# Assignment 1 – Action Learning Log

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Action Learning Log: A Reflective look at AI in Business and Society

## Entry 1: Foundations and Evolution of AI (Sessions 1-2) - Understanding the Core Concepts

The initial sessions of our AI course provided a profound exploration of the foundations and evolution of Artificial Intelligence (AI) (Russell & Norvig, 2018). The diverse range of topics covered in Session 1, from the historical context of Charles Babbage's engines to Isaac Asimov's Three Laws of Robotics, showcased the evolution of computing and the ethical considerations embedded in AI.

One of the key takeaways was the significance of understanding AI's historical roots. The link between historical developments and contemporary applications, such as the demonstration of neural networks via Perplexity.ai, emphasizes the continuous evolution of AI technologies (Goodfellow et al., 2016). As I reflected on this, I recognized the importance of historical context in grasping the current state and potential future trajectories of AI. I wonder the ethical safeguards evolve in a comparable pace as the AI to mitigate the risks.

In Session 2, the practical advancements in AI were highlighted, with an update on ChatGPT's capabilities unveiling new features for voice conversations and image interactions (Brown et al., 2020). The classification of AI into process automation, cognitive insights, and cognitive engagement clarified the broader scope of AI applications (Davenport, Harris, & Shapiro, 2010). The breakout room exercise, cantered on an HBR article on digital transformation, underscored the importance of aligning fundamental business changes with digitization efforts (Westerman, Bonnet, & McAfee, 2014).

## Entry 2: Types of AI and Organizational Efficiency (Sessions 3-4) - Driving Effectiveness through Variety

Sessions 3 and 4 delved into the capabilities of different types of AI and their applications in driving organizational efficiency (Chui et al., 2016). The exploration of Robotic Process Automation (RPA) in Session 3 showcased its diverse applications across industries (Lacity & Willcocks, 2016), while Session 4 debunked a fake video, highlighting the ethical considerations in AI visual-effects software manipulation.

Understanding the nuances between RPA and Cognitive Robotic Process Automation (CRA) provided insights into their distinctive features and applications (EY, 2020). This comparison outlined that while RPA is best suited for rule-based, repetitive tasks with structured data, CRA excels in handling unstructured data, complex decision-making, and tasks requiring human-like reasoning. The job displacement should also be discussed, the organizations should make efforts to enhance the skills of the current workforce in response to potential job displacement. This proactive approach is commendable and aligns with the idea that technology should augment human capabilities rather than replace them entirely.

Additionally, the session on sentiment analysis and the introduction of Observe.ai demonstrated the practical application of AI in understanding customer sentiments (Cambria & White, 2014). This not only highlighted the potential for real-time insights but also raised questions about the ethical implications of AI in tracking and interpreting user emotions.

## Entry 3: Linking Business and Technical Capabilities (Sessions 7-8) - Strategic Alignment for Competitive Advantage

In the context of our stainless-steel manufacturing business, Sessions 7 and 8, which focused on the strategic implementation of AI, hold significant relevance. The Microsoft AI 360° Model's emphasis on the interplay between AI creativity and business strategy prompts contemplation on how AI can be strategically integrated into our operations (McAfee & Brynjolfsson, 2017).

A diagram of a model

Description automatically generated

The showcase of AI in healthcare, particularly MD Anderson's Oncology Expert Advisor, provides insights into the transformative potential of AI in optimizing processes (IBM, n.d.). This prompts thoughts on how we can leverage AI for predictive maintenance in our manufacturing equipment, ensuring optimal performance and reducing downtime. The concept of "Little AI vs. Big AI" encourages us to categorize AI applications based on their impact, guiding us in prioritizing areas that align with our business goals.

## Entry 4: People-Process-Technology Balance (Session 9) - Navigating the Delicate Equilibrium

Session 9 delved into the critical equilibrium of the People-Process-Technology paradigm, accentuating its significance in organizational efficiency (Ross, Beath, & Mocker, 2019). The Hype Cycle AI from Gartner 2023 provided a snapshot of AI's evolutionary trajectory (Gartner, 2023). The breakout room exercise challenged participants to apply the People-Process-Technology Balance framework to case studies, integrating insights from the provided HBR articles.

This session underscored the indispensable role of strategic alignment among people, processes, and technology in navigating the complexities of AI implementation (LaValle et al., 2011). As I reflected on the People-Process-Technology balance, I recognized its dynamic nature, requiring constant reassessment and adjustment to ensure optimal efficiency.

The session prompted me to consider how organizations can strike the right balance, fostering a culture that embraces technological advancements while recognizing the importance of human collaboration and streamlined processes. The practical frameworks presented in this session provided valuable insights into crafting holistic AI strategies.

## Entry 5: Ethical, Societal, Legal, and Governance Considerations (Sessions 10-12) - Navigating the Moral Landscape

Sessions 10 to 12 delved into the ethical, societal, legal, and governance considerations of AI, providing a comprehensive exploration of the multifaceted impact of AI technologies (Floridi, 2016; Jobin et al., 2019; Diakopoulos, 2016; Mittelstadt et al., 2016). Diverse examples were presented to illuminate the far-reaching consequences of AI across various domains.

The exploration of Tesla's advancements, AI in content creation, and the evolving nature of work prompted deep reflection on the societal and legal frameworks needed to navigate the evolving technological landscape. The introduction of the Human:Machine Cognitive Operations Ratio (HMCOR) provided a conceptual framework to evaluate the evolving distribution of cognitive tasks between humans and machines.

As I engaged in discussions on AI bias and its mitigation in the breakout room activities, I gained a nuanced understanding of the challenges and opportunities associated with implementing ethical AI in real-world scenarios. The session provided a comprehensive exploration of the ethical dimensions of AI, fostering a deepened awareness of the considerations essential for the responsible development and deployment of artificial intelligence technologies. When contemplating the limitation of AI by ethical constraints, I acknowledge that AI derives its power from the data it processes, showcasing robust capabilities, particularly in the healthcare industry. However, it prompts consideration of a delicate balance between leveraging AI's potential and adhering to ethical restrictions. While the robustness of AI in healthcare is evident, ethical considerations should not be compromised, emphasizing the importance of responsible and conscientious use of this powerful technology.

# Reflection on Work Application:

In the stainless-steel manufacturing context, these AI sessions have sparked ideas for innovative applications, say process automation The historical understanding from Entry 1 provides a foundation for envisioning AI's potential role in reshaping our production workflows. Entries 2 and 3 guide our exploration of diverse AI types for optimizing efficiency and aligning with strategic business goals ‘little AI’ vs ‘Big AI ‘ . Entry 4 underscores the importance of balancing technology with human collaboration, a crucial consideration in our industry. Lastly, Entry 5 ensures that ethical, societal, legal, and governance considerations are at the forefront of our AI integration efforts, aligning with our commitment to responsible and forward-thinking manufacturing practices. Considering the integration of AI vision for anomaly detection, as discussed in Entry 5, 'Parallel AI' becomes a compelling strategy. By running AI systems in parallel with our current processes, we can optimize efficiency without overhauling established procedures. For instance, implementing AI vision alongside our quality control measures can enhance anomaly detection without disrupting the existing quality assurance protocols.

As we move forward, the integration of AI promises to enhance our efficiency, competitiveness, and ethical standards in the ever-evolving landscape of stainless-steel manufacturing.

# Conclusion

The insights gained, particularly in navigating the delicate balance of implementing AI in organizational settings, will undoubtedly guide our stainless-steel manufacturing company towards innovative and responsible integration of AI technologies. As we embark on the future, the strategic alignment of AI with business goals, thoughtful considerations of ethical dimensions, and the exploration of parallel AI applications position us to enhance efficiency, competitiveness, and ethical standards in our ever-evolving industry.

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