial outcomes (Investopedia, 2024; Wikipedia contributors, 2024). Case-based evidence indicates that applying PDCA to marketing and communication processes can simultaneously support sustainability goals, enhance brand reputation, and reinforce customer-centric culture (Řepová et al., 2025). The integrated AIDA–PDCA perspective thus aligns marketing with quality, ensuring that efforts to increase conversions are evaluated in terms of both efficiency (e.g., CPA) and effectiveness in creating long-term customer satisfaction and loyalty (Djubair, 2022; Net Promoter Network, 2024).

Proposed practical application: phased implementation

The proposed practical application translates the theoretical framework into a phased implementation plan suitable for organizations of varying sizes and sectors (private, public, and non-profit). The plan combines PDCA logic with AIDA-based journey mapping, practical measurement tools, and experimental techniques such as A/B testing, alongside structured documentation of each cycle.

Plan: detailed implementation steps

a) Assessment of the current situation (As-Is): The implementation begins with an assessment of the existing customer journey, including traffic sources, navigation paths, behavior on product or service pages, and key drop-off points (Djubair, 2022). Organizations leverage CRM systems, web analytics, and customer service records to build a baseline of quantitative and qualitative data, which becomes the reference point for subsequent PDCA cycles (Investopedia, 2024; Qualtrics, 2024).

b) Setting SMART objectives: Clear, SMART objectives are then established for each AIDA stage, such as increasing the visit-to-purchase conversion rate by a defined percentage over a 12-week period or reducing the average order completion time by 20% while maintaining error-free processing (Operations Optimization Model under the PDCA Approach, 2023). These objectives ensure that PDCA activities remain focused, measurable, and aligned with strategic priorities in marketing and quality management.

c) Formulating A/B testing hypotheses

Finally, testable hypotheses are developed to guide experimental design. For example, the organization may hypothesize that adding a testimonial video from satisfied customers will reduce the bounce rate on the product page and increase both interest and desire, thereby improving the transition from Desire to Action (Djubair, 2022; Tristante, 2021). By framing such hypotheses for each AIDA stage, the organization creates a structured agenda for the subsequent Do, Check, and Act phases, ensuring that experimentation is purposeful and results feed directly into continuous improvement.

Do — Implementing the Experiments

In the Do phase, the organization implements the interventions designed during the Plan phase and treats them as structured experiments. This includes launching revised versions of product or landing pages, deploying new content campaigns to increase Attention, and scheduling focused sales training sessions to strengthen the Desire → Action transition (Djubair, 2022; Tristante, 2021). All interventions are executed with clearly defined time frames and target segments to ensure that subsequent measurements can be reliably linked to specific changes in the AIDA pathway (Realyvásquez-Vargas et al., 2018).

Equally important is systematic documentation of all changes, including dates, channels, audience segments, and operational details. Detailed records allow the organization to isolate the effects of individual variables and replicate successful practices in later PDCA cycles, as emphasized in empirical applications of PDCA in industrial and service contexts (Realyvásquez-Vargas et al., 2018; Řepová et al., 2025).

Check — Measurement and Analysis

During the Check phase, performance is evaluated by consolidating KPIs into a unified dashboard that visualizes AIDA-related indicators across the entire customer journey. Typical dashboards include metrics such as impressions, CTR, add-to-cart rate, conversion rate, and post-purchase indicators like NPS and CSAT, following the type of integrated view suggested in digital analytics and CRM–AIDA research (Djubair, 2022; Qualtrics, 2024). Reporting frequency (daily, weekly, or per campaign) is calibrated to the scale and volatility of each experiment to enable timely detection of trends and anomalies (Operations Optimization Model under the PDCA Approach, 2023).

To move beyond descriptive analysis, organizations apply simple statistical methods—such as t-tests or chi-square tests—to compare control and experimental groups and determine whether observed differences in KPIs are statistically significant (Realyvásquez-Vargas et al., 2018). This causal analysis strengthens the evidence base for decisions in the Act phase and reduces the risk of attributing random fluctuations to specific interventions (Djubair, 2022).

Act — Decision-Making and Improvement

In the Act phase, the organization decides which experimental configurations will be adopted, adjusted, or discarded. When a new product page, content variant, or process design yields significantly superior results, it is promoted to the default standard and incorporated into the next Plan iteration (Realyvásquez-Vargas et al., 2018; Tristante, 2021). Underperforming variants are either eliminated or redesigned, generating a continuous pipeline of hypotheses for subsequent PDCA cycles.

Managerially, lessons learned from each cycle are documented and embedded into Standard Operating Procedures (SOPs) for marketing, sales, and service teams. These updates are registered in the organization's continuous improvement log, thereby linking day-to-day marketing experimentation with the broader TQM system, as advocated by PDCA-based communication and operations models (Lucidchart, 2024; Řepová et al., 2025).

Second: Proposed Technological Tools

To support the integrated AIDA–PDCA framework, a set of technological tools is recommended. For web analytics, platforms such as Google Analytics / GA4 and Hotjar (for heatmaps and session recordings) enable detailed monitoring of Attention

and Interest behaviors at the page and session levels (Djubair, 2022). For content and campaign management, advertising platforms such as Facebook Ads, Google Ads, and LinkedIn, alongside email tools like Mailchimp, facilitate controlled A/B testing of creative and messaging elements across AIDA stages (Operations Optimization Model under the PDCA Approach, 2023).

CRM and sales tools, such as Salesforce or local CRM systems, provide end-to-end tracking of the Desire → Action pathway by integrating behavioral, transactional, and service data (Djubair, 2022; Investopedia, 2024). Finally, BI tools such as Power BI or Google Data Studio allow the consolidation of PDCA indicators into a single dashboard, supporting real-time monitoring and management review as described in operational PDCA models (Operations Optimization Model under the PDCA Approach, 2023).

Third: Practical Examples of Executable Experiments

Experiment 1 (Attention)

This experiment compares two alternative advertisement headlines or creatives to determine which version generates a higher CTR in a target audience segment. Performance is assessed using CTR and CPA per visitor to estimate both behavioral effectiveness and cost-efficiency (Djubair, 2022; Wikipedia contributors, 2024).

Experiment 2 (Interest → Desire)

Here, two landing page versions are tested: one emphasizing text-based customer testimonials and another emphasize video testimonials. Key metrics include time on page and add-to-cart rate, enabling evaluation of how content format affects the transition from Interest to Desire (Tristanteo, 2021).

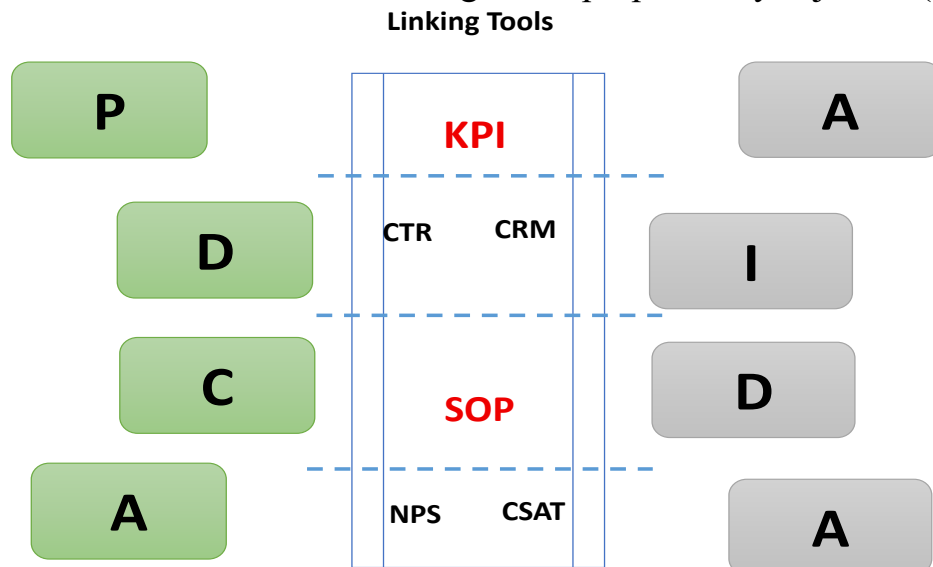
Experiment 3 (Action)

In this experiment, the checkout process is simplified—for example, from three steps to a single step—to reduce friction at the Action stage. Measurement focuses on conversion rate and cart abandonment rate, following approaches used in both digital marketing and PDCA-based defect reduction studies that link process simplification to improved outcomes (Realyvásquez-Vargas et al., 2018; Tristante, 2021).

Fourth: Standardization of Quality Measurement Using Advanced Indicators

Advanced outcome indicators help link the AIDA–PDCA integration to TQM-level quality and sustainability objectives. NPS and CSAT capture customers’ post-purchase perceptions and are especially relevant in the Check and Act phases because they reflect the quality of the end-to-end experience rather than only immediate conversion (Net Promoter Network, 2024; Qualtrics, 2024). CLV connects AIDA performance to long-term revenue potential, highlighting the strategic importance of retention and repeated purchases instead of one-off transactions (Wikipedia contributors, 2024).

Repurchase and churn rates serve as final, longitudinal indicators of product/service quality and sales experience effectiveness, consistent with the data-driven perspective on AIDA and CRM integration proposed by Djubair (2022). When



monitored within PDCA cycles, these indicators help ensure that short-term optimization at the Attention or Action stages does not undermine long-term relationships and brand equity.

Fig (3): Linking Theory and Practical Tools: *by researchers*

Case Studies and Lessons Learned

1. Slovak Telecommunications Company (Řepová et al., 2025)

Intervention: The company adopted a PDCA-based framework to structure decisions on sustainable marketing communication.

Results: The intervention led to improved message consistency, reduced communication costs, and greater efficiency in retention campaigns (Řepová et al., 2025).

Key Lesson: Aligning PDCA indicators with explicit marketing objectives—such as customer retention—ensures that experimental cycles support TQM goals and not just isolated campaign metrics.

2. PDCA Application in Industrial Processes (Realyvásquez-Vargas et al., 2018)

Intervention: PDCA was applied to reduce manufacturing defects through structured problem-solving and iterative improvement.

Results: Defect rates were significantly reduced, surpassing predefined targets (Realyvásquez-Vargas et al., 2018).

Key Lesson: The PDCA methodology is transferable from production lines to customer journey pathways, provided that performance indicators are appropriately adapted to behavioral and experiential outcomes.

3. AIDA Model in Digital Marketing (Tristante, 2021)

Intervention: AIDA was applied to Instagram campaigns to analyze its effect

on purchase intention and transitions between stages.

Results: The study identified clear transition points between Interest and Desire based on content type and presentation (Tristante, 2021).

Key Lesson: Selecting content formats tailored to each AIDA stage allows PDCA cycles to test more precise and measurable hypotheses.

4. **Integration of AIDA with Analytics and CRM (Djubair, 2022)**

Intervention: CRM data were integrated with user behavior analytics to track customers across AIDA stages.

Results: The organization gained the ability to identify specific leakage points along the journey, enabling targeted interventions (Djubair, 2022).

Key Lesson: Without robust integration of CRM and analytics, the Check phase remains weak, and Act decisions risk being based on incomplete or misleading evidence.

5. **Operational PDCA Model for Marketing (Operations Optimization Model under the PDCA Approach, 2023)**

Intervention: An operational PDCA model was designed to increase website traffic and conversion by iteratively improving campaigns and processes.

Results: Repeated PDCA cycles produced tangible increases in visits and sales (Operations Optimization Model under the PDCA Approach, 2023).

Key Lesson: Integrating CRM, digital marketing platforms, and BI dashboards with PDCA enables sustainable and continuous improvement rather than one-time optimization.

Proposed Practical Success Indicators (Applied KPIs)

Drawing on these case studies and operational research, the following applied KPIs are proposed to assess the success of AIDA–PDCA integration:

- Increase in conversion rate as the key outcome of each completed PDCA cycle.
- Reduction in CPA for Attention-oriented campaigns, indicating more efficient acquisition (Wikipedia contributors, 2024).
- Increase in NPS and CSAT as evidence that improvements in AIDA stages translate into better overall experience (Net Promoter Network, 2024; Qualtrics, 2024).
- Increase in CLV as a marker of long-term business sustainability and effectiveness of TQM-driven marketing (Wikipedia contributors, 2024).

Common Practical Challenges and Proposed Solutions

Table 1 summarizes recurrent challenges and possible solutions in implementing the integrated framework. "*prepared by the researchers*".

Expected challenge	Proposed solution
Lack of integration between analytics tools and CRM	Unification of data sources through ETL processes or the deployment of centralized BI platforms (JOEBM, 2023).
Resistance to change among sales and marketing teams	Structured training, clear SOP documentation, and shared KPIs aligned to TQM objectives (Lucidchart, 2024).
Unclear testing hypotheses	Adoption of a formal hypothesis-testing framework and statistical assessment of A/B tests (Djubair, 2022).

Proposed Implementation Roadmap (6–12 Months)

- Months 1–2 (Plan): Conduct As-Is assessment, define KPIs by AIDA stage, and design initial experiments (Djubair, 2022).
- Months 3–6 (Do & initial Check): Implement the first PDCA cycles focused on Attention and Interest, then perform initial measurement and analysis.
- Months 6–9 (Act & extended Check): Apply Act decisions, including checkout optimization and post-sales communication changes, followed by deeper analysis using quality indicators.
- Months 9–12 (Repeat PDCA & long-term evaluation): Repeat improvement cycles, document results, and evaluate long-term impact using CLV, NPS, and repurchase/churn metrics (Řepová et al., 2025; Realyvásquez-Vargas et al., 2018).

Overall Conclusion of This Axis

The evidence suggests that embedding the AIDA model within the PDCA framework can be effective across diverse organizational contexts, provided that an integrated data infrastructure exists, hypotheses are clearly formulated, and there is strong managerial commitment to documentation and continuous improvement (Djubair, 2022; Řepová et al., 2025). When supported by TQM principles, this integration transforms marketing and sales activities into quality-managed processes that are continuously monitored and refined.

Conclusions and Discussion

1. Integrating the AIDA model within the PDCA cycle offers a robust approach to linking marketing activities with systematic, measurable improvement under a TQM philosophy (Řepová et al., 2025).
2. AIDA functions as a customer journey map inside each PDCA iteration: the Plan phase defines Attention and Interest objectives, the Do phase implements tactics to move customers from Desire to Action, the Check phase evaluates KPIs, and the Act phase refines both processes and content.
3. Consistent and unified KPIs—supported by integrated CRM and analytics systems—are essential; without them, the Check and Act phases lose their diagnostic power and fail to generate genuine improvements (Djubair, 2022).
4. Case studies from telecommunications, manufacturing, and digital marketing show that results are measurable, with documented increases in campaign effectiveness, reductions in communication costs and defects, and improvements in quality indicators (Operations Optimization Model under the PDCA Approach, 2023; Realyvásquez-Vargas et al., 2018; Řepová et al., 2025; Tristante, 2021).
5. Common challenges—such as data silos, resistance to change, and weak experimental design—are manageable through technological integration, continuous training, and the adoption of rigorous hypothesis-driven testing methodologies (Djubair, 2022; Lucidchart, 2024).

Recommendations

The study recommends the following actions for organizations seeking to integrate AIDA and PDCA within a TQM framework:

1. Formally adopt the PDCA logic in marketing and sales management, with clearly assigned responsibilities for each phase and explicit links to TQM objectives.
2. Integrate CRM and analytics platforms to create a unified view of the customer journey and to support robust Check and Act phases.
3. Design A/B and multivariate experiments explicitly grounded in AIDA-based hypotheses, and document their results in an internal knowledge base.
4. Combine sales KPIs (conversion, CPA, CLV) with quality indicators (NPS, CSAT, complaint rates) to assess the true impact of AIDA improvements on customer experience.
5. Provide ongoing training for sales and marketing teams on techniques to convert Desire into Action while maintaining quality standards and ethical practices.
6. Institutionalize PDCA cycles within SOPs and quality plans, ensuring that lessons learned are systematically captured and reused in subsequent improvement initiatives (Lucidchart, 2024; Řepová et al., 2025).

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