

Diffusion of Innovations (DOI)

Jamie Thomas-Pavanel
Nanky Rai
Sireesha Bobbili

Key Points

- Challenge for public health and health promotion to diffuse effective programs
- Interventions are difficult in less controlled community settings
- Research doesn't always meet the needs of practitioner
- Reluctant to consider new interventions
- Researchers more concerned with internal vs. external validity
 - No incentive to consider implementation and diffusion of effective programming
- The diffusion of Innovations Model
- Gap between knowledge and practice

How Did Diffusion of Innovation Develop?

- Diffusion analyzed narrowly & according to specific applications
- Focus on simple innovations
- Unit of analysis = individual adopters
- Emphasis shifted toward understanding behaviour of organizations and broader systems
- Malcolm Gladwell's *The Tipping Point: How Little Things Can Make a Big Difference*
- Active Dissemination

Key Concepts

- Two Categories
 1. Foundational Concepts & Stages of Diffusion
 2. Characteristics of Innovations

What are the Foundational Concepts?

1. Diffusion
2. Dissemination
3. Innovation
4. Communication Channels
5. Social System
6. Innovation Development
7. Adoption
8. Implementation
9. Maintenance
10. Sustainability
11. Institutionalization

What Are the Stages of Diffusion ?

1. Innovation Development
2. Dissemination
3. Adoption
 - Awareness knowledge
 - Procedural knowledge
 - Principles knowledge
 - Requires attitude change
4. Implementation
5. Maintenance
6. Sustainability
7. Institutionalization

What Are Important Factors in Diffusion of Innovation?

- Three variables used to explain different outcomes for diffusion of innovations:
 - Characteristics of Innovation
 - Characteristics of Adopters
 - Features of Setting/Environmental context

What are the Characteristics of Innovation?

TABLE 14.2. Characteristics of Innovations That Affect Diffusion.

Attribute	Key Question
Relative Advantage	Is the innovation better than what was there before?
Compatibility	Does the innovation fit with the intended audience?
Complexity	Is the innovation easy to use?
Trialability	Can the innovation be tried before making a decision to adopt?
Observability	Are the results of the innovation visible and easily measurable?

What are the Characteristics of Individuals?

- Process is normal, bell-shaped distribution with 5 adopter categories:
 - 1. Innovators (3 sd. on +ve side of mean)
 - 2. Early Adopters (2 sd)
 - 3. Early Majority Adopters (1 sd)
 - 4. Late Majority Adopters (1 sd)
 - 5. Laggards (2 sd)
- Intra-Individual factors: psychological antecedents, meaning, and concerns in pre-adoption stage, early use and once use established

What are the Features of the Setting?

- Multiple features of settings/organizations influence diffusion process
- Broadly categorized as:
 - 1. Geographical settings
 - Organizations
 - Broader community/societal level
 - 2. Societal culture
 - 3. Political conditions
 - 4. Globalization and uniformity
- Ex: Needle exchange programs: Social and political values stronger determinants of diffusion than innovations or adopters

How do you Disseminate & Diffuse Health Behaviour Innovations?

- Achieve good fit between: attributes of innovation, adopting individual/organization, and environment/context
- Maximizing the fit requires:
 - Communication channels (facilitate exchange)
 - Linkage agents (Media)
 - Diffusion context
- Process involved 'deliberate collaborative partnership' between *resource system* and *user system*
- Critical point: Aim to improve fit between innovation and users

Application of DOI: Pool Cool Skin Cancer Prevention Program (1)

- Multi-component skin cancer prevention program
- Swimming pool settings
- Evaluated for impact on sun protection habits

Application of DOI:
Pool Cool Skin Cancer Prevention Program
(2)

- Characteristics of the Innovation
 - Compatibility
 - Complexity
 - Triability
 - Observability

Application of DOI:
Pool Cool Skin Cancer Prevention Program
(3)

- Characteristics of Individuals
 - Early Adopters
Lifeguards & Aquatic Staff
 - Early Majority Adopters
Children & their parents

Application of DOI:
Pool Cool Skin Cancer Prevention Program
(4)

- Features of the Setting
 - Geographical
Hot summers, southern states have warmer climates

What are the Limitations of DOI?

- Pro-Innovation Bias
- Individual Blame Bias
- Lack of research re: adoption of innovations
- Lack of collaboration to compare settings
- Lack of systematic development, implementation and evaluation
- Lack of research into new information and communication technologies

Summary of DOI

- DOI needed to understand dissemination strategies
- Key constructs and concepts defined
- Methodology & research limitations
- Future implications of DOI

Case Example

- *The Triangle Program* aims to serve all members of the LGBTQ community, their families, and other students negatively affected by homophobia and heterosexism. Students earn all necessary high school credits within a classroom that supports students to develop or rediscover the skills necessary to successfully transition back into mainstream secondary school programs, post-secondary education, or to the workplace.
- A program like this has never existed in Goodstadt, Ontario.
- The instructors include 1 Caucasian Female, and 2 Caucasian males, all representative of the queer community.
- The city of Goodstadt is expanding into a diverse community, many are blue collar workers.
- Trustees of the Goodstadt District School Board, who have historically been fairly conservative, are divided about the program. However, many academics support it.
- If the Triangle program proves to be effective, Goodstadt school trustees will have to decide if it will be adopted.