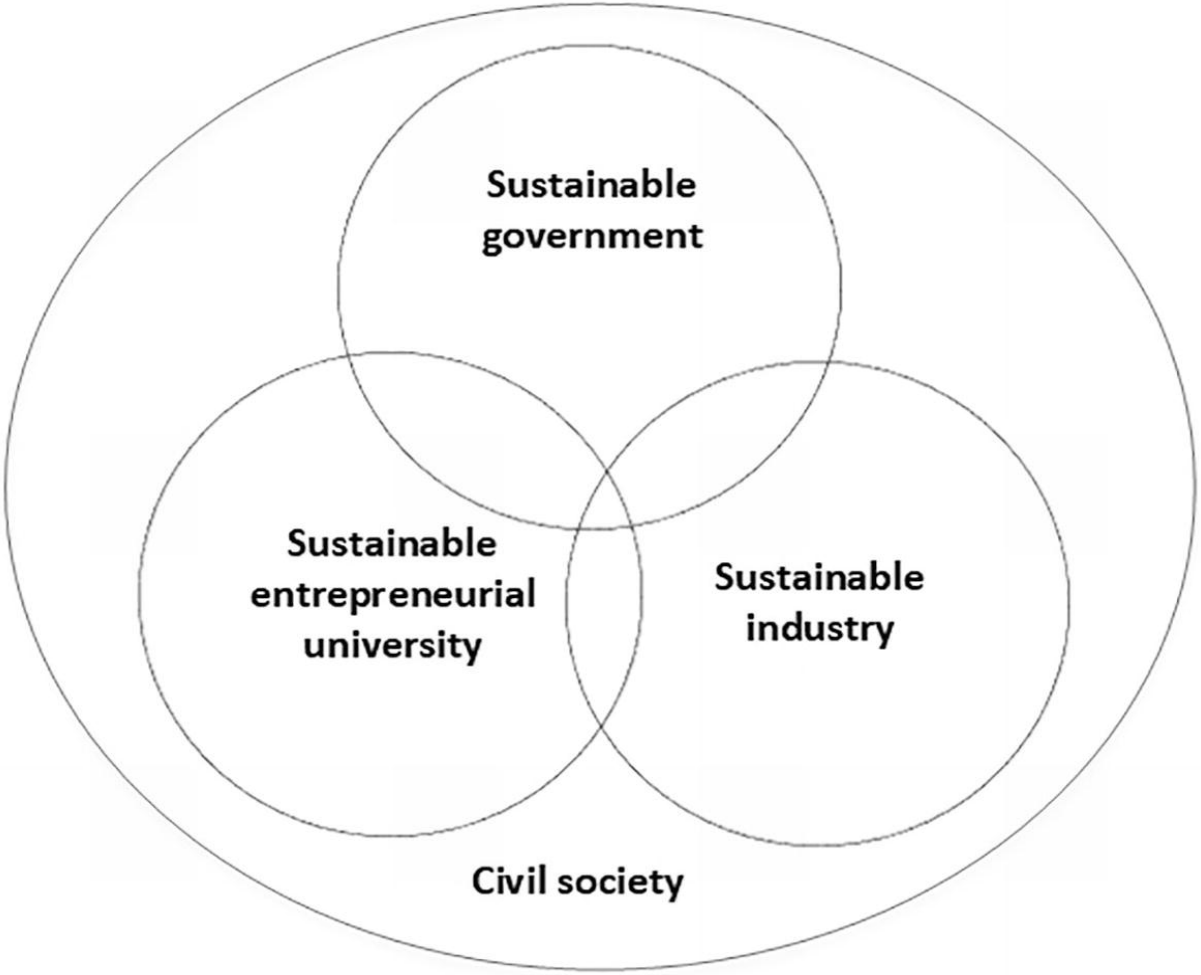
Recap Module 1 and 2

`Outline	Content	Innovation Technology examples and Present.
Classical Theory	•Scientific Management Theory •Bureaucratic Management Theory •Administrative Management Theory	•Typewriting •Classical cameras •Classical TV
Behavioral Theory	▪Human Relation Theories ▪Leadership Theories ▪Entrepreneurship theories ▪Motivational theories	▪Electrical typewriter ▪Modern phones
Modern Management Theory	•System Management Theory •Contingency Theory •Quantum	Modern Tools Embedded technology

Human Centered Design

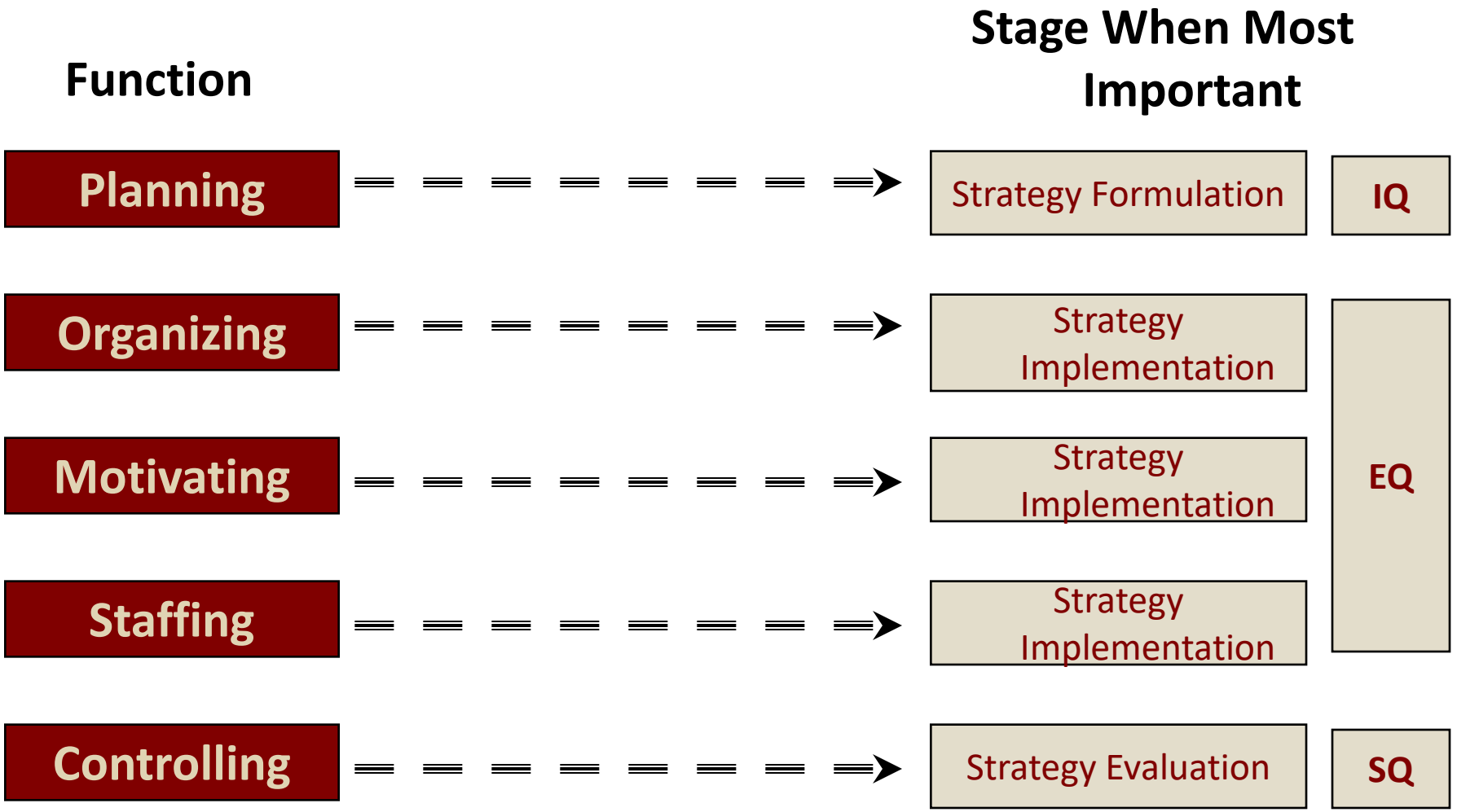
Academia for Industry and Society



Insights

- Fundamental idea for connecting science to society, science to economy-technological innovation.
- In particular, innovation based on new scientific technologies has been a major force in modern economic development.
- Thus industrial Revolution was the genesis evolving to new technologies

Management



End of Recap

Module 3: Develop Cognitive Innovative and entrepreneurial skills for competitive Business

Outline	Content
Human Centered Design	People centered and intervention Responsive research (Pre and post interventions) Community Based Research
Cognitive Development for Value Creation	Three realms of reasoning
Innovation Process for venture development	Using Frederick Betz Model Using Beret Model of Motivation (Evolvement of small business and wealth creation)
Knowledge Management entrepreneurship and innovation development	Foundation knowledge, Transformative knowledge

HUMAN CENTERED DESIGN?

- Human-centered design is a problem-solving technique that puts real people at the center of the development process, enabling you to create products and services that resonate and are tailored to your audience's needs.
- The goal is to keep users' **wants, pain points,** and preferences front of mind during every phase of the process. In turn, you'll build more intuitive, accessible products that are likely to turn a higher profit because your customers have already vetted the solution and feel more invested in using it.

THE PHASES OF HUMAN-CENTERED DESIGN

- Global design firm IDEO popularized human-centered design, breaking it down into **three phases:**
  1. Inspiration
  2. Ideation
  3. Implementation

Inspiration

- This first phase is dedicated to learning from your customers. Rather than develop products based on preconceived notions about what you think they want, you take the time to discover what they actually want firsthand.
- The inspiration phase requires **empathy**—the capability of understanding another person's experiences and emotions. You need to put yourself in your users' shoes and ask questions to determine what products they're currently using, why and how they're using them, and the challenges they're trying to solve.

Ideation

- The inspiration you gather in the first phase will lead you to the second: ideation. During this step, you want to brainstorm as many ideas as possible based on the feedback you gathered. Remember that, when brainstorming, there are no bad ideas. The only way to derail the process is if you ignore your users' needs.
- As you start to narrow down your ideas to what's most feasible and viable, build out a prototype you can put in people's hands and get feedback on. It could be as simple as a paper wireframe or PowerPoint presentation. The objective is to test your ideas, gather input, iterate on those ideas, and then test them again until you've developed an ideal solution.

Implementation

- The final phase of the process is bringing that ideal solution to **market**. You should first consider where your users are and how they would prefer to be marketed to. Yet, as you roll your product or service out to a broader audience, continue to solicit and analyze feedback.
- The iteration process should never end because your customers' wants and needs will continue to evolve. Your goal is to adapt to meet them. Keeping humans at the center of the development process will ensure you're continuously innovating and achieving product-market fit.

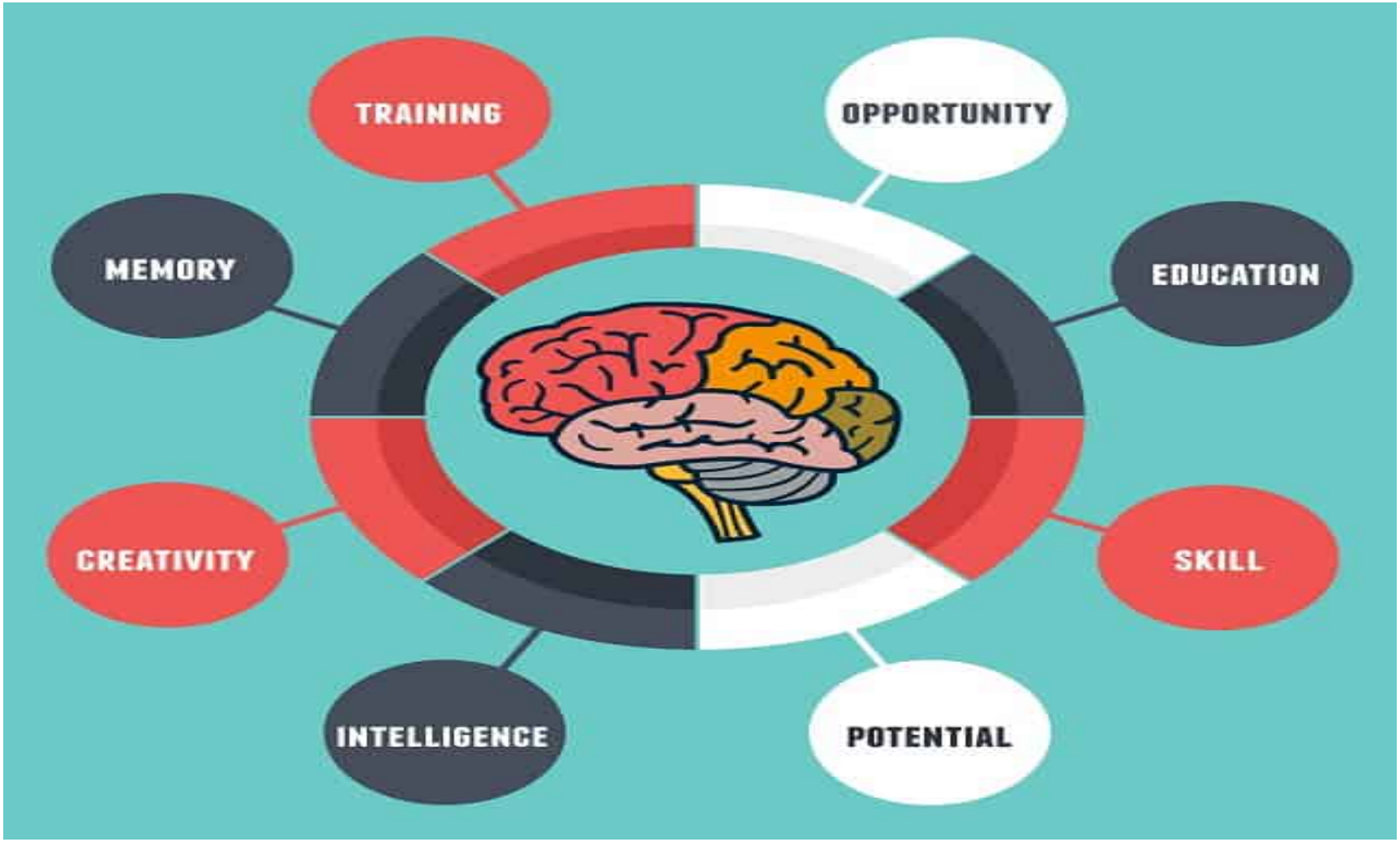
COGNITIVE DEVELOPMENT FOR VALUE CREATION

THREE REALMS OF REASONING

What is Cognition?

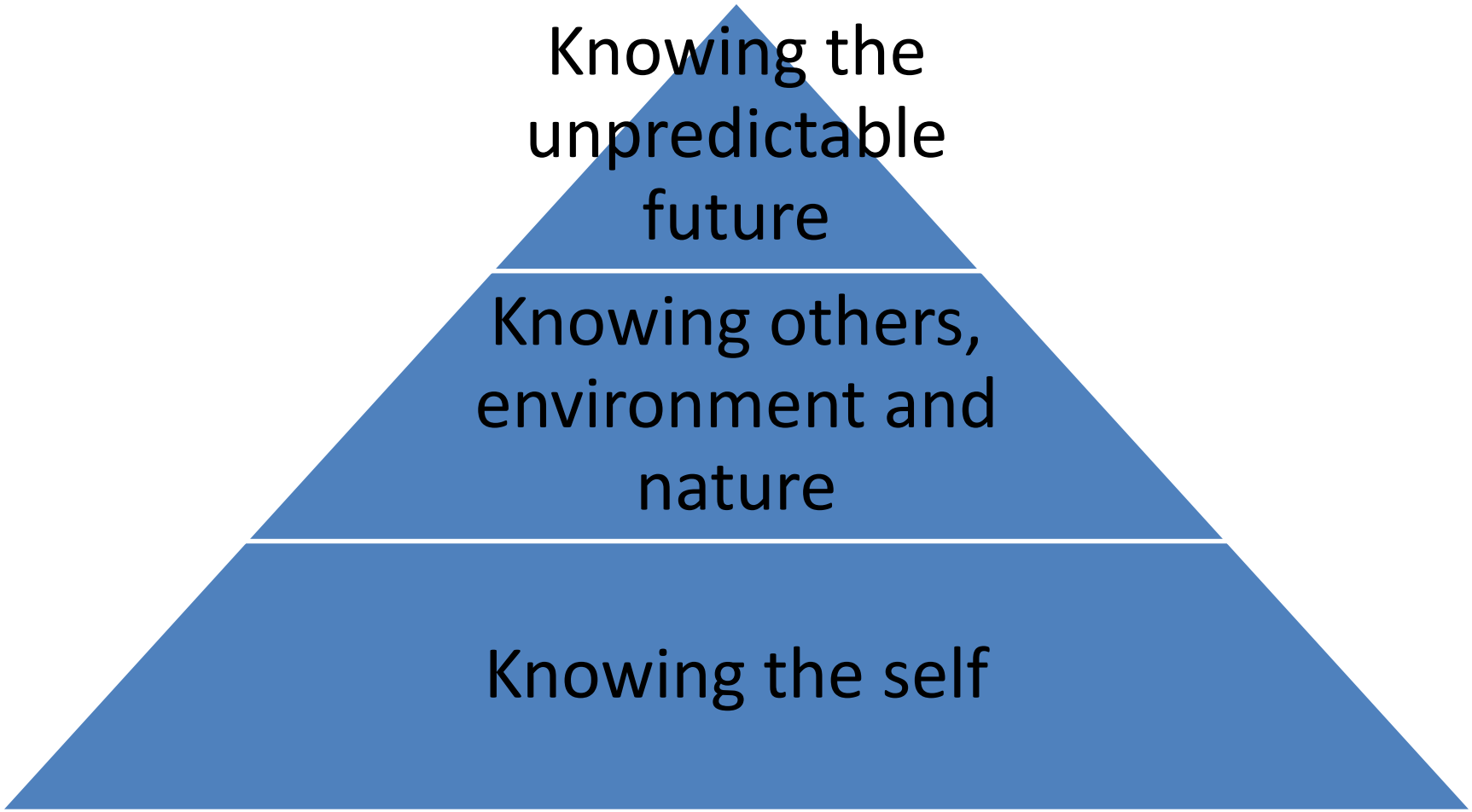
- The term cognition is derived from the Latin word **"cognoscere"** which means **"to know"** or **"to recognise"** or **"to conceptualise".**
- It refers to the mental processes an organism learns, remembers, understands, perceives, solves problems and thinks about a body of information.
- Experts argue that cognition progresses in stages with increasing levels of complexity and hence the phrase "cognitive development" which is the stages a child goes through conceptualising the world at different age levels.

Purpose of Cognitive Development



https://www.cleverism.com/piagets-theory/

Three realms of Reasoning



Knowledge Transcendence

- “Transcendence refers to the very highest and most inclusive or holistic levels of human consciousness, behaving and relating, as ends rather than means, to oneself, to significant others, to human beings in general, to other species, to nature, and to the cosmos” Maslow, 1971, p.269)
- This is done by integrating the realms of intellect/intelligence.

SQ
spiritual intelligence
whole brain
synchronous processing

IQ
intellectual
intelligence
left brain
serial
processing

EQ
emotional
intelligence
right brain
parallel
processing

IQ + EQ + SQ = 3Q

Three Realms of Intelligence

IQ

- Intelligent Quotient, normally measured, in different level of category using established criteria (A,B,C, or first class, Honor etc), in terms of scale-grading or performance rate.

EQ

- Emotional Intelligence, measured as EQ, describes capacity, skills to perceive, asses and manage the emotions of one's self, others, groups and environment

SQ

- Spiritual quotient is described as a measure that looks at person's spiritual intelligence in terms of **meaning** and **values,** untouchable level which try to answer the question of meaning and values?
- What do we want to achieve
- How can we achieve

Intelligent Quotient(IQ)

Intelligent Quotient, normally measured,ent in different level(A,B,C, or first class, Honor etc)			Transactional leadership Instructor Sympathy High Ego	Survival jobs	Archaic Innovation and Technology Scrambling for resources X perceptual Competition

Emotional Quotient(EQ)

Description

Emotional Intelligence(EI), measured by describing capacity, skills, perseverance manage the emotions of one's self of others, groups and environment

Recognize the feeling of others/relationship

Best Practice

Competence

Potential Knowledge

Ethic

Experience of internal and external environment

Empathy

Leadership Style

Transformational leadership skills

Mentor

Less Ego

Opportunity

Creating Innovation groups

Integrating informal and formal knowledge creation

Technology

Significant improvement for

Innovation and Technology

Resource sharing and equality begins to manifest. Eg**. IOT**

Y perceptual

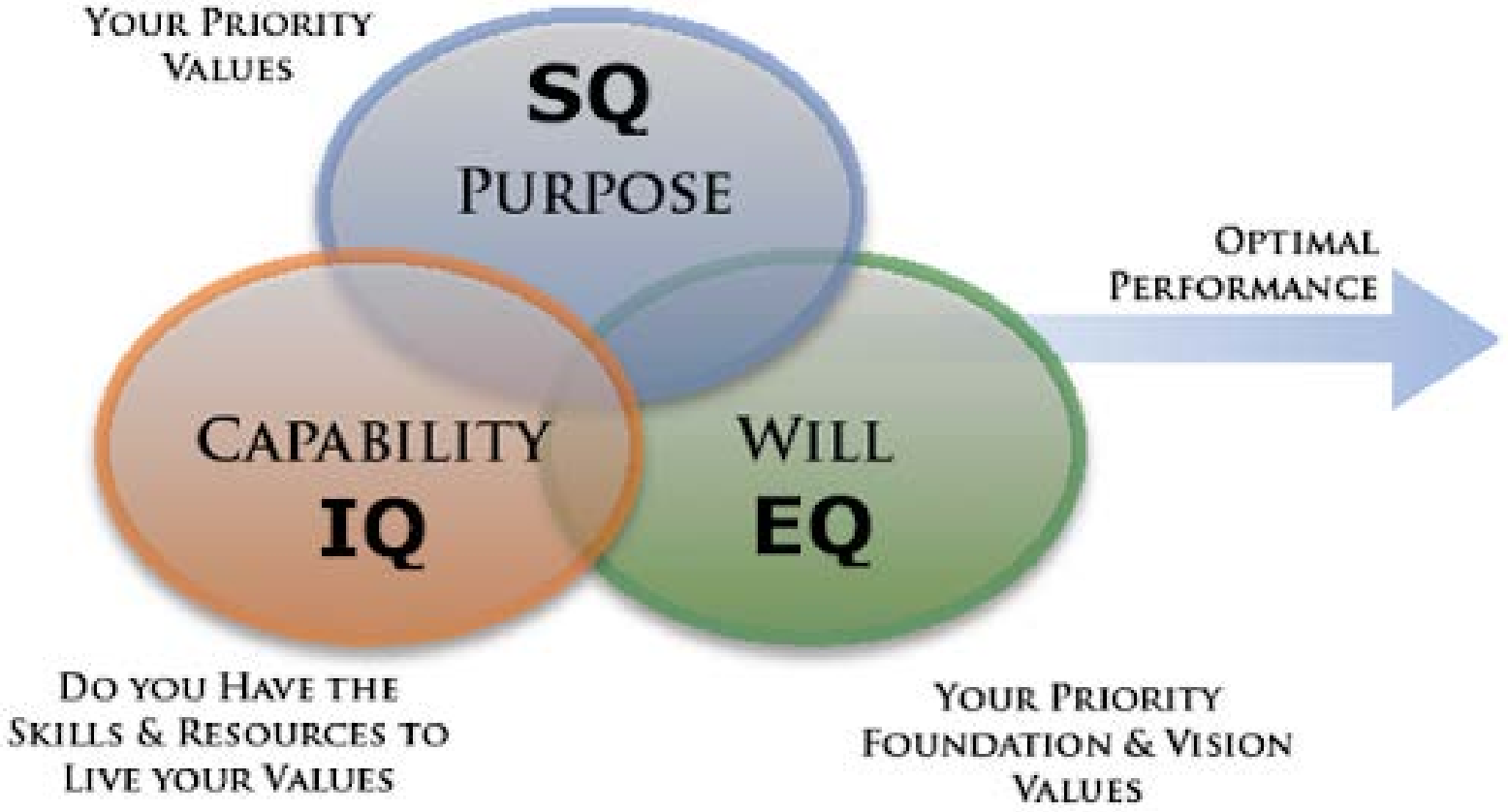
Spiritual Quotient(SQ)

Description Spiritual quotient is described as a measure that looks at person's spiritual intelligence answering the question of meaning and values? What do we want to achieve How can we achieve	**Skills** Compassionate High power of Discernment Speak with Silence with action	**Best Practice** Compassion	**Leadership style** Authentic leadership skills Social mastery High transcendence of knowledge Awareness Self mastery	**Opportunity** Wise Change Agent for inner self Wise coach	**Technology** High Significant improvement for Innovation and Technology Partnership for goals Resource sharing presence of equality Eg. **machine learning** **Sensor** **Prediction** ***clarity**

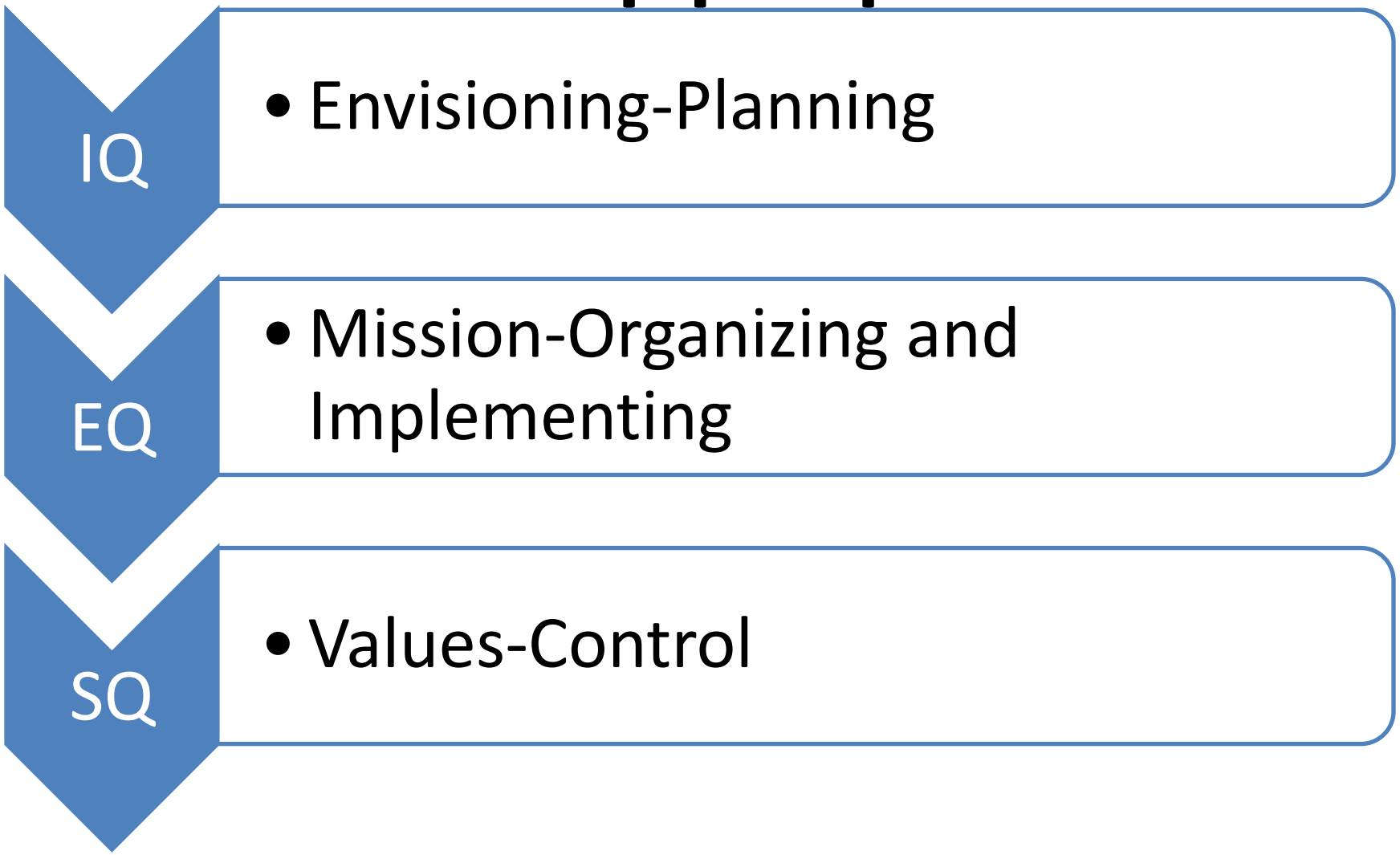
Summary of 3 realms of knowledge

IQ: Intelligence Quotient	EQ: Emotional Quotient	SQ: Spiritual Quotient/Intelligence
Rational Approach	Adaptive approach	Quantum approach
Law abiding	Adaptive and associative	Recontextualising
Ultimately controllable	Habit-bound and controlling	Chaotic
Emphasis on Isolation	Emphasis on familiarity	Emphasis on integration
Predictable	Ambiguous	Unpredictable
Dictatorial	Consensual	Rely on trust
Inflexible	Proactive	Imaginative and Experimental
Reactive	Ambiguous boundaries	Flexible boundaries
Rigid boundaries	Fragmented	Holistic
Atomistic		

Integration



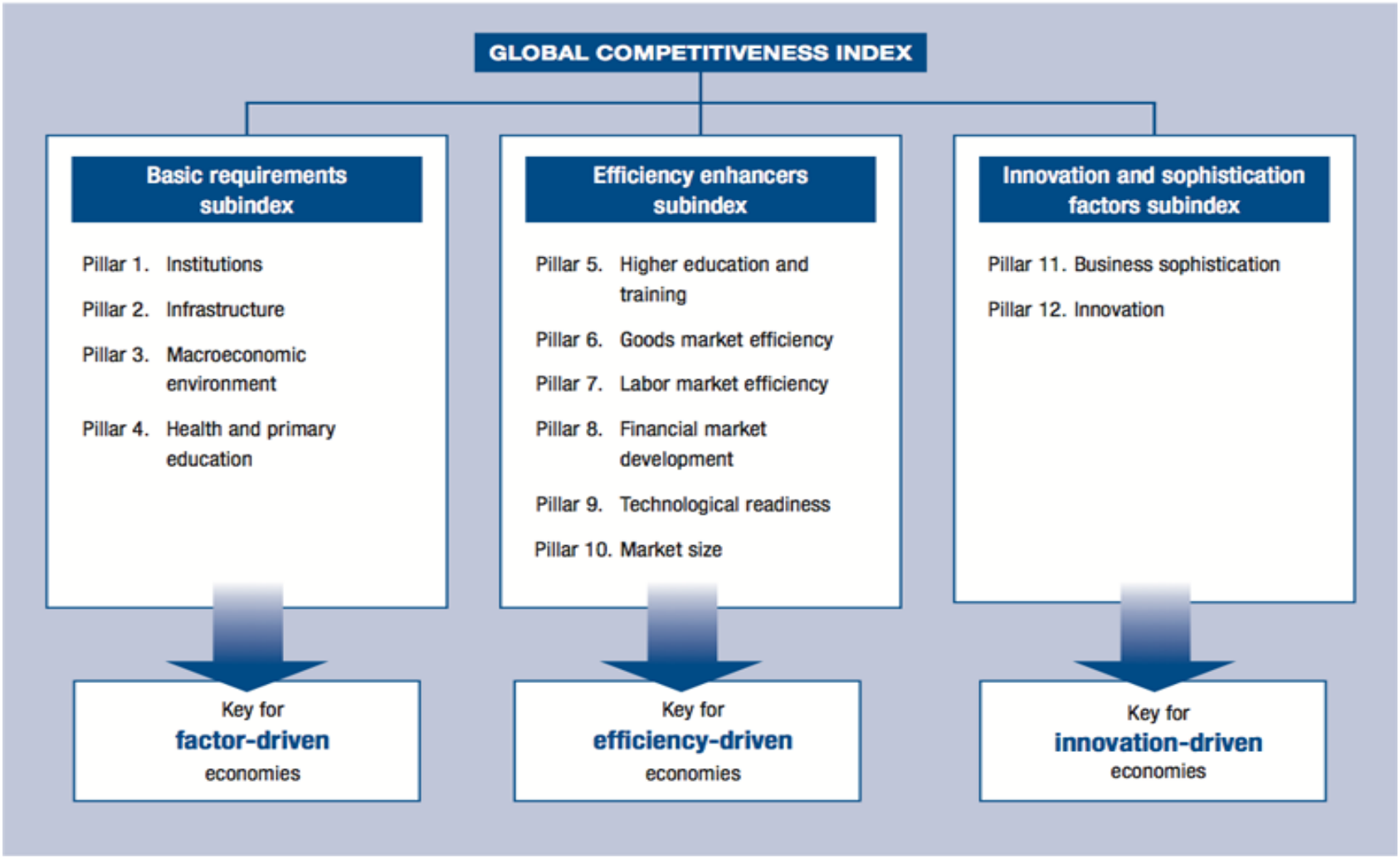
leadership perspective



Integration

- The integration of three realms considers **systems thinking and** can be linked with social economic development.

social Economic Development



Innovation Process for Venture development

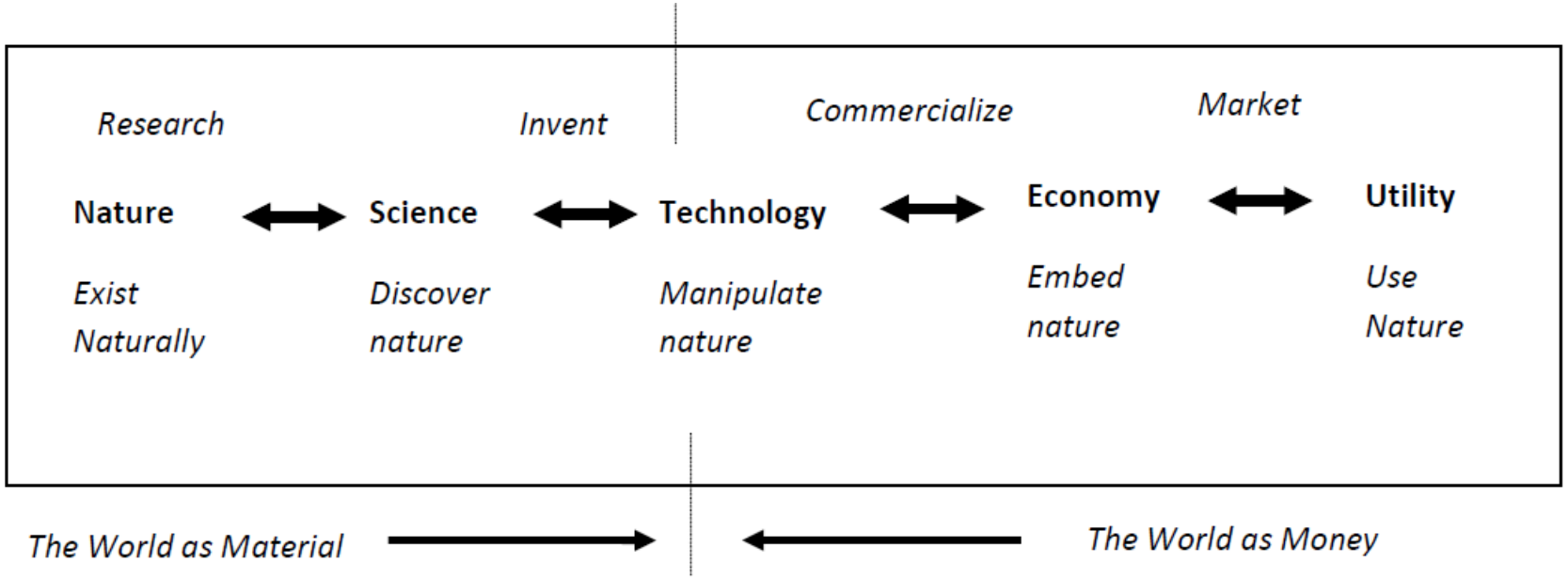
Innovation Process

- How should we think about the process of innovation? In the “big picture”, we start with the ***nature*** and then turn to transforming knowledge of ***nature*** into economic utility. The term ***nature*** is the scientific term for the entire observable world in which we exist.
- All technologies involve manipulating nature to create products and services useful in an economy

Innovation Process…

- If one examine any technology, one will see that some kind of nature(material, biological, or social) is being used(*manipulated*). Accordingly, we can describe innovation process as the way knowledge of nature(science) can be connected to technology(manipulation of nature), which then can be connected to use of nature(economy)

Innovation and Entrepreneurship Process



Conceptual Model Developed by Frederick Betz(2011)

Innovation Process

Research. In technological innovation, one begins with nature. Knowledge about nature-what it is(discovery) and how it operates (explanation)-is gained by science through act of research. Scientist are the principal kinds of people who as researcher study the knowledge of nature.

Invent. Scientific knowledge of nature is used as knowledge base by technologists to create new technologies(manipulation of nature) through the act of invention. Technologists are usually scientists or engineers or other technical personnel.

Innovation Process

- ***Commercialize.*** Technical knowledge is embedded within a product/service/software through the act of design. In a business engineers use technological knowledge to develop and design new high-tech products or services or process. Commercialization is the act of connecting(embodying) technology into the products/services/process. In products/service development procedures of a business, technical and business personnel work together in innovation teams.

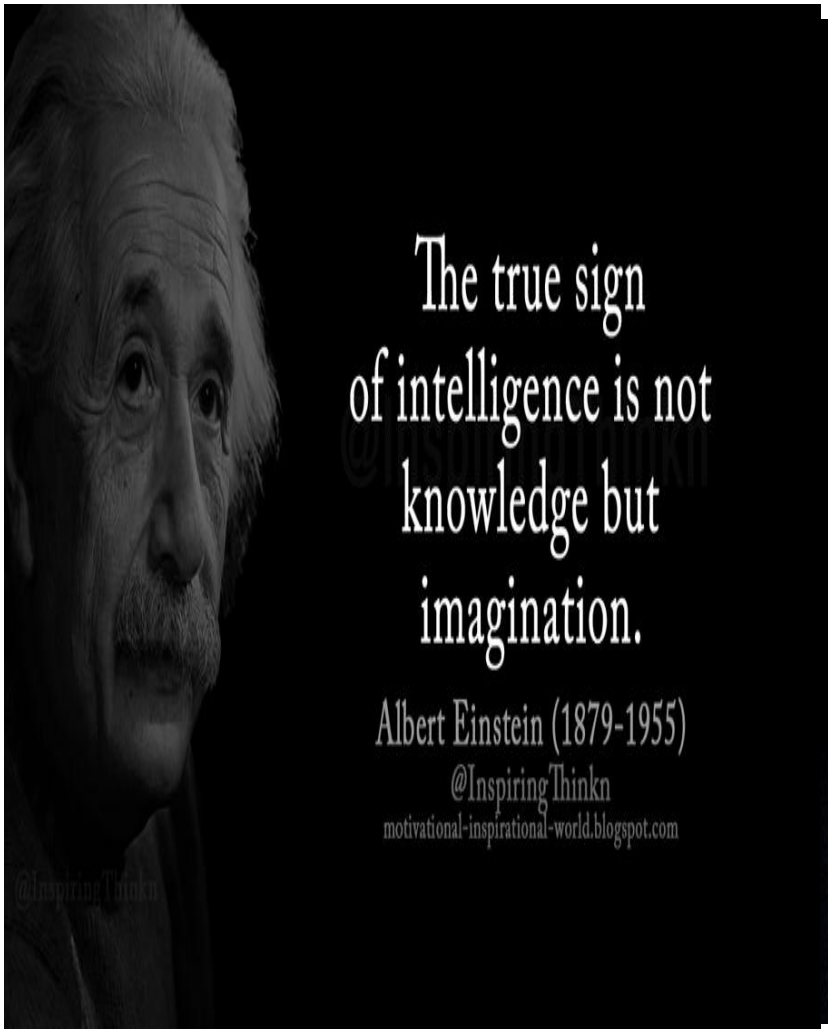
Innovation Process

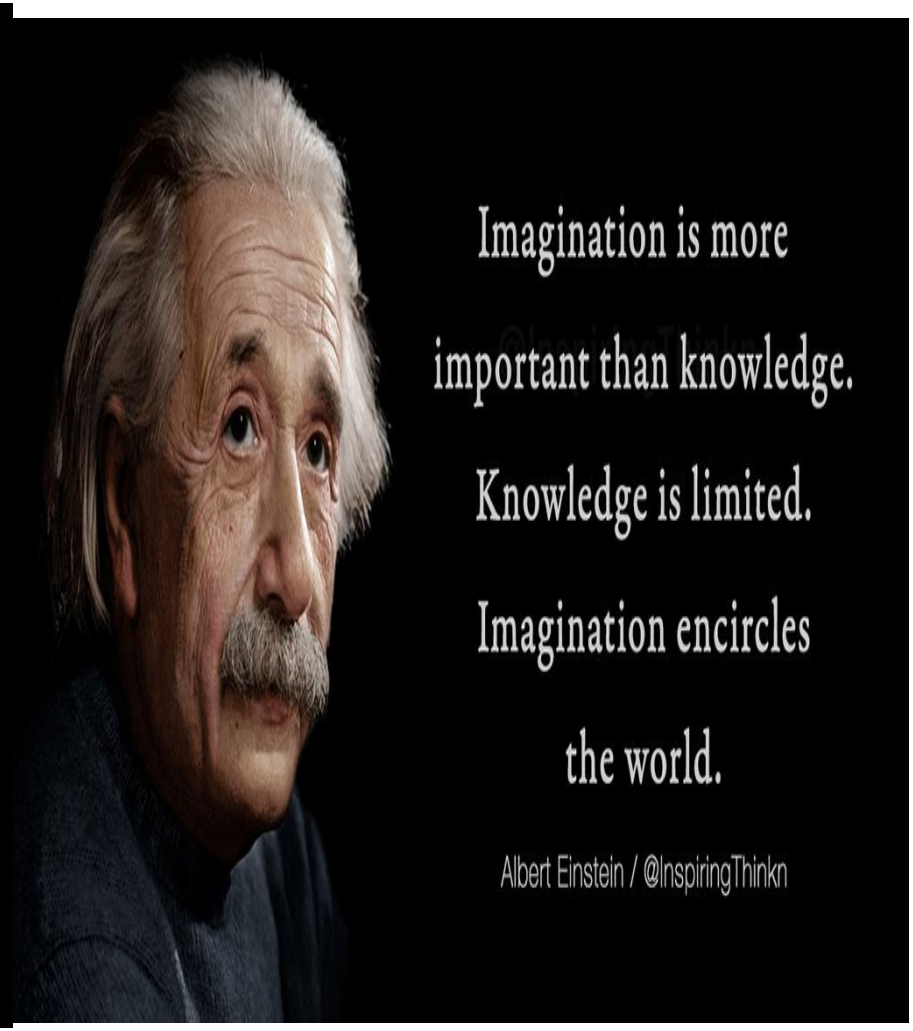
- *Market.* A business competes by selling high-tech products/services. In a marketplace, earning income-which become profits when the sales process exceed the costs of producing products/services.

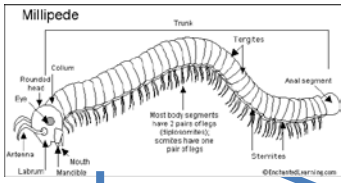
Innovation Process

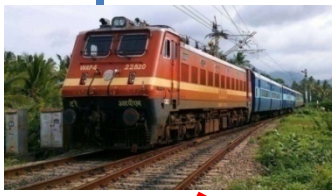
- We start with **nature** and then turn to transforming knowledge of **nature** into **economic utility.** The term **nature** is the scientific term for the entire observable world in which we exist. All technologies involve manipulating nature to create products and services useful in an economy.

Among sources, Innovation process is linked with ideation, using imagination for knowledge development from our environment


The true sign
of intelligence is not
knowledge but
imagination.
Albert Einstein (1879-1955)
@InspiringThinkn
motivational-inspirational-world.blogspot.com


Imagination is more
important than knowledge.
Knowledge is limited.
Imagination encircles
the world.
Albert Einstein / @InspiringThinkn


Millipede
Trunk
Tergites
Collum
Rounded head
Eye
Anal segment
Most body segments have 2 pairs of legs (Diplosomites); somites have one pair of legs
Antenna
Labrum
Mouth
Mandible
Sternites



Eco-psychology Theory

Ecopsychology studies the relationship between human beings and the natural world through ecological and psychological principles. Theodore Roszak is credited with coining the term in his 1992 book, *The Voice of the Earth*.

The field seeks to develop and understand ways of expanding the emotional connection between individuals and the natural world, thereby assisting individuals with developing sustainable lifestyles and remedying alienation from nature.

- Eco-psychology is founded on three main insights
- 1. Human and nature have a deeply bonded relationship
- 2. When humans and nature become disassociated with each other, the result is suffering for both the environment and people
- 3. Recognizing the relationship between people and nature will lead to healing of both

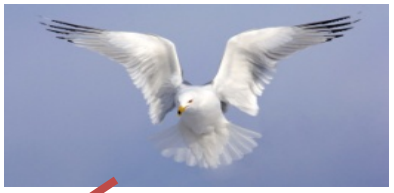
By Davis

Echo-psychology

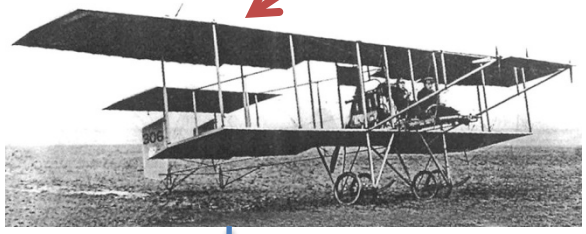
Eco-psychology

Nature + Imagination=Manipulation

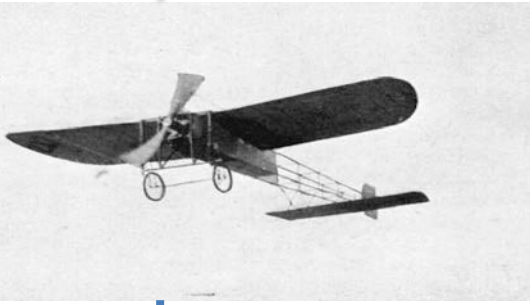
- How do we reciprocate nature with Imagination?



1903



1913



Product and Service industry (Transportation Sector)

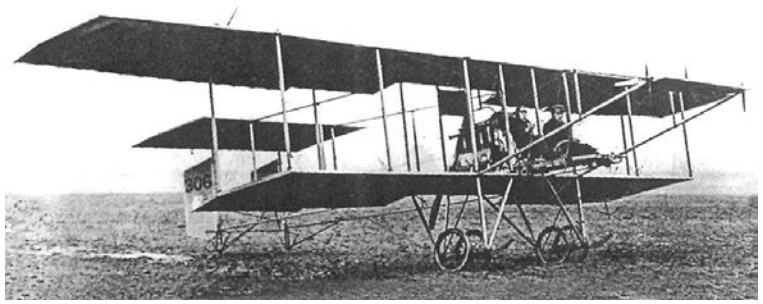
- Discuss how product and service industry contributed to economic development in terms of innovation and entrepreneurship

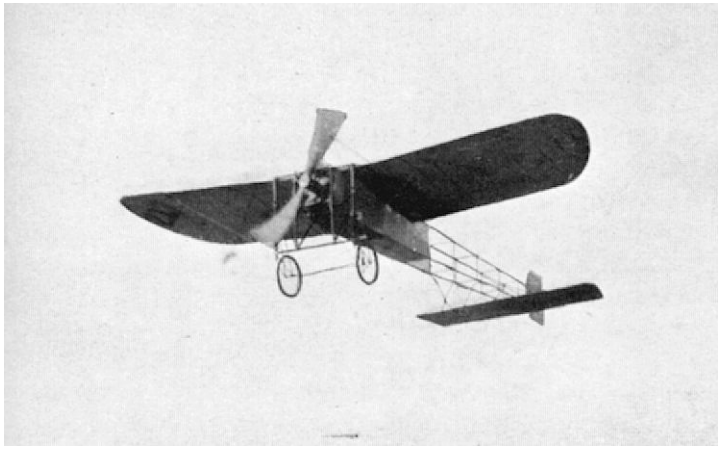
Hint: Science, Investment

Science Manipulate Nature

creation

- Invention



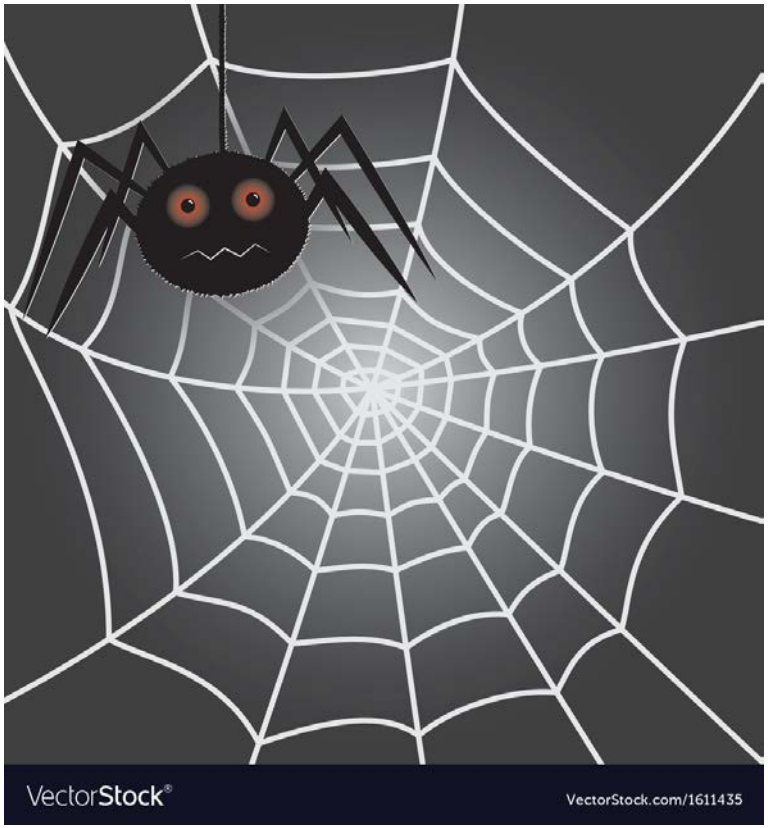


Value addition from Creation

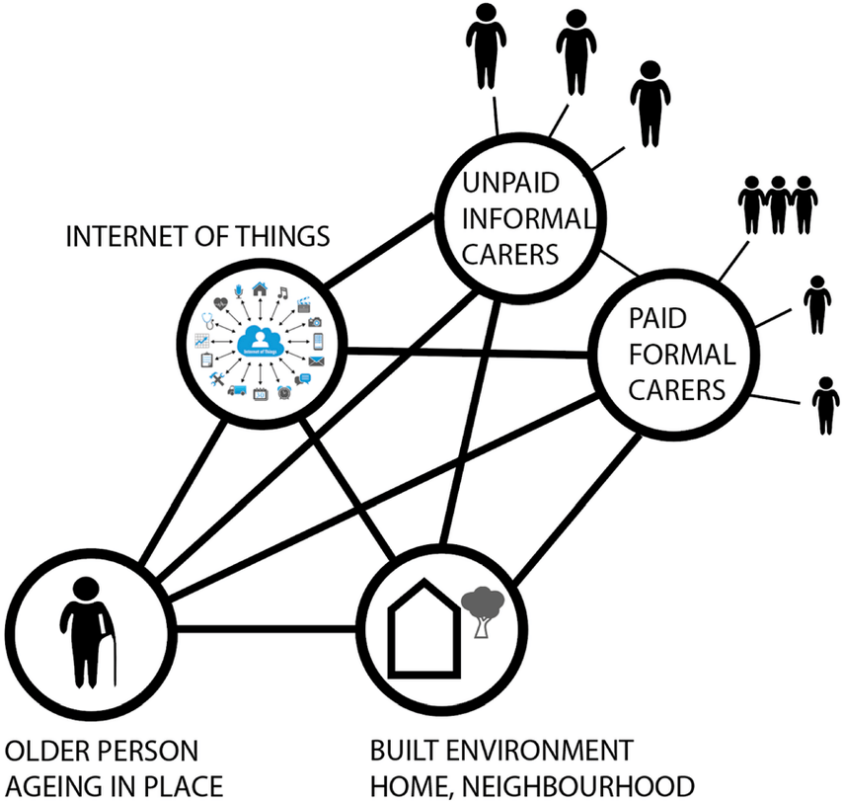
- Innovation

Science Manipulate nature (Communication Industry)

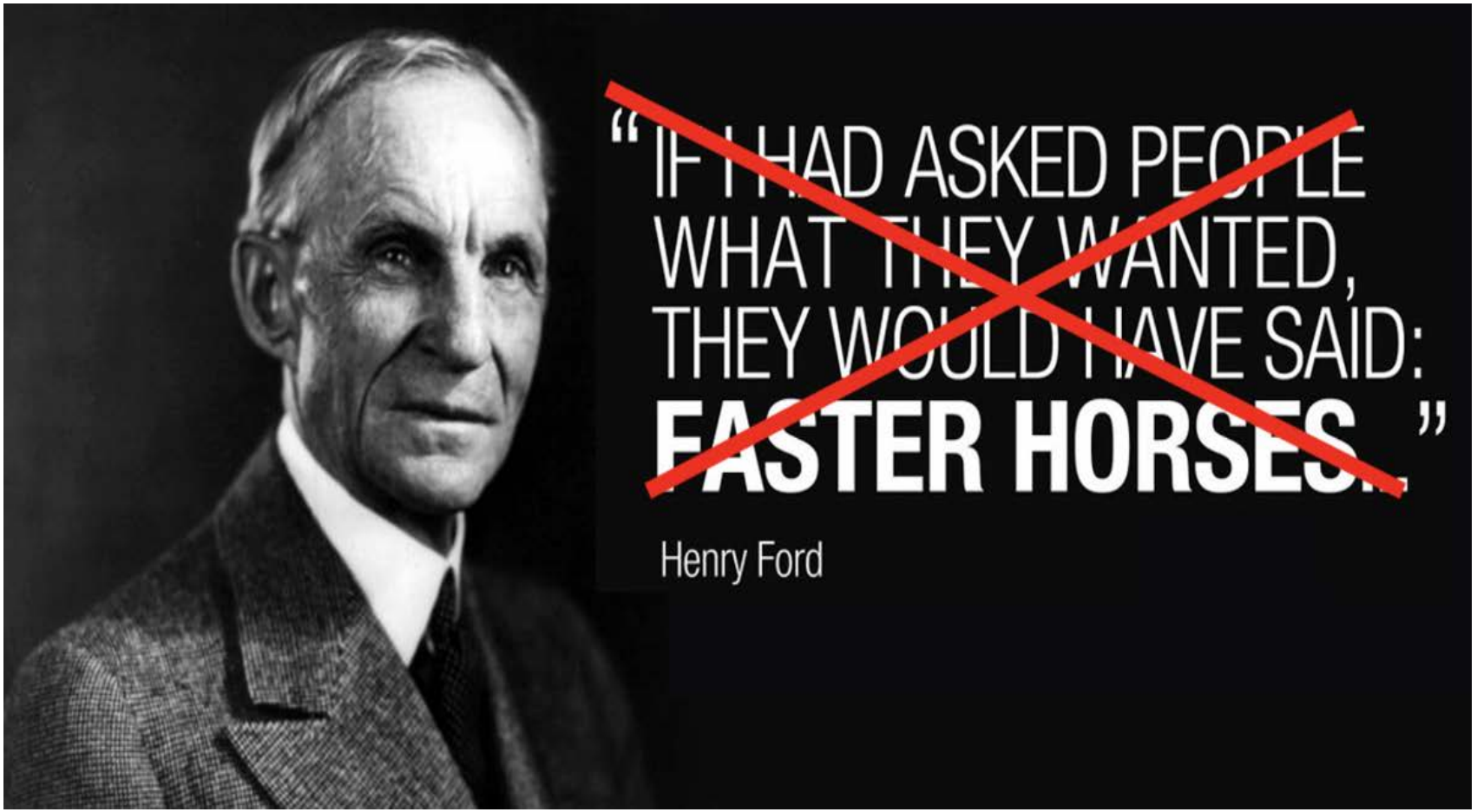
Cob Web



Digital Science



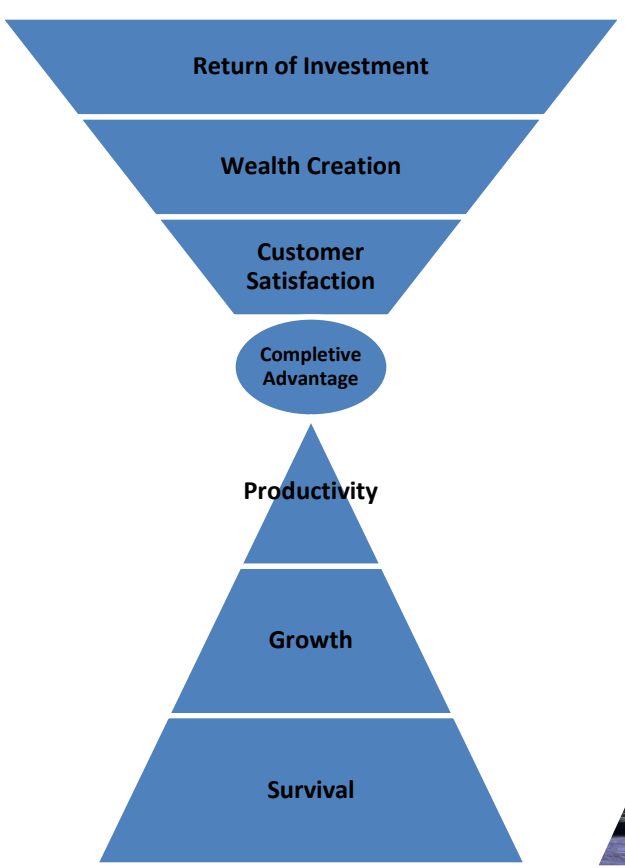
Henry Ford

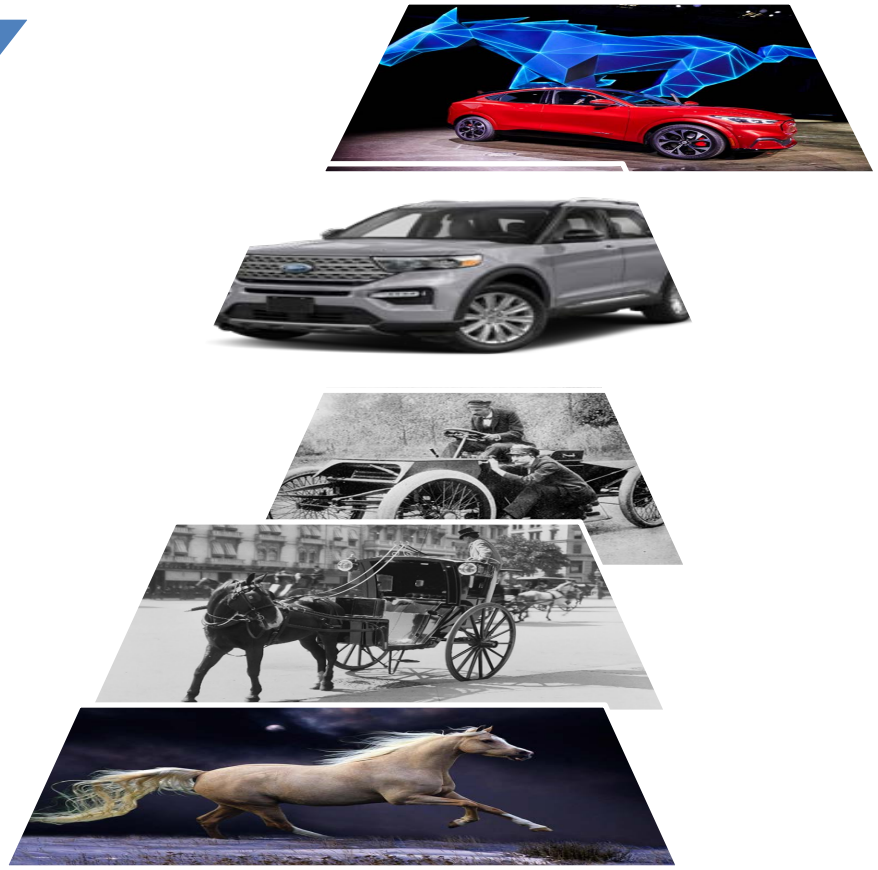

"IF I HAD ASKED PEOPLE
WHAT THEY WANTED,
THEY WOULD HAVE SAID:
FASTER HORSES."
Henry Ford

Primitive to Civilization

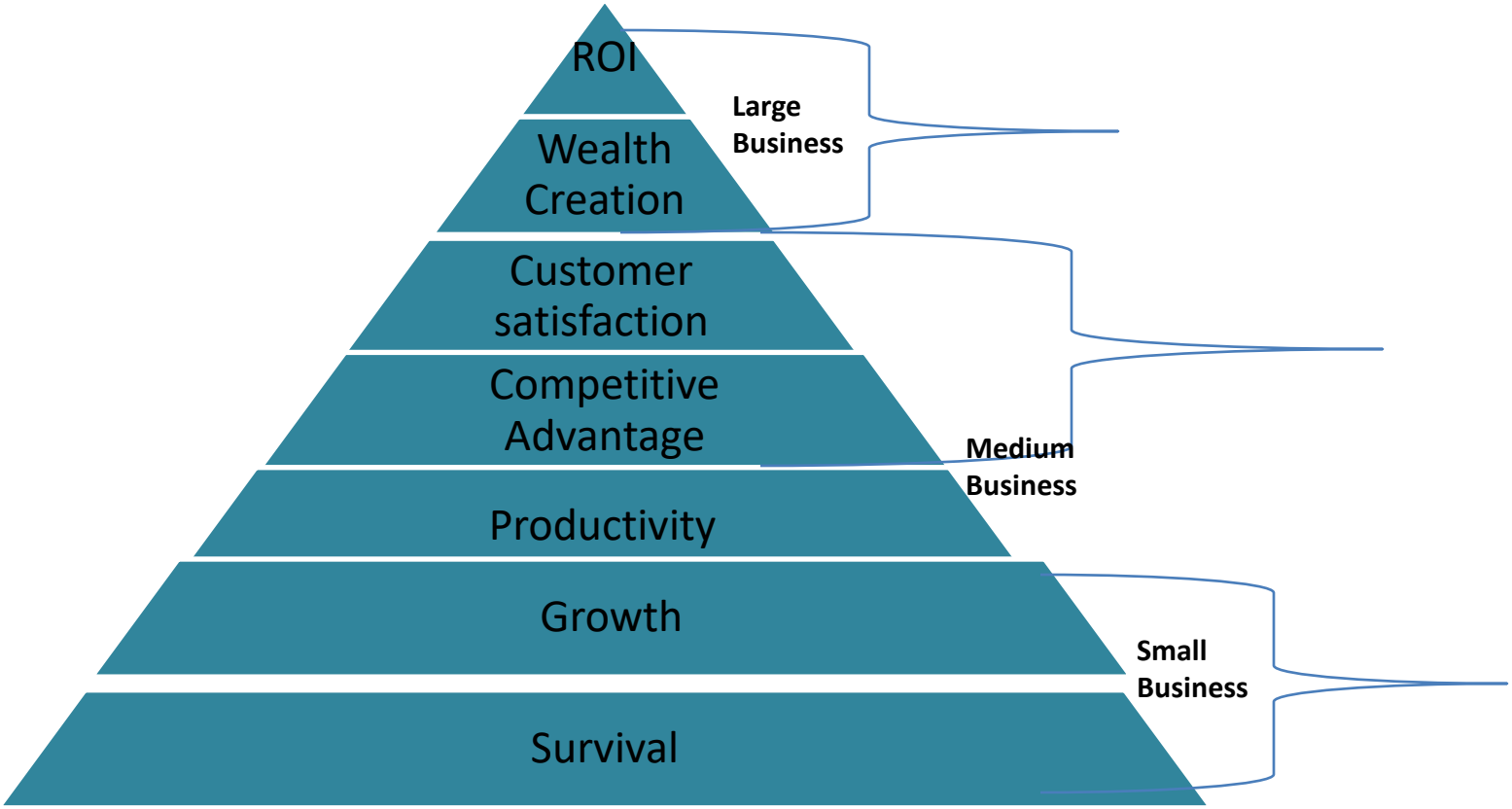
Ford
Go Further

Evolvement of Start-up





Evolvement of Small Business



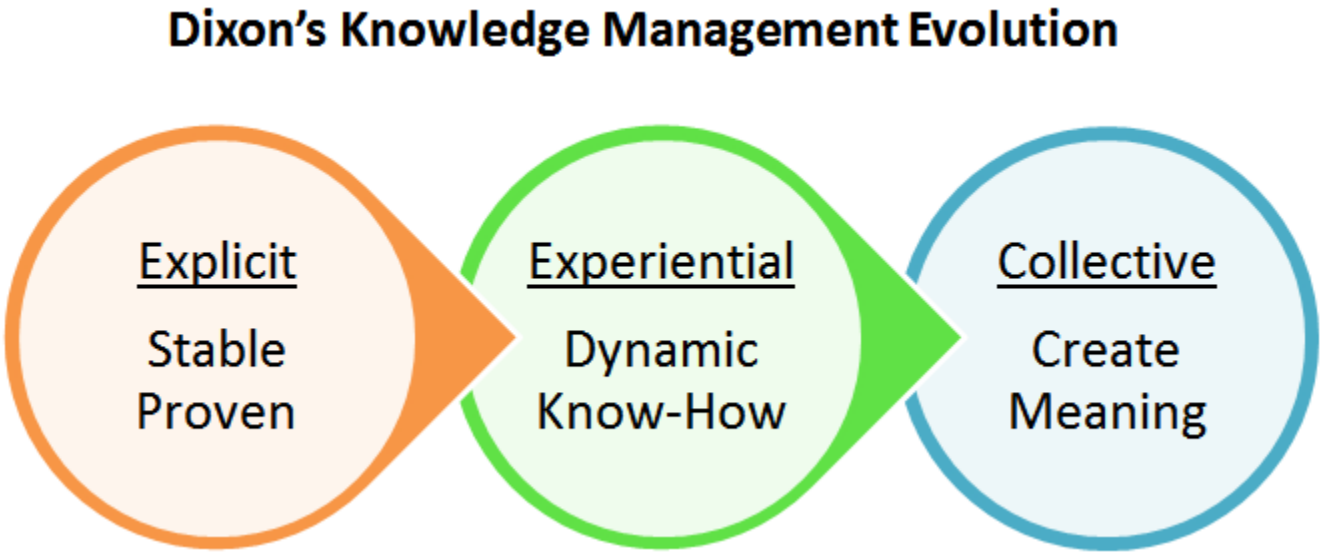
Asses type of knowledge used for Innovation and Entrepreneurship Development

Discuss Tacit and Explicit knowledge

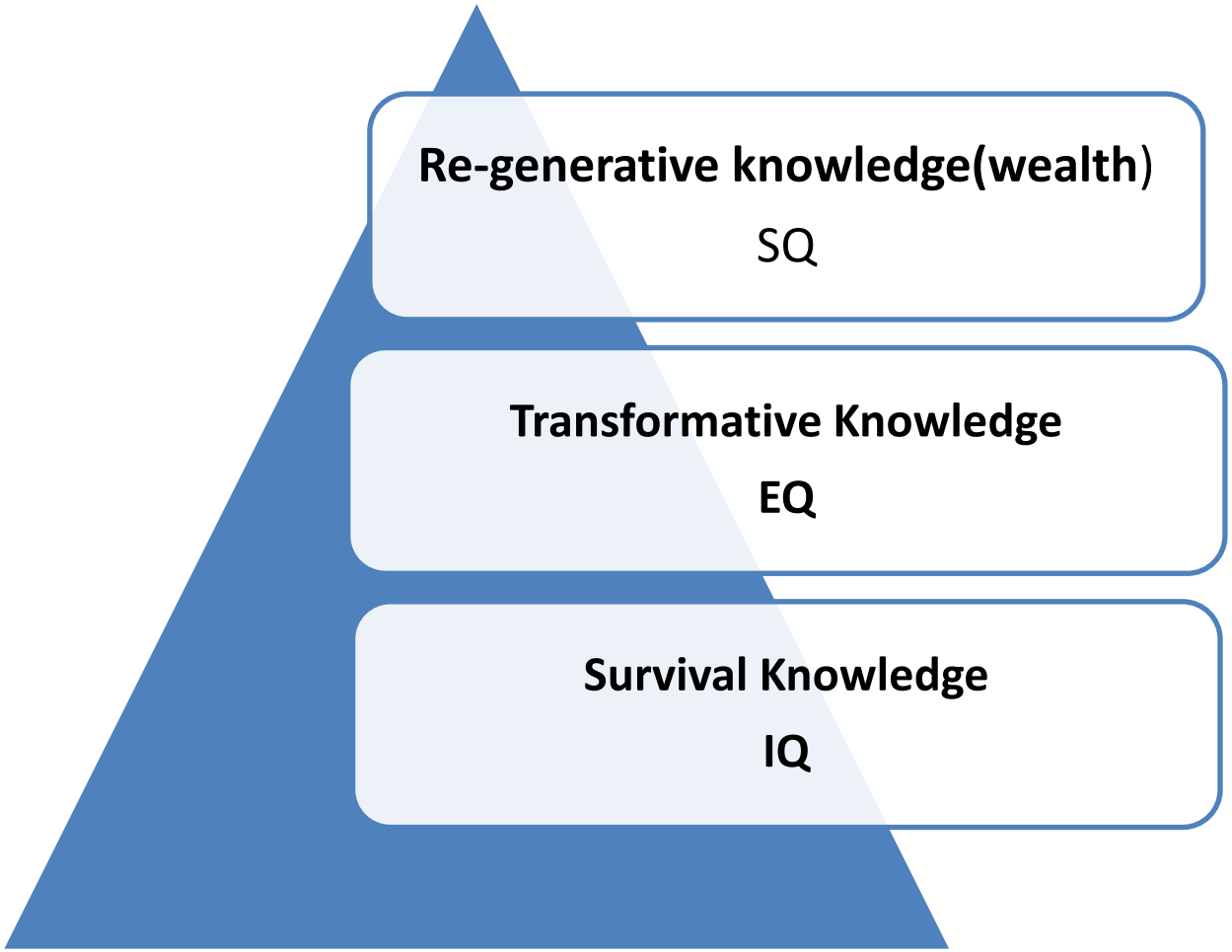
KNOWLEDGE MANAGEMENT

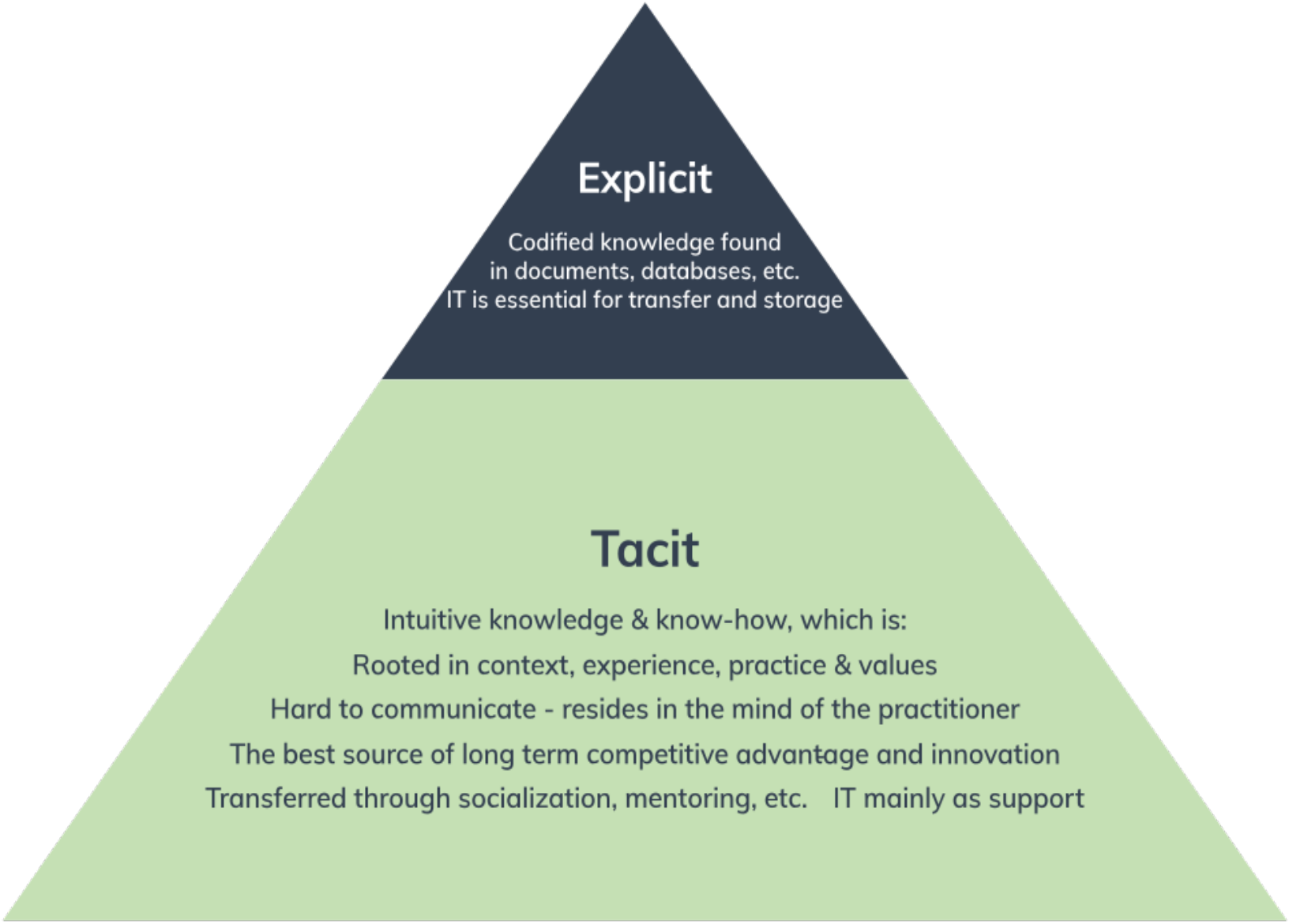
- **Knowledge management** (**KM**) is the process of creating, sharing, using and managing the knowledge and information of an organization/entity. It refers to a multidisciplinary approach to achieve organizational objectives by making the best use of knowledge.

Knowledge Management Evolution



Knowledge


Re-generative knowledge(wealth)
SQ
Transformative Knowledge
EQ
Survival Knowledge
IQ


Explicit
Codified knowledge found
in documents, databases, etc.
IT is essential for transfer and storage
Tacit
Intuitive knowledge & know-how, which is:
Rooted in context, experience, practice & values
Hard to communicate - resides in the mind of the practitioner
The best source of long term competitive advantage and innovation
Transferred through socialization, mentoring, etc. IT mainly as support