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ADJUSTING ENTERPRISE SYSTEMS TO SEAMLESSLY INCLUDE AI TECHNOLOGIES

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Abstract: This study explores the obstacles organizations encounter when implementing Artificial Intelligence (AI) effectively, with an emphasis on psychological, organizational, and ethical challenges. It aims to recommend strategies that minimize resistance, foster trust, and streamline the integration of AI technologies into business processes. **Methodology:** A qualitative approach is adopted, utilizing an in-depth review of existing literature and case studies to identify factors driving resistance. The research investigates psychological fears, organizational misalignments, and ethical concerns while providing actionable strategies and frameworks to address these barriers. **Findings:** Key challenges include psychological fears such as concerns over job security and skepticism toward AI, organizational resistance stemming from misaligned strategies and rigid cultural norms, and ethical issues related to bias, accountability, and privacy. Solutions suggested include promoting transparency, aligning AI efforts with organizational goals, implementing sound governance structures, and addressing ethical concerns effectively. **Practical Applications:** Business leaders and policymakers can leverage proposed strategies like fostering educational initiatives, advocating for ethical AI practices, and investing in stakeholder engagement to build trust and facilitate smooth adoption. **Original Contribution:** The study introduces a comprehensive framework that integrates psychological, organizational, and ethical elements to reduce resistance to AI adoption. It connects theoretical insights with practical applications, enabling organizations to realize the potential of AI while maintaining societal and ethical integrity.

1. Introduction

Modern business projects are progressing at an unprecedented pace, posing constant challenges for organizations to maintain their competitive advantage. To address these demands, business leaders and companies are actively seeking innovative strategies to enhance operational efficiency, utilize data-driven insights, adopt Deep Learning (DL) technologies, and maximize overall productivity. In this

dynamic landscape, Artificial Intelligence (AI) has emerged as a transformative force, revolutionizing key aspects of business management [1].

The swift advancement of computer-based technologies has triggered profound transformations across numerous industries, with healthcare at the forefront of this innovation. Digital tools and strategies are driving healthcare progress by improving diagnostic precision, optimizing clinical outcomes, and simplifying patient record management. Among these breakthroughs, AI holds a central role in modernizing healthcare practices, leveraging methodologies such as Machine Learning (ML) and DL.

AI's role in healthcare is becoming increasingly impactful, especially in the prediction and diagnosis of diseases reliant on sophisticated image or signal analyses. Additionally, AI facilitates the identification of demographic and environmental factors linked to specific illnesses or risky behaviors, cementing its importance in preventive care. For example, facial recognition technology exemplifies AI's capabilities by utilizing encoder-decoder systems where the encoder simplifies data and the decoder reconstructs it into recognizable images.

Machine Learning, powered by advanced algorithms that automate feature extraction, is particularly effective in medical image analysis tasks. ML can be classified into three main categories: supervised learning, which handles classification and regression-based predictions; unsupervised learning, which detects patterns through clustering and associations; and reinforcement learning, which enhances systems through trial-and-error or by mimicking expert behaviors.

Unlike human intelligence—which merges abstract reasoning, communication skills, and emotional traits such as empathy and fear—AI primarily focuses on data processing, recognizing patterns, and automating tasks. Human cognition uniquely blends creativity, common sense, and curiosity, leveraging memory, sensory experiences, and emotions for problem-solving and decision-making.

Artificial General Intelligence (AGI), a more advanced subset of AI, takes these capabilities further by extracting insights from diverse multimodal data sources like text, images, audio, video, molecular structures, and chemical compositions [2]. AGI aims to develop systems capable of independently learning and making decisions based on patterns within complex datasets, representing a breakthrough in AI technology.

Deep Learning, a specialized branch within Machine Learning, uses neural networks inspired by the human brain to process vast amounts of data. This allows systems to autonomously identify meaningful insights, learn independently, and detect intricate patterns within large datasets, marking a significant leap in AI's transformative potential.

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2. Changing the Communication Landscape Through NLP and LLMs

Natural Language Processing (NLP) and Large Language Models (LLMs) are transformative advancements in artificial intelligence, reshaping the way machines interact with humans. Combining principles from computer science, linguistics, and AI, these advanced systems enable machines to comprehend, analyze, and generate human-like text. LLMs, built on the foundations of NLP, tackle complex tasks such as speech recognition, translation, and creative content production.

The impact of NLP extends far beyond basic communication, playing a crucial role in processing large volumes of textual data. For instance, NLP-driven chatbots in customer service provide immediate, natural, and human-like assistance, dramatically cutting costs and enhancing user experiences. In content creation, LLMs streamline workflows by drafting text, refining edits, and generating relevant material, boosting productivity across industries [3].

In healthcare, NLP has become indispensable for managing clinical documentation. Medical practitioners often deal with extensive structured and unstructured data, including physician notes and diagnostic reports. NLP tools simplify these processes by extracting insights, organizing information, and standardizing terminology, thereby improving administrative accuracy and enabling professionals to focus more on patient care.

Furthermore, NLP contributes significantly to healthcare predictive analytics by evaluating patient records, symptoms, and related data to identify potential health risks and recommend preventative measures. For example, NLP can analyze electronic health records (EHRs) to uncover patterns indicative of chronic conditions or early-stage illnesses, allowing timely interventions and improving patient outcomes.

Modern LLMs surpass traditional rule-based systems by leveraging expansive datasets to interpret context, idiomatic expressions, cultural nuances, and domain-specific terminology with remarkable precision. This makes them invaluable for tasks such as legal document review, academic research, and technical writing. Additionally, NLP-powered translation solutions help eliminate language barriers, fostering global collaboration and enhancing e-commerce by offering culturally sensitive translations for international markets.

A notable application of AI in healthcare is its integration into the prior authorization (PA) process. Using NLP and classification algorithms, AI-driven PA systems predict the likelihood of approval for medical procedures by evaluating request complexity and applying adaptive rules. These predictions are then validated by experts to ensure accuracy and maintain high-quality standards.

Predictive modeling and decision-support systems powered by NLP are also integral to personalized medicine, enabling tailored treatment plans for individual

patients. These technologies improve outcomes by identifying risks, increasing surgical precision, and reducing complications.

The PA workflow involves multiple steps, such as triaging requests, assessing complexity, and analyzing member eligibility and insurance data. NLP enhances this workflow by processing both structured data, like medical records, and unstructured data, such as call center transcripts. Advanced algorithms ensure that AI systems achieve performance levels comparable to manual reviews, while feedback integration further strengthens decision-making processes.

Despite these advances, the adoption of AI in healthcare faces notable resistance in cognitive and behavioral forms. Cognitive resistance includes apprehensions and misunderstandings about AI stemming from perceived opacity in decision-making processes, leading to skepticism and mistrust. To resolve this, organizations must emphasize that AI complements rather than replaces human decision-making. Behavioral resistance manifests as reluctance to adopt AI tools or passive resistance, such as implementation delays. Tackling these barriers requires strategic training programs, gradual rollouts, and showcasing real-world examples of AI benefits through case studies and success stories.

In conclusion, AI innovations such as NLP and LLMs are revolutionizing healthcare workflows, particularly in areas like prior authorization, with advanced predictive modeling, decision-support systems, and comprehensive data analysis at their core. However, their success hinges on effective strategies to mitigate resistance and foster widespread adoption in clinical settings [4].

Ultimately, NLP and LLMs have transformed the role of machines in processing and understanding language, driving advancements in customer service, content creation, and healthcare. By enabling systems to navigate human language with unprecedented accuracy and efficiency, these technologies are propelling innovation and delivering meaningful solutions that improve accessibility and performance globally.

3. Reducing Mental Resistance Toward AI Acceptance

Although Artificial Intelligence (AI) offers remarkable transformative potential, its adoption frequently encounters significant resistance. Understanding the underlying causes and dynamics of this opposition is vital for facilitating smooth implementation and unlocking AI's full benefits. Resistance to AI manifests in various forms—cognitive, behavioral, and organizational—and is influenced by psychological, cultural, and ethical factors. Addressing these complexities allows businesses and policymakers to devise strategies that minimize opposition, encourage acceptance, and enable the effective long-term integration of AI technologies.

AI-related resistance refers to hesitation or pushback stemming from the introduction of AI into organizations or society at large. Common causes include

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concerns about job displacement, mistrust of AI systems, ethical dilemmas, and cultural barriers. Unlike general resistance to change, the opposition to AI is often driven by unique factors, such as the technology's complexity, lack of clarity, and its disruptive impact on traditional work roles [5].

Cognitive resistance arises from mental and intellectual obstacles in understanding or accepting AI. Misconceptions about AI's capabilities, fear of the unknown, and skepticism about its reliability are primary contributors. Many see AI as a disruptive force encroaching on human responsibilities, sparking concerns about autonomy and control. Frustration often follows when AI relies on opaque algorithms, leaving users uncertain about how decisions are made.

Media representations of AI frequently amplify these worries. Stories focusing on potential downsides, such as job loss, privacy risks, or system failures, deepen doubts and heighten cognitive resistance. Confirmation bias further exacerbates these fears, as people seek evidence that aligns with their apprehensions while ignoring positive outcomes of AI adoption.

Ethical concerns compound cognitive resistance. Discomfort arises when AI systems make morally complex decisions, particularly in sensitive arenas like healthcare or law enforcement. Expecting AI to adhere to human ethical standards often leads to misalignment, as machines use fundamentally different frameworks for decision-making. This disparity creates cognitive dissonance and hampers trust in AI [6].

To reduce cognitive resistance, transparency and education are essential. Organizations can dispel doubts by explaining how AI works in simple, accessible terms, providing clear insight into decision-making processes, and addressing the broader implications of AI adoption. Creating spaces for open dialogue and cultivating a culture of continuous learning help individuals better understand AI, reduce fears around job displacement, and clarify concerns about autonomy and bias.

Behavioral resistance, on the other hand, emerges in actions such as rejection of AI tools, delays in adoption, or active attempts to undermine AI initiatives. Employees, for instance, may resist AI due to fears it will render their jobs obsolete. Healthcare professionals may worry that AI-driven diagnostic systems will diminish the value of their expertise, leading to significant opposition.

Additionally, concerns over autonomy often fuel behavioral resistance. Professionals may feel that AI reduces their authority or limits their decision-making freedom. This is especially relevant in fields like healthcare, where algorithmic recommendations are sometimes perceived as replacing the human touch and patient-centered care.

Ethical concerns also play a role in behavioral resistance. Unease arises when AI systems make morally ambiguous or unclear decisions, and the "black box"

nature of many AI algorithms contributes to a lack of trust. This difficulty in understanding how decisions are reached further reinforces pushback [7].

To address behavioral resistance, organizations must focus on reassurance and empowerment. Offering tailored training programs and illustrating how AI enhances, rather than replaces, human expertise is crucial. Gradual integration of AI into workflows enables employees to experience its benefits firsthand, making the adjustment less intimidating. Promoting transparency in decision-making processes, emphasizing shared accountability, and highlighting AI's role as a complementary tool can build trust and encourage adoption.

In summary, resistance to AI adoption stems from a complex mix of fear, ethical concerns, and inadequate transparency. Overcoming these issues requires a holistic approach that prioritizes education, communication, and trust-building. By presenting AI as an aid to human capability rather than a replacement, and by clearly demonstrating its advantages, organizations can lay the groundwork for successful and sustainable integration of AI technologies into their operations and systems.

4. Minimizing Behavioral Challenges in Implementing AI

Behavioral resistance often emerges when individuals struggle to adapt to AI technologies. Employees may need to develop new skills, adjust to unfamiliar processes, and confront fears associated with using advanced tools. For example, integrating machine learning models into clinical workflows may require healthcare professionals, such as doctors and nurses, to interpret algorithmic outputs—an intimidating task without proper training and support.

One significant source of resistance is anxiety about working alongside intelligent systems. Employees may worry that AI could outperform them, disrupt workplace dynamics, or diminish their roles. This concern is especially pronounced in professions that emphasize empathy and complex decision-making, such as healthcare, where AI's involvement might lead individuals to feel undervalued or even replaceable. While AI is designed to augment and enhance human efforts, these concerns often persist.

To address behavioral resistance, organizations must take a comprehensive approach that prioritizes employees' concerns, fosters trust, and facilitates adaptation. Transparent communication plays a pivotal role in this process. Clearly outlining the purpose of AI, its benefits, and its potential impact on job roles can help alleviate employee anxiety and instill confidence. Actively involving employees in the planning and testing phases of AI implementation can give them a sense of ownership and reduce opposition. Providing tailored training programs and opportunities for skill development helps employees feel more capable and comfortable, reframing AI as a tool that enhances, rather than threatens, their roles.

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Ethical concerns can be addressed by establishing clear policies on AI use and ensuring that employees feel empowered to make decisions while collaborating with AI systems.

Organizational resistance, on the other hand, refers to cultural and structural barriers within companies that obstruct the adoption of AI technologies. These obstacles may include a lack of leadership support, insufficient training programs, and resistance to change within the organization's culture. Specific challenges can involve difficulties in modifying established workflows, integrating AI into legacy systems, and addressing fears about disrupting existing power structures. Such issues are often compounded by concerns over job displacement, hesitation to invest in AI tools, and limited buy-in from both employees and leadership.

Leadership is critical in overcoming organizational resistance by fostering flexibility, promoting transparency, and encouraging collaboration. Leaders must clearly communicate a vision in which AI serves as a collaborative partner to human employees, rather than a replacement. Shaping this perspective is instrumental in addressing fears and breaking down resistance within the organization.

A conceptual framework has been developed to examine how resistance to change affects AI readiness, highlighting the interplay between leadership and organizational systems. The model identifies key relationships: task-oriented leadership acts as a mediator, while High-Performance Work Systems (HPWS) serve as a moderating factor. It includes five hypotheses: resistance to change significantly influences AI readiness, resistance to change impacts task-oriented leadership, task-oriented leadership positively affects AI readiness, task-oriented leadership mediates the link between resistance to change and AI readiness, and HPWS strengthens the relationship between resistance to change and task-oriented leadership.

This framework emphasizes the importance of leadership and organizational design in mitigating resistance and ensuring smoother AI adoption. It provides actionable guidance for businesses to effectively embrace AI technologies by addressing individual and structural challenges. By focusing on leadership strategies and systemic improvements, organizations can reduce resistance and foster an environment more conducive to the successful implementation of AI.

5. Conclusions

In conclusion, the adoption of AI across industries is transforming operations and fostering innovation, yet it often encounters significant resistance. Successfully overcoming these challenges requires a comprehensive approach that tackles the psychological, organizational, and ethical dimensions of AI integration. Resistance is rooted not just in technical concerns but also in human apprehensions, cultural dynamics, and societal values, making it essential to understand these complexities to unlock AI's full potential.

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One major source of resistance is mistrust, which stems from concerns about transparency, algorithmic fairness, and the possibility of AI errors. Building trust begins with improving transparency by ensuring that AI systems are understandable and explainable. Providing users with greater control over their interactions with AI fosters confidence, strengthens accountability, and aligns systems with ethical principles. Trust is a vital component of successful adoption, as systems perceived as dependable lead to higher user satisfaction, better decision-making, and smoother integration.

Another widespread concern involves fears of job displacement. Many employees worry that AI will render their skills obsolete or fundamentally change their roles. Organizations can address these fears by positioning AI as a collaborative tool that enhances human capabilities rather than replacing them. Reskilling and upskilling initiatives, clear communication about AI's purpose, and continuous employee support are essential to alleviating such concerns. Emphasizing AI's ability to complement human expertise encourages optimism and cooperation, creating a workforce more willing to embrace change.

At the organizational level, resistance often arises from structural rigidity, insufficient preparation, and a lack of alignment between AI initiatives and overarching business goals. Leaders can address these issues by cultivating a culture of adaptability and innovation while encouraging employees to adopt new technologies. Establishing robust data governance practices and integrating AI strategies with long-term business objectives helps ensure alignment. When AI efforts are closely tied to broader organizational priorities, resistance diminishes, and a higher return on investment (ROI) is achieved, making implementation more seamless and impactful.

Ethical concerns, such as data privacy, algorithmic bias, and accountability, also contribute to resistance. To maintain public confidence and meet regulatory requirements, organizations must create strong governance frameworks and uphold ethical standards. Conducting regular assessments of data protection and proactively minimizing algorithmic bias are essential steps for ensuring fairness and impartial outcomes. Engaging diverse stakeholders—employees, customers, regulators, and community members—throughout the decision-making process enhances transparency and builds trust. This collaborative approach fosters a shared sense of accountability and consensus around AI adoption.

Unlocking AI's transformative potential requires aligning its implementation with ethical practices, societal expectations, and business goals. By adopting a holistic strategy emphasizing education, stakeholder involvement, ethical integrity, and strategic alignment, organizations can enable sustainable AI adoption. Addressing resistance thoughtfully and proactively allows businesses to fully

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leverage the benefits of AI, minimize disruptions, and foster the trust needed for long-term success.

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