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The evolution and digital transformation of companies based on information systems in the post-pandemic scenario.

The Evolution of Digital Transformation Driven by Information Systems in the Post-Pandemic Scenario.

The evolution and digital transformation of companies based on information systems in the post-pandemic scenario

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Summary:

The global scenario, exacerbated by the COVID-19 pandemic in 2020, accelerated technological transformations that, under normal conditions, would have taken decades to consolidate. The restrictions imposed by the epidemiological situation allowed for the adoption of digital solutions to ensure social distancing and business continuity. This article demonstrates how the technology implemented during this period shaped new consumption patterns, generating predictability, scheduling management, real-time workflow control, and customer loyalty. The work aims to show how the automation of manual processes, through the implementation of information systems, ensured service quality, providing managers with a strategic way to control finances and workload, becoming an indispensable pillar of operational efficiency in the service sector.

Keywords: Digital Transformation. Workflow Management. Information Systems.

Abstract:

The global scenario, aggravated by the COVID-19 pandemic in 2020, accelerated technological transformations across various sectors that would otherwise have taken decades to consolidate. The pandemic's restrictions required a rapid shift to digital solutions to support social distancing and business continuity. This article demonstrates how the technology implemented during this period shaped new consumption patterns, providing predictability, scheduling management, real-time control of customer flow, and loyalty. The study examines how automating manual processes through information systems improved service quality and provided managers with a strategic approach to financial and occupational control, thereby making it an indispensable pillar of operational efficiency in the service sector.

Keywords: Digital Transformation. Flow Management. Information Systems.

Introduction

Currently, digital transformation has established itself as a fundamental pillar for resilience and The competitiveness of organizations in various types of businesses. This process reflects a evolution that transcended the condition of emergency necessity — initially motivated by logistical challenges and health protocols related to the COVID-19 pandemic — for the adoption of Robust workflow management and data intelligence solutions. What was once considered An unnecessary luxury has come to be seen as an indispensable strategic investment. development and continuity of companies.

The central problem faced by the establishments lay in the complexity of mitigating a

An unprecedented challenge: keeping the doors open while respecting strict health regulations. This was in response to



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This "pain point" was addressed by the Information Technology (IT) area, which implemented tools capable of... to optimize in-person service and ensure financial predictability during times of uncertainty. The purpose of this work is to demonstrate how the implementation of systems and infrastructure IT improvements and the application of information security standards resolved operational bottlenecks and They harmonized consumer demand with the productive capacity of companies.

Technology as Essential Fuel

Understanding the relevance of information systems stems from the premise of **Nicholas Carr**, According to which IT is transitioning from an isolated differentiator to a public utility infrastructure. Under From this perspective, technology has ceased to be an accessory resource and has become the essential fuel. that keeps the organizational machinery running. In crisis scenarios, the absence of Digital solutions are equivalent to operational disruption; therefore, the implementation of platforms of Cash flow is a vital strategy for ensuring operational continuity. According to the concept advocated... by Nicholas Carr:
IT has become a commodity. Only the essentials, not the strategic ones, offer an advantage. Sustainable competitiveness. When IT becomes ubiquitous, it ceases to be a competitive differentiator. (Nicholas Carr, 2003).

Competitive advantage and value chain

Unlike the author mentioned earlier, Michael Porter defends the idea that infrastructure It is not just a support tool, but also a fundamental component that translates in terms of competitive advantage. In Porter's Value Chain model, technology optimizes the primary logistics and service activities. By replacing manual processes with systems of In terms of information, the company differentiates itself through operational efficiency, in addition to the convenience offered to... The consumer and the predictability generated for the manager, thus creating a superior value that isolates the The organization of competition and changes the sector's consumer standards. According to Michael Porter, the The information revolution is sweeping through our economy. No company can escape its effects. Effects. Dramatic reductions in the costs of obtaining, processing, and transmitting information. They are changing the way we do business. (Michael Porter, 1985).

Infrastructure and Information Security

The effectiveness of the competitive advantage advocated by Porter depends intrinsically on a solid infrastructure and rigorous information security protocols. So that the advantage...

To ensure that business competitiveness does not become a risk, systems must respect the pillars of security of information, ensuring reliability, integrity and availability, and priority should be given to safeguarding critical data and security standards that strengthen protection against unauthorized access.

Software Engineering and UML Modeling

For technological solutions to fulfill their role in mitigating operational bottlenecks, the application of software engineering is mandatory. According to Roger Pressman, software quality is a starting point; without it, none of the other attributes — efficiency, reliability, ease of use — exist. Maintenance is very important. (Pressman, 2016). In this context, the use of **UML (Unified Learning Management System)** is crucial.

Modeling Language allows you to translate market needs into precise technical requirements.

Through diagrams, the interaction between users and establishments is mapped, ensuring the validation of business rules before implementation. This technical structure is what guarantees the robustness required for the system to support the flow of demand without interruptions, transforming innovation through a smarter and more preventative approach.

Applied Technology: Results and Discussion

The incorporation of information systems and technological infrastructure has proven to be a factor crucial for maintaining business activity in all sectors. In a scenario where, given that the interruption of activities was imminent, technology not only acted as an improvement, but also as a solution capable of mitigating the operational bottleneck resulting from the total shutdown of business.

- **Predictability and Continuity:** The implementation of flow platforms has enabled that companies maintained their operations under strict controls, ensuring their financial survival even in the face of severe restrictions.
- **Data-Driven Efficiency:** The use of data generated by information systems has eliminated the "Guesswork" in management, allowing occupational and financial control to be based on metrics.

real demand and production capacity.

- **Security as an Asset:** Applying information security standards not only guaranteed the integrity of transactions and the protection of customer data, as also established by The necessary balance between technological innovation and privacy.

Conclusion

Technology has made companies more proactive and resilient, preventing operational collapse. Various operations have taken place since the pandemic, solidifying its position as an indispensable investment. It is not merely an end in itself, but an essential means to maintain citizenship and strengthen economic development, with its use being the factor guaranteeing competitiveness, efficiency and the continuity of companies within the current economic model.

References

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