



How actors can influence the legitimation of new consumer product categories: A theoretical framework



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ABSTRACT

The establishment of a new product category can have an important impact on the pace and direction of sustainability transitions. However, the current sustainable transition literature neglects the process through which such a product category becomes legitimate and the role that different actors can play in this process of legitimation. This paper investigates the theoretical concept of legitimacy in relation to the introduction of a new product category during sustainability transitions. A theoretical framework for the legitimation of new product categories is presented, the product legitimation framework (PLF). Five factors that influence legitimacy are introduced: comprehension, output, compatibility, signalling, and procedural justice. Different actors, like producers and governments, are believed to influence these legitimising factors by using the following tools: frames, activities, products, and enactment of law. Special attention is given to the role of the product itself in the legitimation process.

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1. Introduction

Growing concerns with regard to global warming and environmental depletion have led to a call for system changes in sectors such as energy, transport, and food. These changes, in which one socio-technical system changes into another, are referred to as sustainability transitions (Geels and Schot, 2007). Most transitions involve the introduction of new technologies or products and changes in formal and informal rules (Geels and Schot, 2007; Markard et al., 2012), such as laws, regulations and social rules.

The introduction of new consumer product categories play a role in the pace and direction of sustainability transitions through their embodiment of new technologies, their impact on consumer behaviour, and their input in further innovation activities. With ‘new product categories’, we refer to physical products, services and product-service combinations. The electric car is an example of a new product category that will influence the transition pathway towards a sustainable transport system as well as a renewable energy system. This new product category consists of a growing number of models, from sports cars to small city cars, provided by both new and existing car manufacturers.

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Consumer products are often offered by multiple actors and in different variations that together form a product category. Products can be grouped in a product category at different levels, for example, cars versus diesel-cars or electric cars, and based on different aspects, such as application or technology. Most consumer product categories, such as cars, consist of a range of products that vary in product characteristics. This variation can be substantial. There are for instance quite some differences between an electric Smart for Two and a Tesla model S, such as their size, range, and price. However, both cars can be grouped in the product category 'electric cars'.

Depending on the type of transition pathway, one or more new technologies or technological changes can be introduced by actors from inside or outside the regime (Geels and Schot, 2007). When brought to the market, these technologies are embedded in different products. For these new technologies (and the products in which they are embedded) to replace existing technologies or change regime structures, new product categories have to attain legitimacy. Legitimacy is required for a product category to, first, become relevant and in the end dominant in the market.

The success of a transition depends on legitimation and adoption of one or more product categories. The successful transition to electric transport, for instance, is dependent on legitimation of product categories such as the electric car, electric boat, and electric bus. Legitimacy of a product category enables the adoption of products within this category, where 'adoption' refers to the use and/or purchase of a product. In order for a new product category to change or overthrow existing regime structures, widespread product adoption is required.

In this paper, we focus on the legitimation of consumer product categories in transitions. Suchman (1995) describes legitimacy in the context of organisational management as "a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions" (p. 573). Tyler (2006) furthermore states: "Legitimacy is a psychological property of an authority, institution, or social arrangement that leads those connected to it to believe that it is appropriate, proper, and just." (p. 1). The concept of legitimacy has been applied to a broad range of subjects, for example, forest policies, cultural products such as art, brands, organisations, potable water, nuclear energy, bicycles, and cars (Suchman, 1995; Rao, 2002; Kates, 2004; Burr, 2006; Baumann, 2007; Geels and Verhees, 2011; Valkeapää and Karppinen, 2013; Binz et al., 2014). Although the subject of legitimation varies, the definition of what legitimacy is remains the same. In Suchman's (1995) description of legitimacy, the subject of legitimation is "the actions of an entity" (p. 573), while in this paper, the subject of legitimation is 'product categories'. Legitimacy is seen as a prerequisite for large-scale adoption of a new product category within society (Rao, 2002).

Extensive research on the acceptance and diffusion of new products has been reported in the diffusion literature. Current literature has two main shortcomings when it comes to describing the legitimation of new product categories in transitions. First, because the majority of the innovations are re-designs, this field of research has mainly focussed on product adaptations being introduced to the market (Cooper and Kleinschmidt, 1995). These types of innovations already fit within current technical infrastructures as well as social structures such as consumer habits and preferences. These products face little legitimacy challenges and their diffusion does not depend on extensive system changes ushered by a transition. Second, this strand of research focuses on the aggregation of individual acceptance of specific products rather than the public perception of a new product category. Therefore, current research has insufficiently explained the legitimation of new product categories that are being introduced during sustainability transitions.

The frameworks used in the sustainability transition literature address broader system changes but lack the detail for studying why one new product category becomes dominant over another during a transition process. These governance-oriented frameworks describe higher-level system changes and the constructs that lead to resistance to change and windows of opportunity. Indeed, within the sustainability transition literature, the focus lies on contextual factors that describe and explain the dynamic system changes of transitions. While the important role of actors is recognised (Geels and Schot, 2007; Grin et al., 2011), researchers have hardly addressed the means of actors in practice to influence the legitimation of new product categories and the role of specific products in this legitimation process.

To overcome resistance to change and establish legitimacy, it is important to understand the behaviour, actions, and strategies of actors (Gazheli et al., 2012). To gain understanding of the influence that different actors have on the process of gaining legitimacy, two issues are of importance. First, it needs to be clear what factors form the foundation of legitimacy. Second, the means available to actors for influencing these factors need to be known, in order to understand their role in the legitimation process. When considering new product categories that embody sustainable technologies, the characteristics of the individual products are expected to play an important role in the creation of legitimacy.

In this paper, we propose a theoretical framework of the legitimation process of new consumer product categories during sustainability transitions. This product legitimation framework (PLF) takes into account both the effects of specific products as well as broader system changes when it comes to the legitimation of new product categories. By doing so, it combines strengths from both transition and diffusion studies. The paper is structured as follows. First, the use of legitimacy in transition literature is discussed and the concept of legitimation is explained. Then, the PLF is introduced and the different components of the framework are explained. The PLF is illustrated using case study data that describe the process of legitimation of electric boats in the city of Amsterdam.

2. Legitimacy in transitions

There is a history of applying the concept of legitimacy in the transition literature. Hekkert et al. (2007) describe the function of legitimacy as to provide support for the development of a new technology as well as to create

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