Strategies for Adoption of Innovation

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- Creativity, invention, innovation
- Types of innovation
- Evaluating innovation
- Diffusion of innovation
- Innovation decision process
- Adoptions of innovations
- Opinion leaders and change agents

What apps that you're using the most? Why?

Write down your comments on the chat box.

New Products in the Market

- Every year around 5000 new products appear in the market. However, most fail and only a few remain (around 20%) – products which are innovative.

CREATIVITY

The act of turning new and imaginative ideas into reality.

INVENTION

Creation of a new idea or concept

INNOVATION

Turning a new concept into commercial success or widespread use

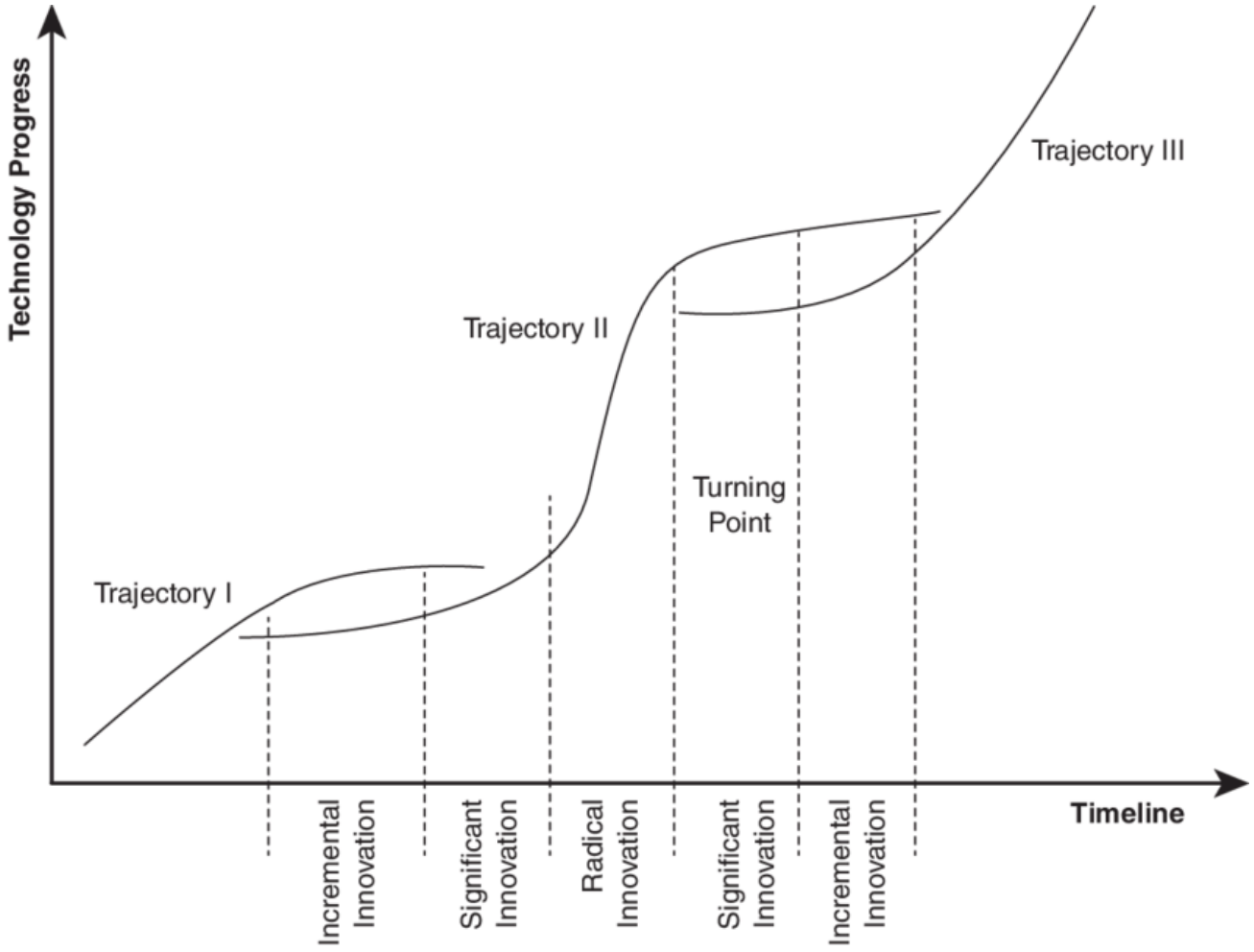
Source: https://innoway.me | @innoway_me

Types of Innovation

- **Continuous innovation**
  - The modification of an existing product rather than the establishment of a new product or product category
  - Modification may be in the taste, appearance, performance, or reliability of the product
- **Discontinuous innovation**
  - Involves the introduction of an entirely new product that significantly alters consumers' behavior patterns and lifestyles

Types of Innovation

- **Incremental innovation**
  - Innovation processes that seek to improve existing systems and products to make them better, cheaper or faster.
- **Radical innovations**
  - Innovation that are focused on developing revolutionary new technologies, markets, and business models that change the world.

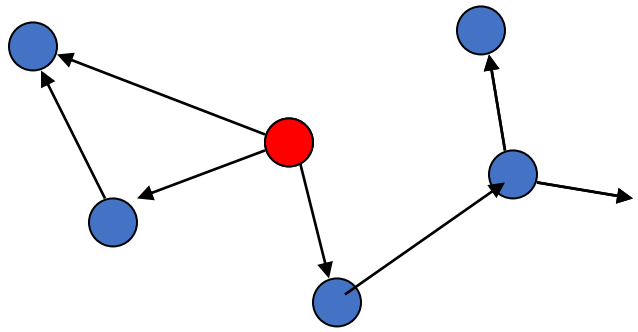


Evaluating Innovation

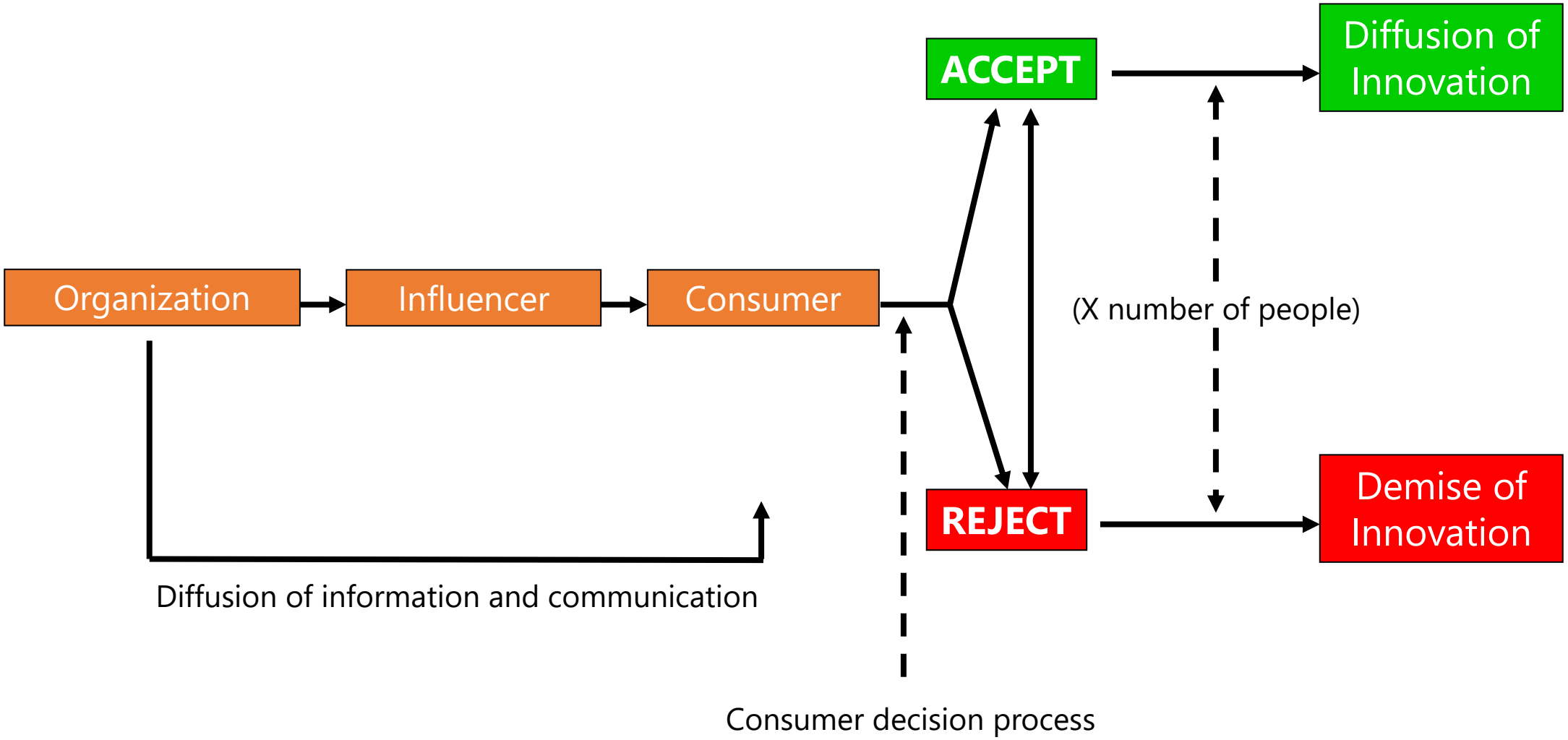
- **Relative Advantage**
  - The degree to which consumers may perceive the innovation to offer substantially greater benefits than the product currently used
- **Compatibility**
  - The degree to which a new product is consistent with an individual's existing practices, values, needs, and past experiences of the potential adopter
- **Complexity**
  - The degree to which an innovation is perceived as difficult to understand and use
  - The more complex, the more difficult it may be to be accepted – complexity is a deterrent of trying new technology
- **Trialability**
  - New products are more likely to be accepted if experimenting or using the product is made easy
- **Observability**
  - The degree to which results from using a new product are visible to friends and neighbors

Diffusion of Innovation

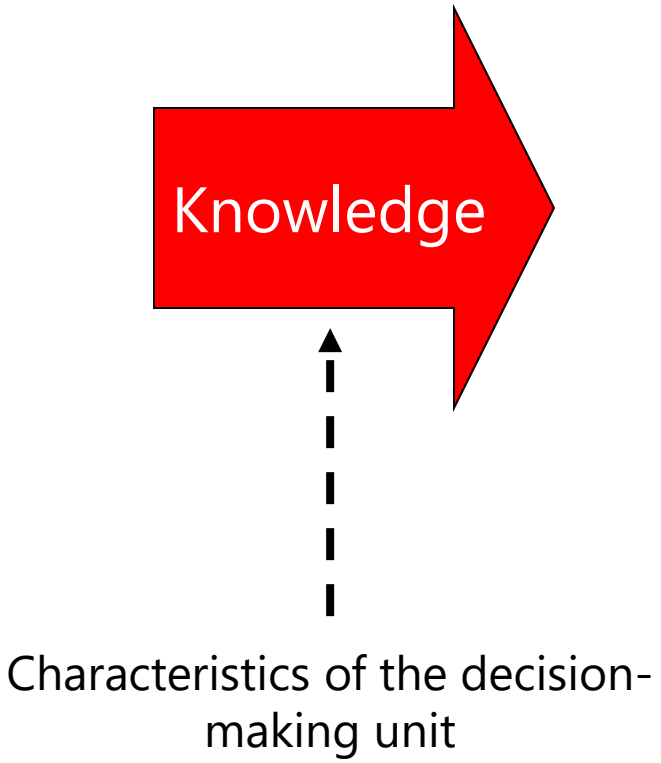
- Diffusion is the process in which an **innovation** is **communicated** through certain channels over **time** among the members of a **social system**.
- Factors affecting diffusion of innovation:
  - **Innovation** (new products/technologies)
  - **Communication** (how consumers learn about innovation)
  - **Time** (how long it takes for a person to move from product awareness to purchase or rejection)
  - **Social system** (the groups or segments to which individuals belong)



Diffusion Process



Innovation Decision Process



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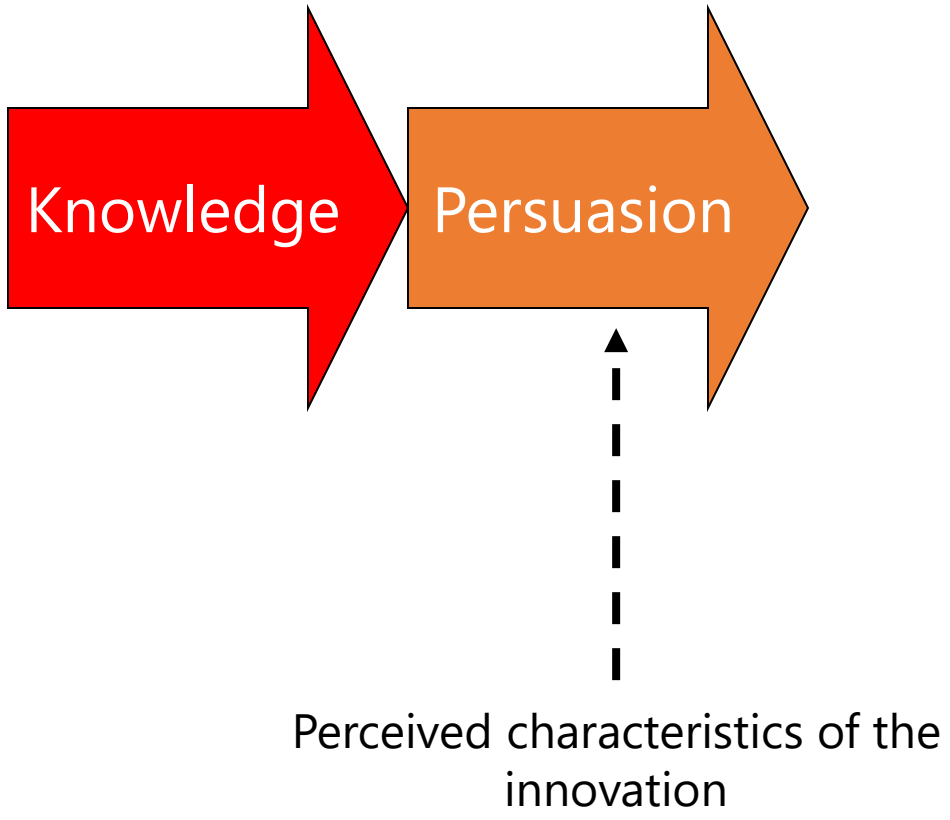

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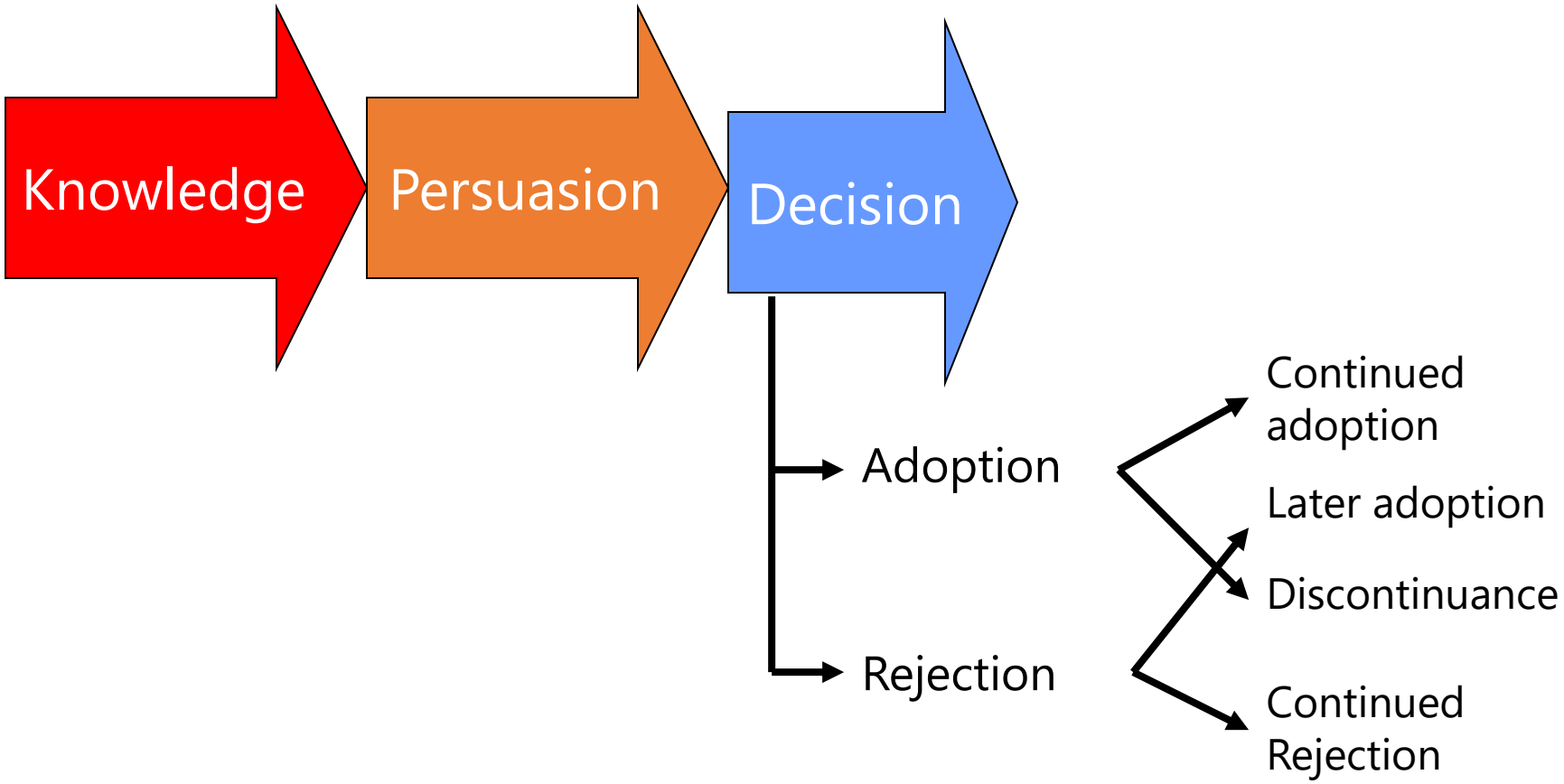

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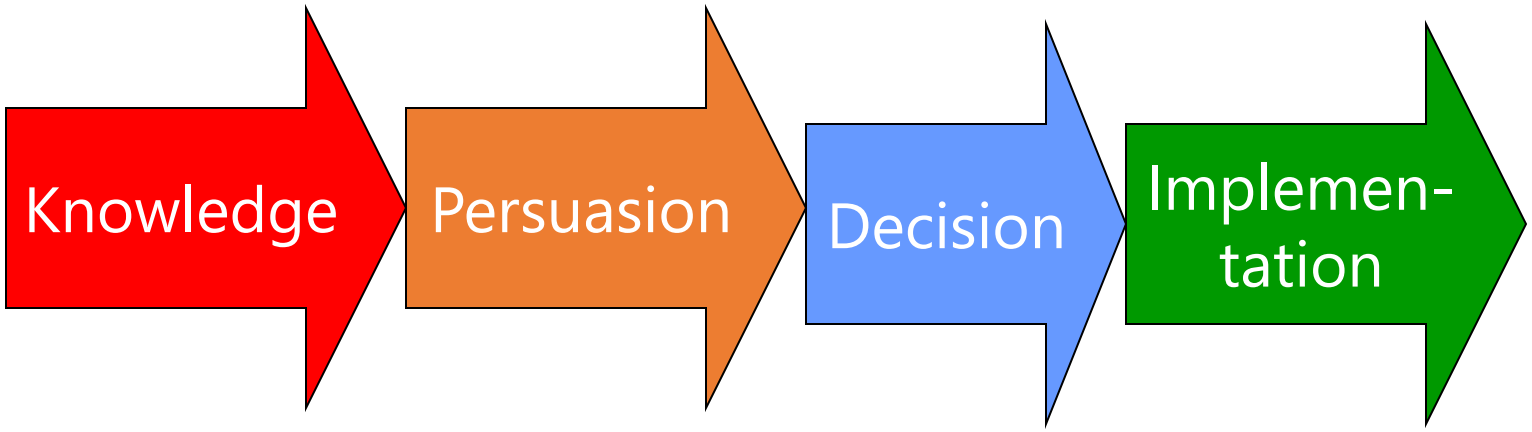

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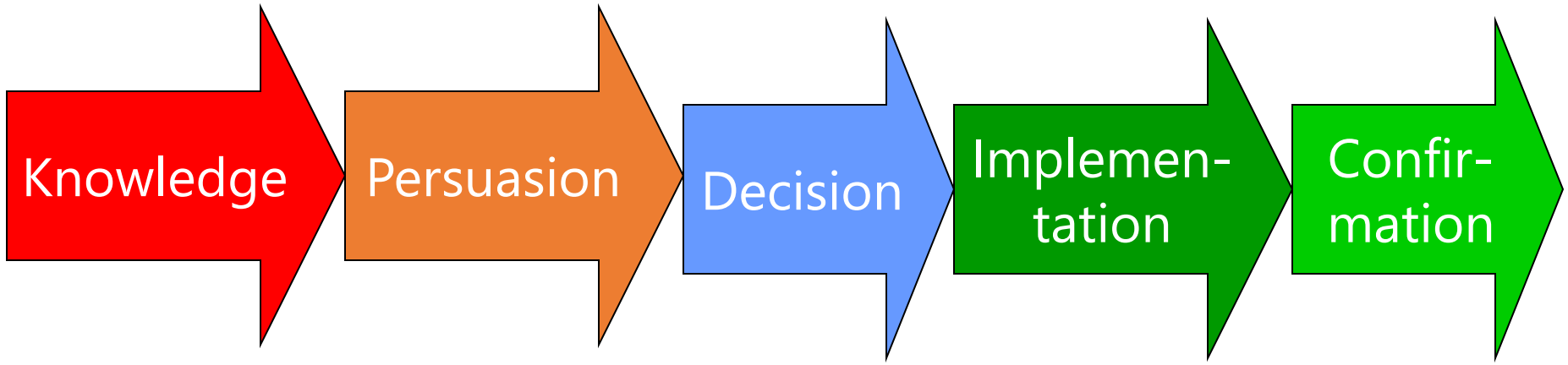

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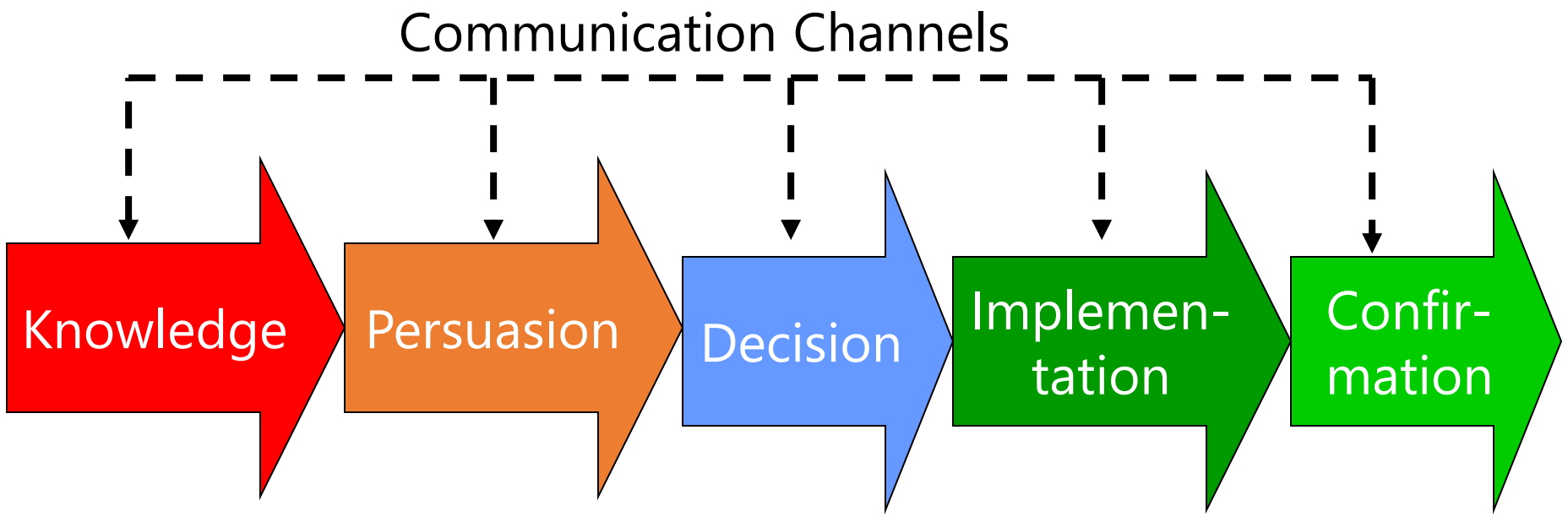


Source: Rogers (1983). *Diffusion of Innovation*, 3rd Edition (New York; The Free Press)

Increasing Returns of Adoption

Learning by using

Increase in benefits technology brings as adopters gain experience and knowledge

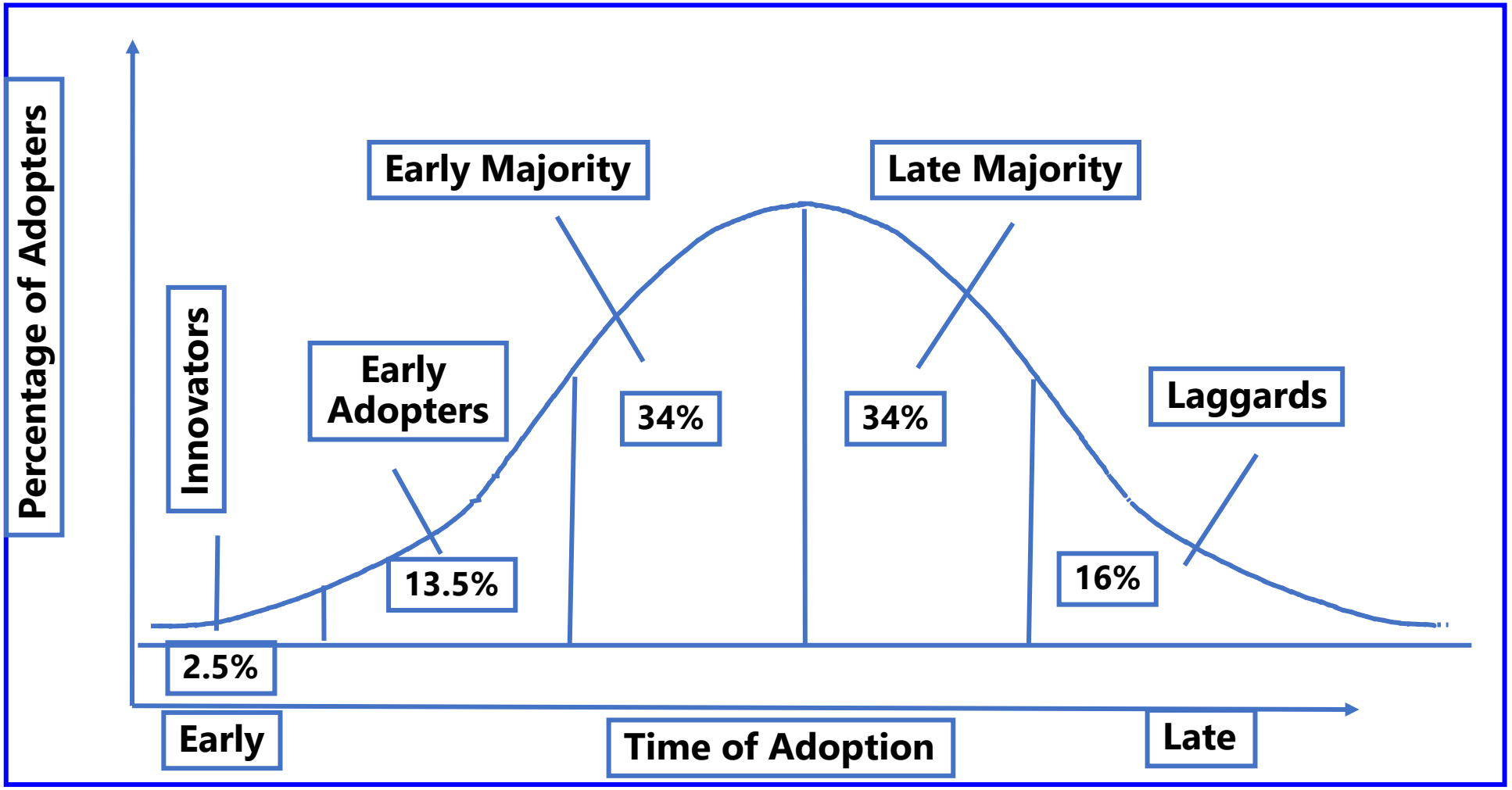
Positive network externalities

Greater the number of users, greater the benefit

Technological interrelatedness

Existence of compatible products that will increase larger base of adopters

Adoptions of Innovations



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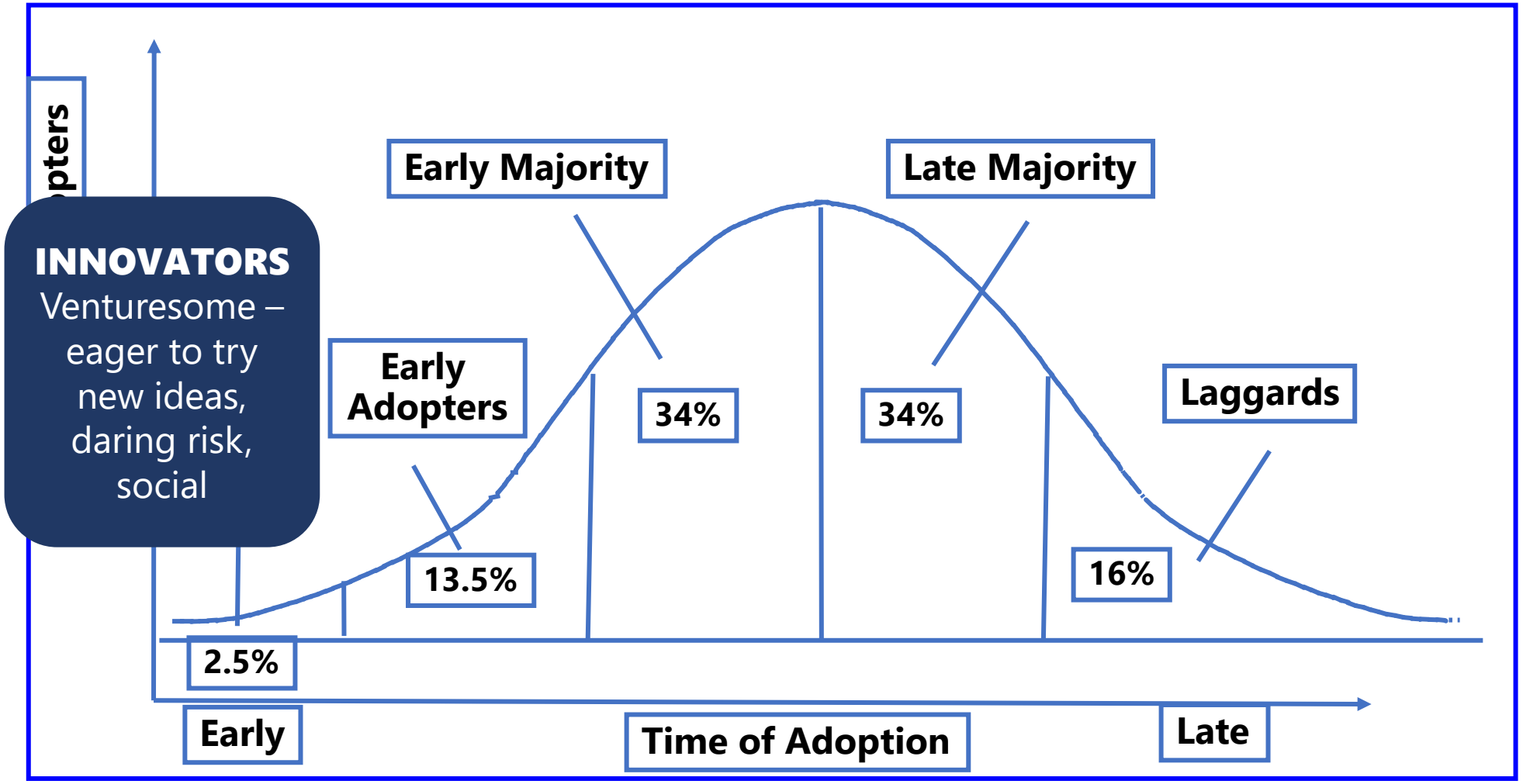

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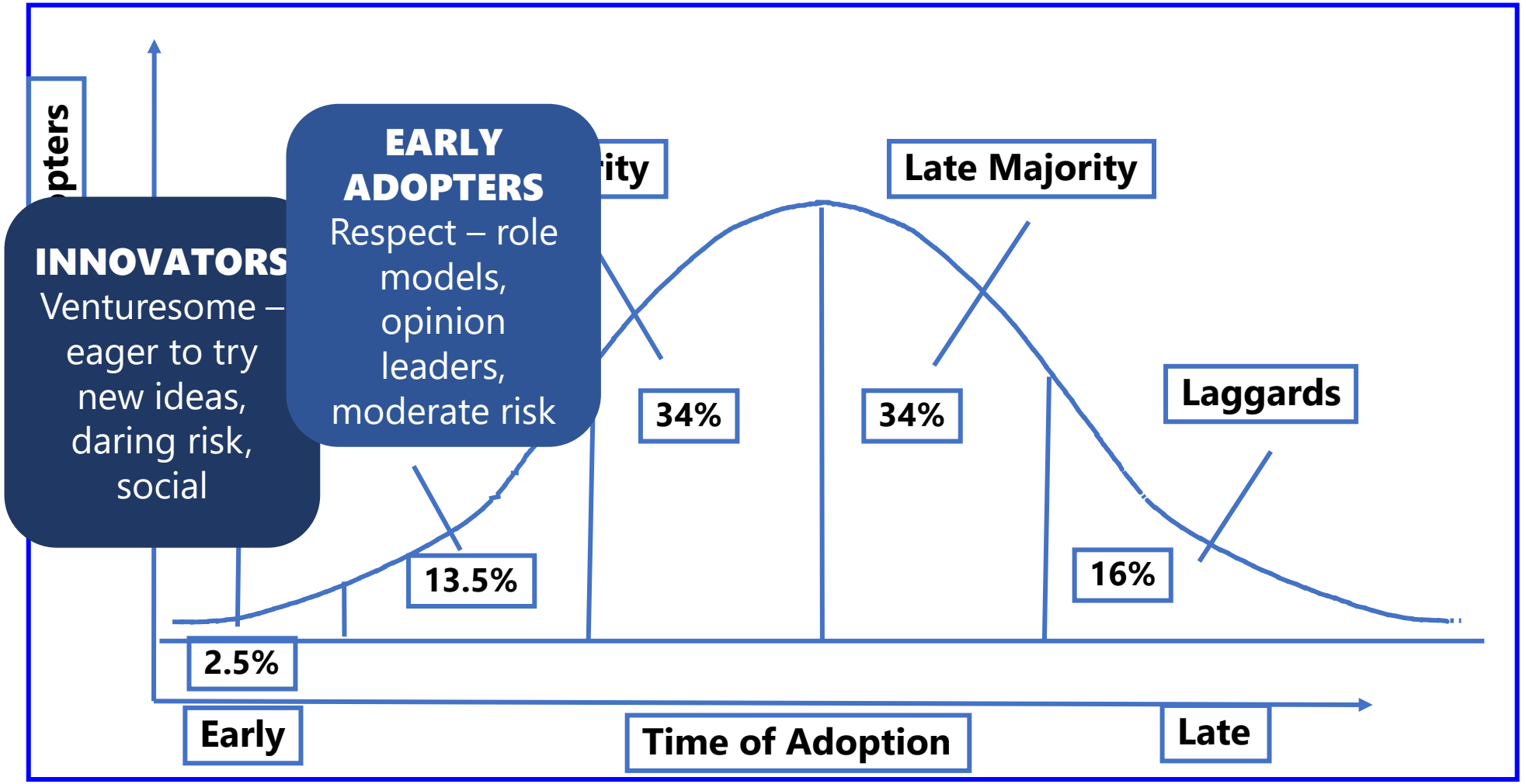

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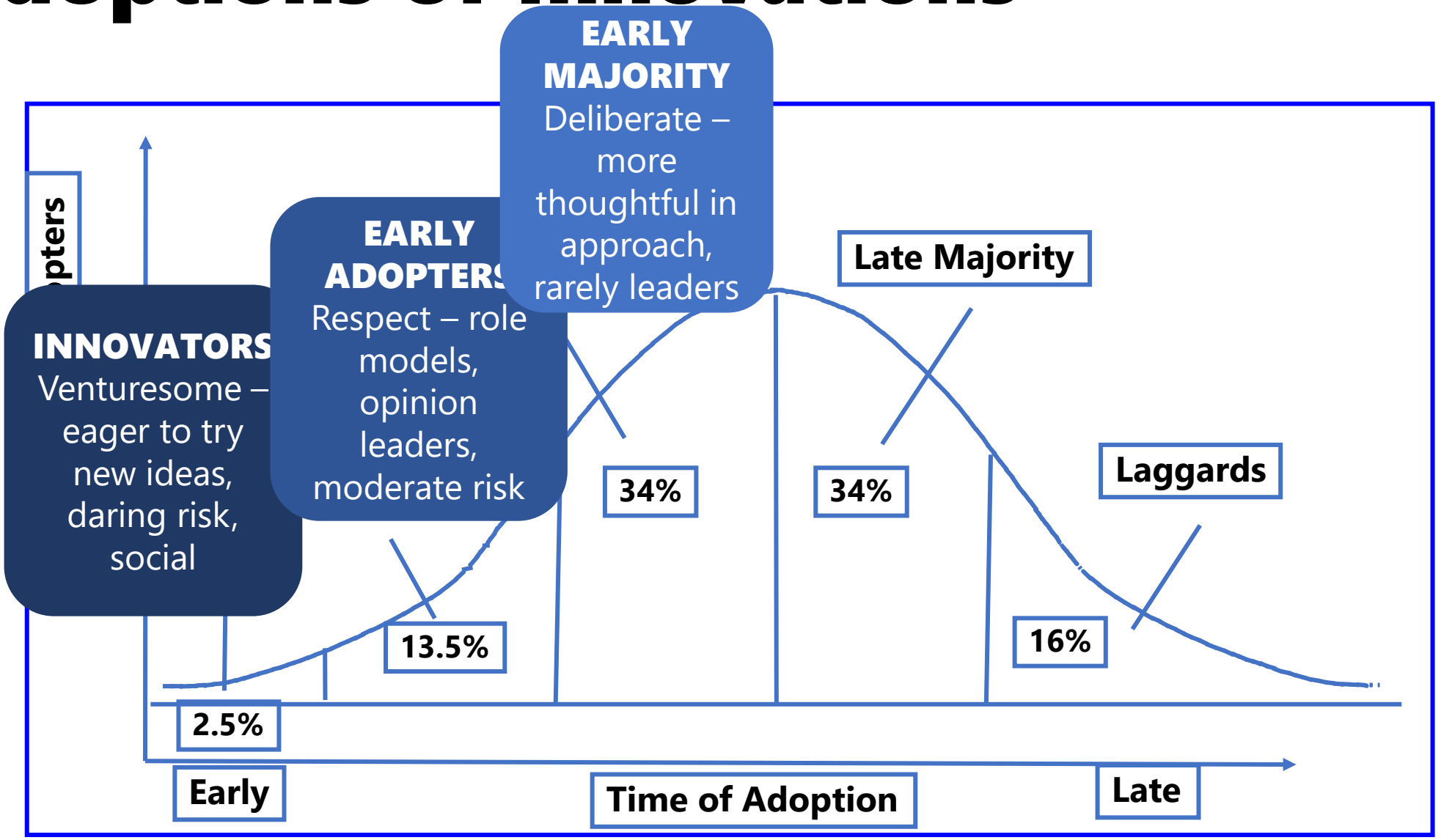

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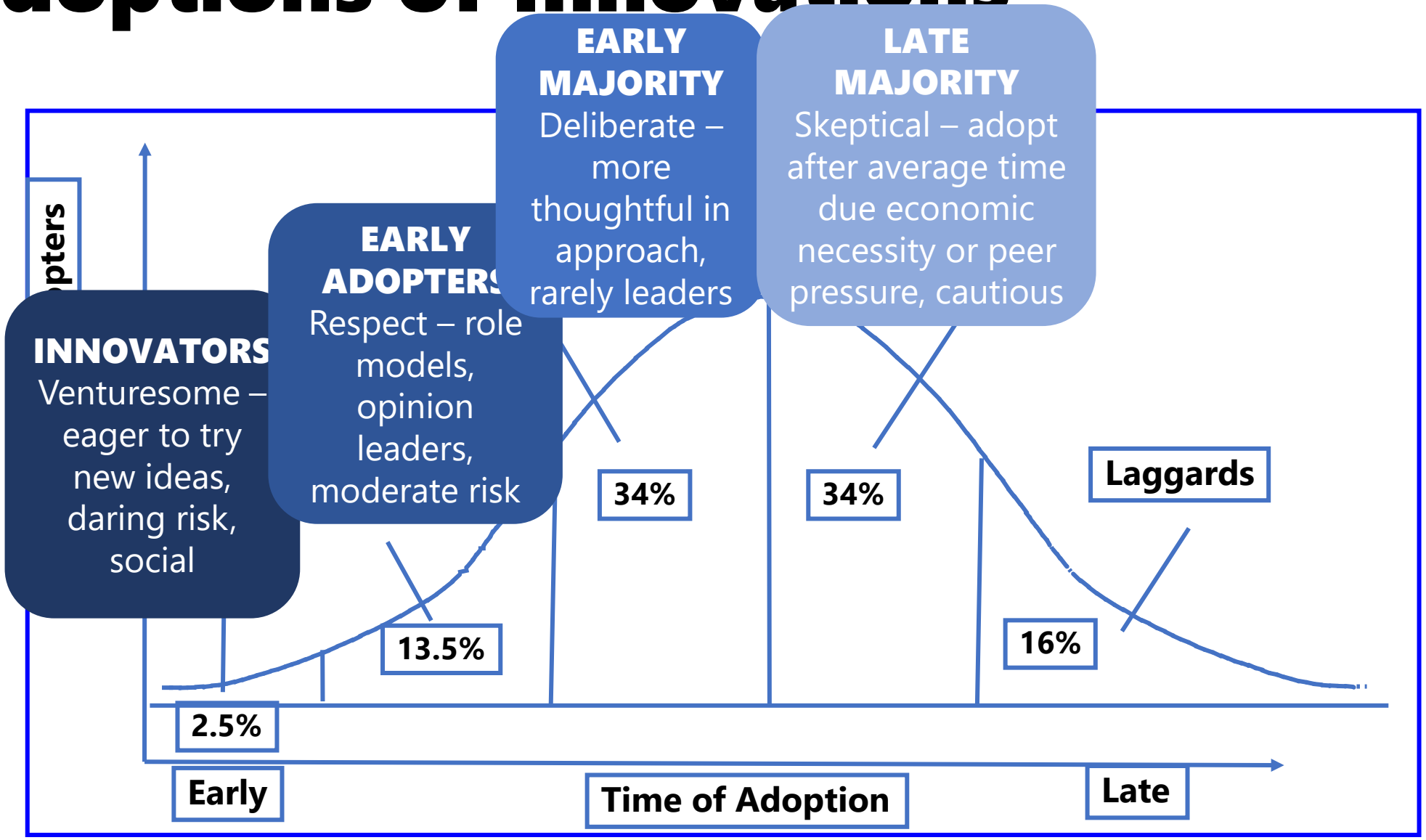

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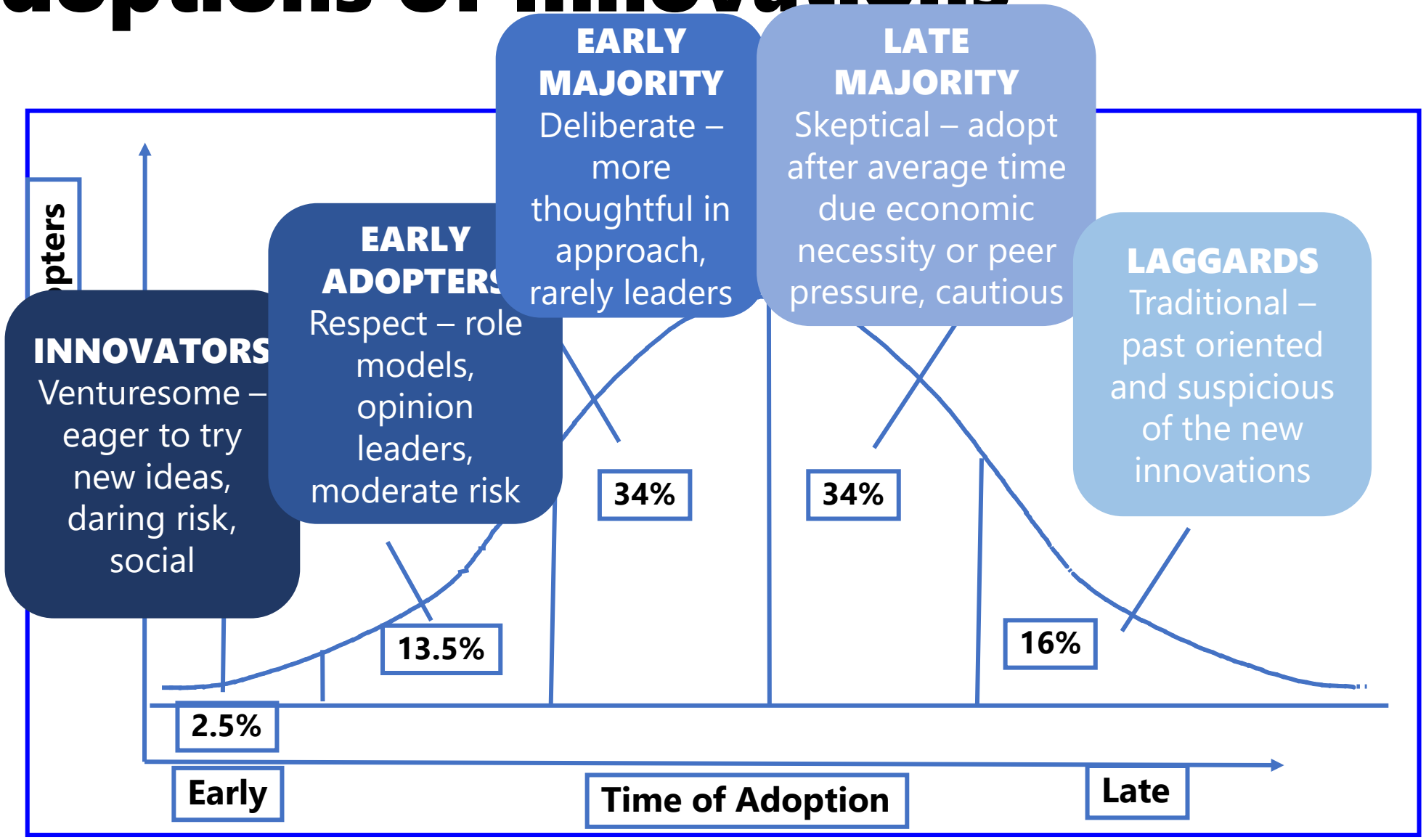


Opinion Leaders

- **Homophily**: degree to which pairs who interact are similar in certain attributes such as beliefs, values, education or social status.
- **Heterogeneity**: degree to which pairs of individuals who interact are different in certain attributes (the mirror opposite of homophily).
- Personal contacts were more influential than mass media in influencing the study, also relative to group they belong. But in some cases, mass media fills interpersonal needs.

Change Agent

- A **professional person** who attempts to influence adoption decisions in a direction that he or she feels desirable.
- Often change agent will use **local opinion leaders** to assist in diffusing an innovation to prevent the adoption of what may be seen as harmful innovation.
- However, when gate keeper is a commercial change agent, his/her integrity is questioned by the people s/he seeks to change.

Rational Efficiency vs. Fad Theories

- Abrahamson & Rosenkopf (1990): Bandwagons & Thresholds
- **Rational Efficiency**: The more organizations adopt an innovation, the more knowledge about the innovation's true efficiency is disseminated
- **Fad theories**: The sheer number of adopters creates "bandwagon pressures"
  - **Institutional pressures**: Adoption of innovation can become a social norm
  - **Competitive pressures**: Fear that not adopting will lead to loss of competitive advantage

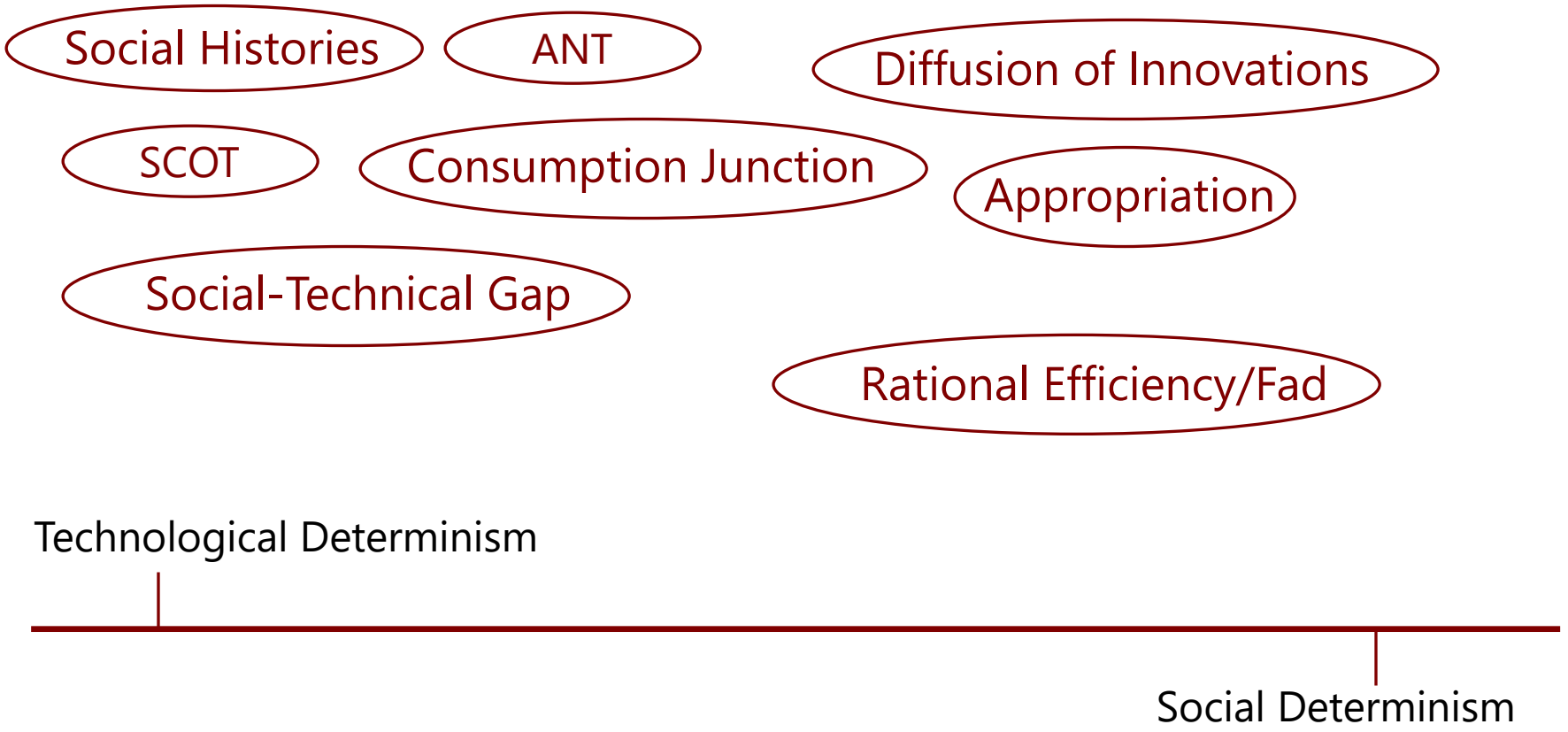
Social Network Thresholds

- Valente (1996)
- **Personal network thresholds**: number of members within personal network that must have adopted before one will adopt
- Accounts for some variation in overall adoption time
- "**Opinion leaders**" have lower thresholds and influence individuals with higher thresholds

Social Learning or Social Cognitive Theory

- Bandura (1977)
- The first theory to introduce the notion of **self-efficacy**
- Theory is based on the belief that behavior is determined by expectancies and incentives
- Behavior is influenced by **expectancies** about:
  - environmental cues (i.e. beliefs about how events are linked and what leads to what)
  - consequences of one's actions (i.e. how behavior is likely to influence outcomes)
  - competency to perform the behavior needed to influence outcomes (i.e. self-efficacy)

The "Social-Technical Continuum"



Key Takeaways

- Invention is one thing, but **innovation** is a **very different thing**.
- It is important to understand **communication channels** to appreciate how do people get information and become aware of new technologies/innovation.
- We need to identify **characteristics** of **potential adopters** and who is **promoting** the technology.
- We need to acknowledge the role of **social aspects** in diffusion and adoption of innovation.

Where to Go from Here?

- Schumpeter (1934, 1939, 1942)
  - Importance of innovation in economic development
  - Role of entrepreneurs and organized industrial R&D
- Management
  - Woodward (1958) – relationship between organizational structure and performance, and influence of technology
  - Abernathy & Utterback (1975) – dynamic model of innovation
- Organizational studies
  - Burns & Stalker (1961), Zaltman et al. (1973) – relationship between innovation and different forms of organization
  - Tushman (1977) – boundary roles in innovation process
  - Cyert & March (1963) – successful organizations possess spare resources that can channel towards innovative activity
- Innovation and evolutionary economics
  - Nelson & Winter (1977) – in search of a useful theory of innovation
  - Nelson & Winter (1982) – *An Evolutionary Theory of Economic Change*
- Technology, innovation, and growth
  - Rosenberg (1982) – opened 'black box' of technology
  - Abramowitz (1986) – role of technology in catching up

Where to Go from Here?

- Resource-based view of the firm (RBV)
  - Emerged from work at interface of organizational studies (e.g. Wernerfelt, 1984; Grant, 1991, 1996), built on earlier classics (e.g. Coase, 1937; Penrose, 1959)
  - Winter (1987) – knowledge and competence as strategic assets
  - Cohen & Levinthal (1980, 1990) – two faces of R&D, absorptive capacity
  - Kogut & Zander (1992), Leonard-Barton (1992) (core rigidities), Teece et al. (1997) (dynamic capabilities)
- Innovation management
  - Damanpour (1991) – determinants of organizational innovation, Henderson & Clark (1990) – architectural innovation
  - Teece (1986) – how firms profit from innovation and why some fail to do so, Levin et al. (1987) – appropriating returns from R&D
  - Von Hippel (1986, 1988, 1994) – lead users, sources of innovation, 'sticky information'
- Co-evolution of organizations and innovation
  - Drew on new institutionalism (e.g. DiMaggio & Powell, 1983) and others (e.g. Piore & Sabel, 1984; Chandler, 1990)
  - Tushman & Anderson (1986, 1990) – technological discontinuities often introduced by new entrants, destroying competence of incumbents
  - Davis et al. (1989) – factors influencing acceptance of new technology
- Organizational learning and knowledge management
  - Hayes et al. (1988) – the learning organization, Levinthal & March (1993) – 3 forms of learning 'myopia'
  - Brown & Duguid (1991) – related organizational learning to communities of practice
  - Nonaka (1991, 1994, 1995 + Takeuchi) – organizational knowledge creation
  - Leonard-Barton (1995) – firm success in innovation depends on ability to develop and manage knowledge

Thank You

Take care and have a nice day