

# *The AI-Centric Business Model: A Strategic Framework for Organizational Transformation and Sustainable Competitive Advantage*

**Author:** *Caleb Spilman*

**Institution:** *Acadia University*

**Date:** *April 2<sup>nd</sup>, 2025*

## **Introduction**

Artificial Intelligence has quickly become a critical player in modern business operations, restructuring how organizations operate to create value and gain competitive advantage. Over the past few years, the rate at which companies are incorporating AI into their operations has increased exponentially: surveys in 2024 found that 78% claimed that AI was used within their organizations for at least one business process, which is a drastic increase from the 55% that was reported from participants in that same survey the year prior [9]. This substantial growth reported in research and surveys like this indicate a fundamental change in traditional business operations: AI is becoming an industry standard as an integral component in business operations, being relied on to complete tasks that humans otherwise used to perform rather than an experimental tool. Extensive research finding consistently find this too be true, but we still see businesses using AI as a supplementary tool - adding AI onto existing processes without adjusting the business model. This plug-and-play approach makes use of AI to merely upgrade what are becoming obsolete workflows, when it should be used to drive innovation within business models. While initially it may have been advantageous to use AI in this way due to fewer companies incorporating the technology into their systems, this is no longer the case: if companies prioritize this approach to gain competitive advantage, it will turn the business industry into a rat race where everyone is continuously trying to develop or get their hands on the newest and most powerful technology and implement it before competitors can. Considering AI's capabilities are growing rapid growth, with developments showing no sign of slowing down, this is not a sustainable approach for businesses and will only yield short term advantages and falls flat on delivering the full potential of AI's strategic capabilities. Moreover, this approach introduces new risks: simply replacing human roles to fully automate processes can yield undesired results, as AI lacks the emotional intelligence and reasoning to reliably carry out processes that require human judgement and empathy [3]. This approach largely produces biased results that lack human nuance, leaving businesses with the dilemma of how they can continue to implement the technology to sustain competitive advantage. While this is a troubling position for businesses to be in, the answer isn't at all rooted in how AI can be tacked onto business processes, it is in how they can restructure their business model and workflows around AI to position their organization as agile and forward thinking - integrating and deploying AI ethically to foster sustainable competitive advantage.

This paper argues that restructuring business model framework to incorporate AI-centric initiatives into fundamental process like management and decision-making is the most effective way to implement AI for sustainable competitive advantage and innovation. These models that use AI as a catalyst for more efficient workflows need to be agile in the sense that they can adapt to and

implement new AI tech developments and conduct businesses process utilizing AI with strong AI governance to establish trust and transparency. The thesis of this paper is that the true potential of AI implementations is only reached through developing internal systems and infrastructure that can efficiently manipulate the technology, arguing that AI is most advantage for businesses that can wield the technology sustainably through developing agile business models. Business models that are successful in integrating AI input and output comprehensively account for:

- Employee training programs,
- Decision-making frameworks
- Ethical governance frameworks
- Mechanisms for syncing, cleaning, and routing data
- Automating processes that support human strengths.

These models prioritize using AI for tedious routine tasks that free up human resources for more cognitively taxing tasks rooted in human judgement. They maintain that human oversight is essential in any processes that involve empathy, creative insight, or ethical judgement to effectively leverage AI output, setting strict boundaries that AI can operate within. Strong ethical guidelines are not a supporting factor, but are rather the cornerstone of sustainable AI use, failing to preemptively establish or include ethical conduct is the biggest risk when using AI and can result in legal implications and lost trust of stakeholders, which effectively tarnishes the brand. This perspective is one that falls under a major gap in the current literature on AI in business, which primarily focuses on enhanced decision-making benefits at the expense of organizational and ethical frameworks that promote sustainability, highlighting a demand for increased research and development in the field and in corporate practice regarding these concerns.

The rest of this paper is aimed at providing comprehensive analysis to legitimize these claims, showing that simply using AI as an attachment to existing workflows can compromise long-term strategic goals. It emphasizes elements of the framework including the AI-centric business model, agility, data-driven decision-making, process reengineering, knowledge management and ethical design/corporate responsibility. Leveraging recent literature, research, and data in the field from the past five years, to illustrate how this approach can enhance strategic decision-making, communication, innovation, automation, and long-term organizational growth.

## Historical Context (2017-2025)

It's no secret that in the last decade AI has increasingly cemented its function in business processes, from experimental use to a core mechanism for driving strategic decision-making. Research and development in the field have grown exponentially aside its implementation in business, continuing to improve on its capabilities and the extent to which it's practically applicable within organizations. McKinsey & Co. (2022) found that in 2017, only roughly 20% of companies surveyed by used AI in at least one business sector; by 2022 that number had more than doubled, at approximately 50% [10]. In these earlier years, AI implementation was aimed at incremental improvements – companies used AI to enhance service operations like improving internal process speeds or reducing costs. This approach came from a very focused outlook, funneling the potential benefits of AI in business into smaller specific areas, but it remained dominant for four years straight [10]. AI deployment targeted specific department functions such as task automation in manufacturing processes or to analyze risks in data sets but was not present in large-scale strategic decision-making processes that transformed entire enterprises. As companies began to

see gradual benefits from AI deployment, adoption and investments increased. “In 2018, 40% of companies reported more than 5% of their digital budgets went to AI”, whereas in 2022, 52% of companies reported this same claim (McKinsey & Co., 2022) [10]. During this expansion period, we see companies beginning to think outside the box and broaden their outlook on what AI is potentially capable of: “the average number of AI capabilities that organizations use, such as natural-language generation and computer vision, has doubled from 1.0 in 2018 to 3.8 in 2022” (McKinsey & Co., 2022) [10]. Core functions, namely, robotic process automation (39%) and computer vision (34%) remained the most consistently used of the technology in this 2018-2022 period, though natural language models grew to nearly the same level of deployment by 2022 (McKinsey & Co., 2022) [10]. This demonstrated an evolution of AI in business that was not slow by industry standards, reflecting a shift from experimentation to practical use, which is when there was a spike in the shift from focusing solely on operational efficiency to customer-based processes and strategic-decision making.

In the early days of the 2020's, we would see AI implementations hit a plateau, teetering between 50 and 60 percent adoption rates in firms. Companies that experienced the highest financial returns from AI continued to advance past competitors, showing large investments in the technology continued to yield advantages, but complacency that followed the implementation of the technology did not sustain competitive advantage. This reflects the nature of the technologies rapid growth and showed that companies positioning themselves around forward thinking AI developments continued to benefit from the technology. At the time, this can be largely chalked up to the high demand and supply of expertise surrounding AI management and manipulation, provoking experts to work for companies that are trailblazing developments in the field. In 2020, this group of survey respondents that was excelling was measured at 8% of all companies in the survey, experiencing at least 20% of EBIT from AI initiatives - this share of the market did not show signs of expansion either (McKinsey & Co., 2022) [10]. This illustrated a divide regarding the limitations that small/medium companies have vs. big companies that have the infrastructure and capital to invest in and continue to develop systems around AI. The 2020's brought on the theme of sustainability in AI implementations in business, one that proposes that to stay competitive in this environment, companies need to continue to invest in and refine their tactics of using AI to improve organizational process. Companies that were able to integrate this theme of sustainability strongly correlated with revenue growth, in contrast to previous focuses on reduced costs and improved efficiency. This 8% segment of the market displayed a likeliness to redesign process workflows around AI rather than tacking it on to existing operations: “they are engaging more often in “frontier” practices that enable AI development and deployment at scale” ... “For example, leaders are more likely to have a data architecture that is modular enough to accommodate AI applications rapidly.” (McKinsey & Co., 2022) [10]. This segment is also found to have invested highly in talent positions and change management, with the high performance segment being 1.6 times more likely than other organizations to empower non technologies to be involved in developing AI applications by utilizing emerging “low-code/no-code” programs, which allow companies to improve the speed at which in-house personalized AI applications can be created (McKinsey & Co., 2022) [10]. This demonstrates a cultural shift in internal relations where human-AI collaboration is integrated into routine daily tasks. Survey responses suggest a preference for upskilling technical and non-technical employees as a means to improving workforce talent, but the 8% of high performers show they are nearly three times more likely than the rest of the sample to have “capability-building programs” to enhance the AI skills of their technology workforce (for example: experiential learning, self-directed online courses, and certification programs), whereas the rest of the sample opts for self-directed online courses. Furthermore, the high performer responses also demonstrated a

greater likelihood of upskilling on top of retraining to non-technical employees, roughly twice as likely as others to provide peer-to-peer learning and certification programs to convert these non-technical employees to capable technicians (McKinsey & Co., 2022) [10]. These findings are founded on the theme of augmentation rather than complete automation. McKinsey & Co. (2025) also found that while reports indicate AI deployment has increased from 2019 to 2022, there have been no significant increases in risk mitigation in terms of ethical governance, with a dominant portion of risk mitigation focused on cybersecurity [10] – which, out of any of the other measured variables (regulatory compliance, personal/individual privacy, explain-ability, organizational reputation, equity and fairness, workforce labor displacement, physical safety, national security, political security) has the strongest argument for being a measure to protect their source code and database for reasons of personal gain, rather than moral obligation. This identifies a large gap in the research and developments of AI in business just three years ago.

In 2022-2023 we see shift in paradigm that both accelerated integration and enlarged the divide between leaders and stragglers who adopted AI. The boom of generative AI (GPT-based) models prompted a spike in investment and experimentation across industries. In less a year, the percentage of companies using AI in at least one business function jumped from 55% to 78% (as of 2024), which as an extremely significant rise in market share considering the dormant growth in adoption for years following the plateau in 2020. Moreover 2023 to mid-way through 2024, use of generative AI in at least one function shot from 33% to a whopping 71%, notably in high-value sectors such as software engineering, IT, and marketing. In contrast to historic approaches that targeted single sectors, we see a dominance in firms integrating AI across multiple business functions: the average firm use of AI was three different business functions at halfway through 2024 [9]. These numbers show the evolution from a one-size fits all to a multidimension model, suggesting knowledge management and collaboration across multiple departments is possible. Companies that successfully incorporate this cross-function approach see success in building databases and AI algorithms that encompass elements of the entire organizational framework, but it comes with saying that this requires reengineering of processes and organizational structures. The latest survey (2025) shows that out of 25 different variables tested for organizations of all sizes, redesigning workflows around generative AI has the greatest impact on an organization's EBIT (from using generative AI). Astonishingly, only 21% of surveyed respondents have fundamentally redesigned at least some workflows, showing a huge gap in the development of GPT-based systems in business [9]. In this sense, redesigning works flows is aimed at automating supporting tasks with AI within a process that is then overseen by a human expert: surveys show that a CEO's oversight of AI governance is among the highest correlated attributes to bottom line impact from generative AI use. This emphasizes a top-down structure where AI oversight plays a crucial role, and not even just at the executive level. 27% of respondent reported their organizations review all AI outputs before they are used, and that 20% or less of generative AI output is checked [9]. What this says, is that the most profound impact of implementing generative AI in businesses is tied to the design of the AI-centric business model, rooted at the core of, and spanning, all organizational functions. Moreover, the full potential to reap the rewards of integrating generative AI have yet to be thoroughly explored or documented for that matter, leaving a large gap in the research and development that could hold the blueprints for sustainable competitive advantage of AI use in business.

## **Implications of Implementing AI in Business: Organizational &**

## Cognitive Development

Integrating AI into core business processes has significant implications for development of both organizational structures and cognitive functionalities that decision-making stems from. In terms of organizational development, AI deployment can require new organizational capabilities: supporting infrastructure, culture, and workforce collaboration. Integrating AI to improve efficiency and innovation at an organization-wide scale requires organization support to yield effective results. For instance, firms that use AI-driven enterprise resource planning systems rely heavily on data integrity and top management support to leverage AI's full decision-making potential [1]. This means organizations need to establish reliable data management practices and leadership incentives to align their workforce with intentions regarding why and how AI is going to be utilized to benefit the organization and meet its goals.

Ali et al. (2024), conducted a field study using 1253 questionnaires from 125 high-tech firms, finding AI implementation positively correlated with both operational efficiency and increased innovation outputs, supporting these claims with empirical evidence [2]. The study shows AI's capability to analyze vast data sets and generate powerful predications that augment innovation, generating more significant outcomes and the need for fewer human resources. The study uses a reliability analysis, Pearson correlation, and regression analysis, calculating beta coefficients, t-values, and p-value's, to test the relationships between AI adoption and innovation ( $\beta = 0.361$ ,  $t = 3.762$ ,  $p < 0.001$ ), creativity ( $\beta = 0.542$  ( $t = 2.291$ ,  $p < 0.001$ ), experimentation ( $\beta = 0.583$ ,  $t = 3.628$ ,  $p < 0.001$ ), decision-making ( $\beta = 0.384$ ,  $t = 2.631$ ,  $p < 0.001$ ), and operational efficiency ( $\beta = 0.564$ ,  $t = 3.762$ ,  $p < 0.001$ ). From the data on experimentation, creativity, and operational efficiency, we can see AI usage strongly correlates to improvement of these attributes, supporting the authors claims – while the correlation to innovation isn't as strong, innovation is built on the concepts of experimentation and creativity, rendering innovation as more of a variable that measures success of experimentation and creativity. From the authors perspectives: rooted in Process Innovation Theory, the data supports the idea that the use of AI in organizational processes, empowers human employees to contribute more cognitive labor to creativity and experimental tasks, therefore driving increased innovation and overall operational efficiency. This positions AI as an organizational utility in contrast to previously being used solely for technical purposes, which supports theories like resource-based-view (RBV), utilized by studies like Ali et al. (2024) and Alarefi (2022) to convey this idea. RBV emphasize that greater value and competitive advantage comes from obtaining and using resources that are rare or hard to replicate [1]. With that being said, as AI becomes increasingly becomes utilized a resource in most business, its unicity is diluted, meaning organizations must focus less on where to implement it in their operations, and instead evolve and restructure their systems around it to amplify the potential in which it can used to amplify their business model and datasets in a way that is challenging to imitate. Alarefi (2022) builds on these claims, taking a RBV stand - he echoes that because AI is capable of handling cognitively intensive processes like data analysis, it relieves employees of process constraints, allowing them to focus on higher-level tasks, in effect restructuring organizational workflows. Alarefi (2022) reinforces Ali's et al's empirical findings, similarly calculating beta coefficients and p values, but using a conceptual framework that positions AI enterprise resource planning (AIERP) as a mediator between data characteristics (DC) and top management characteristics (TMC), to measure the effects DC and TMC can have on decision-making capabilities (DMC) when driven by AI [1]. The study applies this framework to 1,754 tech companies in the Gulf Cooperation Council (GCC): represented by their managers, executives, and directors. The companies participated in a self-reported questionnaire, and the data was collected from 315 members of top management who reported use AIERP in their



company. An analysis was conducted using SmartPLS 4.0 (a software for modelling relationships between variables) and Partial Least Squares Structural Equation Modelling to examine direct and indirect relationships within the AIERP conceptual framework and in business analytical capability (BAC) as a control variable. The study found that DC and TMC had a significant positive effect on DMC when partially mediated by AIERP, while BAC showed no moderating effect: *DC on DMC with AIERP:  $\beta = 0.390, p < 0.001$ , TMC on DMC with AIERP:  $\beta = 0.437, p < 0.001$ , DC on DMC with BAC:  $\beta = -0.060, p = 0.323$ , and TMC on DMC with BAC:  $\beta = 0.047, p = 0.45$* . Compared to BAC, AIERP shows a proficiency in increasing the decision-making capabilities of humans, which aligns with Ali et al. (2024)'s findings of significant correlation between AI and decision-making:  $\beta = 0.384, t = 2.631, p < 0.001$ . This is proof on concept on AI's ability to bolster operational, efficiency, decision-making, and innovation.

The cognitive implications of AI implementation in business go hand-in-hand with those of organizational structure, as demonstrated. The significance of cognitive implications lies within AI's ability to process information and provide insights or recommendation at speeds and scales that cannot be replicated by humans [2], therefore altering the way humans apply themselves to process workflows. Because AI systems drastically change the strategic decision-making process at all levels of an organization, competitive organizations must reposition their models to use AI to augment traditional core-cognitive-abilities that humans were responsible for. Csaszar et al. (2024) find that current AI large language models (LLM) "*can achieve human-comparable performance in realistic strategy tasks involving generation and evaluation*". They collaborated with a European start-up accelerator to compare how LLMs generate strategies compared to entrepreneurs and used data from a start-up competition to compare the LLM's ability to assess strategies compared to experienced venture capital and angel investors. Rigorous empirical analysis results show LLM generated business plans on average were rated higher by 0.14 standard deviations in nearly all evaluated aspects and were five percent more likely to be recommended by evaluators to the accelerator than entrepreneur business plans. Empirical evidence also showed that LLM evaluations are positively correlated with those of experience venture capital angel investors, with an average Pearson correlation coefficient of roughly  $r \approx 0.52$  that was "*robust across business plans submitted within the LLM's training window, as well as afterward*" [7]. This study demonstrates that modern AI is able to perform complex strategic processes in innovative (entrepreneurship) scenarios in a way that rivals human capabilities. Furthermore, AI can mitigate against human cognitive biases and preconceptions that stem from self-reported accounts of operational success or overconfidence or self-interest that obscures human judgement. This highlights AI's potential to diversify the cognitive process of corporate decision-making, allowing for collaboration between AI and human judgement that can even out the biases of each other, effectively producing a superior all-encompassing view. In a practical sense, the reliability of this tool allows organizations to redistribute human resources, encouraging employees to take creative risks, shifting cognitive labor to strategic thinking and innovative problem-solving. This reinforces Ali et al. (2024) and Alarefi (2022)'s accounts on the matter: AI implementation positively impacts both productivity and innovation, supporting this claim with empirical evidence directly correlating AI use to gains in operational efficiency and increased creative outputs [2]. While Csaszar et al. (2024) commend AI's accuracy in decision making, they caution that if human stray towards an environment where they rely too heavily on AI logic and evaluation. This may reduce the role of critical thinking and human judgement is instrumental in overseeing AI processes and eroding analytical skills over time, emphasizing the importance of determining how much trust and confidence should be instilled in AI's capabilities.

In contrast to the organizational and cognitive benefits of AI implementation, the respective shifts pose new challenges for businesses. Due to a lack of longitudinal data on AI as an emerging technology, and the nature of its rapid development and constantly updated implementations, the long-term implications of relying on this technology are unknown. Initial enhancements and productivity could plateau if organizations do not adapt their structures to sustain them. Failure to stay on top of employee training and development in-line with AI implementations can result in misalignment in decision-making, or in contrast to this: continuous implementation could result in information overload where employees cannot keep up with the technology developments and establish a consistent culture within the organization, creating workforce resistance to change and a confusion surrounding cultural identity or direction of the organization. In terms of long-term sustainability, as the industry becomes highly saturated with AI tools alike, it could potentially negate their significance as continuous drivers of competitive advantage. These implications show a high demand for human intervention in relation to harnessing AI's full potential for business enhancement, which opens the door to the question of how exactly organizations should map the human-AI relationship and determine where on the spectrum each of the mechanisms sit (regarding their responsibility for carrying out workflows), as explored next.

## Human-AI Collaboration: Augmentation vs. Automation

When deciding to include AI into key functions of an organization, businesses have two major options: do they opt for complete automation of a process, or for augmentation of supporting processes that allow humans to make judgement decisions based on AI output. The literature presents a clear overarching theme on this option, presenting a general consensus: due to AI's inability to possess nuanced elements of human nature like creativity, intuition, empathy, or emotional intelligence, full automation with AI is impractical - arguing AI works best as a tool for augmented intelligence, used in collaboration with humans as a sort of symbiotic relationship [3]. While this position is consistent across most of the literature, there are varying perspectives and debate surrounding the degree of how much of a process can be automated while serving as a tool for augmentation.

As mentioned before, the entire body of the literature supports (to some degree) the dual approach of AI-augmentation as a collaborative support tool for human decision-making. Laia et al. (2023) imagine human-AI relationships where AI replaces human roles in rudimentary repetitive tasks that have well established structure or are data-intensive (making use of AI's superior computing strengths and timeliness), allowing humans to handle context-driven decisions that require emotional intelligence and creativity [3]. Similarly, Beheshti et al. (2023) position AI as an augmentation tool, but they allocate more automation responsibility in its role in workflows, demonstrating its collaboration using a "ProcessGPT" system for business process management. They depict AI as a "*junior analyst*" in a scenario where it automates low-level repetitive tasks and then provides recommendations, using a human expert to supervise the output and tackle more complex aspects of the process. In this model the AI performs some element of judgement and decision-making to provide recommendations. They claim this level of collaboration (where AI plays a more instrumental role) results in a greater improvement in process speed and efficiency by allowing AI to generate and automate early steps of the workflow and even make routine decisions using a rule-based logic, effectively reducing cycle times that contributing to a sort of butterfly effect. They back this model with empirical evidence, showing that firms that embrace AI as an augmentation function experience an increase in employee-led innovation, cementing the idea that liberating workers from tasks that make poor use of cognitive potential empowers them to

contribute to more impactful initiatives that drive innovation [8]. This adds to the reoccurring theme of optimal integration stemming from a symbiotic relationship in which AI contributes speed, scale, and consistency, while humans contribute creativity, expertise, and ethical judgement.

On the flip side, businesses that opt for full automation grapple with risks associated with navigating the unknown. No current research supports that AI should be used or is even capable to be used for completely displace humans in complex roles. While the findings of studies like Csazer et al. (2024) imply that in structured frameworks AI is able to display proficiency in strategic decision-making that closely emulates that of human experts, indicating in specific scenarios AI can effectively automate complete processes, they still make sure to clarify that this is not a reliable approach and has no context in terms of proof of concept in long-term, real-world settings [7]. Implementing AI in this way would be experimental and reckless and should rather be approached by turning up the dial on the amount of process automation AI can sustainably be responsible for, similar to Beheshti et al. (2023)'s study. By doing so, businesses can continue to push the limits of AI influenced innovation to its full potential, while maintaining the expertise and emotional intelligence of human oversight to achieve the best of both worlds.

## **The AI Centric Approach: Business Model & Process Reengineering**

Plenty of businesses use AI as an innovative extension for the work processes of their existing model because. On the surface, it seems like this approach associated with the least amount of risk as it doesn't greatly disrupt the workflows or create resistance from employees as they are still carrying out the same tasks. This approach avoids conducting thorough systems analysis to identify inefficiencies and designing a fitting AI software implementation because this requires a lengthy process with a project manager and systems analyst that needs to be phased in through change management. This process may yield initial incremental improvements and impose minimal change to the organizational structure, but this is the core problem with this entire framework. Organizations that are resistant to change sink rather than swim in technology driven industries with rapid evolution of powerful tools such as AI. Layering AI onto obsolete processes does not turn dust to diamonds, its result is more like fools good: it can appear to provide initial benefits, but they are not sustainable in terms of competitive advantage and can cause misalignment between the technology and the context of the organization.

AI systems are powerful tools for processing vast datasets and enhancing structured tasks, although if the supporting business process isn't equipped to incorporate AI or are resistant to change, or dependent on outdated practices, the AI may use this insufficient input and amplify its flaws, for example if a dataset doesn't use robust correlation calculations or provide an instrumental variable that influences the dataset, it may fill in the blanks and make assumptions that are not correct, in effect leading the business to make strategic decisions off false descriptions of the data. This highlights the importance on being able to produce input that is catered to AI's capabilities while being aware of how to clean and position data or input, so it doesn't exploit the gaps in the information it's given. Considering AI is very good at processing data, and this is still a concern, imagine the implications of this concept if it were applied to information AI wasn't good at processing, such as decision-making with an empathetic context: this could result in drastic implications for customer satisfaction, and ethical collateral damage that can damage an organizations brand. Studies drill into this risk, emphasizing that in processes requiring human interaction or creative judgement, full automation isn't reliably effective as AI cannot replicate emotional intelligence or nuance [3]. This is why organizational disruption is necessary for sustainable use of this technology, business processes require reengineering, employees need to



be retrained, and new ethical guidelines need to be established or the quality of services and products will come at an expense, diluting stakeholder trust.

Companies using the plug-and-play approach fail to consider the infrastructure that is required to effectively manipulate and support the integration of AI into workflows: this technology needs reliable sources of data input that have rich context, resources that support its computing power, and specialists that can interpret the output in context. If these requirements are not present in the existing system, results are insignificant. This underlines the growing need for companies to invest in employee training and initiatives that ensure quality data, approaching AI's implementations with a resource-based view (RBV) [1]. RBV reinforces the idea that competitive advantage and improved decision-making does not come from the technology itself, but from the co-functioning assets that synergize with the tech: quality of data management capabilities to manipulate the tech [1]. This underlines that context is an important factor, and AI use isn't just successful because of its power and capabilities, but rather in how organizations employ humans to effectively prepare input, interpret output, and draw conclusions that drive informed strategic decision-making. Businesses that fail to redesign their business model and processes around these needs will fall short, requiring organizations to challenge traditional assumptions in organizational theory. For example, AI's ability to analyze market trends challenges the traditional approach to the strategic planning cycle, allowing businesses to adapt their value proposition to cater to customers based off their data metrics in real time: models like casual feedback loops [4] enable a continuous strategy iteration process rather than for instance, using quarterly reports that need to be manually analyzed and communicated. This allows for automation of routine decisions and roles like database administrators and entry clerks, letting human managers shift their attention to higher-level labor. Moreover, this creates an agile model that can rapidly adapt processes to shifts in the market, automatically feeding demand driven data to the supply process side of the organization to drive innovation, serving as a core component of the business model.

In contrast to organizational structure and technological infrastructure, AI-centric transformation is also oriented in organizational culture. As previously stated, human oversight is imperative, meaning organizations must foster a proactive culture that is suited for continuous innovation and learning. Employees from top to bottom should be aware of how AI is used within the organizations workflows and how that impacts their role and responsibilities. There cannot be uncertainty surrounding the quality of AI output and capabilities, employees must be knowledgeable about its capabilities, benefits, and context of the information it provides [3]. This also means having skepticism when overseeing its processes and being aware of what to look for to mitigate against potential risks to effectively making use of AI output, which requires communication about what AI is before used for and why. To that point, there should be an emphasis on transparency and collaboration across business sectors as AI solutions often span multiple areas of an organization, for example: requiring analytics teams to work together with IT teams. This adds to agility in the organization, allowing them to adapt as they break down walls that force organizations to operate using strict hierarchal structures and obsolete processes. If companies don't break this outdated mold their internal systems will fail to keep up to the pace of companies that do, preventing them from reaching their full potential and putting them at a competitive disadvantage.

## **Knowledge Management: Business Communication**

If AI is going to serve as the centerpiece for modernized AI-centric business models that are driven by human-AI collaboration, it's imperative that companies establish effective methods for knowledge management (KM) and business communication. While we've discussed how AI transforms business processes at the organizational and cognitive level, but it also restructures

how information is generated and transmitted throughout the business – reconfiguring internal knowledge flows, leadership authority (in terms of delivering communications), and cross-sector collaboration. laia et al. (2023), identifies their study is a first of its kind by linking the convergence between AI and communication in businesses, identifying a gap in the research and aiming to establish (KM) guidelines to address the absence of comprehensive. They explore the overlap of business communications and AI deployment by mapping elements like knowledge, identification, skills and development and introduction of innovative AI technologies in a framework, through the lens of KM. They argue that a successful convergence between AI and an organizations lines of communication depends on effective KM: organizations must reimagine how they harvest, arrange, and distribute information to both humans and AI systems so they adequately comprehend the context and meaning of the message (why they need it, when they need it, where they can use it, and how they can use it) [3]. laia et al. (2023) position KM as a tool for identifying gaps, enhancing workforce capabilities, and establishing clarity and guidelines for internal operations using AI-augmented communication processes. Through internal audits regarding the current level of knowledge and skills that employees lack when AI is implemented (for example: output interpretation that is overly technical is not applicable across all sectors, like from an IT specialist to a human relations manager.), the firm can then deploy training resources in those areas to ensure smooth integration of AI technologies [3]. Resistance to change is not a new concept and can be detrimental to an organizations culture and ability to effectively manipulate a tool to its full potential, putting great emphasis on change management initiatives. Effective KM protocols ensure methods are in place to effectively translate AI across the various sectors of an organization and establishes trust in the capabilities of the technology within the workforce - enriching the AI-centric culture of the firm as a result.

One of the most notable conclusions in laia et al. (2023)'s study is that using AI as a catalyst for KM can directly assist employees in gaining and applying knowledge. The obvious initial benefit is that an AI KM tool could provide insights based off large quantities of data that a human could never analyze in-depth, for example: providing managers with feedback about which tone or medium of a message employees responded most positively to, providing internalized knowledge that otherwise wouldn't have been available or accurate to the same degree. This improves performance of communications and therefore internal operations, while enriching employee trust and cultural identity which are rooted in the degree to which employees feel catered-to or heard - rather than subsequently feeling alienated due to inefficient communications. In contrast to employee alienation, if information is not accessible or employees cannot absorb the context and reasoning behind a message, they are more likely to revert to what traditional methods that they are familiar with rather than embracing the new process models, ultimately negating the potential benefits and reasoning for implementing AI technology in the first place [3]. Effective KM fosters a relationship between AI and humans that forms a sort of continuous feedback loop: employees feed data and personal feedback to AI systems, AI systems then aggregate the input into knowledge that informs further strategic decision-making and outputs it to employees, resulting in continuous knowledge gain for both mechanisms, in a sort of synergized human-machine learning mechanism (not unlike the casual feedback loop illustrated by Katsamakos et al. (2020), differing in that it utilizes employee fed data rather than customer fed data.)

AI is cementing its role in automating day-to-day operations, this includes business communications such automated internal messages, generated performance reports, generated document templates and drafts etc. Indifferent to the theme of management oversight for automation of any other process, AI-driven business communications require strict governance and protocols for reviewing its output. This is increasingly important in this area where it may be

necessary to share employee data for generating performance reports and proposals that will be shared with stakeholders. Management needs to be certain in verifying that the tone and accuracy of the information outputted by AI is correct before submitting documents to external entities. A significant component of laia et al's (2023) findings were that AI's impact on communication enhanced efficiency in information flows and decision cycles, but only when knowledge sharing, and human judgement imposed on the process and ensured all parties were on the same wavelength [3]. This reiterates the importance of the augmentation approach, requiring human oversight in all processes involving AI. Accountability measures need to be taken with this in mind, storing, and bookmarking all AI generated output that is utilized in business process workflows.

Building on the research done by laia et al. (2023), Beheshti et al. (2023) propose a new dimension to AI's role in KM, introducing the use of natural language models to bridge the gap between complex analytics and human understanding [8]. Natural language models can generate various iterations of the same idea, encompassing its meaning and context while spinning the message using different language and logic patterns to cater to different sectors of an organization, ensuring the message can be efficiently received by different areas of the workforce that possess different levels of understanding, allowing them to process the implications of the message through the lens of respective position and how it pertains to them. In a sense this uses AI to solve its own problem, allowing it to remove barriers that prevent its output from being absorbed and used to its full strategic potential. Once again, this goes without saying: It is imperative that companies monitor the logic of AI systems and the context of the data being inputted and outputted to natural language models to ensure consistency across the entire information flow.

## **Ethical Governance & Human Oversight**

One of the main pillars of the AI-centric business model is establishing comprehensive guidelines for ethical governance and human oversight. The core foundation these ethical frameworks are built on is the concept that human oversight is instrumental in processes where empathy, ethical consideration, and contextual complexity are crucial: regardless of the extent of AI's capabilities, human insight and emotional intelligence prevails, and is irreplaceable. At the time this paper is being written, even the latest advancements in AI aren't capable of replicating emotional intelligence, instead relying on pattern recognition and logic that is based on historical data. This is reason why human oversight is indispensable: despite its best efforts, AI will only ever be able to do replicate human intelligence. While there is potential for AI output to mirror the output of emotionally intelligent decision-making with great precision, it will always be just that: a mere substanceless replication - unable to truly possess human qualities rooted in emotional intelligence, instead being confined to the data it is able to access and leverage, rendering it incapable of manifesting true creativity or empathy. For this very reason, utilizing AI without strict governance can be harmful in sectors such as: healthcare, medicine, and food production or in processes like hiring & downsizing, performance management, and customer relations. These are areas where it would be detrimental if AI failed to factor in the significance of emotional consequences on humans, rather using logic that solely prioritizes data optimization, resulting in outcomes that are harmful for society. Moreover, because AI is grounded in historic data, it cannot "imagine" something that doesn't yet exist, which is a crucial role that human creativity plays in innovation. For this reason, AI is most effectively used symbiotically in an approach that fills in the blind spots of both mechanisms, effectively finding a balance between data-driven optimization and customer sentiment. Ethically sound models utilize AI to provide detailed analysis of data that is then used to allow humans to establish an in-depth understanding of market context to base their judgement on. This approach effectively utilizes AI's greater processing capabilities: speed,

scale, and analytical depth with humans' greater emotional capabilities: empathy, ethical scrutiny, and creativity, to guide all-encompassing strategic decisions that are grounded in logic and social dynamics that embody real world human experience. Research supports this synergetic approach, finding branches that depend on creativity and empathetic symbolism (like marketing communication) are not compatible with AI automation because it cannot calculatedly recreate these incentives [3].

Establishing ethical governance of this relationship in AI-centric business models is also mandatory not just for social well-being but for proficiency in long-term business success and integrity. Olatoye et al. (2024) emphasizes that organizations that want to sustainably utilize AI-driven processes at scale must address the following concerns and integrate them into their ethical governance structure to continue to be a beneficiary of AI's processing superiority [6]:

- **Transparency:** the degree to which stakeholders can understand how decisions are being made. Systems incorporating AI should be as up-front as possible about their decision-making criteria and processes. This doesn't mean disclosing their entire business model or code base, but rather providing a concise account explaining in simple terms what AI outputs are used to for. Stakeholder trust is established based on the degree to which they are able to understand how and why an AI is making decision, and recommendations. When done effectively, stakeholders feel that their well-being has been considered and prioritized, and that the company cares about how their products affect them. This instills confidence that an organization can deliver on promises, and that there is consistency between what they say they are doing and what they are truly doing.
- **Bias Mitigation and Fairness:** actively identifying and taking measures to omit discriminatory patterns in data and algorithms. Because AI algorithms base logic off historical data and are oblivious to emotional impact, they can perpetuate historically outdated prejudices or unjust recommendations in their output. A popular example of this is that using AI hiring tools that are trained independently on historic data trends of employee efficiency can yield output that discriminates against certain groups that were systematically oppressed in the past, giving them an unfair disadvantage, and passing inaccurate judgement. Ethical guidelines need to fill this gap, ensuring use of diverse data sets that represent all parties neutrally when training AI models, conducting algorithmic audits, and continuously refining the decision-making criteria accordingly.
- **Accountability For Errors:** ensuring clarity and responsibility for consequences of using AI systems. Organizations are responsible for the outcomes of the automated decision that AI systems make, delegating a person/team to oversee each of these decision processes ensures accountability and that someone is responsible that can be inquired with in the event of errors and complications caused by AI interference. Furthermore, accountability consists of establishing contingency plans that are in place in the case of mishaps caused by AI systems: businesses need to have a clear plan in place for addressing AI consequences and compensate those who are affected by the incompetency. Documenting all input and output of AI decision processes is extremely valuable for means of accountability, allowing the firm to trace back and exploit the cause of an outcome, hold someone responsible, and refine their AI systems and dataflows to smooth out in any wrinkles that instigated the matter.
- **Data Privacy:** security of individuals' personal information from misuse, unauthorized access, or unethical data manipulation. One of AI's greatest advantages is its ability to analyze vast datasets, some of these including personal information about customer and

employees – which if used ethically can be advantageous for both the organization and its stakeholders. For ensure all parties benefit from the use of sensitive data, ethical governance must adhere to robust legal and regulatory standards that govern data privacy and security measures that have implications on AI processes. Regulations such as GDPR ensure individuals must be made aware by organizations when their data is being collected, giving said individuals the right to dictate whether their data can be leveraged for corporate insight, and what data is acceptable in these circumstances if they allow it. GDPR and regulations alike also allow users to retract their permission to use data at any time, providing full control over their privacy and personal information. It is essential for businesses to anonymize and encrypt data to the best of their ability when collecting and manipulating it. Since data is so valuable to companies in the field, hackers are willing to go to great lengths to steal and sell customer data, in effect breaching the privacy of stakeholders and eroding the trust they had in the organization that obtained their data. Respecting the privacy of individuals is not a legal concern in all cases, but it is always an ethical one, and maintaining the trust of stakeholders is a key factor in making AI-centric business models sustainable.

- **Socio-economic Impact:** Outside of AI's direct technical impact, responsible facilitation of AI in business considers the long-term effects on society and stakeholders. Companies must be considerate of how AI implementation can affect factors such as employment, equality, and social factors (ex: health and well-being, digital accessibility, politics, misinformation, etc.). Ethical governance with socioeconomic impact in mind includes addresses topics like if AI implementation is creating job displacement, and if staff can be upskilled or retrained. Proficiency in this regard demands companies create plans that preemptively address concerns and deploy them on a day-to-day basis in practice to encourage positive social outcomes.

Effectively developing and initiating these ethical frameworks cultivates brand trust and longevity, showing a proactive approach that mitigates problems that could otherwise escalate into organizational catastrophes that result in reputational damage, legal consequences, and depreciated stakeholder trust [6]. This approach to ethical conduct within organizations has evolved from being another box to check off on a to do list, to a strategy for creating competitive advantage. This is because there has been a shift of consumer beliefs and values to prioritize and support sustainable businesses that are mindful of their socioeconomic impact. This has led organizations to treat codes of ethic as a continuous process for growth and refinement, correlating with industry growth and developments. Effective deployment of these guidelines incorporates ethical checkpoints throughout their everyday operations, employee relations and training, and even delegating entire committees to oversight of operations with corporate responsibility in mind. Olatoye et al. (2024)'s comprehensive review of AI ethics in business frames key segments like bias, transparency, accountability, and fairness as the blueprint for an effective ethical code of conduct [6]. These segments are drilled down on through conducting algorithm audits in regular intervals to identify that biases and results that misalign with ethical conduct, documenting AI output and input to record how the technology was leveraged to make decisions to ensure transparency and appoint clear structures for workflows that hold people accountable for certain aspects and outcomes of processes, eliminating guess work in what could or did lead to undesired results.

As briefly mentioned before, another dimension that must be considered for ethical conduct of AI in business is how AI implementation will affect the employees in contrast to customers. Employees whose roles and responsibilities are changed or augmented because of AI deployment deserve transparency about how it affects them, so they can proceed accordingly. Since trust is not only



important to maintain outside of the organizations with consumers but also internally, it is necessary to involve the entire workforce in the process of phasing in AI technology, giving full transparency on the purpose and approach for integrating AI to promote collaboration rather than uncertainty [6]. This approach humanizes the use of transformation, mitigating against workforce resistance to the change and ensuring employees are not alienated because of incorporating AI technology. Successful integration of AI into company cultures clearly conveys the intent behind the initiative to workers, customers, and partners, ensuring the deployment and use of AI is a collaborative process that will collectively benefit all stakeholders, resulting in more engaged employees and more loyal customers, and facilitating sustainable advantages.

## Conclusion

Organizations looking to integrate AI into their process workflows to maximize their business potential and foster sustainable competitive advantage must expand their thinking from the isolated-function approach to embrace the AI-centric model – where AI deployment uses augmentation over automation to seamlessly enhance cross-function processes and collaboration through knowledge management and ethical governance. The literature reviewed in this paper exploits a fundamental gap in the research and development of AI in business, that this paper strives to address: the bulk of the literature focuses on incremental optimization of innovation and decision-making functions but fails to establish the underpinning frameworks of how to integrate AI to drive sustainable competitive advantages that effectively yield continuous improvement in areas like innovation and strategic decision-making. This paper argues that reengineering the fundamental structure of an organization to center process workflows and workforce collaboration around AI's capabilities is the correct method to achieving the full benefits offered by AI implementations in business. Firms that “plug” AI into their existing operations yield initial benefits that aren't sustained, yielding lack-luster long term implications that require more maintenance and management than was present before implementing AI technologies, creating operational inefficiencies when the aim of deploying AI was to improve operational efficiency. Companies that employ this one-dimensional approach render themselves stagnant as laggards in the industry or find themselves in the “rat race”, continuously trying to obtain the newest and most powerful AI advancements to yield competitive advantage. In contrast, organizations that develop unique AI-centric models can leverage unique resources to create recursive advantages that are difficult to replicate by competitors.

The evidence compiled from academic studies and field surveys consistently support the overarching thesis of this paper: sustainable competitive advantages come from the synergy of human-collaboration within organizational processes. Research findings show the AI-centric model is vastly underutilized by businesses (roughly 20% share of the industry), and that the businesses that do employ this model in their organizational framework see sustainable competitive advantages that are unmatched by the rest of the industry: creating a large divide between the two groups and positioning this model as an untapped pathway for yielding superior advantages and trailblazing within the field of AI in business which attracts talent and investment. Companies that can facilitate agility in their organizational structure and workforce continually gain valuable information and refine their business model, this is done by creating feedback loops that convert stakeholder data and experiences into system innovations. Examples like the casual feedback loop and AI-human learning cycle both demonstrate how this concept can be effectively be implanted into organizational structure to accelerate evolution, effectively using fundamental

concepts rooted in resource based view, process innovation theory, and knowledge management to revolutionize traditional business models.

The AI-centric argument poses that augmentation is superior to automation: a balanced approach that uses human oversight and intelligence to make judgement and strategic-decisions within creative processes supported by data and recommendation producing by AI intelligence, produces all-encompassing results that maximize the impact of process workflows as opposed that cannot be achieved through complete automation or human processing. This emphasizes the need for equal investments in human resources alongside AI resources, retraining and upskilling employees, redesigning roles, and cultivating a rich organizational culture that is agile and proactive in AI-human collaboration to reinforce each other. It is imperative that businesses establishment and integrate ethical governance and knowledge management into this relationship in day-to-day operations to be legitimately sustainable. The research illustrates that omission of ethical governance negates the benefits of AI in business: unchecked biases, lack of transparency, and diluted trust, causing stakeholders to feel alienated and counteracting any competitive advantage (Olatoye et al. 2024) [6]. Alternatively, organizations that blend accountability, fairness, transparency, and robust data security initiatives into AI-driven processes can facilitate stakeholder trust, long-term success, and face fewer risks (McKinsey & Co. 2025) [9]. Similarly, knowledge management has implications on long-term success: proficient knowledge management ensures insights and efficiencies gained from AI are translated competently through the different sectors of an organization – AI advancements can only be manipulated effectively if human employees comprehend the context and intent they are used for. Firm's that don't integrate knowledge management alongside AI can end up with powerful tools that yield benefits that don't scale with measured potential gains. Company-wide implementation of knowledge transfer, LLM's, natural language models, continuous learning programs, and cross-functional AI teams can create structured communication-feedback and continuous-learning loops where AI improvements continuously feed into improving itself: AI leverages human experiences and insights to redesign and refine information transfer and recommendations so humans can consciously learn and absorb information, providing more detailed and informed input that enhances AI further enhances output, repeating the process. In summary, knowledge management and ethical governance are the main pillars that automated AI integration are built on within the AI-centric business model, critical to enabling agility and seamless integration of emerging technologies.

In summary, the conclusions drawn from the findings of academic research and surveys significantly support the overall thesis of this paper: to ensure sustainable competitive advantage of AI implementations in business, organizations must expand their approach past merely adopting state-of-the-art AI technologies, they need to reengineer their organizational structure – integrating AI into the core functions of their business model and culture of their workforce, continuing to evolve strategic and ethical frameworks alongside emerging research and developments, and prioritizing the role of human intelligence. The gaps in the current literature suggest that scholars and practitioners are only looking at the tip of the iceberg, positioning these papers as a blueprint at the frontier of the field for what research needs to be explored next to unlock the full business potential of AI implementations. The next phase for AI in business sees an environment where all high-tech competitors have the infrastructure and access needed to manipulate powerful AI technologies, sounding a call-to-action for a revolution in traditional organizational theory that will redefine the way businesses create value.

the main point is to exploit the gap in literature shifting from using AI as an add on to existing business models to redesigning business models around AI developments so businesses can have an agile business model that continuously innovates and refines itself using things like process reengineering, feedback loops, knowledge management, AI as an augmentation tool rather than automation with human oversight, and ethical governance frameworks that promote trust transparency and accountability, in conclusion this forward thinking mindset all intertwines to reposition businesses around AI for sustainability and full potential of the technology rather than trying to stay ahead in the rat race of who can tack on AI to their current operations to merely improve strategic decision making which most of the research in the field is on, there needs to be more R&D on the gaps that identify how AI can be used SUSTAINABLY based on these things

## Citations (APA Format)

### Academic Sources:

- [1] Alarefi, M. (2022). The effect of data characteristics and top management characteristics on decision-making capabilities: The role of AI and business analytical capability. *WSEAS Transactions on Information Science and Applications*, 19(24), 237-239. <https://doi.org/10.37394/23209.2022.19.24>
- [2] Ali, M., Khan, T. I., Khattak, M. N., & Şener, İ. (2024). Synergizing AI and business: Maximizing innovation, creativity, decision precision, and operational efficiency in high-tech enterprises. *Journal of Open Innovation: Technology, Market, and Complexity*, 10(1), 100352. <https://doi.org/10.1016/j.joitmc.2024.100352>
- [3] Iaia, L., Nespole, C., Vicentini, F., Pironti, M., & Genovino, C. (2023). Supporting the implementation of AI in business communication: The role of knowledge management. *Journal of Knowledge Management*, 28(1), 85-95. <https://doi.org/10.1108/JKM-12-2022-0944>
- [4] Katsamakos, E., & Pavlov, O. (2020). AI and business model innovation: Leverage the AI feedback loops. *Journal of Business Models*, 8(2), 21-30. Retrieved from <https://journalofbusinessmodels.com/issues/vol-8-no-2-2020/vol-8-no-2-pp-22-30/>
- [5] Patra, A. K., Praharaj, A., Sudarshan, D., & Chhatoi, B. P. (2024). AI and business management: Tracking future research agenda through bibliometric network analysis. *Heliyon*, 10(1), e23902. <https://doi.org/10.1016/j.heliyon.2023.e23902>
- [6] Olatoye, F. O., Awonuga, K. F., Mhlango, N. Z., Ibeh, C. V., Elufioye, O. A., & Ndubuisi, N. L. (2024). AI and ethics in business: A comprehensive review of responsible AI practices and corporate responsibility. *International Journal of Science and Research Archive*, 11(1), 1433-1443. <https://doi.org/10.30574/ijrsra.2024.11.1.0235>
- [7] Csaszar, F. A., Ketkar, H., & Kim, H. (2024). Artificial intelligence and strategic decision-making: Evidence from entrepreneurs and investors. *Strategy Science*, 9(4), 322-345. <https://doi.org/10.1287/stsc.2024.0190>
- [8] Beheshti, A., Yang, J., Sheng, Q. Z., Benatallah, B., Casati, F., Dustdar, S., Motahari Nezhad, H. R., Zhang, X., & Xue, S. (2023). ProcessGPT: Transforming business process management

with generative artificial intelligence. *Proceedings of the 2023 IEEE International Conference on Web Services (ICWS)*. <https://doi.org/10.48550/arXiv.2306.01771>

### **Non-Academic Sources:**

- [9] Singla, A., Sukharevsky, A., Yee, L., Chui, M., & Hall, B. (2025, March). *The state of AI: How organizations are rewiring to capture value*. McKinsey & Company. <https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/a-generative-ai-reset-rewiring-to-turn-potential-into-value-in-2024>
- [10] McKinsey & Company. (2022, December 6). *The state of AI in 2022—and a half decade in review*. <https://www.mckinsey.com/capabilities/quantumblack/our-insights/the-state-of-ai-in-2022-and-a-half-decade-in-review>