TECHNOLOGY TRANSFORMATION AND ADOPTION

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Adoption

When you present something new to customers or a group of people, they will either "**Adopt**" or "**Reject**" your innovation/idea.

Somehow, people might "**Reject**" your innovation/idea even if it is a good and effective approach.

In business, you spend a lot of time and money to develop new products. Nevertheless, it can be difficult to sell them.

Therefore, we must understand how people adopt or reject ideas.

Diffusion

When an individual adopts a new idea or innovation, it has the potential to spread throughout the community. The process is called "**diffusion**."

The diffusion can be fast or slow, and it may not be widespread.

Water boiling in a Peruvian village

The people of Los Molinas, a Peruvian village, have long suffered from illness and had to visit doctors frequently because the water supply was unclean.

Nelinda, a representative of the public health service in Peru (will be referred to as a "change agent"), tried to persuade housewives in the village to boil water before consuming.

In the community, there is a norm that:

- Sick people should not eat anything that is too hot or too cold. (They don't know about bacteria or disease.)
- Only sick people will drink boiled water (because it eliminates the "too cold" property from raw water).
- Healthy people only boil water if they want to add flavor (such as brewing tea).
- If healthy people boil water before drinking, others might think they are sick or act out of the box.

Mrs. C, the Rejector

She adheres to the community norm that only sick people will boil water before drinking. She is not sick, so she deny to do so.

Mrs. B, the Persuaded Adopter

- She moved from the outside where this norm does not exist.
- She cannot have more than a marginal social acceptance as she is considered an outsider.
- She can try a new approach without the risk of losing her social acceptance.
- Nelida is a friendly authority, unlike other government agents who did not act anything useful.

Mrs. A, the Custom-oriented Adopter

- She is sick.
- She boils water following the norm.
- She knows nothing about bacteria.
- The adoption happens by chance.

You can see that "norm" is the key attribute that caused diffusion to fail in this case.

- Mrs. C rejects the idea because she adheres to the norm that only sick people will boil water before drinking.
- Mrs. B adopt the idea because she is an outsider. There is no norm to follow for her.
- Mrs. A adopt the idea because she adheres to the norm. She is sick, so she boils water before drinking (and found that it helps with her illness).

Another reason is that the change agent is "innovation-oriented" rather than "client-oriented." She was unable to put herself in the role of the village housewives, and thus her attempts at persuasion failed to reach her clients.

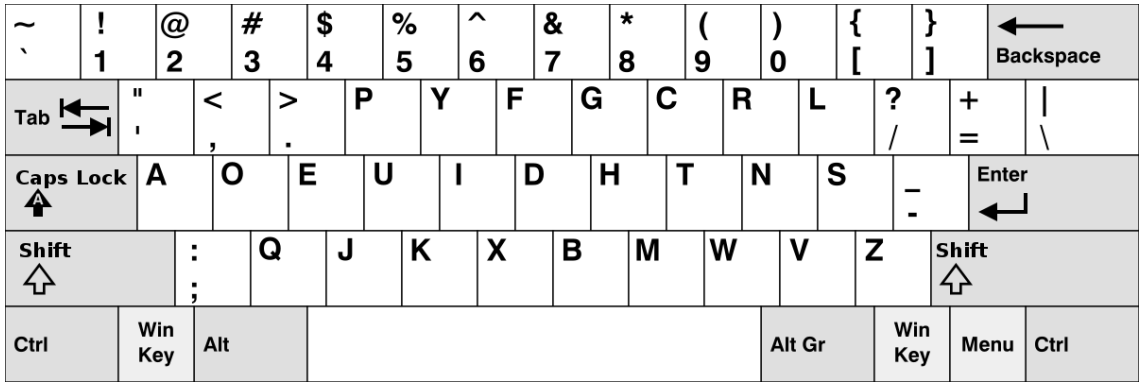
The Dvorak keyboard

QWERTY keyboard

- The name of the QWERTY keyboard comes from the first 6 letters on the top row.
- It was design to prevent jamming caused by pushing two adjacent keys (e.g., SD and TY).
- The design slows down typing.
- Even after the advent of computers, people still used QWERTY keyboards, although the keystroke problem no longer existed.

Dvorak keyboard

- Patented in 1936 by August Dvorak.
- Help people type more efficiently after intensive tests and experiments.
- The design is approved by the American National Standards Institute and the Equipment Manufacturers Association.
- People who are already familiar with the QWERTY keyboard will need a week to learn and practice using the Dvorak keyboard.
- You will see that the diffusion failed because the change takes a lot of effort.



Four main elements of the diffusion of innovation

1. The innovation itself
   - Like the boiling water method and the Dvorak keyboard.
2. The communication channel
   - Where and how the innovation is presented.
3. Time
   - The time required for the clients to adopt the innovation.
4. The social system of the client
   - The Los Molinas's norm for example.

1. Innovation

An innovation can be an idea, practice, or object that is perceived as new by an individual or other unit of adoption.

The perceived newness of the idea for the individual determines his or her reaction to it. If an idea seems new to the individual, it is an innovation.

Perceived attributes of innovation

1. Relative advantage

The degree to which an innovation is perceived to be better than other alternatives. The level of relative advantage may be measured in terms of:

- Economy (Price)
- Social prestige
- Convenience
- Satisfaction

Each person may perceive differently. The more relative advantages of an innovation are perceived, the faster the innovation adoption rate.

2. Compatibility

The degree to which an innovation is seen as consistent with existing value, experience, and the needs.

Ideas that do not conform to the values and norms of the social system will not be implemented as quickly as compatible innovations.

The acceptance of incompatible innovation often requires the acceptance of a new value system, which is a relatively slow process.

Examples of incompatible ideas

- The water boiling innovation in Los Molinas.
- The use of contraceptives in Muslim and Catholic communities.

3. Complexity

The degree to which innovation is seen as difficult to understand and use.

Some innovations can be understood by most members of the social system while others are more complex and slower to implement.

Examples of complex ideas

- The Dvorak keyboard requires a week to learn.

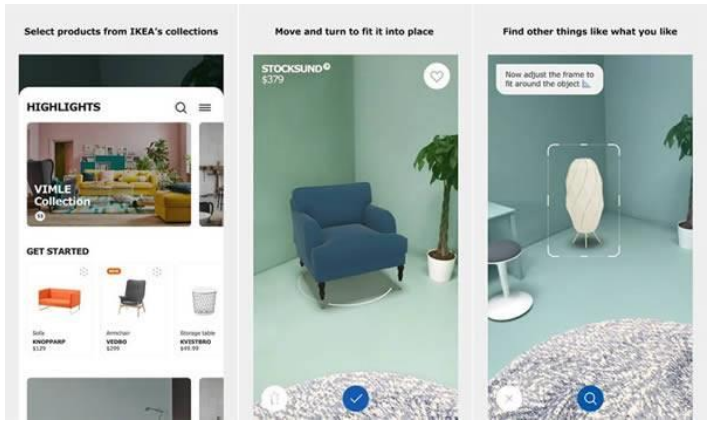
4. Trialability

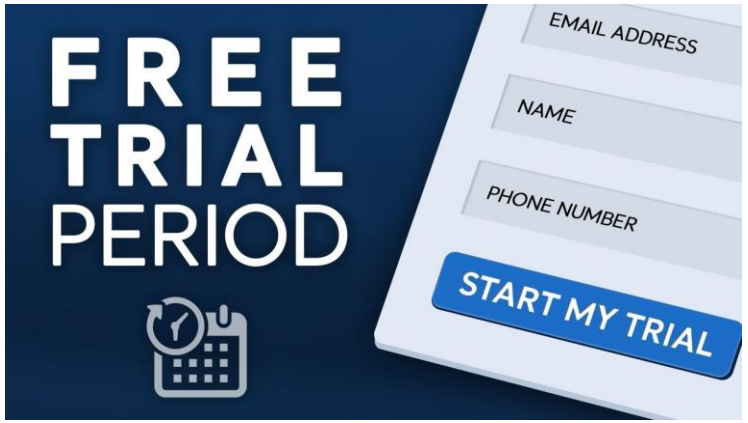
The degree to which an innovation may be tried on with minimal risk.

Examples of low-trialability ideas

- Raise a new cow breed → Takes much time and risk.
- New type of coronavirus vaccine.

Examples of high-trialability ideas





5. Observability

The degree to which others can see the results of innovation.

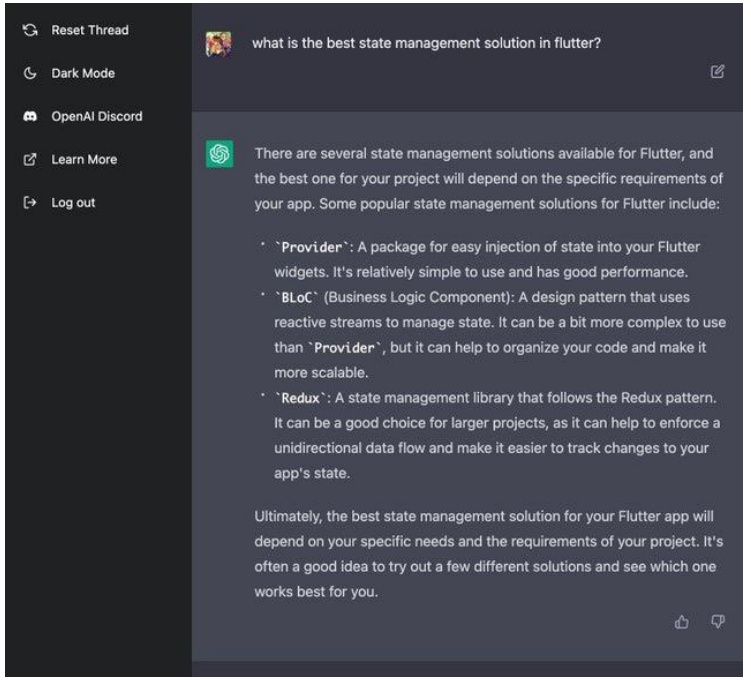
The more easily people can see the results of innovation, the more likely they are to use it.

Examples of low-observability ideas

- The use of new medical treatment.

Examples of high-observability ideas

- TikTok
- ChatGPT.



2. Communication Channels

An innovation can spread from one unit to another through a communication channel.

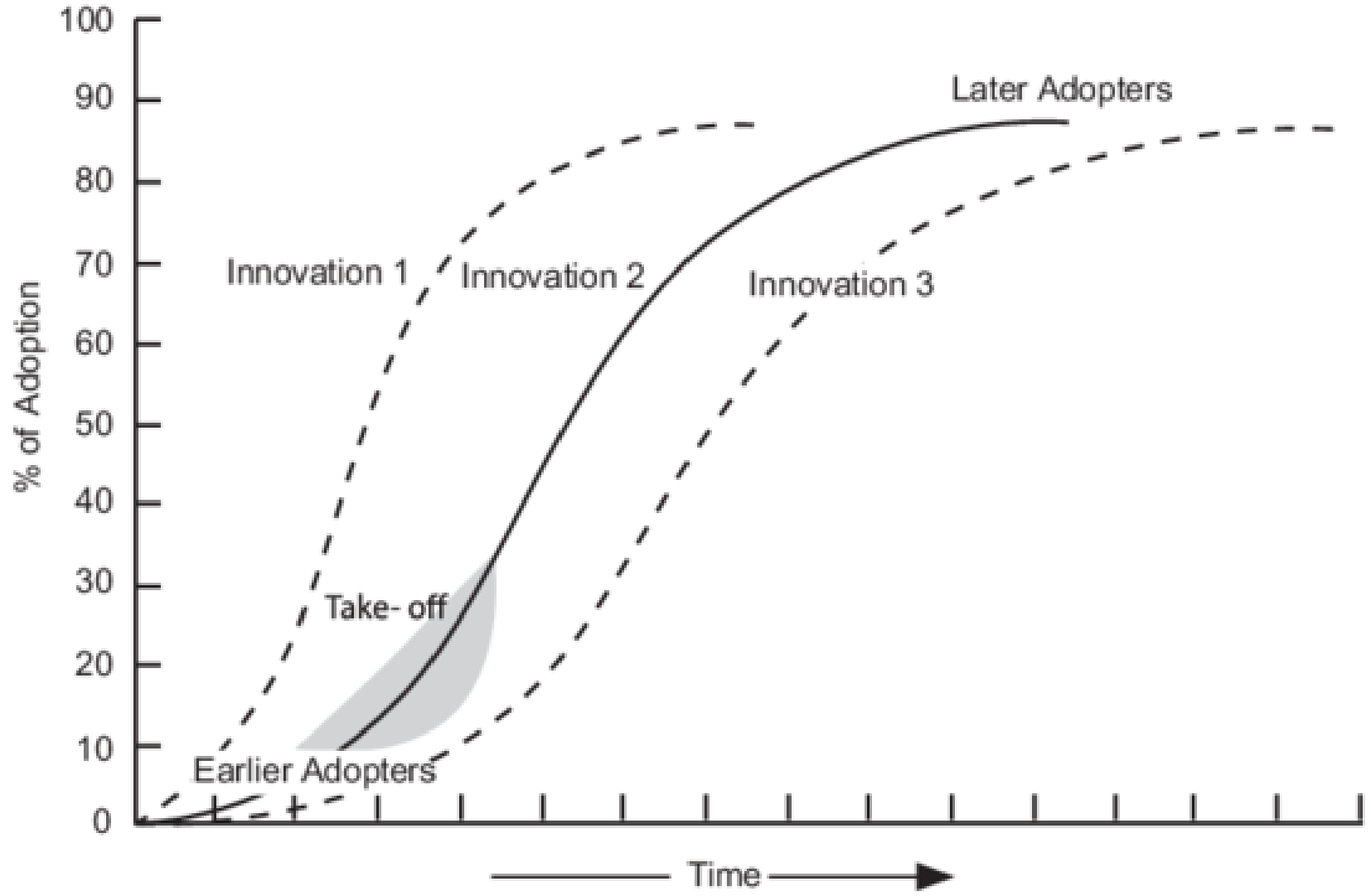
The transfer of ideas occurs more efficiently when individuals belong to the same groups, live or work near each other, and share similar interests.

Mass media channels are usually the most rapid and efficient way to promote the existence of an innovation.

3. Time

1) The innovation-decision process by which an individual passes from first knowledge of an innovation through its adoption or rejection.
2) The innovativeness of an individual (whether the adoption happens in an early or late stage).
3) The rate of adoption in a system, usually measured as the number of members of the system who adopt the innovation in a given time period.

The diffusion process



4. Social System

A set of interrelated units that engage in solving common problems in order to achieve a common goal.

Members or units of a social system may be individuals, informal groups, organizations, and/or subsystems.

Examples

- Los Molinas is a social group. Nelida's aim is to encourage people to boil water before drinking.
- The campaign is also part of the Peru's hygienic improvement plan.
- Peru's healthcare is also part of the global community that aims to fight disease.