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Incorporating Information Architecture (ia), Enterprise Engineering (ee) and Artificial Intelligence (ai) to Improve Business Plans for Small Businesses in the United States.

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Abstract

According to a study by the United States Census Bureau, about 20% of new businesses fail in their first year and nearly 50% do not survive more than five years. Following this report, I conducted research on how information architecture (IA) and enterprise engineering (EE) can be used to support small business management and the impact of artificial intelligence (AI) and information technologies to improve business plans at struggling companies in the United States.

Keywords: Information Architecture, Enterprise Engineering, Artificial Intelligence

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1. Introduction

Definitions.

Information architecture: AI involves organizing, structuring and labeling content that would be relevant and efficacious for both users and the organization. It is typically associated with the design and organization of websites, software development, as well as the design and redesign of information systems.

Business Engineering: EE involves the design, modeling, and implementation of an entire enterprise in a comprehensive manner from a technical and organizational point of view. It has the objective of aligning the strategy, process and technology of an organization.

Artificial intelligence: Artificial Intelligence (AI) is a field of computing that is dedicated to the development of systems and technologies that can perform tasks that require human intelligence.

These systems seek to imitate human cognitive functions, such as learning, adaptation to new situations, natural language processing and autonomous decision making.

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INTRODUCTION.

In the intricate horizon of the American business landscape, the data reveals a stark reality: Nearly 20% of new companies fail during their first year, and a discouraging 50% fail before reaching the five-year mark, according to the United States Census Bureau.

These figures, beyond being simple statistics, outline a business terrain marked by colossal challenges and an urgent need for innovative strategies for survival.

This scenario, rather than discouraging, is the catalyst for extensive business research that delves into the complexities of Information Architecture (IA) and Business Engineering (EE). The underlying question is clear: How can these disciplines not only support small business management, but also fundamentally reconfigure the business trajectory and enhance the effectiveness of business plans? The answer lies in meticulously understanding the convergence between artificial intelligence (AI), information technologies and business engineering, elements that, when precisely assembled, have the potential to trigger a metamorphosis in business dynamics.

USING AI AND EE TO SUPPORT SMALL BUSINESS MANAGEMENT.

In the worrying scenario of small businesses, decision making and operational effectiveness is the backbone that determines success or failure. In this context, Information Architecture (IA) and Enterprise Engineering (EE) emerge as vitalizing tools, capable of boosting operations towards stronger management and improved business performance. Below, we explore how these basic concepts intertwine to provide substantial support to small businesses in various industries.

1. Comprehensive Breakdown of Information.

IA, at its core, is a catalyst for the breakdown and comprehensive understanding of information. For small businesses, this translates into access to great amounts of data, where they can extract valuable insights to inform strategic decisions. From optimizing internal processes to deeply understanding customer behavior, Information Architecture enables informed and accurate decision making.

2. Personalization of Business Strategies.

The ability to customize business strategies according to specific needs is a key competitive advantage. This is where Business Engineering comes into play. By applying engineering principles to business processes, exceptional adaptability is achieved. Small businesses can design and adjust strategies in an agile manner, responding to changes in the market, consumer demands and internal dynamics efficiently.

3. Automation of Critical Processes.

Automation, a crucial component of IA and EE, becomes an indispensable ally for small businesses. Optimizing routine processes and reducing manual operational burden frees up valuable resources and allows human focus to be directed to higher value-added tasks. From inventory management to customer service, automation drives operational efficiency and effectiveness.

4. Data-Based Predictions.

Accurate prediction of market behavior, consumer trends, and industry changes becomes possible thanks to IA's ability to analyze real-time and historical data. Small businesses can anticipate challenges and opportunities, allowing for more robust strategic planning. Business Engineering adds to this capability by providing structured frameworks for the interpretation andapplication of these predictions in the business context.

5. Continuous Improvement through Results Analysis.

Continuous feedback is essential for business growth. Information Architecture and Business Engineering allow a detailed analysis of the results, identifying areas for improvement and growth opportunities. This cycle of continuous improvement becomes the operational platform for the effective management of small businesses, allowing agile and strategic adjustments inreal time.

6. Strengthening Business Resilience.

Finally, the combination of IA and EE contributes to strengthening business resilience. The ability to adapt to unexpected changes, manage crises and anticipate challenges becomes a distinctive advantage. Small businesses equipped with solid information architecture and business engineering principles can overcome challenges with greater agility and effectiveness.

On the path to business realization, Information Architecture and Business Engineering appear as fundamental tools. Their strategic integration not only supports decision making, but also redefines the effectiveness and performance of small businesses, providing the competitive advantage needed in an increasingly dynamic business environment.

Addressing the above, below are several ways that explain how these concepts support reducing the entire decision-making process and strengthening the effectiveness and performance of small businesses in various industries.

I. Digital Presence and User Experience.

In the digital age, strong digital presence and exceptional user experience are critical to the success of businesses, especially those facing challenges.

Website and interface design: an organized website and interface will improve the customer experience, helping the engagement and eventual satisfaction of all customers. In his book, Ishak (2020) discusses the importance of a well-organized website with a

well-designed user interface and states that proper user interface design can help reduce training time, performance speed, error rates, user satisfaction and retention of knowledge of operations over time.

E-commerce Optimization: Proper organization that makes easy for any customer to find desired products and services can greatly improve a customer's online shopping experience, thereby boosting sales. In his book Kostikov (2021), the author describes that without the Internet international business is unthinkable, since the Internet connects billions of people around the world and is thus a central pillar of modern business.

II. Customer relationship management (CRM).

Efficient customer relationship management (CRM) is essential for success in the actual business environment, and incorporating artificial intelligence (AI) and enterprise engineering (EE) into this space can be transformative.

Data Organization and Accessibility (IA): Proper implementation of IA can help better organize customer data and make it accessible for easy access to ensure an even better customer relationship management system.

Customer Segmentation (IA): Better ways of customer segmentation have been developed with the help of IA guidelines and personalized marketing and communication strategies could have been devised. According to Osei (2021), as part of brand strategy, McDonald and Dunbar highlighted the value of consumer segmentation, stating that proper market classification and all subsequent product placement and maintenance represent three of the key determinants of performance. business.

Process Streamlining (EE): Applying EE principles to optimized and streamlined business processes to reduce operating costs and overall efficiency.

Process Automation (EE): Implementing automation solutions in the office environment that allow small business owners and their workers to spend less time on repeatable actions, increasing their productivity.

III. Data management and analysis.

In today's digital age, data management and analysis play a critical role in business decision making. Integrating artificial intelligence (AI) and enterprise engineering (EE) into this process can have a significant impact on a company's operational efficiency and overall performance.

Data-driven decision making (IA and EE): With the implementation of IA, data-driven decision making takes a leap forward. Machine learning algorithms can examine a big quantity of information, providing valuable insights. For small businesses facing challenges, this approach becomes a beacon for strategic decision making, helping them navigate uncertainties and capitalize on opportunities.

Establish Operational efficiencies: Appropriate data management systems as well as the application of IA on the same to ensure that better management is improved for an effective decision-making process.

Performance Metrics (IA and EE): What allows you to configure commercial performance metrics, which using IA and EE, make it easier to monitor and analyze business performance.

IV. Marketing and sales.

In today's dynamic business landscape, marketing and sales play an essential role in the success of any company. Artificial intelligence (AI) and business engineering (EE) applications in these areas can make a difference in the effectiveness of marketing campaigns and the efficient management of sales channels.

Digital marketing, optimization: Structure content and campaigns in a way that best resonates with your intended target audience.

Sales channel management: Application of EE principles to efficiently manage the sales "pipeline" from the point a lead is generated to the moment the lead is converted into business/turned into cash.

V. Financial management.

Efficient financial management is essential for the success and sustainability of any company. The application of artificial intelligence (AI) and business engineering (EE) in this specific area can simplify processes, improve decision making and optimize operational efficiency.

Budget and Forecast (IA and EE): IA tools are applied to remove some complexity from financial data collections to facilitate budgeting and financial forecasting. In his study, Castellina (2011) analyzes that the finance department is not the only function that must participate in the financial planning, budgeting and forecasting processes, but rather all facets of the business, including everything from operations, sales and marketing to human Resources. They must be a part of the process, as each has a unique and different vision and influence on the factors that must be considered in effective planning.

Expense Management (IA and EE): IA and EE have made easier to apply principles to simplify the capture and access of information for expense tracking and management.

VI. Supply chain and inventory management.

Supply chain and inventory management platform are key components to the efficient operation of any company. The application of enterprise engineering (EE) and artificial intelligence (AI) in these specific areas can improve supply chain optimization and ensure effective inventory control.

Supply Chain Optimization (EE): Using EE to optimize the supply chain through timely and cost-effective procurement and delivery is an efficient strategy. While EWO includes other operational elements, such as planning, scheduling, and real-time optimization and control, supply chain design and optimization is one of the most important components in the EWO framework. (García,2015)

Inventory Control (IA and EE): Apply systems that control and monitor inventory levels so that excesses or stockouts do not occur. In his book, Lin (2019) illustrates that Walmart cross-docking as a form of The just-in-time inventory method also helps reduce inventory costs by minimizing inventory size.

VII. Employee productivity and collaboration.

Productivity and effective employee collaboration are fundamental to the success of any company. Implementing high tech applications, such as artificial intelligence (AI) and enterprise engineering (EE), can make a difference by improving communication and continuous employee development.

Collaboration tools (IA and EE): Collaboration tools will help improve communication and employee productivity.

Training and Development (IA and EE): Applying IA and EE to plan and deliver training to employees to keep their skills up to date at all times.

VIII. Risk management.

Risk management plays a critical role for any business seeking to operate in a sustainable and resilient manner. In an increasingly digitalized world, cybersecurity and contingency planning are vital areas for addressing potential risks. The implementation of artificial intelligence (AI) and enterprise engineering (EE) play a prominent role in these advanced risk management strategies.

Cybersecurity (IA): Using robust IA practices to protect digital assets and customer data from cyber-related risks. According to Sarker (2021), IA methods and Security intelligence-based modeling can be used for various cybersecurity issues and tasks, such as automatic identification of malicious activities, phishing detection, malware detection, cyber-attack prediction, fraud detection, access control management, detection of anomalies or intrusions, etc. .

Contingency Planning (EE): Applying EE principles by formulating contingency plans against possible risks and disruptions.

IX. Scalability and Adaptability.

In today's business dynamics, the ability to scale operations and quickly adapt to change are essential for long-term success. Enterprise engineering (EE) and artificial intelligence (AI) play a key role in ensuring the scalability and adaptability of companies.

Flexible IT Infrastructure (EE): Creating an IT infrastructure that comprehensively takes into account scalability and adaptability to serve future expansion purposes.

Innovation and Technology Adoption (IA and EE): By Analyzing the existing system to identify innovation technologies that have already been implemented, but are underutilized, to evaluate how their use can be improved.

Briefly, IA and EE can be applied in the organization of customer relationships, operational efficiency management, financial management, and risk mitigation. In the long term, small businesses may find themselves in a position to benefit from such principles because they create, or rather help to create, a well-organized, efficient and adaptable environment in which to conduct their business.

EMBRACING IT IN THE FORMULATION OF BUSINESS PLANS.

The effect that AI and information technologies can create to improve the business plans of struggling companies across the United States is transformative. Some of the ways these technologies can improve and revitalize these struggling businesses include:

1. Problem resolution.

Artificial intelligence technologies play a crucial role in solving complex problems that would otherwise be difficult to solve using traditional algorithms. This is because deep learning allows you to learn patterns and representations of data to act as a powerful tool for tasks.

2. Data-driven decision making.

The ability to analyze large data sets in real time is crucial. AI and IT business intelligence (BI) tools enable informed decision-making based on accurate market analysis, customer preferences and operational efficiency.

AI Analysis: AI technologies can analyze huge sets of data in the shortest time and, in parallel, correctly present market trends, customer preferences and operational inefficiency.

Business Intelligence (BI): Information technologies facilitate the implementation of BI tools that provide companies with optimized information to improve informed decisions based on real-time data. In his book, Bharadiya (2023) discusses which techniques such as data cleansing, data transformation, and feature engineering, can be performed more efficiently using ML, reducing the manual effort and time required to prepare the data for analysis. This is because machine learning algorithms can automate and optimize data preparation and integration processes in business intelligence (BI).

3. Operational efficiency.

AI-powered automation helps improve operational efficiency by reducing costs and streamlining repetitive processes. In the supply chain, IT plays a vital role in ensuring adequate and profitable inventory.

Process automation: IA-powered automation can streamline repetitive tasks and greatly automate them, thereby reducing operational costs and improving the efficiency of repetitive jobs. In his book, Mishra (2019) discusses that today's businesses are changing rapidly in many aspects from the perspective of consumption-based pricing models and customer preference for digital.service and to keep up with these changes, organizations must carry out internal business processes.

Supply chain optimization: Information technologies can optimize the supply chain process by ensuring correct inventory and maintaining inventory cost-effectively.

4. Customer Engagement and Personalization:

AI strategies in customer relationship management (CRM) and the implementation of chatbots and virtual assistants significantly improve customer experience and satisfaction.

AI in customer relationship management (CRM): AI technology software will enable businesses to personalize interactions, predict customer demands, and improve customer satisfaction across the business.

Chatbots and virtual assistants: A chatbot or even an AI-powered virtual assistant can improve the customer service by providing very fast responses and instant support.

5. Marketing-Sales Optimization:

The application of AI in marketing campaigns and sales forecasts improves the effectiveness of commercial strategies, adapting to changing customer preferences and behaviors.

IA and marketing: Application of AI to direct marketing campaigns and analyze customer behavior to effectively tailor promotions and advertisements.

Sales forecast: The use of information technology can help forecast exact quantities of expected sales, as well as better inventory and resource planning.

6. Risk and Budget Management.

AI contributes to financial analysis, improving budgeting and risk management. It also plays a vital role in fraud detection, ensuring secure transactions.

AI in financial analysis: Allows AI to analyze financial data to benefit superior budgeting, forecasting, and risk analysis.

Fraud detection: Applying AI-enabled tools for fraud detection to ensure safe financial transactions and keep the business safe from probable risks. According to Vyas (2023), fraud detection often involves the analysis of large volumes of transaction data. Java, as well as big data frameworks such as Apache Hadoop and Apache Spark, can be used to process and analyze massive data sets to uncover fraudulent patterns.

7. Employee productivity and training.

Automating repetitive tasks using AI frees up time for strategic tasks. IT enables the creation of online training platforms that improve workers' skills.

Automation of repetitive work: The application of AI can be implemented in automating repetitive work to give employees enough time to focus on strategic and creative aspects.

Online training platforms: Information technologies allow the creation of online training platforms that improve the experience of workers.

8. Market expansion and innovation.

AI-powered market analysis identifies new expansion opportunities, while innovation labs apply IT to foster an innovative culture.

Market analysis: With the help of AI, new market analysis to find the opening of new expansion opportunities are taking place in making decisions and policies.

Innovation laboratories: Innovation laboratories apply information technologies to create an innovative culture in their business.

9. Adaptive strategies.

AI through predictive analysis allows companies to anticipate changes in the market and proactively adjust strategies. IT also allows the development of dynamic business plans tomaintain flexibility.

Predictive analysis: AI-based predictive analytics can help businesses predict market changes and proactively prepare requirements based on demands.

Dynamic Business Plans: Information technologies enable the development of dynamic business plans to ensure flexibility in the planning process because circumstances change over time.

10. E-commerce and digital transformation:

E-commerce is driven by a greater online presence, and IT is crucial in digital transformation, replacing traditional business models with dynamic approaches.

Increased online presence: Through e-commerce platforms, companies can increase their online presence and AI enables personal shopping experiences.

Digital transformation: Information technologies, instead of traditional business processes and models, inject dynamic counterparts to maintain digital knowledge.

11. Agile customer service:

AI-based chat support and social media monitoring through IT provide fast and efficient responses, improving customer satisfaction.

AI-powered chat support: Enable fast, efficient and effective customer service using AI-powered chatbots to make your organization more responsive and increase customer satisfaction.

Social media monitoring: Leverage information technologies to monitor and respond to customer feedback through common social media portals.

Undoubtedly, Information technologies with the help of AI now have the potential to improve the fate of businesses. From better decision making through data analytics to improving customer engagement and operational efficiency, these technologies can contribute to the revival and success of businesses facing such challenges in today's competitive world. In such cases, the strategic plan of taking on and incorporating these technologies into strategic business plans will bring sustainable growth and resilience to these struggling companies.

BUSINESS IMPROVEMENT PLAN: RETURNING STRATEGIES FOR BUSINESS SUCCESS.

In the dynamic business world, continuous improvement is essential for long-term survival and success. A Business Improvement Plan becomes a fundamental tool for companies seeking to evaluate, adjust and strengthen their operations. This plan addresses critical areas that directly impact the company's performance and competitiveness. In this analysis, we briefly will explore the key elements that a Business Improvement Plan must address to maximize potential and operational efficiency.

1. Situational Analysis and Clear Objectives.

Every improvement plan should begin with a thorough situational analysis. Understanding the company's internal and external environment is essential to identify areas of opportunity and challenges. This analysis should address organizational culture, structure, processes, competition, market trends, and other relevant factors. From this analysis, clear and specific objectives can be established. These objectives must be measurable, achievable, relevant and time-bound (SMART). Setting goals establishes commitment to provide clear direction and keeps the entire team focused on a common purpose.

2. Process Optimization and Operational Efficiency.

A central component of any Business Improvement Plan is process optimization. This involves examining and improving efficiency in all operations. From the supply chain to the delivery of products or services, each step must be evaluated for possible improvements. Implementing technologies, simplifying procedures, and training staff are some common strategies to optimize processes. Operational efficiency not only reduces costs, but also improves quality and customer satisfaction.

3. Talent Management and Skills Development.

A successful business not only depends on efficient processes, but also on a talented and well-trained team. The Business Improvement Plan should address talent management, including the identification and development of key skills. This involves assessing training needs, fostering a

continuous learning environment, and ensuring talent retention. Investing in skills development contributes not only to the individual growth of employees, but also to the overall strengthening of the organization.

4. Innovation and Adaptability.

Innovation is an essential element for long-term sustainability. A Business Improvement Plan should foster a culture of innovation within the organization. This involves the constant search for new ideas, technologies, and approaches. The ability to adapt to changes in the market and industry is crucial. Implementing innovative strategies not only maintains relevance, but can alsoprovide a significant competitive advantage.

5. Focus on Customer Experience.

Customer satisfaction is a direct indicator of business success. A Business Improvement Plan should include specific strategies to enhance the customer experience. It is more than secure the quality of the product or service, when including aspects such as customer service, accessibility, personalization, and feedback. Customer loyalty is built through positive experiences and attention to customer feedback can reveal valuable opportunities for continuous improvement.

6. Financial Management and Sustainability.

The financial health of a company is essential for its survival. A Business Improvement Plan must address financial management comprehensively. This includes reviewing and optimizing budgets, debt management, income diversification, and long-term planning. Furthermore, financial sustainability is achieved through responsible financial practices and adaptation to economic changes.

7. Strategic Marketing and Brand Positioning.

Brand image and marketing strategies are critical elements for business success. The Business Improvement Plan should evaluate and adjust marketing strategies to ensure alignment with business objectives. This includes identifying target audiences, selecting effective marketing channels, and building a coherent brand narrative. Brand perception plays a fundamental role in consumer choice, and strategic marketing can directly influence the company's competitive position.

8. Risk Management and Contingency Planning.

Risk management is essential in a dynamic business environment. The Business Improvement Plan should address the identification and mitigation of potential risks. This may include operational, financial, legal and other risks. Additionally, contingency planning ensures that the company is prepared to face unexpected challenges, such as economic crises, natural disasters, orchanges in regulation.

9. Continuous Monitoring and Evaluation.

A Business Improvement Plan is an ongoing process, not a one-time solution. Successful implementation requires constant monitoring and regular evaluation. This involves collecting and analyzing key data, measuring progress toward set goals, and adapting the plan as needed.

Feedback from employees, customers, and other stakeholders is also crucial for continuous improvement.

Closing this analysis, it is clear that a Business Improvement Plan is a strategic roadmap for business excellence. From process optimization to talent management and innovation, it addresses critical areas that directly impact performance and competitiveness. By taking aholistic and continuous approach, companies cannot only overcome immediate challenges, but also establish the foundation for sustainable growth and lasting success in the competitivebusiness world.

CONCLUSIONS

Business transformation driven by artificial intelligence (AI) and Information Technology (IT) in the United States is not simply an emerging trend, but a prevailing need for companies, especially those facing challenges. Throughout this analysis, we have explored in depth how AI and IT are beginning to leave indelible marks on improving business plans, providing innovative solutions, and reshaping the way companies address their difficulties.

Artificial intelligence and information technologies can play an irreplaceable role in improving business plans, especially for companies facing difficulties in the United States. From optimizing the customer experience to efficient financial management, these technologies provide critical tools for business revitalization and growth. The strategic application of AI and IT not only addresses specific problems, but also lays the foundation for continuous innovation and adaptability in an ever-changing business environment. Companies that recognize and embrace these technologies not only overcome immediate challenges, but also position themselves for sustainable growth and building a resilient business future.

In short, business transformation through AI and IT is not just a means to overcome immediate challenges, but a strategy to build a resilient and sustainable business future. Companies that recognize and embrace these technologies not only survive, but thrive, demonstrating the ability of technological innovation to drive recovery and lay the foundation for continued growth. In a rapidly evolving business world, strategic adoption of AI and IT is emerging as a distinguishing element between those who are simply surviving and those who are leading and shaping the future.

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