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K4Health Theory Primer: Diffusion of Innovations



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Mazeda Begum, a community health worker for 15 years, provides medication to a villager outside her home in Gazipur, Bangladesh. © 2010 Sumon Yusuf, Courtesy of Photoshare.

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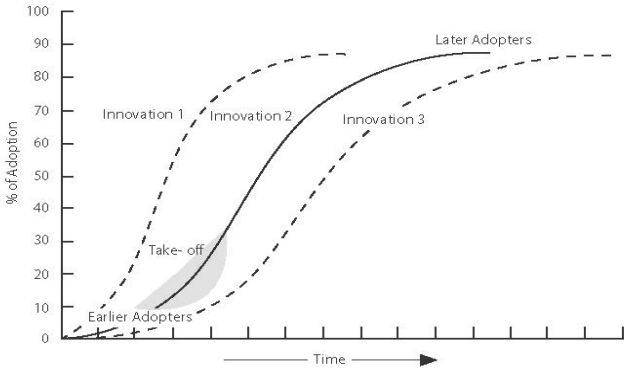
Global health achievements require highly innovative knowledge management approaches. The diffusion of innovations theory helps explain and predict factors that influence the adoption of public health innovations. This guide provides tangible ways to apply the theory to ensure effective sharing and use of new health knowledge, guidance, and practice among health professionals, particularly program managers and knowledge management practitioners.

Background

What is the diffusion of innovations theory?

The diffusion of innovations theory, revised and popularized by Everett Rogers in the 1960s, explains how individuals and organizations adopt innovations—such as ideas, products, or services—over time. It also examines the ways in which adopters communicate and promote innovations. Successful innovations typically spread gradually from a few early adopters to the larger population.

The diffusion process



A curve showing the cumulative percentage of a population adopting an innovation over time typically has an S-shape. Some innovations have a rapid rate of adoption (Innovation 1) and others have a slower rate (Innovation 3).

Adapted from Rogers (2003)

What are the key elements of the theory?

Diffusion is the process by which members of a social system communicate through certain channels to spread an innovation. In the context of knowledge management in health programs, use of copper intrauterine device (IUD) for emergency contraception (EC) offers an example of key diffusion elements.

Elements	General examples in the context of KM and health	Illustrative examples using IUD for EC
Innovation	Evidence-based information and guidance on best practices	Use of IUD for EC
Communication channels	Health products and services (for example, publications, distance learning courses, websites, and workshops) as well as networks of health professionals	Job aid, such as a checklist or a wall chart, to screen clients for use of IUDs as EC
Social system	A group of individuals, organizations, or networks with common objectives to improve health outcomes	Family planning working groups focused on EC
Time	The relative speed with which research or programmatic evidence is used in health practice	Time required to change knowledge, attitudes, and practice around use of IUDs as EC
Adopters	Intended audiences in various professional areas (for example, program managers and health care providers)	Health professional providing family planning and EC services

Why apply the theory?

Public health achievements require highly innovative approaches to advance health outcomes and quality of life. Health professionals are always searching for better ways to prevent and treat diseases and unhealthy behaviors. To bridge the knowledge gaps between research and practice, the effective and efficient dissemination of public health innovations is crucial.

Diffusion concepts can be integrated throughout the different stages of your project cycle. Effective use of the key concepts of diffusion of innovation theory can further strengthen the design, implementation, and intended outcomes of your project or program.

Step-by-Step Application

Step 1: Know your audience

The diffusion of innovations theory can assist knowledge management practitioners to better understand their target audience(s) and ensure that new products and services are well suited to that audience(s). The theory helps identify potential adopters who want to try the new product or service before anyone else and can encourage others to try them. There are five types of adopters.

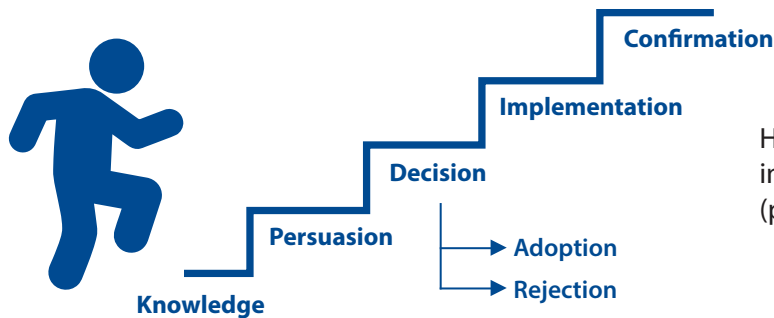
Adopter types	Characteristics
Innovators	Innovators want to be the first to try the innovation. They are interested in new ideas and challenges and willing to take risks.
Early adopters	Early adopters tend to be opinion leaders in a social system who influence the decisions of others. They are already aware of the need to change, so they are very comfortable adopting new ideas.
Early majority	The early majority are rarely leaders, but they adopt new ideas before the average person. They typically need to see evidence that the innovation works before they are willing to adopt it.
Late majority	The late majority are skeptical of change and will adopt an innovation only after the majority has tried it.
Laggards	Laggards are very skeptical of change and are the hardest group to persuade to adopt an innovation.

Tool 1 → The list of personal attributes will help you understand the factors to consider in your analysis of the target audience for a project, product, or service. If you can identify adopters within your target audience according to the five types of adopters, you can then apply different strategies to each segment of your target audience.

Step 2: Develop your strategy

Diffusion occurs through a five-step process. In order to design strategies for sharing knowledge, learning, and promoting new ideas to improve health services and outcomes, you need to understand where in the diffusion process your audience is. If you know an individual's degree of readiness to adopt new knowledge or practice, you can tailor messages to each individual's stage in the innovation–decision process.

Stage	Description in the context of global health
Knowledge	Becoming aware of new evidence-based health guidance and understanding what it is advising
Persuasion	Forming a favorable or unfavorable attitude toward the new evidence-based health guidance
Decision	Engaging in activities that lead to a choice to adopt or reject the health guidance
Implementation	Putting the health guidance into practice
Confirmation	Evaluating the results of putting the health guidance into practice and deciding on continuous use



Having an audience centered approach in step 1 (knowledge) and step 2 (persuasion) will lead to more adoption



The list of monitoring indicators can help you systematically assess where your audience is and how they decide whether to adopt the new knowledge or practice.

Step 3: Design knowledge management products and services

Five characteristics of an innovation influence an individual’s decision to adopt or reject it. When designing health information products and services, make sure they possess certain characteristics that can enhance their adoption and use.

Applying the desired characteristics can guide the development of knowledge management products and services—for example, websites, service delivery guidelines, and training workshops—to increase their usefulness and relevance and to influence intended or actual use. These characteristics can inform project-monitoring indicators to gauge the audience’s perception and also guide promotional efforts by publicizing beneficial characteristics of products and services.

Characteristics	Application to knowledge management products and services
Relative advantage	<ul style="list-style-type: none"> • Demonstrate the benefits of certain approaches over others, particularly of new practices over current practices • Cite research about relative effectiveness
Compatibility	<ul style="list-style-type: none"> • Relate emerging policies, programs, and research practices to current procedures • Explain how to build on existing systems
Complexity	<ul style="list-style-type: none"> • Simplify or summarize information about new practices or programs • Provide clear steps for application
Trialability	<ul style="list-style-type: none"> • Provide or suggest easy ways to try the innovation • Describe implementation in clear, manageable stages • Provide both pilot and large-scale implementation plans
Observability	<ul style="list-style-type: none"> • Provide examples, model programs, and professional role models • Facilitate the exchange of experiences among health professionals



You can use the checklist of innovation characteristics to ensure that your knowledge management product or service is on track from the early concept and design stages.

Thank you for using this primer. If you have comments or questions, or would like more information about K4Health, please visit www.k4health.org.

About K4Health

The Knowledge for Health (K4Health) Project uses knowledge management approaches to help improve family planning and global health services in low- and middle-income countries. K4Health is funded by the U.S. Agency for International Development (USAID) Bureau for Global Health, Office of Population and Reproductive Health, and is led by the Johns Hopkins Bloomberg School of Public Health Center for Communication Programs (JHU-CCP), in partnership with FHI 360, IntraHealth International, and Management Sciences for Health (MSH).

TOOL 1

Profiling Audience: Personal Attributes of Adopters

According to Rogers (2003), once 15% to 20% of a community population has adopted a new innovation, it has the critical mass to spread on its own momentum. Therefore, it is important to clearly understand the personal attributes of those who are more likely to first accept knowledge management products and services as well as new health guidance. Well-designed data collection and analysis of your current or potential audience base during the formative research and monitoring stage greatly helps you to identify such audiences. That research can also help you focus your efforts on motivating innovative and early adopters to spread new ideas and practice to their peers.

Below is an illustrative list of personal attributes of adopters that you can use to define and profile your intended audience (for example, innovators and early adopters), by replacing the texts in gray color with your own contents.

Domains	Attributes / characteristics	Description of intended audience(s) – Illustrative examples in gray
Background and demographic information	Job type	Junior to mid-level community health workers and their supervisors
	Organization type	District and community health facilities
	Education	Pre-service training graduates
	Sex	Both female and male
	Age	From late 20s to mid 50s
Personal factors	Attitude toward change	Positive and open about learning and applying new health guidelines
	Motivation and readiness	Motivated to continue to gain new skills and knowledge
	Needs	Need information on effective counseling and service integration
	Challenges	Long working hours, no access to in-service training opportunities
	Information-seeking/sharing behavior	Open to seeking information and guidance from peers
	Communication style/habits	Mobile phone user, frequently access social medial tools
	Decision making power	Make day to day decisions, minimum contribution to policy and procedure
Environmental and social factors	Access to network	Member of professional association, not participating actively
	Access to technology	Moderate access to computer, however internet is intermittent in remote areas
	Access to media	Radio is a primary media source, TV is secondary
	Norm and culture	No specific support from senior management for knowledge sharing and learning

Typically, your project will have more than one type of audience(s). It can be helpful to create a profile of your intended audience(s) for each of your knowledge management products and services.

TOOL 2

Indicators to Assess the Audience’s Innovation-Decision Process

Indicators that you may consider for monitoring and evaluating your project are listed according to process. Note: “Output” refers broadly to various types of knowledge management products, services, publications, resources, approaches, and activities.

Innovation-decision process	Indicator	Data disaggregated by	Data source(s) / collection methods	Frequency and schedule
Knowledge	Number/percentage who report that knowledge management output provided new knowledge			
	Number/percentage who report that a knowledge management output reinforced or validated existing knowledge			
	Number/percentage who recall correct information or knowledge			
Persuasion	Number/percentage who are confident using knowledge			
	Number/percentage who report that information or knowledge from a knowledge management output changed or reinforced their views, opinions, or beliefs			
Decision	Number/percentage who intend to use information and knowledge gained from a knowledge management output			
Implementation	Number/percentage who apply knowledge gained from a knowledge management output to make organizational or personal decisions			
	Number/percentage who apply knowledge gained from a knowledge management output to improve practice in program, service delivery, training and education, or research			
	Number/percentage who apply knowledge gained from a knowledge management output to inform policy			
Confirmation	Implementation of new knowledge receives positive feedback to support the continuation (Y/N)			

TOOL 3

Checklist to Assess the Characteristics of Innovations

Research indicates that people’s perception of five characteristics of an innovation account for 50% to 90% of the variance in the rate of adoption of innovation (Rogers 2003). By using the questions in this checklist at the different stages of your project/program cycle (for example, design, implementation, monitoring and evaluation), you can ensure that your products and services are addressing these characteristics holistically to speed up the adoption of new health guidance and practice.

Characteristics	Questions	YES/ NO	If YES, describe how	If NO, identify ways to address
Relative advantage	Is your product or service better than what your target audience is currently using?			
	Does the new health knowledge and practice promoted in your product or service offer any benefits over the current knowledge and practice?			
	Can your audience easily understand the supportive evidence?			
Compatibility	What do you know about the knowledge needs of your target audience (either through original research, literature scans, or a mixed-method approach)?			
	Does your product or service address the needs of your target audience?			
	Is the new health knowledge and practice promoted in your product or service compatible with the current knowledge and practice of your audience?			
Complexity	Do you have evidence that your product is easy to use?			
	Does your product or service provide clear instructions for implementation?			
Trialability	Will you allow your target audience to try your product or service before they fully adopt it?			
	Does your product offer resources for technical support or training (for example, a step-by-step guide)?			
Observability	Are the benefits of using your product or service easily visible to others?			
	Does your product offer case studies, user stories, or evidence-based anecdotes to which your audience can relate?			

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