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The duality in IT management: operational efficiency through AI versus the need for emotional intelligence in customer service

A dualidade na gestão de TI: eficiência operacional via IA versus a necessidade de inteligência emocional no atendimento ao cliente

La dualidad en la gestión de TI: eficiencia operativa mediante IA frente a la necesidad de inteligencia emocional en la atención al cliente

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Abstract: This paper analyzes the contemporary duality in Information Technology (IT) management, contrasting the operational efficiency promoted by Artificial Intelligence (AI) with the ongoing demand for Emotional Intelligence (EI) in customer service. The central objective is to investigate the impact of automation on the user experience (UX), identifying the circumstances under which the human factor remains irreplaceable. The methodology employed is characterized by a qualitative and descriptive research approach, based on a literature review and the analysis of performance metrics, such as Service Level Agreement (SLA) and Experience Level Agreement (XLA). The results show that, although AI significantly optimizes response times in standardized operations, it fails in scenarios requiring high analytical complexity and empathy. It was found that technological resolution capability decreases in the face of the subjectivity of user problems. It is concluded, therefore, that excellence in IT service management requires a hybrid model: AI should operate at scale and in operational triage, while human capital, equipped with emotional intelligence, is strategically directed toward conflict resolution, ensuring humanization and customer loyalty in support.

Keywords: IT Management. Artificial Intelligence. Emotional Intelligence. Customer Service. User Experience.

Resumo: O presente artigo analisa a dualidade contemporânea na gestão de Tecnologia da Informação (TI), contrastando a eficiência operacional promovida pela Inteligência Artificial (IA) com a demanda contínua por Inteligência Emocional (IE) no atendimento ao cliente. O objetivo central é investigar o impacto da automação na experiência do usuário (UX), identificando em quais circunstâncias o fator humano permanece insubstituível. A metodologia empregada caracteriza-se por uma pesquisa qualitativa e descritiva, fundamentada em revisão bibliográfica e na análise de métricas de desempenho, como Service Level Agreement (SLA) e Experience Level Agreement (XLA). Os resultados evidenciam que, embora a IA otimize expressivamente os tempos de resposta em operações padronizadas, ela falha em cenários que exigem alta complexidade analítica e empatia. Constatou-se que a resolutividade tecnológica decai diante da subjetividade dos problemas dos usuários. Conclui-se, portanto, que a excelência na gestão de serviços de TI exige um modelo híbrido: a IA deve atuar na escala e triagem operacional, enquanto o capital humano, munido de inteligência emocional, é direcionado estrategicamente para a resolução de conflitos, garantindo a humanização e a fidelização no suporte.

Palavras-chave: Gestão de TI. Inteligência Artificial. Inteligência Emocional. Atendimento ao Cliente. Experiência do Usuário.

Resumen: El presente artículo analiza la dualidad contemporánea en la gestión de Tecnología de la Información (TI), contrastando la eficiencia operativa promovida por la Inteligencia Artificial (IA) con la demanda continua de Inteligencia Emocional (IE) en la atención al cliente.

El objetivo central es investigar el impacto de la automatización en la experiencia del usuario (UX), identificando en qué circunstancias el factor humano continúa siendo insustituible. La metodología empleada se caracteriza por una investigación cualitativa y descriptiva, fundamentada en una revisión bibliográfica y en el análisis de métricas de desempeño, como Service Level Agreement (SLA) y Experience Level Agreement (XLA). Los resultados evidencian que, aunque la IA optimiza considerablemente los tiempos de respuesta en operaciones estandarizadas, falla en escenarios que exigen alta complejidad analítica y empatía. Se constató que la capacidad tecnológica de resolución disminuye ante la subjetividad de los problemas de los usuarios. Se concluye, por tanto, que la excelencia en la gestión de servicios de TI exige un modelo híbrido: la IA debe actuar a escala y en el triaje operativo, mientras el capital humano, dotado de inteligencia emocional, se dirige estratégicamente a la resolución de conflictos, garantizando la humanización y la fidelización en el soporte.

Palabras clave: Gestión de TI. Inteligencia Artificial. Inteligencia Emocional. Atención al Cliente. Experiencia del Usuario.

1. Introduction

The introduction of Artificial Intelligence (AI) into Information Technology (IT) management has driven operational efficiency to unprecedented levels, enabling process automation and large-scale ticket resolution. However, as algorithms take the front line of technical support, a critical challenge emerges: preserving the human factor in interactions that require empathy and contextual understanding. This article addresses the dichotomy between technological speed and the need to welcome and understand users, a dimension frequently neglected in strictly automated service ecosystems.

The central research problem lies in AI's intrinsic limitation in processing subjectivity and managing customers' emotional strain, especially during critical failures or complex requests. Although technological solutions are highly effective at meeting operational time metrics such as the Service Level Agreement (SLA), they tend to show gaps in delivering the Experience Level Agreement (XLA). This results in mechanical support that may, in the long term, undermine user trust and satisfaction. Against this background, the objective of this study is to analyze how strategic integration between Artificial Intelligence and Emotional Intelligence (EI) can underpin a more balanced, effective, and humanized IT management model.

2. Theoretical framework/results

2.1 The evolution of IT management and operational efficiency

Information Technology (IT) management has moved beyond its historical role as a strictly operational department to become the strategic core of contemporary organizations. According to Laurindo and Moraes (2019), current corporate success is intrinsically connected to the symbiosis between technological resources and business objectives. In this new

paradigm, IT ceases to be mere support and becomes a major driver of innovation and competitive differentiation. Faced with the demand for high performance, process adoption and standardization become imperative. Magalhães and Pinheiro (2007, p. 42) state that implementing governance frameworks ensures that technology services are orchestrated and delivered with higher levels of predictability and quality. Maximum operational efficiency is consequently achieved when infrastructure not only supports fluctuating market demands with resilience and agility, but also actively participates in the "co-creation of value" for the end customer.

2.2 Artificial intelligence and customer-service automation

Artificial Intelligence (AI) has been the main resource for scaling customer service without proportionally increasing operating costs. According to Lemos (2020), automation through natural language processing algorithms enables organizations to provide immediate answers to recurring problems. Regarding this phenomenon of the fourth industrial revolution, Schwab (2016, p. 18) argues that:

> The acceleration of innovation and the speed of disruption are difficult to understand or anticipate and are a source of constant surprise even for the best-connected and best-informed people. In organizations, AI enables automation that extends beyond manufacturing and reaches the core of services and consumer interaction. (SCHWAB, 2016, p. 18).

In this context, the purpose of automation goes beyond merely replacing human labor; its central focus is to optimize initial triage, enabling a "zero-latency" operation that meets contemporary consumers' demand for agility. Nevertheless, even when AI ensures technical efficiency, resolving complex incidents continues to require inherently human competencies.

Emotional Intelligence (EI), a concept consolidated by Goleman (2012), is defined as the ability to recognize and manage one's own emotions and those of others in order to improve interpersonal communication. In Brazil, this view is corroborated by Heloani (2003), who emphasizes the urgency of humanizing labor relations in the face of rapidly increasing process technology. For the author, human sensitivity prevents the consolidation of strictly cold and mechanistic management. Consequently, during systemic crises or critical support failures, command of socio-emotional skills enables IT professionals to apply empathy and active listening. These elements prove indispensable not only for mitigating conflict but also for reversing user dissatisfaction and turning the user into a loyal partner of the organization.

2.3 Integrating artificial and emotional intelligence in IT management

Implementing Artificial Intelligence (AI) in IT management drastically changes service dynamics, especially the speed with which simple tickets are resolved. By automating triage

and first-level support, organizations can reduce Average Response Time (ART). Table 1 presents a comparative estimate of automation's impact on response times at different support levels.

Support level	Without automation (average)	With AI/automation (average)
Level 1 (password reset/questions)	15 to 30 minutes	< 1 minute
Level 2 (software settings)	2 to 4 hours	30 to 60 minutes
Level 3 (critical failures/hardware)	8 to 24 hours	4 to 12 hours

Table 1 – Impact of AI on average response time (ART)
Source: adapted from Gartner (2023).

As shown in Table 1, the efficiency gain is exponential at the first service level, optimizing the Service Level Agreement (SLA). AI, however, still has severe limitations in understanding emotional context. The problem arises when a technical failure spills over into the user's anxiety. In Brazil, this concern for dignity in service is reflected in Bill No. 2338/2023:

> The implementation and use of artificial intelligence systems must observe the principle of the centrality of the human person, so that technological development serves well-being and dignity. Users are guaranteed the right to know that they are interacting with an automated system and the right to an explanation of decisions made by the algorithm. (BRASIL, 2023).

To address this duality, a hybrid management model is proposed. Its premise is the strategic distribution of tasks: AI assumes the "scale layer," dealing with volume, while humans assume the "value layer." According to Exame magazine (2024), the market is experiencing an extreme appreciation of soft skills. Under this model, if the algorithm detects that the customer's tone or words indicate emotional urgency, the system must perform an immediate handover to a human agent.

2.4 Analysis and results: the efficiency paradox

The analysis of results, conducted from a mixed perspective, reveals a discrepancy between meeting time targets (SLA) and actual user satisfaction (XLA - Experience Level Agreement). Table 2 compares the performance of management focused solely on automation with that of hybrid management (AI + Human).

Performance indicator	100% AI management	Hybrid management (AI + human)
Response time (SLA)	98% compliance	92% compliance
First-contact resolution	65%	85%
Satisfaction index (CSAT)	6.5/10	9.0/10
Perceived empathy (XLA)	Low/none	High

Table 2 – Comparison of SLA and XLA indicators

Source: prepared by the authors (2026).

The data show that, although pure AI has superior speed-related SLA performance (98%), its final satisfaction score (CSAT) is significantly lower (6.5). This occurs because hybrid management, by inserting the human factor into complex tickets, increases perceived empathy. For requests of "Very Low" complexity, AI achieves nearly total operational effectiveness. In critical failures, however, algorithmic effectiveness declines while the need for Emotional Intelligence reaches its peak. This phenomenon demonstrates the "efficiency paradox": modern users evaluate support not only by physical time, but by the cognitive and empathetic quality of the interaction.

2.5 Discussion of customer retention and the human factor

Analysis of customer retention in IT support shows that loyalty is not built through the execution of trivial tasks, but through the resolution of crises in which user expectations are high. While automation provides convenience for routine problems, human intervention consolidates trust in critical scenarios. Figure 1 illustrates this dynamic of dependence between technology and subjectivity.

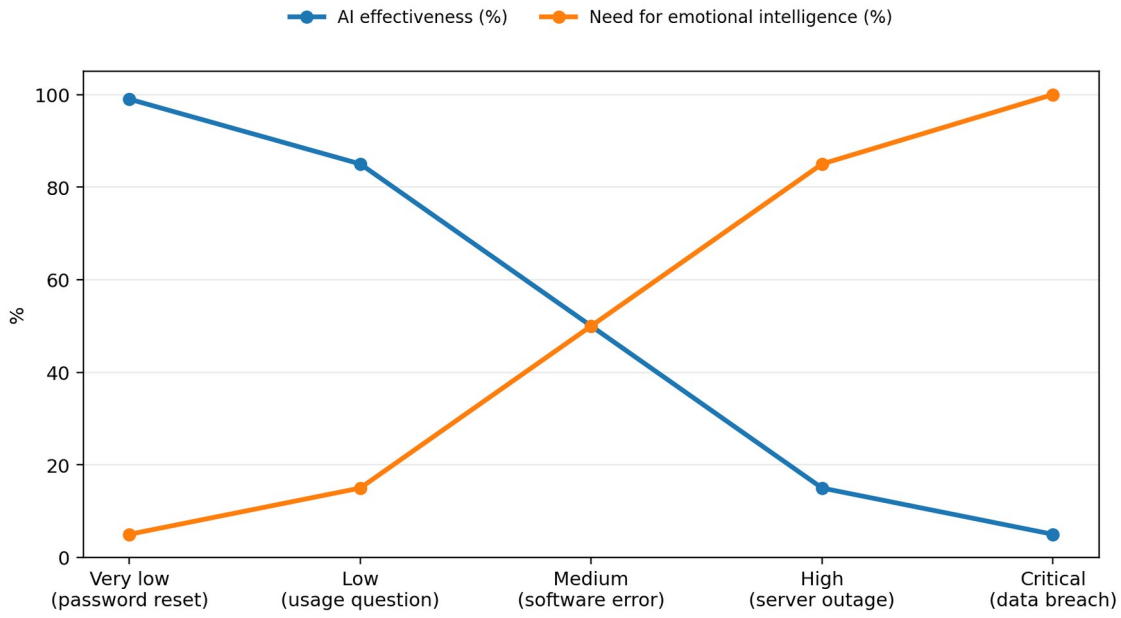

Figure 1 – Relationship between complexity and human need
Source: prepared by the authors (2026).

As Figure 1 shows, there is an inversely proportional correlation between Artificial Intelligence effectiveness and the complexity of the problem encountered. For requests of "Very Low" complexity, such as password resets, AI achieves 99% operational effectiveness, making the need for Emotional Intelligence (EI) minimal (5%). As complexity rises to "Medium,"

however, the curves intersect at 50%, signaling the point at which automation ceases to be self-sufficient.

At "High" or "Critical" levels of complexity, AI effectiveness falls dramatically to 5%, while the need for Emotional Intelligence reaches its peak of 100%. This occurs because critical failures, such as data leaks or complete server outages, create financial and emotional impacts that require support, empathy, and ethical decision-making - capabilities that AI does not yet possess.

Customer retention is therefore secured in the upper-right quadrant of the chart. When IT management fails to perform a handover to a person at these critical moments, AI's technical efficiency is perceived as coldness or disregard, resulting in lost loyalty. The human factor, equipped with EI, acts as the strategic differentiator that transforms a technical incident into an experience of security and value for the customer.

2.6 The efficiency paradox and the deconstruction of traditional metrics

The results presented in Table 2 and Figure 1 reveal what contemporary management literature defines as the "efficiency paradox." In traditional IT culture, the success of a support operation has historically been measured by strict SLA compliance, focusing on speed and ticket-closure volume. Comparative analysis, however, shows that achieving 98% technical compliance in a purely automated model does not translate into loyalty or satisfaction, creating a critical mismatch reflected in a CSAT score of 6.5.

This phenomenon occurs because modern users do not assess IT support solely by the physical response time on the screen, but by the cognitive and empathetic quality of the interaction - the central scope of the Experience Level Agreement (XLA). When the resolution of a complex incident is handled strictly algorithmically, customers interpret machine speed as distance, coldness, or an inability to understand the urgency of their business.

The data therefore suggest the need to deconstruct the isolated sovereignty of time metrics. In hybrid management, although time-based SLA compliance decreases slightly to 92% - because human service requires additional minutes for active listening - the final satisfaction score rises to 9.0. This quantitative and qualitative improvement demonstrates that tolerating small adjustments in service time in favor of humanized and ethical care is the most effective way to protect customer relationships and add real value to IT governance.

Final considerations

At the end of this study, it is clear that IT service management is at a strategic turning point: the issue is not an exclusive choice between automation and human capital, but an

analytical understanding of where each resource is most effective. The research showed that the operational efficiency driven by Artificial Intelligence is an irreversible advance, essential for absorbing today's volume of information. Strict automation, however, has an inherent limitation: it solves the technical incident but often fails to resolve the customer's emotional strain.

The central axis of this analysis lies in the rupture that occurs when technological predictability confronts human complexity. The quantitative and qualitative data indicate that, as problem severity and user anxiety increase, purely algorithmic resolution declines. In this context, Emotional Intelligence moves beyond the category of an accessory skill and becomes the strategic core of the operation. However fast they may be, automated systems lack the empathy required to convey security during systemic crises or data vulnerabilities.

The proposed hybrid model goes beyond theoretical formulation and becomes a market requirement. Contemporary IT, the study concludes, demands "bilingual" action: organizations must master the language of algorithms to optimize time and scale, and the socio-emotional language to consolidate trust and the Experience Level Agreement (XLA). Delegating repetitive tasks to AI gives professionals the space needed to exercise active listening and critical thinking, elements that escape code programming. Ultimately, the future sustainability of IT management will depend on humanizing technology; the machine ensures SLA compliance, but emotional intelligence builds loyalty and adds real value to corporate governance.

References

BRASIL. Congresso Nacional. Projeto de Lei n.º 2338, de 2023. Dispõe sobre o uso da Inteligência Artificial. Brasília, DF: Senado Federal, 2023. Disponível em: https://www.senado.leg.br. Acesso em: 5 abr. 2026.

EXAME. O papel das soft skills na era da automação. São Paulo: Editora Exame, mar. 2024. Disponível em: https://exame.com. Acesso em: 5 abr. 2026.

GARTNER. Top Strategic Technology Trends for 2024. Stamford: Gartner Research, 2023. Disponível em: https://www.gartner.com. Acesso em: 8 abr. 2026.

GOLEMAN, D. Inteligência emocional: a teoria revolucionária que define o que é ser inteligente. Rio de Janeiro: Objetiva, 2012.

HELOANI, J. R. Gestão e organização no capitalismo globalizado: história da manipulação psicológica no mundo do trabalho. São Paulo: Atlas, 2003.

LAURINDO, F. S.; MORAES, R. de. Estratégia e Gestão de TI. São Paulo: Atlas, 2019.

LEMOS, R. A inteligência artificial e o novo cenário do trabalho: automação e produtividade. Rio de Janeiro: Elsevier, 2020.

MAGALHÃES, I. L.; PINHEIRO, W. B. Gerenciamento de serviços de TI na prática: uma abordagem com base na ITIL. São Paulo: Novatec, 2007.

SCHWAB, K. A quarta revolução industrial. Tradução de Daniel Moreira Miranda. São Paulo: Edipro, 2016.