



# Innovation Translation and Innovation Diffusion: A Comparison of Two Different Approaches to Theorising Technological Innovation

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## ABSTRACT

*The process of innovation involves getting new ideas accepted and new technologies adopted and used. A number of approaches to the theorising of technological innovation exist, but this article will compare and contrast just two: Innovation Diffusion and Innovation Translation, giving examples of how each approach is used in different situations. While there are many advantages to use of a Translation approach, it is too simplistic to suggest that Translation always offers a better approach than Diffusion, and the article proposes that perhaps it should not be a case of either one approach or the other but the use of whichever is most appropriate to a particular investigation.*

*Keywords:* innovation diffusion; innovation translation; technological innovation

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## TECHNOLOGICAL INNOVATION

Making any change to the way things are done is a complex undertaking and difficult to achieve successfully. The success of any innovation is always in doubt because people who are prepared to support the innovator can be difficult to find and to convince. Although writing of *political* change almost five hundred years ago Niccolò Machiavelli summed this up as follows:

*There is nothing more difficult to handle, more doubtful of success and more dangerous to carry*

*through than initiating changes ... The innovator makes enemies of all those who prospered under the old order, and only lukewarm support is forthcoming from those who would prosper under the new. Their support is lukewarm partly from fear of their adversaries, who have the existing laws on their side, and partly because men are generally incredulous, never really trusting new things unless they have tested them by experience. (Machiavelli 1515)*

Innovation can be defined as “the alteration of what is established; something newly introduced” (Oxford 1973), or “introducing new

things or methods” (Macquarie Library 1981). We should, however, distinguish between innovation and invention. While invention can be seen in the discovery or creation of new ideas, innovation involves putting these ideas into commercial or organisational practice (Maguire, Kazlauskas and Weir 1994). The process of innovation involves getting new ideas accepted and new technologies adopted and used.

A number of approaches to the theorising of technological innovation exist, but this article will compare and contrast just two: Innovation Diffusion (Rogers 1995) and Innovation Translation (Callon 1986; Latour 1996). It will give examples of how each approach is used in several situations.

## INNOVATION DIFFUSION

Rogers describes the Diffusion of Innovations as: “... the process by which an innovation is communicated through certain channels over time among the members of social systems” (Rogers 1995 :5). A decision to adopt an innovation thus relates to the acceptance of a new idea while a decision not to adopt relates to its rejection. Rogers asserts that a technological innovation embodies information, and that this information has the potential to reduce uncertainty. He distinguishes between two kinds of information: *software information* that is embodied in the technology (or idea) itself, and *innovation-evaluation information* that relates to an innovation’s expected adoption consequences (Rogers 1995).

Rogers considers the four main elements of innovation adoption to be: *characteristics of the innovation, the communication channels through which news of the innovation passes, the passage of time, and the social system*. To explain the rate of adoption of innovations Rogers suggests consideration of the following perceived characteristics of innovations: *relative advantage, compatibility, complexity, trialability and observability*.

## Technology and Essentialism

Grint and Woolgar (1997) contend that most views of technology attribute an “essential inner core of technical characteristics” (Grint and Woolgar 1997 :9) to the non-human elements, while portraying the human elements as secondary and transitory. They contend that contemporary ideas of technology often still rely on the idea of an essential capacity within a technological entity which accounts for its degree of acceptance or rejection, but argue that technology would be better thought of as being constructed entirely through human interpretation. A significant problem with an essentialist paradigm arises if a researcher tries to reconcile the views of all parties involved in the innovation on what *particular* essences are significant. The difficulty is that people often see *different* ‘essential attributes’ in any specific technological or human entity, making it hard to identify and settle on the ones that allegedly were responsible for the diffusion (Tatnall 2002).

For example, what are the essential characteristics of a Four Wheel Drive (4WD) vehicle as seen by each of the following groups: cross country driving/camping enthusiast, travelling salesperson, young male driver, mother taking her kids to school, others ...? The problem, of course, is that each group see these characteristics quite differently. The cross country driving enthusiast will, of course, be interested primarily in the off-road aspects of the vehicle, but these will be of little interest to the mother taking her kids to school. The travelling salesperson will be concerned with the amount of space in the vehicle for goods and sales samples, while the young male driver is probably more concerned with the appearance and dominance of the vehicle. How do you then decide which characteristics led to its adoption?

## INNOVATION TRANSLATION

The model of Innovation Translation as proposed in actor-network theory proceeds from

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