5. **Determinants of Social Contagion during New Product Adoption**

5.1 **Introduction**

One of the main challenges for product innovation managers and researchers over the last decades has been to develop a better understanding of the mechanisms of new product adoption by consumers (Guo, 2008; Rogers, 2003). Since the 1960s, versions of Bass’ (1969) model capture the internal market influence, or imitation between consumers. Ever more sophisticated models highlight the importance of this concept explaining consumer adoption and thereby the success of new products. A growing body of empirical research in the fields of Marketing and Innovation Management is indeed showing that social contagion plays an important role in the diffusion of new products, such as recent studies by Bell and Song (2007) and Manchanda, Xie and Youn (2008). However, there remains a paucity of studies identifying antecedents to social contagion.

We define social contagion in this context as the process by which consumers influence each other to evaluate, adopt and use a product. Social contagion can work through explicit recommendations or word of mouth, implicit social norms such as what a person feels is expected of him, or by visible behavior such as seeing others using a product. In this paper we use the term “product-related behavior” to mean the behavior that an existing customer exhibits when using a product. Social contagion can stimulate potential buyers who see this behavior to want to express it too, or existing users to exhibit the behavior more frequently. The effect of social contagion has been shown to work in a variety of ways, for example via personal social networks (Burt, 1987a) or through geographical proximity (e.g., Manchanda, Xie and Youn, 2008). Adoption patterns of consumer durables in different countries have also been shown to be consistent with a social contagion explanation when dimensions of national culture are taken into account (Van den Bulte and Stremersch, 2004). Each of these routes for the effect of social contagion on market demand appears to make a basic assumption that social contagion is caused by the characteristics of consumers; who they interact with or who they live near to and thus are most likely to come into contact with. However, the role that the product has in stimulating social contagion is conspicuously absent in this research. Clearly, some products or product variants stimulate the process of social contagion more than others and it is therefore impor-
tant to include both the product attributes and the consumer characteristics when examining antecedents and effects of social contagion.

The contribution of this paper to the extant literature is three-fold. Firstly, we are the first to carry out an empirical investigation into the determinants of social contagion, from both product attributes and consumer characteristics. Our approach is to apply a three-part model of social contagion, taken from evolutionary biology, and to assess the relative strength of a product with respect to the product-related determinants by means of expert judgment. The same is done assessing the relative strength of the relevant consumer segments on the consumer-related determinants. The expert scores are then included in a structural equation model linking them via the concept of social contagion with behavioral data regarding the sales and usage of the products by the consumer segments. By relating the expert judgments to actual market demand in this way, our second contribution is that we are able to examine the predictive power of this new approach for estimating new product success. Thirdly, we are able to assess the relative strength of these determinants’ effects on social contagion and market demand. An important finding is that the product attributes have a far stronger effect than the consumer attributes do. In particular, we find the strongest effect from product attributes which stimulate people to begin using that product as opposed to other attributes such as those encouraging people to carry out the product-related behavior accurately or to keep on using the product over an extended period of time. Besides these contributions, we are able to assess the strength of the relationship between social contagion and market demand. In line with past research, our results show that social contagion has a moderate, positive effect on market demand. The results of this paper may be of help to product developers, by providing advice as to how to stimulate the social contagion process of new products. This can benefit firms, particularly prior to market launch, by helping them to choose between various products in the development pipe-line as well as by focusing product development activities to improve a new product’s social contagion properties.

In the remainder of this paper we introduce our conceptual model and describe the determinants of social contagion which have been taken from work within innovation management and related fields. In the method section we describe the behavioral data we collected for the market demand for 124 product-segment combinations and the questionnaires to measure product and consumer attributes. Our analysis is described followed by the results showing the performance of our model in two separate industries. The paper concludes with a discussion of theoretical contributions and management implications.

5.1.1 Conceptual model
Recent developments in a wide range of areas, from cognitive neuroscience to social psychology, are highlighting the role that social contagion plays in the adoption of
new behavior (for a broad-based overview, see Hurley and Chater, 2005). When a person comes into contact with a new behavior, such as the use of a new product, he or she becomes aware of the behavior and evaluates its attractiveness or suitability for themselves. At some point, perhaps after having seen the new behavior on a number of occasions and having made a positive evaluation, he or she may decide to try it themselves. In the context of the adoption of new products, this relates to the concepts of awareness and product evaluation (Berger and Fitzsimons, 2008; Dahl and Hoeffler, 2004; Manning et al., 1995; Meyers-Levy and Tybout, 1989). Following this first step, the person is then faced with new challenges in relation to actually being able to carry out the new behavior in the right way in order to achieve a positive experience. Again, for product-related behaviors, this relates to simplicity in buying, installing, configuring, etc., as well as the usability of the new product (Shackel, 1986). Once these steps have been successfully negotiated, the question shifts again as to whether the person will keep on expressing the behavior over a long period of time. In terms of product usage, this relates to concepts such as loyalty and a long-term process of re-evaluation that the product is still of benefit (Bone, 1995; Dick and Basu, 1994).

The process of new product adoption and usage as just described is based on a model of social contagion introduced in the field of evolutionary biology by Dawkins (1976, Chapter 11). In this model, the process of social contagion is conceptualized as consisting of three components, namely: fecundity, fidelity, and longevity. The first component is that people are stimulated to begin to express a new behavior such that it is copied many times. This can be termed *fecundity*, which in the field of biology refers to the capacity to produce many offspring. In context of new product adoption, fecundity refers to the capacity a product-consumer combination has of stimulating other consumers to imitate the behavior. The second component is that consumers are able to carry out the product-related behavior. This is termed *fidelity*, referring to the accuracy with which one person copies another. If fidelity is too low, then once a few consumers have copied each other, the resulting behavior is no longer recognizable as that which started and the original behavior dies out. The third social contagion component is that people are stimulated to keep on using a product over a long period of time. This is termed *longevity* and refers to the ability of a product-related behavior to be long-lived.

In the context of a competitive market with various product-segment combinations striving for market share, those products which succeed in achieving a relatively high level of fecundity, fidelity and longevity will inevitably out-compete their rivals. A relatively low fecundity will mean diffusion of the product does not take-off, such as happens if the majority of the consumers do not follow the innovators and early adopters (Moore, 2002). An inflexible or difficult-to-use product will lose out in the area of fidelity. This may explain the success of some relatively simple product concepts over
other products with more functionality but, inevitably, more complexity (Mukherjee and Hoyer, 2001). In relation to the social contagion component longevity, we see many short-term hype products which have failed to stimulate their consumers to keep on using them in the long term (Henard and Szymanski, 2001). Langley and co-authors previously introduced this three-part theory taken from evolutionary biology to the field of new product innovations in a conceptual paper (Langley et al., 2005) and in case studies (Langley et al., 2009c). The current study builds on this work by examining the predictive power of the approach by relating expert judgments regarding both the new product in question and the relevant market segments to actual market demand.

As social contagion refers to interpersonal influence regarding a specific product, we identify both product attributes and the consumer characteristics which may stimulate or inhibit the three components of social contagion. From this we derived six constructs: Product-Fecundity, -Fidelity, and -Longevity and Consumer-Fecundity, -Fidelity, and -Longevity (see Figure 5.1). As market demand is a time-related phenomenon we include the time elapsed since market introduction as a covariate in our model. The objective of our model is to predict whether or not a product has a viable future and it is not our intention to model the process of product diffusion. We make a distinction between models of product diffusion, which are applied post introduction using the initial data series to extrapolate, and models (such as that shown in Figure 5.1) to predict market demand, which are applied pre-introduction or even pre-development and do not rely on market feedback. The former produce an S-curve, the latter predict ‘hit’ or ‘miss’. There is a need for better methods of predicting market demand at an early stage of new product development for a number of reasons. In the literature there has been vastly more attention for methods relying on initial data series from the market but these, by definition, cannot be applied prior to market introduction (Armstrong, 2001c; Makridakis et al., 1997) The other highly popular category, methods of expert judgment, tend to be subject to bias and inconsistency (Harvey, 2001) and there is a lack of empirical studies on the validity of the predictions made (Kahn, 2005). Besides this, on a practical level, firms need better methods to help them to optimize their best ideas and to stop those doomed to failure before huge investments are made. This can be achieved with ‘hit’ or ‘miss’ predictions of market demand without the need for predicting the diffusion curve in more detail. Indeed, the spurious accuracy effect would suggest that firms use simpler models of market demand at the early stages of product development. There has been recent attention paid to new ways of modeling the diffusion curve without resorting to extrapolation, such as agent-based modeling (Garcia, 2005), which can produce S-curve estimates of product diffusion prior to market introduction and the interested reader is referred to the forthcoming special issue of this journal on this topic being edited by W. Jager and R. Garcia.
The (latent) constructs are each determined by a number of manifest predictor variables. In Table 5.1 the eight constructs and the underlying variables are listed. In the following paragraphs the constructs and variables will be further explained and, where possible, linked to the Innovation Management literature.

**Product Attributes**
- **Fecundity**: the extent to which consumers start to copy a product-related behaviour.
- **Fidelity**: the ability of consumers to carry out the product-related behaviour in the right way.
- **Longevity**: the likelihood that consumers will keep on expressing the behaviour over a long period of time.

**Consumer Characteristics**
- **Fecundity**:
- **Fidelity**:
- **Longevity**:

**Market demand**
- **Time elapsed since market introduction**

*Figure 5.1. Conceptual model of product and consumer determinants of social contagion.*
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Product Fecundity
Product Fecundity is based on the general idea of fecundity which is described above and specifically concerns the extent to which a product stimulates consumers to copy the behavior that is related to that product. Some determinants of product fecundity are found in the innovation management literature and others are new to this area. Product Fecundity is stimulated, among other things, by a high ‘observability’ of a product (Rogers, 2003). Much of the success of Sony’s Walkman may have been attributable to its observability when in use. A related but less thoroughly researched variable is the characteristic ‘reach’ which also positively affects Product Fecundity. A high reach means that during the expression of the behavior a lot of people can see (or otherwise experience) that behavior. For example, a product intended for use in busy public areas will have much more reach than a product which is generally used whilst alone at home. Another new variable that affects Product Fecundity is ‘intrinsic persuasion’, which is the extent to which the behavior itself persuades other people to express it. SMS text messaging on mobile phones is a good example. Most people originally bought a mobile phone to make phone calls. But then consumers would receive a text message, and the main option presented on the screen is to reply with a new text message of your own. Many people are intrinsically persuaded to do so and this may have played an important role in the mass adoption of this service.

Product Fidelity
Product Fidelity refers to the influence of the product attributes on the accuracy of the copies that are made. One of these attributes which is well established in the Innovation Management literature is ‘simplicity’ (Rogers, 2003) which is defined as the extent to which the behavior can be learned and expressed easily without errors and frustration. In relation to the three-part theory of social contagion we propose that this concept be divided into two parts. Simplicity of the idea, such that people can easily understand it and communicate the idea to others, and simplicity of the behavior, such that people can easily learn and carry out the behavior without errors and frustration. Another well-established concept is ‘trialability’ (Rogers, 2003), the degree to which a behavior may be tried or experimented with. If a consumer can easily try out a product, a learning process may occur, increasing the probability that he or she will learn to operate it correctly. Besides the chances of incorrect behavior, a new variable is the ‘negative consequences when done incorrectly’. The consequences of not driving on the right side of the road are sufficiently dramatic that the correct behavior is invariably adhered to.

Product Longevity
The last of the three product determinants of social contagion is Product Longevity; the ability of a product-related behavior to be long-lived. One obvious product attribute determining Product Longevity is ‘compatibility’ with existing behaviors (Rogers, 2003). A less obvious product attribute is ‘invariance’ or the stability of the expressed behavior.
over time. This concept is particularly strong in traditional behaviors which are characterized by their resistance to change and which do not require new learning processes.

We can see that the Innovation Management literature addresses a number of the product attributes which we include in this study. However, by framing our model in terms of the three-part theory of social contagion we complement existing research in two ways. Firstly, we introduce a number of new product-related attributes which add to the set of product determinants of market demand. Secondly, our study addresses the set of determinants as a whole instead of looking at individual attributes in isolation from each other.

**Consumer Fecundity**
Consumer Fecundity is the tendency of a type of consumer to make a lot of copies of new behaviors. Relating this concept to the traditional new product diffusion literature, innovators and early adopters (Rogers, 2003) exhibit a high level of Consumer Fecundity compared to the laggards. The variables underlying this tendency are mostly personality traits, or closely related to them. There are two sides to this construct: sending and receiving. For the sender ‘proselytism’ is a relevant variable: the extent to which a person attempts to influence other individuals’ attitudes or overt behavior and tends to tell others of their product-related experiences. For the receiver ‘openness to new experiences’ is one of the higher level personality traits and is defined as the extent to which a person is inclined to try new things, possibilities and theories, as opposed to sticking to what is practical, tried and tested (Hofstee et al., 1992; Roehrich, 2004). In a particular consumer market, variables referring to sending and receiving together determine the Consumer Fecundity in that market.

**Consumer Fidelity**
Consumer Fidelity is the general tendency of a person to make accurate copies of new behaviors. This tendency depends again mostly on personality traits of the consumer, such as ‘conscientiousness’ defined as the extent to which a person operates carefully and systematically, as opposed to spontaneously or apparently chaotically. Another relevant consumer characteristic here is ‘ambition’ (Digman, 1997). If a consumer is generally highly driven to achieve their goals they may be more likely to make the extra effort to master a new behavior. We expect these consumer characteristics to increase the likelihood that accurate copies are made; one of the components of social contagion.

**Consumer Longevity**
Consumer Longevity is the general tendency of a consumer to keep on expressing behavior that they have copied. The probability that long-lived copies are made increases with a consumer’s ‘emotional stability’ (Hofstee, Raad and Goldberg, 1992). When a consumer is calm, steady and self-confident, he may be more inclined to stick to a chosen behavior and be less inclined to follow promotions and switch to other
products or brands. Another variable is ‘conformism’ (Bikhchandani et al., 1998), the extent to which a person subscribes to popular attitudes, norms and behaviors, as opposed to holding less popular standpoints or expressing less popular behavior. Conformist consumers may be highly loyal but can be expected to exhibit herding behavior and drop a product as soon as they see many others doing the same.

We can see that the Innovation Management literature addresses a number of the product attributes and consumer characteristics which we include in this study. However, by framing our model in terms of the three-part theory of social contagion we complement existing research in two ways. Firstly, we introduce a number of new product-related attributes and consumer characteristics which add to the set of determinants of market demand. Secondly, our study addresses the set of determinants as a whole instead of looking at individual attributes in isolation from each other.

Table 5.1.
A measurement model including product and consumer determinants of social contagion.

<table>
<thead>
<tr>
<th>LATENT CONSTRUCT</th>
<th>MANIFEST VARIABLE</th>
<th>KEY PUBLICATIONS</th>
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<tbody>
<tr>
<td>Product Fecundity</td>
<td>1. Reach: The number of people that come into contact with the behavior during the expression of that behavior (including advertisement)</td>
<td>(Heylighen, 1998)</td>
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<tr>
<td></td>
<td>2. Observability: The extent to which the behavior can be perceived with the senses (e.g. visibility)</td>
<td>(Rogers, 2003)</td>
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<td></td>
<td>3. Intrinsic persuasion: Through the inherent nature of the behavior, the extent to which the behavior persuades other people to express it (e.g. the SMS ‘reply’ option)</td>
<td>(Heylighen, 1998)</td>
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<td></td>
<td>4. Simplicity of the idea: The extent to which those expressing the behavior can easily communicate the idea to others</td>
<td>(Heylighen, 1998; Rogers, 2003)</td>
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<td></td>
<td>5. Novelty: The extent to which the product is new and original compared to existing products</td>
<td>(Calantone et al., 2006)</td>
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<td></td>
<td>6. Source credibility: The extent to which the information sources which are used to convey information about the behavior are held in high regard or considered to represent expertise in the domain</td>
<td>(Pornpitakpan, 2004)</td>
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<td></td>
<td>7. Publicity: The extent to which the message is broadly distributed and persuasive</td>
<td>(Wells et al., 2005)</td>
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<tr>
<td>Product Fidelity</td>
<td>1. Trialability: The degree to which a behavior may be tried or experimented with without obligation</td>
<td>(Rogers, 2003)</td>
</tr>
<tr>
<td></td>
<td>2. Simplicity of the behavior: The extent to which the behavior can be learned and expressed without errors and frustration.</td>
<td>(Heylighen, 1998)</td>
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<tr>
<th>Latent Construct</th>
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<th>Key Publications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychological Risk</td>
<td>The extent to which the expression of the behavior may cause an individual to feel bad, guilty, worried, etc.</td>
<td>(Bauer, 1960; Veryzer, 1998b)</td>
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<tr>
<td>Social Risk</td>
<td>The extent to which the expression of the behavior may cause an individual to feel disapproval, outcast, etc.</td>
<td>(Bauer, 1960; Veryzer, 1998b)</td>
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<tr>
<td>Formality</td>
<td>The extent to which the behavior must be expressed in a precise and unambiguous way</td>
<td>(Goldenberg et al., 2001)</td>
</tr>
<tr>
<td>Negative Consequences when Done Incorrectly</td>
<td>The extent to which a user could be disadvantaged when the behavior is carried out incorrectly or does not succeed</td>
<td>(Havlena and DeSarbo, 1991)</td>
</tr>
<tr>
<td>Availability of the Product and Related Resources</td>
<td>The ease of acquiring all things necessary for expression of the behavior</td>
<td>(Langley, Pals and Ortt, 2005)</td>
</tr>
<tr>
<td>Social Norm</td>
<td>The general social pressure for a person to express the behavior in question (including social norms regarding the reliability and reputation of the products and brands)</td>
<td>(Fishbein and Ajzen, 1975)</td>
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<tr>
<td>Compatibility</td>
<td>The connection, consistency and support between the behavior and existing or generally expressed behaviors (including brand compatibility)</td>
<td>(Rogers, 2003)</td>
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<td>Financial Advantage</td>
<td>The extent to which the expression of the behavior offers an individual the opportunity to save money, earn money, etc.</td>
<td>(Henard and Szymanski, 2001; Rogers, 2003)</td>
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<tr>
<td>Invariance</td>
<td>The extent to which the behavior consistently recurs over time (including e.g. service quality)</td>
<td>(Heylighen, 1998)</td>
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<td>Self-justification</td>
<td>The extent to which the components of a behavior mutually support each other</td>
<td>(Heylighen, 1998)</td>
</tr>
<tr>
<td>Openness to New Experiences</td>
<td>The extent to which a person is inclined to try new things, possibilities and theories, as opposed to sticking to what is practical, tried and tested.</td>
<td>(Hofstee, Raad and Goldberg, 1992; Roehrich, 2004)</td>
</tr>
<tr>
<td>Proselytism</td>
<td>The extent to which a person attempts to influence other individuals’ attitudes or overt behavior and tends to tell others of their product-related experiences.</td>
<td>(Heylighen, 1998)</td>
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<tr>
<td>Importance Placed on Source Credibility</td>
<td>The extent to which a person is inclined to take account of the expertise or trustworthiness of the person or organization providing information about sector-specific products.</td>
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<tr>
<td>Persuadable</td>
<td>The extent to which a person listens to others and is open to believing them as opposed to being skeptical.</td>
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<tr>
<td>Opinion Leadership</td>
<td>The extent to which a person is able to informally influence other individuals’ attitudes or overt behavior relating to sector-specific products.</td>
<td>(Rogers, 2003)</td>
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### Chapter 5  Determinants of Social Contagion during New Product Adoption

<table>
<thead>
<tr>
<th>Latent Construct</th>
<th>Manifest Variable</th>
<th>Key Publications</th>
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<tbody>
<tr>
<td></td>
<td>6. Inquisitive: The extent to which a person is curious and keen to see what is going on.</td>
<td>(Kiel and Layton, 1981)</td>
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<td></td>
<td>7. Observant: The extent to which a person pays close attention to other people and is aware of what happens around them.</td>
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<tr>
<td>Consumer Fidelity</td>
<td>1. Conscientiousness: The extent to which a person operates carefully and systematically, as opposed to spontaneously or apparently chaotically.</td>
<td>(Hofstee, Raad and Goldberg, 1992)</td>
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<td></td>
<td>2. Ambition: The extent to which a person is driven to succeed and achieve ever increasing goals, as opposed to being stoical and content to settle with one’s current state of being.</td>
<td>(Digman, 1997)</td>
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<td>3. Self-efficacy: The extent to which a person has confidence in his or her ability to perform a sector-specific product-related behavior as opposed to preferring to gain help from others.</td>
<td>(Bandura, 1977)</td>
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<td>4. Need for simplicity: The extent to which a person values ease and clarity in products as opposed to enjoying the challenge posed by complexity.</td>
<td>(Ostlund, 1974)</td>
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<td>5. Intelligent: The extent to which a person has a high cognitive capacity and makes well thought-out decisions.</td>
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<td></td>
<td>6. Safety-seeking: The extent to which a person is watchful and cautious as opposed to being a person of action or a risk-taker.</td>
<td>(Ostlund, 1974)</td>
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<tr>
<td>Consumer Longevity</td>
<td>1. Emotional stability: The extent to which a person behaves in a calm, steady, cool and self-confident manner, as opposed to being anxious, insecure, worried and emotional.</td>
<td>(Hofstee, Raad and Goldberg, 1992)</td>
</tr>
<tr>
<td></td>
<td>2. Conformism: The extent to which a person subscribes to popular attitudes, norms and behaviors, as opposed to holding less popular standpoints or expressing less popular behavior.</td>
<td>(Bikhchandani, Hirshleifer and Welch, 1998)</td>
</tr>
<tr>
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<td>3. Product involvement: The extent to which a person is familiar with and committed to sector-specific products.</td>
<td>(Zaichkowsky, 1994)</td>
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<td></td>
<td>4. Sector-specific self-relevance: The extent to which a person considers their choice of sector-specific products as having personal significance and as a way to communicate something important about themselves to others.</td>
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<td></td>
<td>5. Usage of related sector-specific products: The extent to which a person currently makes use of sector-specific products.</td>
<td>(Alba and Hutchinson, 1987)</td>
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<td></td>
<td>6. Agreeableness: The extent to which a person has a prosocial and communal orientation towards others. Including being kind, trusting, generous, sympathetic, cooperative and warm.</td>
<td>(Hofstee, Raad and Goldberg, 1992)</td>
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</table>
The six constructs described in this section are hypothesized to have a positive effect on social contagion and thus indirectly influence the market demand (see Figure 5.1). In the next sections of this paper this hypothesis as well as the conceptual model are tested. Using Partial Least Squares Path Modeling the main determinants of social contagion are identified and the effect that social contagion has on market demand is measured.

### 5.2 Method

#### 5.2.1 Data collection

To conduct a quantitative assessment of the determinants of social contagion, we study two markets, namely information and communication technology products for telecom and for financial markets in the Netherlands. For each of the two markets, the database consists of two parts: 1) actual sales data for each product-segment combination, and 2) expert judgments of product attributes and segment characteristics. In order to be able to make comparisons between the two sectors we only included products in our dataset which, when released, were intended for the mass consumer market and explicitly excluded niche products. Every customer in every segment had the potential to use every product.

The first part of the database consists of the dependent variable: market demand. For the telecom market, sales data are available for six products, including interactive television via internet (IPTV). For the financial services market, sales data is available for four products, including personal internet banking. Furthermore, these data sets report product sales at the segment-level. The telecom market is divided into ten consumer segments based on general life-style and stage in the family life cycle of the population of Dutch households, known as the MOSAIC segmentation (Experian, 2007) and the financial services market is dived into sixteen segments based on psychographics. The latter is a company-specific and confidential segmentation. For the purposes of this study, the segmentation provided enough information about each segment: both sales data per product per segment for the first part of our database as well as a description of typical consumer characteristics per segment for the second part of the database (see below). Information about the segments was available in

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<tbody>
<tr>
<td>Time elapsed since market introduction</td>
<td>Number of months between market introduction and measurement of market demand per product</td>
<td>Single item measure</td>
</tr>
<tr>
<td>Market demand</td>
<td>Actual sales figures per product per consumer type</td>
<td>Single item measure</td>
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</table>
terms of their hobbies, interests, demographics, work, home situation, types of buying behavior as well as their typical usage of existing banking products. For example, one segment is based on people who aim to be efficient in order to make life easier for themselves, have a high socio-economic status and are in the age category 55+. Hence, in total we collected sales data for 124 product-segment combinations: 60 for the telecom market and 64 for the financial services market. The sales data is used as an indicator of the dependent latent variable: market demand. The telecom data was in the form of the total number of subscribers per product per segment as of May 2007. We calculated the penetration rate per segment by dividing the number of subscribers per segment by the company’s total number of customers per segment. For the financial services, data was available per product per segment, namely the average number of usage sessions for an average customer in that segment during three separate months: April 2006, October 2006 and April 2007. Finally, the data from both sectors were converted to a 100-point index indicating the relative penetration rate per product for each market segment.

The second part of the database consists of the independent variables that serve as indicator variables for the first-order latent constructs (Product Fecundity, Product Fidelity, Product Longevity, Consumer Fecundity, Consumer Fidelity, and Consumer Longevity) and thereby indirectly for the second-order latent construct social contagion. For these independent indicators, measuring the product attributes and consumer characteristics, questionnaires were distributed to eight experts of information and communication technology product development and marketing. These experts came from five different organizations in the Netherlands and were selected on the basis of their marketing and new product development knowledge and experience. However, none of the experts has specific, insider knowledge of the products and consumer segments under study. For each of the products included in the study the experts were provided with information on related and competing products. For each product, a questionnaire was completed by each expert with a single question per indicator variable (see Table 5.1) to be rated on a 7-point Likert-type scale (1 = “Very much less than the average of the other products” to 7 = “Very much more than the average of the other products”). In addition, detailed information was provided to each expert on all consumer segments for both markets. For each of the markets, separate questionnaires were completed by the eight experts for the segments comprising 23 questions, again to be rated on a 7-point Likert-type scale (1 = “Very much less than the average of the other segments” to 7 = “Very much more than the average of the other segments”). The two questionnaires can be found at http://downloads.tno.nl/ict/. It is important to note that the experts were not asked to make any form of prediction or to link product attributes and consumer segment characteristics to each other or to market demand in any way.
As a measure of the interjudge reliability, Cronbach’s alpha was calculated for the experts’ scores across all questions for both markets together (\( \alpha = 0.868 \)), for the telecoms market only (\( \alpha = 0.872 \)) and for the financial services market only (\( \alpha = 0.865 \)). The assumption here is that we can treat the data from the 7-point scales as interval level (Blaikie, 2003, p.231; Peter, 1979; Viswanathan et al., 2004). The argument for this is strong as we worded the response levels to imply a symmetry around the central level and we accompanied the text with a visual analogue scale, showing equal spacing of response levels. As an alternative, Rust and Cool (1994) propose the PRL measure which does not assume interval level data. The authors publish reliability tables for 2, 3, 4 and 5 categories. We have calculated the proportion of interjudge agreement (0.27 – 0.33) and approximated the PRL reliability levels for 7 categories. This gives us reliability for all judgments (0.81), for the telecoms market only (0.83) and for the financial services market only (0.79) (to be interpreted similar to Cronbach’s alpha). As all these inter-judge reliabilities are high, we conclude that the experts tend to have sufficiently similar opinions about the product attributes and consumer characteristics.

The exogenous construct, time elapsed since market introduction, was measured by gathering data on the time, in months, since each product was released into the mass market in the Netherlands. This varied from 12 to 129 (mean 71) and all products had been through their initial growth curve and were in the mature phase of their market cycle. Besides this empirical measure, the method we propose means that the analysis is embedded in a particular time frame due to the information included regarding the market context. The experts provided scores based on the relative quality of the product characteristics compared to related and competing products. This means that it would be possible to make assumptions about changes in the market (future price reductions, new competitors, etc.) and to predict the market demand for that altered situation.

5.2.2 Analysis

To study the antecedents and effects of social contagion, we formulate a Structural Equation Model (SEM) including a path model (Figure 5.1) and a measurement model (Table 5.1) (McDonald and Ho, 2002), in particular using a hierarchical component model (Jöreskog and Wold, 1982). The exogenous latent variables are of a formative nature (Diamantopoulos and Winklhofer, 2001) as the different indicators of the measurement model together form the six exogenous latent constructs and there is no reason for the indicators for a particular latent construct to highly correlate as they would for reflective scales. The inner path model is also formative in nature, due to the theoretical basis for the model described above, where fecundity (the amount of copies made of a behavior), fidelity (the quality of the copies) and longevity (the duration of the copies) together determine the degree of social contagion. When both the measurement model and the endogenous model are formative, the SEM is known as a
Type 4 model (Jarvis et al., 2003). We incorporate a second order latent construct for social contagion with repeat indicators (Lohmöller, 1989). Using this approach, we do away with the need to find a measure of social contagion, such as the proxy of geographical proximity (Bell and Song, 2007; Bradlow et al., 2005; Conley and Topa, 2007; Garber et al., 2004; Goolsbee and Klenow, 2002; Manchanda, Xie and Youn, 2008; Niraj and Janakiraman, 2008).

We used the Partial Least Squares (PLS) form of SEM (Fornell and Cha, 1994), because our model is prediction oriented. Also, PLS does not make assumptions about the population or scale of measurement and as such there are no distributional requirements, such as independent and identical Normal distributions (Fornell and Bookstein, 1982). We used the SmartPLS software (Ringle et al., 2005), which allows for single and multi-item measurement and the use of formative indexes (Hennig-Thurau et al., 2007).

5.2.3 Model fit

In PLS, the overall model fit can be assessed using the variance explained of the dependent variable (Tenenhaus et al., 2005). The amount of variance in market demand explained by the social contagion construct and the time elapsed since market introduction is 0.453 and 0.386 for the telecom products and financial services, respectively, which can be categorized as large (Cohen, 1988). Predictive relevance ($Q^2$) is another indicator of model fit (Wilson et al., 2007). This measure is calculated omitting every third data point from the data set and then estimating the missing values from the reduced-data model. $Q^2$ values above zero give evidence that the omitted values are well reconstructed and the model has predictive relevance. For our model, the predictive relevance measure is 0.423 and 0.225 for the telecom products and financial services, respectively. Hence, from both statistics, we conclude that the overall fit of our model is highly satisfactory.

Besides overall model fit, we examine the fit of the measurement component of the model. All our six explanatory latent constructs antecedent to social contagion have formative indicators. The correlations between these indicators should not be too high. To examine possible multicollinearity problems, we computed the Variance Inflation Factor (VIF) for each indicator. For the telecom products (financial services), the VIFs are all below the threshold of 5 (Kutner et al., 2004), with a maximum of 4.39 (4.69) and an average of 2.09 (2.00). Hence, correlations between the indicators are sufficiently low for each of the six latent constructs.

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13 The mathematical equations for our conceptual model are the standard PLS path modelling equations, as described for example in (Chin, 1998; Haenlein and Kaplan, 2004; Wold, 1975; Wold, 1985) and the interested reader is directed to these texts for reference.
5.3 Results

Table 5.2 shows the results of the PLS analysis for both the telecom products market and the financial products market. In general, the findings are highly similar for the two markets. Social contagion is shown to have a positive relationship with market demand which can be considered to be of a moderate level (c.f. Chin, 1998, p. 323). Our analysis shows that the product attributes have a far stronger effect on social contagion than do the consumer characteristics. As well as this, we see a particularly strong effect of product fecundity, i.e. the product attributes which stimulate people to begin using that product. The relationship between the time a product has been on the market and the market demand for that product is significant and positive albeit weaker than the social contagion effect.

Next to the main effects, we examined potential interaction effects between the product dimension and the corresponding consumer characteristics, for example product fecundity and consumer fecundity. Hence, how do the consumers who generally tend to try more new products react to products which are more contagious than normal? We used the SmartPLS program to calculate the interaction effects between latent variables by creating new exogenous latent interaction variables each with a formative index of the standardized product of the relevant measurement indicators. This showed no significant effects. Therefore, we limit the further discussion to the main effects model.

Table 5.2.
Path coefficients for the determinants of social contagion.

<table>
<thead>
<tr>
<th>EFFECT OF</th>
<th>ON</th>
<th>TELECOMS SECTOR PRODUCT-MARKET COMBINATIONS (N=60)</th>
<th>FINANCIAL SECTOR PRODUCT-MARKET COMBINATIONS (N=64)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Fecundity</td>
<td>Social contagion</td>
<td>0.717*</td>
<td>0.869*</td>
</tr>
<tr>
<td>Product Fidelity</td>
<td>Social contagion</td>
<td>0.185*</td>
<td>-0.128</td>
</tr>
<tr>
<td>Product Longevity</td>
<td>Social contagion</td>
<td>0.148*</td>
<td>0.252*</td>
</tr>
<tr>
<td>Consumer Fecundity</td>
<td>Social contagion</td>
<td>0.023</td>
<td>0.004</td>
</tr>
<tr>
<td>Consumer Fidelity</td>
<td>Social contagion</td>
<td>0.083</td>
<td>0.095</td>
</tr>
<tr>
<td>Consumer Longevity</td>
<td>Social contagion</td>
<td>0.139</td>
<td>-0.109</td>
</tr>
<tr>
<td>Time elapsed since market introduction</td>
<td>Market demand</td>
<td>0.136*</td>
<td>0.142*</td>
</tr>
<tr>
<td>Social contagion</td>
<td>Market demand</td>
<td>0.572*</td>
<td>0.567*</td>
</tr>
<tr>
<td>R² Market demand</td>
<td></td>
<td>0.453</td>
<td>0.386</td>
</tr>
</tbody>
</table>

* Significant at 0.05 level.
Table 5.3 shows the correlations between the exogenous latent variables. For both markets, the product characteristics show substantial correlations, of about .50. The consumer constructs from the telecoms data are more strongly correlated than those from the financial services market. One possible explanation for this finding is that the segments of the telecom market are less differentiated on multiple dimensions. On the one hand, some segments contain all-round positive stereotypes who are energetic, socially engaged and capable, thus scoring highly on consumer fecundity, consumer fidelity and consumer longevity. On the other hand, other segments may have been more timid, with lower self-efficacy, resulting in generally lower scores on all three consumer constructs. This was not the case for the segments used in the financial market.

**Table 5.3**  
**Correlation tables for the exogenous latent variables.**

<table>
<thead>
<tr>
<th>TELECOM MARKET</th>
<th>PRODUCT FECUNDITY</th>
<th>PRODUCT FIDELITY</th>
<th>PRODUCT LONGEVITY</th>
<th>CONSUMER FECUNDITY</th>
<th>CONSUMER FIDELITY</th>
<th>CONSUMER LONGEVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Fidelity</td>
<td>0.643</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product Longevity</td>
<td>0.625</td>
<td>0.530</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consumer Fecundity</td>
<td>0.064</td>
<td>0.064</td>
<td>-0.022</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consumer Fidelity</td>
<td>0.039</td>
<td>0.031</td>
<td>0.004</td>
<td>0.779</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consumer Longevity</td>
<td>0.041</td>
<td>0.019</td>
<td>0.007</td>
<td>0.820</td>
<td>0.751</td>
<td></td>
</tr>
<tr>
<td>Time elapsed since market introduction</td>
<td>0.671</td>
<td>0.513</td>
<td>0.508</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FINANCIAL MARKET</th>
<th>PRODUCT FECUNDITY</th>
<th>PRODUCT FIDELITY</th>
<th>PRODUCT LONGEVITY</th>
<th>CONSUMER FECUNDITY</th>
<th>CONSUMER FIDELITY</th>
<th>CONSUMER LONGEVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Fidelity</td>
<td>0.550</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product Longevity</td>
<td>0.585</td>
<td>0.300</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Segment Fecundity</td>
<td>0.229</td>
<td>0.101</td>
<td>0.050</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Segment Fidelity</td>
<td>0.126</td>
<td>0.085</td>
<td>0.049</td>
<td>0.117</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Segment Longevity</td>
<td>0.145</td>
<td>0.163</td>
<td>0.158</td>
<td>0.189</td>
<td>0.426</td>
<td></td>
</tr>
<tr>
<td>Time elapsed since market introduction</td>
<td>0.210</td>
<td>-0.078</td>
<td>0.238</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
</tbody>
</table>

It is interesting to assess the effect of any changes that may be made in the development of the product. As a result of an initial analysis of social contagion, it may become clear that some of the product attributes should be improved in order to enhance that product’s social contagion and therefore its chance of success. We can
assess the predicted impact on market demand of hypothetical improvements to the products included in this study. By way of illustration, Table 5.4 shows expected increases in market demand if the determinants of social contagion are hypothetically improved. We calculated this by assuming an increase of one standard deviation for each (standardized) measurement indicator per latent construct (Product Fecundity, Product Fidelity and Product Longevity). The increase in the relevant latent construct is then a summation of the weights of the formative indicators. This increase in the latent construct values can then be multiplied by the coefficients from Table 5.2 to determine the expected increases in market demand. This exercise show what product development managers may expect as a return on their development investments. Table 5.4 shows that these hypothetical increases are large, ranging up to nearly two standard deviations in market demand. The assumption that all product attributes can be improved may be unrealistic given financial and time constraints, nevertheless this analysis does show that such an approach has potential for guiding product development activities.

Table 5.4.
Expected effect on Market Demand when product determinants of Social Contagion are hypothetically improved.

<table>
<thead>
<tr>
<th>HYPOTHETICAL INCREASE BY 1 STANDARD DEVIATION OF:</th>
<th>RESULTING INCREASE IN MARKET DEMAND IS: (NUMBER OF STANDARD DEVIATIONS)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Telecom market</td>
</tr>
<tr>
<td>Product Fecundity</td>
<td>1.74</td>
</tr>
<tr>
<td>Product Fidelity</td>
<td>0.66</td>
</tr>
<tr>
<td>Product Longevity</td>
<td>0.94</td>
</tr>
</tbody>
</table>

This analysis of social contagion can help product developers to focus on improving the key product characteristics (see Table 5.1) of their product, compared to related and competing products. If they do this, the results shown in Table 5.4 suggest that their product will enjoy a far greater market uptake than it would have without the analysis and improvements.

Our results (Table 5.2) clearly indicate that the product attributes are dominant in explaining the variance in market demand when compared to consumer characteristics. The original sales data also show a pattern in which the level of sales differs a great deal between products yet only differs marginally across customer segments for each product separately. By standardizing our sales data within segments, i.e. we subtract the product average and divide by the standard deviation per segment, we can
investigate whether there is an underlying consumer effect, albeit a relatively weak one. Table 5.5 shows the results of a PLS path modeling analysis using this transformed sales data. In this case we find R² values of 15 and 5% for the telecoms and financial market segments respectively and, notably, a significant effect of Consumer Fidelity on social contagion in the telecoms market. This suggests that in the telecoms segments the consumers’ effect on social contagion is particularly driven by a general tendency to make accurate copies of new product-related behaviors.

Table 5.5.
Path coefficients for the determinants of social contagion using transformed sales data to remove variation between products.

<table>
<thead>
<tr>
<th>EFFECT OF</th>
<th>ON</th>
<th>TELECOMS SECTOR PRODUCT-MARKET COMBINATIONS (N=60)</th>
<th>FINANCIAL SECTOR PRODUCT-MARKET COMBINATIONS (N=64)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumer Fecundity</td>
<td>Social contagion</td>
<td>-0.158</td>
<td>0.417</td>
</tr>
<tr>
<td>Consumer Fidelity</td>
<td>Social contagion</td>
<td>0.851*</td>
<td>-0.031</td>
</tr>
<tr>
<td>Consumer Longevity</td>
<td>Social contagion</td>
<td>0.342</td>
<td>0.635</td>
</tr>
<tr>
<td>Time elapsed since market introduction</td>
<td>Market demand</td>
<td>0.002</td>
<td>0.002</td>
</tr>
<tr>
<td>Social contagion</td>
<td>Market demand</td>
<td>0.392*</td>
<td>0.211*</td>
</tr>
<tr>
<td>R² Market demand</td>
<td>0.154</td>
<td>0.047</td>
<td></td>
</tr>
</tbody>
</table>

* Significant at 0.05 level.

5.4 Discussion

Our study focuses on determinants of social contagion to explain market demand. We have formed a framework for categories of determinants of social contagion. Firstly, a distinction is made between product and consumer related variables. Secondly, a distinction is made between variables reflecting fecundity of a product-related behavior (i.e. the number of copies which are made of a product-related behavior), the fidelity of those copies (i.e. whether the consumers are able to carry out the product-related behavior in the right way), and the longevity of the product-related behavior (i.e. whether customers keep on expressing the behavior over a long period of time). We identified both customer and product aspects that are related to fecundity, fidelity and longevity. As a result we combined both categorizations and formed six explanatory variables. We propose variables which form these six constructs, taken from characteristics of the products and of the consumer segments and in our analysis we use formative indexes as, conceptually, the variables ‘form’ the constructs. This is the first
time that an empirical analysis of determinants of social contagion has been published in the Innovation Management literature. Added to this, we assess the predictive power of this approach for estimating a new product’s market demand.

Table 5.2 shows how the six variables relate to the latent variable social contagion, which is then in turn related to actual market demand, controlling for the effect of time elapsed since market introduction. Our results clearly indicate that this way of assessing a new product’s social contagion properties has significant predictive power. The results indicate that social contagion measured in this way explains around 32-33% of the variance in actual demand for several new information and communication technology and banking products. This compares favorably with similar studies using other factors to explain market demand, especially when taking into account that this study explains actual purchasing and usage behavior in contrast with studies using consumers’ purchase intentions or requirements as the dependent variable. Such measures of inferred demand are only indirectly related to actual purchase behavior. Sheppard, Hartwick and Warshaw (1988) showed in a meta-analysis that the average correlation between intention and actual behavior is 0.53. Hence, perfectly measured purchase intention explains only about 28% of the variance in actual market demand. Compared to this finding, our result that the three-part approach to measuring social contagion explains around 33% of the variance in actual consumer behavior is important.

We also zoomed in to look at the role of individual determinants of social contagion. There have been recent calls for new research into product and market characteristics as performance predictors (Benedetto, 2009; Henard and Szymanski, 2001; Page and Schirr, 2008). We believe that our approach, looking at product and consumer determinants of new product success, goes some way to addressing these calls. We show that the product attributes are dominant in explaining the variance in market demand when compared to consumer characteristics. This may be typical for the sort of mass-market products included in this study whereby products either diffuse throughout a wide range of consumer segments or else they do not diffuse at all. We expect that this pattern is very different for niche market products where social contagion within a specific consumer segment may be more important.

Product Fecundity appears to be by far the most important explanatory variable (Table 5.2). This finding may be of great interest to product developers. If product development attention and resources are focused on making sure that users, one way or another, stimulate others to take the first steps with the product themselves, then this will have a large impact on that product’s success. Our results also show that Product Longevity has a significant positive effect on social contagion, albeit weaker than Product Fecundity. Hence, not only initial use, but also continued use is important (Dick and Basu, 1994) and that products which stimulate their users to keep on
expressing the behavior will exhibit higher usage levels. We do see a difference in the
effect of Product Fidelity between the two market sectors. With the telecoms data,
Product Fidelity has a positive and significant effect on social contagion, indicating
that when a product stimulates consumers to carry out the behavior in the right way
this has a positive effect on the actual usage level. But for the financial market data
this effect is negative and not significant. Perhaps here we see an effect of caution on
the part of the users of financial products. Products which appear very easy to use
may be perceived as being less secure based on a perceived security–usability trade
off. Whether this is the case could be tested in a future study aimed specifically at a
wider range of products in the financial sector.

We could also show what effect hypothetical improvements to the social contagion
properties of products can have. By applying the coefficients found in our analysis and
increasing the product-related determinants of social contagion by one standard
devation, we see increases in market demand of between 0.5 and 1.74 standard
deviations. Increasing Product Fecundity by one standard deviation, for example,
would lead to an average increase in market demand of 1.59 standard deviations (see
Table 5.4). This appears to be a significant return on product development investment
and is clearly an area for further research.

In addition, our model enables relatively simple comparisons to be made across
different product variants and consumer segments. These findings can be used to
choose which product variant or target consumer groups to focus efforts on in order
to maximize social contagion and, in turn, actual market demand. We should note
with respect to the practical applicability of our method that it does not require a
working prototype, a market pilot or other costly steps. It can be carried out with
simply a description of the product which, on the one hand, makes it relatively
inexpensive and simple to apply and, on the other hand, means that it can be carried
out very early in the product development process.

This paper takes a different perspective to social contagion than is often adopted in
other papers on this topic. Social contagion is typically seen as a way to show how
one group of consumers (the lead users, innovators, opinion leaders) affects another
group of consumers (the followers, imitators, majority) (e.g., Burt, 1987a; Rogers,
2003). Such approaches then try to show how this inter-group relationship can explain
the chain reaction of product adoption from one group to another. The study described
in this paper takes a different approach by looking at the product attributes and
consumer characteristics which drive social contagion. In this way, the likelihood of
contagion is assessed without actually distinguishing between who leads and who
follows.
Different classes of methods have been developed to predict market demand for innovations. Some of them are based on the principle that potential customers can evaluate a concept of the innovation in a valid way (consumer evaluation). Other methods are based on the ability of experts to evaluate the market potential for an innovation (expert evaluation) or on the possibility that future developments can be derived from datasets (extrapolation). A problem is that major product innovations show relatively high failure rates and would therefore benefit most from the ability to predict market demand prior to market launch. However, exactly for these types of innovations traditional methods of prediction do not suffice. Consumer research, expert interviews, data analysis and other traditional methods that investigate future demand for product innovations almost invariably suffer from impaired validity (Taschner, 1999). The impaired validity of these traditional methods inspired Christensen, Anthony and Roth (2004) to propose a theoretical approach in which basic mechanisms of innovation rather than direct evaluation or extrapolation are used to infer future market developments. We decided to focus on one of these mechanisms underlying diffusion of innovations: social contagion.

Our results show that the product attributes have a stronger effect than the consumer characteristics on social contagion. An alternative explanation is that the product attributes were more accurately assessed than the consumer characteristics were. In this study, the experts were asked to provide scores on the strength of different product attributes and consumer characteristics. It is important to note that they were not asked to provide any prediction of market demand. The information they used as a basis for assessing the product-related and consumer-related variables differed. They were able to produce scores for the product-related behavior based on direct information about the actual product. For the customer segments, however, the situation is somewhat different. The whole idea of forming segments represents an abstraction from the behavior of individual consumers. It represents a proxy of the actual consumer differences. We had to rely on segments as used by the telecoms and banking companies involved. These segments were built carefully but are meant to explain differences in customer behavior across the entire product categories of telecommunication or banking products and services. This means that the experts were not producing scores for the customers directly, but for generalized groups. So, our approach may have allowed for clearer differences between the product-related variables.

This paper looks at the link between the social contagion of product-related behavior and the market demand for that product. However, we cannot directly say how social contagion relates to product purchases because the firm in question may make money from product sales (e.g. consumer durables) or product usage (e.g. utility products such as energy) and so the link between the product-related behavior and actual product purchases can differ. We model demand for the product, which does not make a specific distinction between purchase and usage and as such we do not claim to be
able to predict financial metrics, such as turnover or profit. This could in principle be done on a case-by-case basis by building a business model based on our predictions of market demand and is an avenue for future research.

In this study we have assessed the concept of social contagion based on the sales data for specific products from specific firms in two industries. These products were assessed in comparison to various competing products, some of which even come from the same firms. It would be interesting to repeat the analysis at different levels, such as product category or brand. Besides this, it may be interesting to assess the potential of this social contagion approach using a disaggregate model. Using commercial data in the way we have means assessing product adoption per market segment. However, in other sectors it may be possible to access to the sales data at an individual level. Assessing the determinants of social contagion at the consumer-level instead of at the segment-level is an important area of future research. Another fruitful approach, due to recent advances in agent-based modeling (Garcia, 2005), may be to simulate the effects of social contagion and to match the findings to disaggregated market data.

5.5 Conclusion

In line with some recent research we find that social contagion represents a very fruitful approach to explain consumer demand. The relatively high explained variance in the actual consumer demand indicates that this approach deserves further elaboration. This study goes a step further by identifying determinants of social contagion, using product and consumer fecundity, fidelity and longevity as explanatory variables. Besides this, an important new finding is that it is the product attributes, more than the consumer characteristics, which drive social contagion. Interestingly, it seems that we can conclude that social contagion plays an inherently stronger role in the uptake of telecoms products than it does for financial products. This may be due to the private nature of banking products which are intended to be used alone, behind closed doors. Nevertheless, this analysis shows that even for this product category, social contagion is important. Given the high pace and competitive pressure under which innovation managers operate, the approach presented in this paper offers a workable addition to traditional methods, as it is a relatively simple method that can be carried out very early in the new product development process.

5.6 References


Chapter 5  |  Determinants of Social Contagion during New Product Adoption


