

## Characterising Performative Technological Innovation: Developing a Strategic Framework That Incorporates the Social Mechanisms That Promote Change within a Technological Environment

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**Abstract :** Technological innovation is frequently defined in terms of bringing a new invention to market through a relatively straightforward process of diffusion. In reality, this process is complex and non-linear in nature, and includes social and cognitive factors that influence the development of an emerging technology and its related market or environment. As recent studies contend technological trajectory is part of technological paradigms, which arise from the expectations and desires of industry agents and results in co-evolution, it may be realised that social factors play a major role in the development of a technology. It is conjectured that collective social behaviour is fuelled by individual motivations and expectations, which inform the possibilities and uses for a new technology. The individual outlook highlights the issues present at the micro-level of developing a technology. Accordingly, this may be zoomed out to realise how these embedded social structures, influence activities and expectations at a macro level and can ultimately strategically shape the development and use of a technology. These social factors rely on communication to foster the innovation process. As innovation may be defined as the implementation of inventions, technological change results from the complex interactions and feedback occurring within an extended environment. The framework presented in this paper, recognises that social mechanisms provide the basis for an iterative dialogue between an innovator, a new technology, and an environment - within which social and cognitive 'identity-shaping' elements of the innovation process occur. Identity-shaping characteristics indicate that an emerging technology has a performative nature that transforms, alters, and ultimately configures the environment to which it joins. This identity-shaping quality is termed as 'performative'. This paper examines how technologies evolve within a socio-technological sphere and how 'performativity' facilitates the process. A framework is proposed that incorporates the performative elements which are identified as feedback, iteration, routine, expectations, and motivations. Additionally, the concept of affordances is employed to determine how the role of the innovator and technology change over time - constituting a more conducive environment for successful innovation.

**Keywords :** affordances, framework, performativity, strategic innovation

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