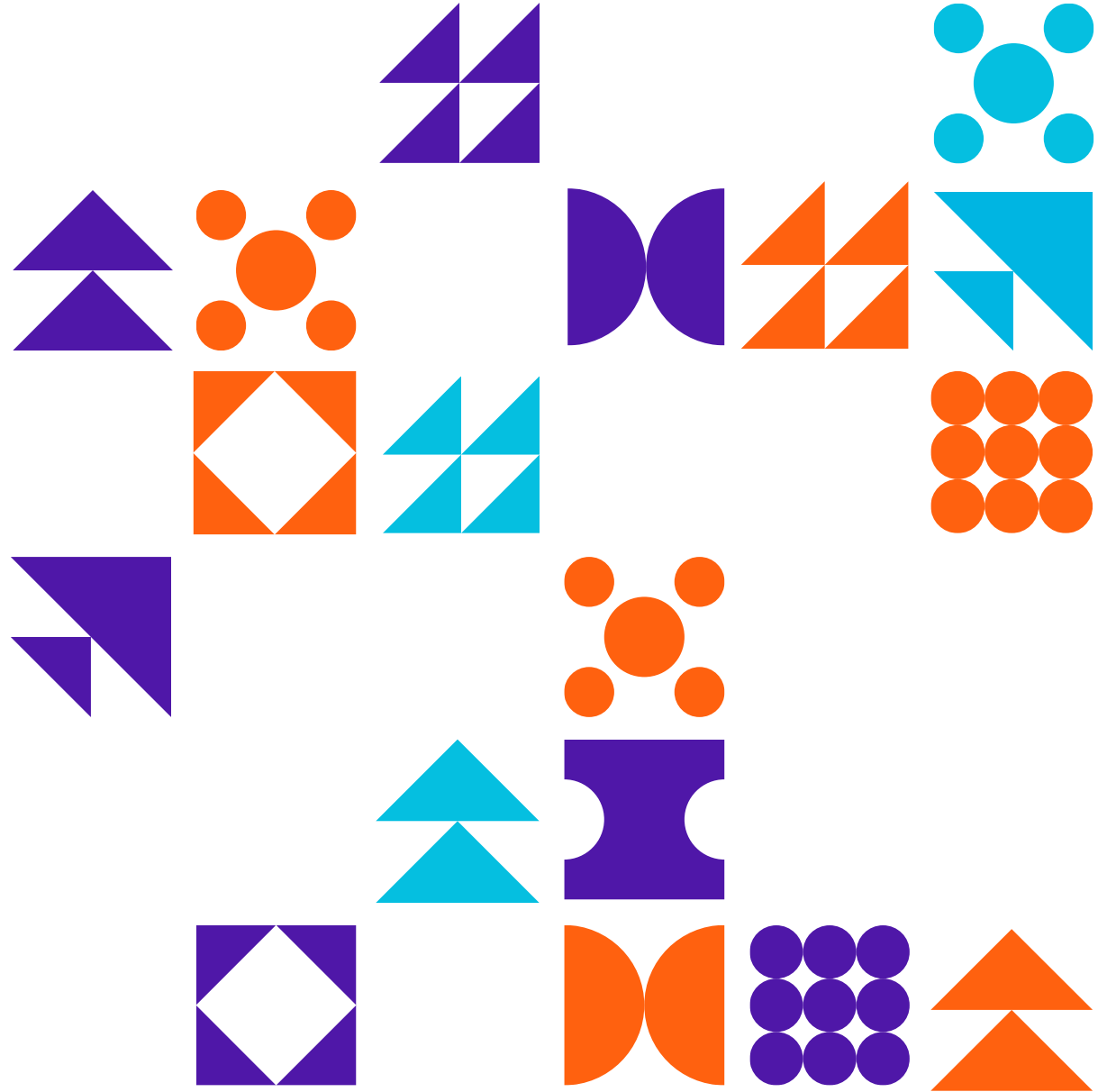**Project Management Institute. Zimbabwe**

THE ROLE OF AI AND DESIGN THINKING IN PROJECT MANAGEMENT IN THE 21ST CENTURY.

*"Developing Sustainable Project Management Skills in the Digital Age."*

Introduction

❑ **Critical thinking** is the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action.

❑ **Design Thinking** is a holistic approach to solve a problem begin with people.

❑ People are at the heart of every complex human system--but they're often the most overlooked.

❑ **CT** aided with **DT** if combined is a way of overcoming challenges and pitfalls in Project Management with the objective of achieving the set target.

The role of AI and Design Thinking in Project Management in the 21st Century.

Design Thinking

❑ Combine the analytical tools of systems thinking with the creative mindsets of human-centered design to make sense of complex systems challenges.

❑ Explore mapping tools to identify the right places to focus, surface insights about your stakeholders, and pick the most impactful solutions to experiment with so you can go beyond the obvious and design lasting solutions.

❑ Establish a shared view of the system and reframe problems from different perspectives to uncover new solutions.

❑ Effective problem solvers today know how to visualize the larger dynamics of the system while staying grounded in the needs of people.

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Design Thinking Ideology
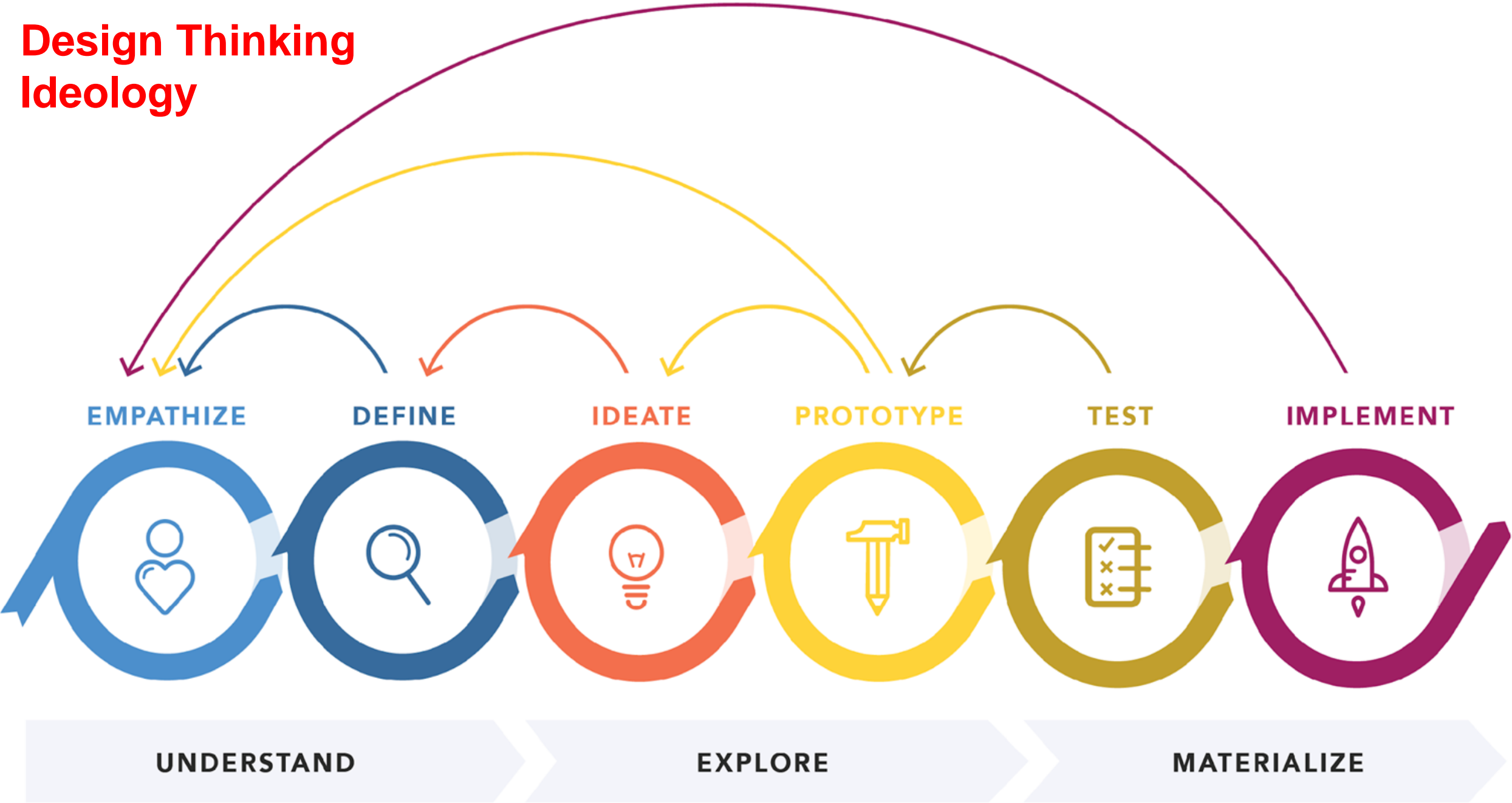
EMPATHIZE   DEFINE   IDEATE   PROTOTYPE   TEST   IMPLEMENT

UNDERSTAND   EXPLORE   MATERIALIZE

Introduction

Human Intelligence -The mental quality that consists of the abilities to learn from experience, adapt to new situations, understand and handle abstract concepts, and use knowledge to control an environment.

(Then why AI?- Reliability, consistency, affordability, durability and trust)

*   **Intelligence Quotient, (IQ)** measures a person's level of comprehension. A person's ability to solve mathematical equations, memorise things, identify patterns and recall lessons.

*   **Emotional Quotient (EQ)** or Emotional Intelligence refers to one's ability to manage their emotions. This includes the ability to understand and self-manage their own feelings in positive ways to communicate effectively, empathize with others, overcome challenges, manage conflict and relieve stress.

*   **Social Quotient (SQ)** or Social Intelligence refers to one's ability to interact and communicate with others with empathy and assertiveness. This includes a person's ability to build a network of friends and maintain it over a long period of time.

*   **Adversity Quotient (AQ)** refers to one's ability to overcome challenges or adversity. When faced with troubles, the Adversity Quotient considers who will give up, who will abandon their family, and who will contemplate suicide.

Benefits of Artificial Intelligence in Project Management

01 Improved Project Planning

01 Real-time Project Monitoring & Alerts

03 Enhanced Efficiency

04 Improved Communication & Collaboration

05 Improved Risk Management

06 Predictive Analytics

07 Better Decision-Making

Benefits of AI in Project Management

❑ **Automation**- AI-powered management tools are always willing to take on responsibilities like scheduling meetings, creating reports for managers, or sending email reminders regarding a project's approaching deadline.

❑ **Predictive Analytics** -These analytics rely on Machine Learning and Big Data to predict trends and present project managers with possible risks so they know how to act.

❑ **Resource Allocation-**The system gathers data like past projects, completion rates, employee skills, and available equipment, then recommends how to distribute work.

❑ **Project Monitoring** - AI systems process data in real time, providing managers with timely insights and alerts that will allow them to make the necessary changes on the spot
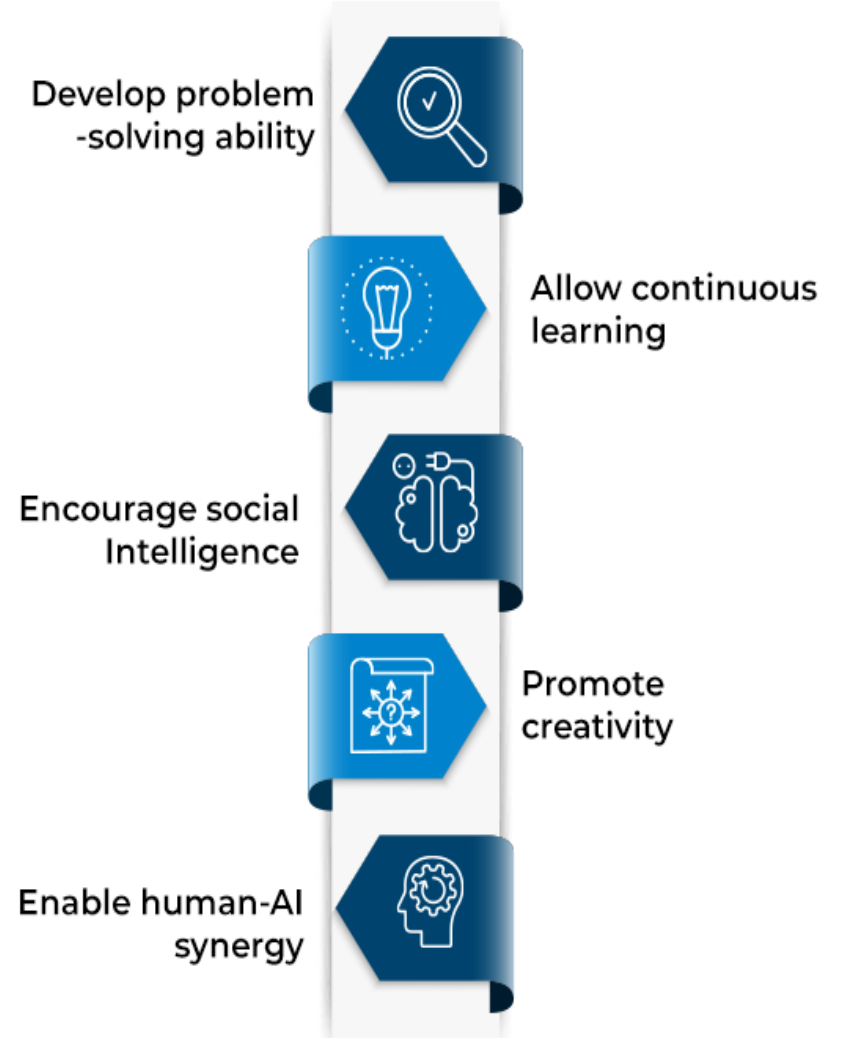
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AI based tools for Project Management

Software Name	User-friendliness
Trello	User-friendly
Asana	Steep learning curve
Monday.com	User-friendly with customizable workflows
Zoho Projects	The steep learning curve for some users
Wrike	Suitable for large projects, may require more training

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Artificial Intelligence

- Artificial intelligence is the simulation of human intelligence processes by machines, especially computer systems.

- Examples of AI applications include expert systems, natural language processing (NLP), speech recognition and machine vision.

- The Goal - constructing computer programs capable of problem-solving and goal achievement on par with human capabilities.

GOALS OF ARTIFICIAL INTELLIGENCE

Develop problem-solving ability

Allow continuous learning

Encourage social Intelligence

Promote creativity

Enable human-AI synergy

Superintelligence

- Artificial **superintelligence** (ASI) is a type of AI that allows machines to exceed human capabilities.

- These systems would be able to do things such as predict the future, create new scientific methods, and more.

- With ASI, scientists could solve some of our largest problems, such as curing cancer, ending world hunger, or balancing the federal budget.

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AI in Business: what's hot in latest research?
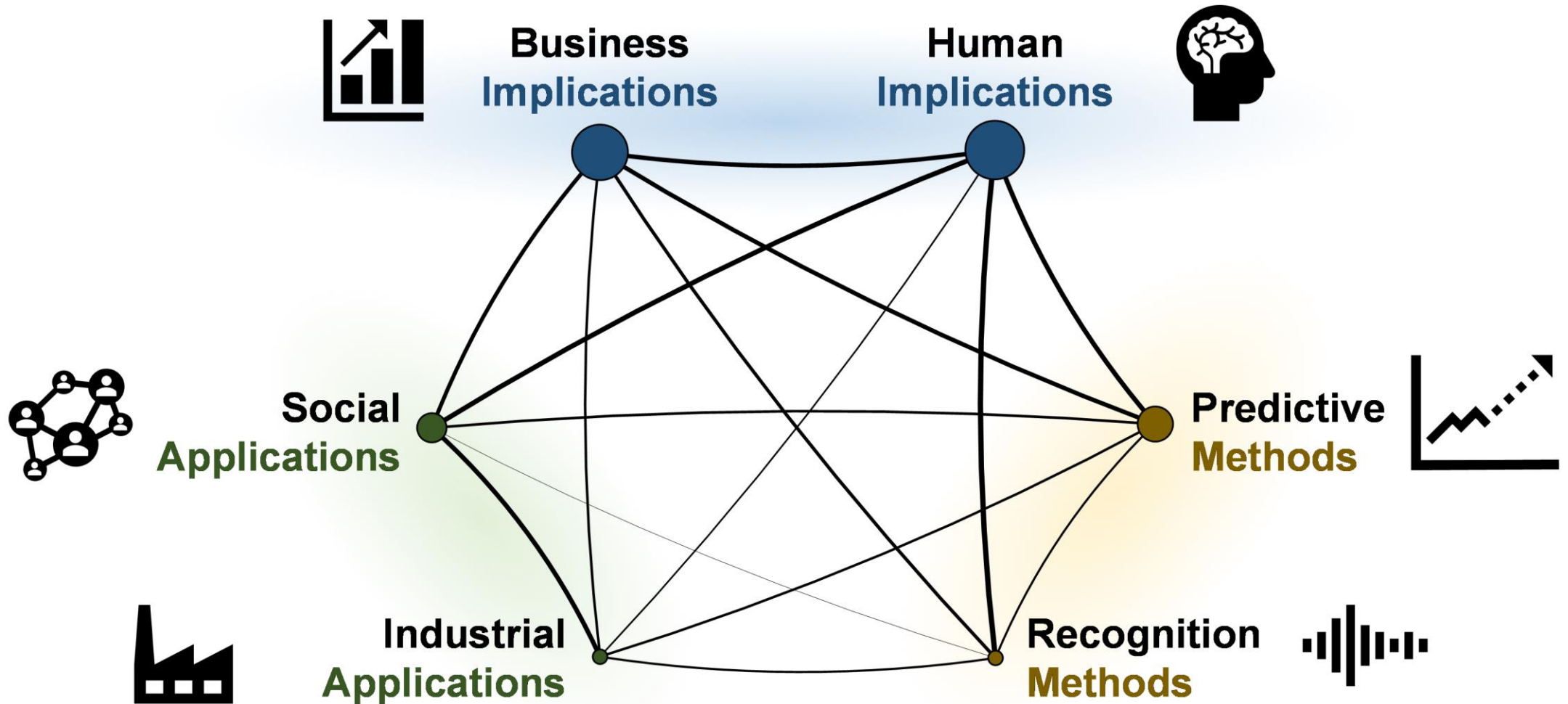
Network visualization of the AI in Business topic model. Nodes' size is proportional to the relative presence of the topic in current literature while the width of each edge shows the level of inter-topic distance. Adapted from: A. Sestino, A. De Mauro (2021), "Leveraging Artificial Intelligence in Business: Implications, Applications and Methods", Technology Analysis & Strategic Management, DOI: 10.1080/09537325.2021.1883583

Reactive Machines

- Reactive machines perceive present external information and plan actions accordingly.

- The machines perform specialized duties and only understand the task at hand. The machines' behavior is consistent, given a repeated situation.

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Limited memory machines

- Limited memory machines can harness recent observations to make informed decisions.

- The machines consider observational data in reference to their pre-programmed conceptual framework.

- The observational data is retained for a limited period and then forgotten.

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Theory of mind machines

- Theory of mind machines can form thoughts and make decisions in reference to emotional context; thus, they can participate in social interaction.

- The machines are still in the development stage; however, many exhibit aspects of human-like capability.

- For example, consider voice assistant applications that can comprehend basic speech prompts and commands but cannot hold a conversation.

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Self-awareness machines

- Self-awareness machines demonstrate intelligent behavior through **ideation**, the formation of desires, and understanding their internal states.

- **Ideation** is the process of forming ideas from conception to implementation

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Challenges of
AI in Project Management

01 Integrating Ai With Existing Systems

02 Ensuring Data Privacy & Security

03 Addressing Ethical Considerations

04 Overcoming Resistance To Change

05 Balancing Automation & Human Involvement

06 Ensuring Adequate Training & Support

07 Addressing Cost Considerations

08 Overcoming Technical Limitations

09 Managing Expectations

THANK YOU

PROF ENGINEER TALON GARIKAYI
DEPUTY VICE CHANCELLOR, AFRICA UNIVERSITY
talongarikayi@gmail.com , +26377640355