Domain-Specific Innovativeness and Social Media:

Predicting New Product Purchase

Carlsson, Christoffer (22585)

Identifying innovative consumers, or early adopters, in various industries is hard for companies, though very important and useful when launching new products. If correctly identified, innovative consumers could be included into new product development by companies in co-creation, setting adequate marketing and target actions and saving money by avoiding new product failures.

Social media is nowadays a tool for users to search information and get input about trends and products. Social media content can influence product awareness, attention and trial among its users.

This thesis examines how to predict innovative usage among consumers within specific domains (industries), proceeding from and thereafter combining Goldsmith and Hofacker's domain-specific (DSI) scale and Jenkins-Guarnieri's social media integration usage (SMUI) scale. The examined domain for this thesis is the prepared food industry in Sweden. A survey was distributed and answered by 1008 people from a representative sample.

The results show a positive correlation between SMUI with both DSI and new product purchase, and that the combined tool developed in this thesis improves the predictive validity towards new product purchase in the domain, compared to using the DSI scale from r=0.426 to r=0.584 (P=0.000). Thus, this thesis supports the combined scale for identifying innovative users, which could be of importance for both business and academy. However, further research validating the scale for other domains and markets as well as adjustments of the scale might be needed before the combined scale can be fully trusted.

Keywords: Domain-specific innovativeness, Identifying early adopters, Social media, Predicting new product purchase, Social media integration usage, New product development, Co-creation

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Supervisor: Modig, Erik
Examiner: Rovira, Emilia

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1. Introduction

Every year, companies launch large volumes of new products – about 45% of these products fail (Hoffman et al. 2010; Griffin 1997). There may be multiple reasons explaining a failure, but one key to successful new product introduction is identifying the minority of consumers who are the first to buy in the specific product market. Early adopters play an important role in the new product life cycle. Further, early adopters are likely to be heavy users in the future, helping promoting products to later buyers through word-of-mouth and legitimizing the product to others. (Goldsmith and Flynn 1992; Goldsmith 2001)

Developing new products is costly and risky, but still very important for companies. By identifying innovative users, companies would be able to utilize these users for advices in the new product development through co-creation (Füller et al. 2012). Early adopters and innovative users can help in identifying targets of marketing actions and setting such actions aimed to different targets, concerning advertising, themes of messages, argumentation, prices, promotional actions and risk acceptance, and distribution-choosing stores and future evolution of market coverage. (Dobre et al. 2009)

Co-creation The propensity of firms to collaborate with consumers across all stages of the new product development process (Hoyer et al. 2010).

Early adopter A consumer within the first 16% who adopts a new product, but not including the first 2.5% innovators (Rogers 1983).

Innovativeness Innovativeness is the predisposition of a consumer to adopt a product earlier than most others (Dobre et al. 2009). Innovativeness is the degree to which an individual is relatively earlier in adopting an innovation than other members of his system (Rogers and Shoemaker 1971).

Innovator A consumer that is one of the first (within the first 2.5%) to buy a new product (Rogers 1983).

Only a few people adopt a new product initially, but it may spread to others if the reaction is favorable. Marketing could be focused towards these early users, if identified (Goldsmith 2001). Encouraging buying among innovative users enhances the spread of the practice among later adopters, who want to see how earlier users react before they themselves buy.

A new phenomenon today is people spending much time (on average 37 minutes) on social media every day (Businessinsider 2014). People influence each other, search information and learn about new products and services on social media. Social media is filled with ads and marketing activities, both arranged by companies and from recommendations of people, friends and contacts. Thus, social media is a potential influencer/affective factor of how quickly you get to know about new products and services. Yet, usage of social media is not taken into account when measuring innovativeness. This thesis combines theories of innovativeness and social media usage in order to improve the concurrent validity towards new product purchase.

Social media Online social networking sites through which to share experiences and communicate within social relationships (Ross et al. 2009).

1.1 Problem formulation

The methodology for measuring innovativeness within specific domains does not take social media networking activities of the modern society into consideration. Social media has grown to become an important arena for consumers today (Jenkins-Guarnieri et al. 2013). People who spend more time on social media are likely to read and watch not just ads about new products, but reviews and comments from friends and connections (Kaplan and Haenlein 2010). Since more information is provided directly and immediately for social media users, the level of innovative behavior could be increased because of better knowledge about new products.

Domain In this thesis, consumer industry. For example rock music albums, travel or wine (Goldsmith and Hofacker 1991).

Measuring innovativeness can be used using several established scales. These scales are rather different in focus towards what they measure, how they are validated and, the level of concurrent validity towards the measured item. Therefore, it is challenging for companies to identify early adopters today. Increasing the level of concurrent validity on innovativeness scales would not just make it easier for companies to identify the right consumers, but also reduce costs and procedure time associated with such identification. However, today this identification process is not easy and is seldom done at all. The research area of finding and identifying innovative consumers could be easier applicable for companies if methods showed higher concurrent validity.

1.2 Purpose

The purpose of this thesis is to better be able to identify innovative users as consumers. First of all, the aim is to study effects between domain-specific innovativeness (DSI), social media integration usage (SMUI) and new product purchase. After that, the intention is combining the domain-specific innovativeness with SMUI scales into a tool which could potentially be used for improving concurrent/predictive validity towards new product purchase among early adopters.

1.3 Expected contribution

By better understanding how to identify early adopters in various domains and industries, companies would be able to better launch new products, since they could involve them in co-creation of new products and marketing messages to avoid a failure later on. The expected contribution of this thesis is additional input for the tools of identifying those innovative users; in the future, such knowledge could help companies in targeting and deciding marketing actions in different domains and categories.

If combining social media usage and the domain-specific innovativeness scales are supported with empirical evidence in this thesis, it would support further research for increasing the concurrent validity towards new product purchase in other industries as well, to be able to make adjustments in the new measuring tool before it can be fully trusted. By increasing the concurrent validity, companies would possibly be able to make a more accurate identification of the most innovative users, saving money in recruiting those consumers.

1.4 Disposition

The contents of this thesis is divided into 7 chapters. Chapter 1 is the introduction to the research area including background, problem formulation, purpose and expected contribution. In Chapter 2 the theoretical background on which the study is built is reviewed. Chapter 3 describes the method used when conducting the study as well as a discussion of its reliability and validity. Analysis and reporting of results are presented in Chapter 4. This is followed by discussion and implications from the results, as well as limitations of the study in Chapter 5. The list of references is found in Chapter 6. Lastly, appendices are in Chapter 7.

2 Theoretical framework

This chapter describes the theoretical background of the thesis. The text is divided into three main parts, with the first representing how innovativeness can be measured in different domains, the second part focuses on social media behavior and lastly, the third part is a summary of the research questions.

2.1 Measuring innovativeness in domains

There are three different types of innovativeness, according to Bartels and Reinders (2011):

- *Innate innovativeness*: innovativeness is "a function of (yet to be specified) dimensions of the human personality".
- *Domain-specific innovativeness*: captures an individual's predisposition toward a product class and reflects the tendency to learn about and adopt new products within a specific domain of interest.
- *Innovative behavior*: describes a measure of early adoption: that is the degree to which an individual's purchase or use of an innovation precedes that of other consumers.

Different methods of measuring innovativeness are summarized in *Consumer Innovativeness - Concepts and measurements* (Roehrich 2004). Developed for different purposes and with varying validation, four of the scales presented are:

- Baumgartner and Steenkamp's exploratory product acquisition
- Raju's scale
- Roehrich's scale
- Goldsmith and Hofacker's scale (DSI scale)

2.1.1 Baumgartner and Steenkamp's exploratory product acquisition

This scale is based on exploratory acquisition of products and exploratory information seeking (Lastovicka et al. 1988). The authors argue that if a consumer has a high exploratory acquisition of products level, he or she is more likely to purchase an unfamiliar product, try new products and change the purchase behavior. Further, the scale has 10 items and is highly correlated with sensory sensation seeking (r=0.43) and stimulation need (r=0.45). The predictive validity is confirmed by correlations with variety-seeking behavior (r=0.25) and innovative behavior, see definition above (r=0.16). (Roehrich 2004)

2.1.2 Raju's scale

Raju's scale measures consumer tendencies towards exploratory behavior. It has 10 statements, which are formulated like similar scales. Raju receives high correlations with a sensation seeking scale. (Roehrich 2004)

2.1.3 Roehrich's scale

This scale comprises of two dimensions which are hedonist innovativeness (need for stimulation) and social innovativeness (need for uniqueness). Correlation with new product purchase is r=0.31. (Roehrich 2004)

2.1.4 Goldsmith and Hofacker's scale

Goldsmith initiated the DSI scale in 1991 in order to measure innovativeness in cross-data of individuals and domains. The examined domain was rock music albums. Since innovativeness can vary between individuals and domains, the scale is considered suitable in order to measure innovativeness for a specific industry and therefore relevant for companies to use (Roehrich 2004; Nyeck et al. 2000) The advantage over other scales, is that the DSI scale enables a focus on a specific domain/industry; a person may be innovative in one domain, for example traveling, but not so innovative in another domain, for example cooking. An idea by Goldsmith (2001) is that heavy usage is associated with a greater involvement in the product category (i.e. a greater interest) which will lead to consumers being more innovative within the domain. Roehrich (2004) comments on Goldsmith's DSI scale:

> *"The best predictive validity is reached by domain-specific measurement of social innovativeness, which dominates individual innovativeness in the Goldsmith and Hofacker's scale. Dimensions such as independence of judgment, attitude toward risk/change or creativity have no predictive validity."*

In order to illustrate the DSI, consider a person A with a great interest in traveling. This person will search for information about exotic destinations and discuss traveling with other people. This results in an increased likelihood that this particular person A goes to new exotic destinations, for example Pacific islands far away.

Consider a person B not so interested, however, who may still consume travels but is more likely to go to traditional destinations such as Mallorca or Greece. Person A can thus be considered as innovative in the domain of traveling, whereas person B does not.

However, person A may not be innovative in other domains, such as cooking or computer software. Though, person B may be interested in those domains and therefore probably more innovative and open for new experiences.

The more interested in a specific field, the more likely that the person becomes an early adopter and innovative user in the particular domain (Goldsmith 2001). Therefore, the aim of this thesis is not to find any general innovativeness level among consumers, such as the innovative behavior or innate innovativeness mentioned above, but within specific industries (domains).

The scale consists of six items on a Likert scale, of which four compare the responder with others in social innovativeness whereas the other two are more behavior-oriented for the responder him/herself. The DSI scale measures the level of innovativeness within a certain domain for each consumer. Using this scale, findings have shown that correlations between the scale and new product purchase in various examined industries have obtained values of r=0.38-0.63 (Roehrich 2004).

The scale is examined for in several industries, for example wine (Goldsmith, d'Hauteville and Flynn 1998), fashion clothing (Goldsmith and Flynn 1992; Goldsmith and Freiden 1995), electronics (Goldsmith and Freiden 1995), rock music albums (Goldsmith and Hofacker 1991) and internet usage (Goldsmith 2001). However, individuals innovative in one of these areas are not automatically innovative in other. The DSI scale is used in this thesis since it is precise towards any particular domain.

2.2 Measuring social media activity

Shao proposed (2009) that people perform a variety of activities online. In the purpose of illustrating what social media users actually do and what their input is, Heinonen (2011) summarized three main activities:

1. Consumption of information (reading others' creations)
2. Participation in social interaction & community development (commenting other's content)
3. Production of self-expression and self-actualization (posting one's own content)

Social media sites are for example used to portray, reconstruct and relive for instance journeys/trips. Many of the social media sites assist consumers in posting and sharing opinions, comments and personal experiences. This then serves for information to other social media users. Social media content can influence attention, awareness, trial and loyalty levels (Zheng and Gretzek 2010). Thus, one can expect that a person using social media, being exposed for much content, is more likely to be influenced to noticing, becoming aware and trying new products and services.

Heinonen's activities of social media (2011) can be measured using several different scales, for example:

- Ellison's scale (FUI Scale)
- Ross' scale (Facebook Questionnaire)
- Jenkins-Guarnieri's scale (SMUI Scale)

2.2.1 Ellison's scale (FUI Scale)

This 6-item scale was introduced by Ellison et al. (2007) and was developed for measuring Facebook usage intensity. The authors of this scale have been criticized for not reporting any analyses in developing the scale, nor has any psychometric evidence been published on data collected with this scale. Cronbach's Alpha for this scale was α=0.83 (Ellison et al. 2007).

2.2.2 Ross' scale (Facebook Questionnaire)

Ross et al. (2009) developed the Facebook Questionnaire. The scale is a 28-item survey, and includes also the 6 items from Ellison's scale as well as behavioral frequency questions. Neither Ross did present any psychometric evidence for the 6-item part, taken from Ellison.

2.2.3 Jenkins-Guarnieri's scale (SMUI Scale)

In 2013, Jenkins-Guarnieri et al. published a scale, social media use integration scale, which was based on the two scales above. This scale is focused on the integration of a site into one's social behavior and routines, as well as the emotional connection users experience with their use.

2.3 Social media and innovativeness

As Zheng and Gretznek (2010) argues, social media content can influence attention, awareness, trial and loyalty levels. They further argue that social media is seen as extremely search engine friendly, since users are encouraged to organize the contents online through activities such as for

example “tagging” and “digging”. The two authors further stated that social media has become an important component of some domains.

This thesis argues that the more active usage on social media and the more likely to get more information and input about new products on social media, the more innovative and early-adopting will the user be when new products are launched.

Q1: Is there a positive correlation between activity in social media and innovativeness?
Q2: Is there a positive correlation between activity in social media and new product purchase?

2.4 Predicting new product purchase

If combining consumers’ interests and involvements (innovativeness) of a specific domain with the level to which they integrate social media usage into their daily life routines and thus get more input from other users as well as companies, this thesis argues that concurrent/predictive validity towards new product purchase could be increased.

2.5 Summary of research questions

The DSI scale has been validated for several industries, as have the SMUI scale been for Facebook. However, the combination of them is new and unique for this study. This thesis argues that consumers scoring high on both scales will be the most suitable consumers to use in co-creation of new products and other activities where identified innovative users or early adopters are important. The research questions of this thesis are formulated in Table 1. Note that the findings from the two questions will be used as an implication of a new scale tool, by combining and weighting the DSI and SMUI scales.

Research question	Formulation
Q1	Is there a positive correlation between activity in social media and innovativeness?
Q2	Is there a positive correlation between activity in social media and new product purchase?

Table 1. List of research questions.

3. Methodology

This part describes the scientific approach and experiment design which was chosen, after which a review of the pre-study, the main study and presentation of variables measured in the study are presented. Thereafter, there is a review about the reliability and validity of the thesis. Lastly there is a record of the tools used to analyze the data collected.

3.1 Chosen approach

With the aim of examining innovative usage among consumers, a deductive study was applicable since the combination of two academic areas was the starting point (Bryman and Bell 2011), and could possibly result in an increased predictability level towards new product purchase, which companies and marketing research can use in order to be more competitive when it comes to new product development and marketing actions of new products. In order to test research questions on a general level, a quantitative study was used since it was partly based on previous theories (Ghauri and Grønhaug 2005).

A quantitative study also makes it possible to do limited generalizations within the specific group studied (Malhotra 2010), though this is not the purpose itself, it can still encourage further research of linking innovativeness to social media. The study was exploratory in as much as it tried to uncover underlying beliefs, needs and wants on both SMUI and DSI statements.

3.2 Delimitations

3.2.1 Choice of industry

In order to perform the analysis within a specific domain, one industry was chosen for this study. For this study, data could be generated from the Swedish market research company Nepa AB for the prepared food industry in Sweden, why that particular industry was chosen.

Compared to some other industries, the prepared food industry in Sweden is accessible to the broad mass, and there are a handful strong brands, as for example Findus Group, Orkla Group and Dafgård AB. For a table of market shares, see Table 2 (Euromonitor 2014). Since some brands have a strong position in this industry due to much marketing, consumers are likely to recognize and remember those brands (Aaker 1996) which will help them remember whether they bought the products or not. A large number of new products are launched every year in frozen processed food in Sweden, and the industry often manages to break new ground, encapsulating some or many of the main trends: exotic flavors, health and wellness, convenience or

more premium positioning (Euromonitor 2014). This industry has not previously been tested for DSI and whether it is possible to predict new product purchase for this kind of products.

Company Shares (by Global Brand Owner) | Historic | Retail Value RSP | % breakdown

Key: Related Analysis Chart this Row

Change View		2008	2009	2010	2011	2012	2013
Sweden							
Frozen Processed Food							
	Findus Group	-	24.5	25.1	25.8	25.4	23.0
	Orkla Group	16.3	16.2	15.1	14.3	13.7	15.2
	Dafgård AB, Gunnar	10.4	9.8	9.5	9.4	9.2	8.4
	Lantmännen ek för	4.4	4.3	4.2	4.2	4.0	4.2
	Polarica AB	0.7	0.7	1.2	2.0	2.6	3.2
	Heinz Co, HJ	2.6	2.5	2.4	2.3	2.2	2.2
	Almondy AB	1.8	1.4	1.5	1.5	1.6	1.7
	HKScan Oyj	1.9	1.8	1.8	1.8	1.7	1.6
	Frödinge Mejeri AB	1.7	1.4	1.4	1.5	1.5	1.6
	Anamma Foods AB	1.1	1.0	1.0	1.1	1.2	1.3
	Nestlé SA	1.2	1.2	1.1	1.2	1.3	1.3

Table 2. Market shares within the frozen processed food industry in Sweden. Data from Euromonitor (2014).

The choice of *frozen* food was made in order to avoid products sold in delis or local take away places, such as sushi, since it would be hard to measure new product purchase nationwide from small or local brands. The choice of frozen *processed packaged* food was to avoid frozen berries and vegetables. Consequently, the focus was packaged ready meals, which are frozen, processed, and ready to eat when thawed.

Since there are many different packaged meals available in grocery stores, and new products are released several times a year, there is no guarantee that an innovative user tries all new products. Consequently, this thesis took several new products from several big brands regarding market share into consideration, to be able to make a more full coverage analysis within the prepared food industry.

Due to the fact that a handful brands are strong, and thus likely familiar to many consumers, this thesis focus on familiar brands. The new products are extensions of existing brands and their product lines. Furthermore, the strong brands have well-established and nationwide distribution channels, why consumers from whole Sweden could possibly have purchased the new products.

The consumers with highest innate innovativeness may not eat prepared food at all. Thus, those innovative people will not be identified as innovative users in this study. However, this is what the DSI is about; it measures the consumers which are innovative in this specific domain, and it may be different people compared to adjacent industries, such as fresh or restaurant food.

3.2.2 Choice of social media

Regarding social media, Facebook is today the network with most users, 1.31 billion monthly active users, according to Statistic Brain (2014). It is a relatively old network (launched 2004) compared to other social network sites, of which some of the largest worldwide are LinkedIn 2002, Twitter 2006, Instagram 2010, Pinterest 2010 and Google+ 2011, why more research has been done, and existing usage scales developed, for example the SMUI scale, which was created for social media in general but tested for Facebook specifically (Jenkins-Guarnieri et al. 2013). For a timeline of social media launched, see Figure 1. Since other social medias than Facebook may show higher correlations with the DSI scale, the SMUI scale is in this thesis not just applied on Facebook, but on Instagram and Twitter too.

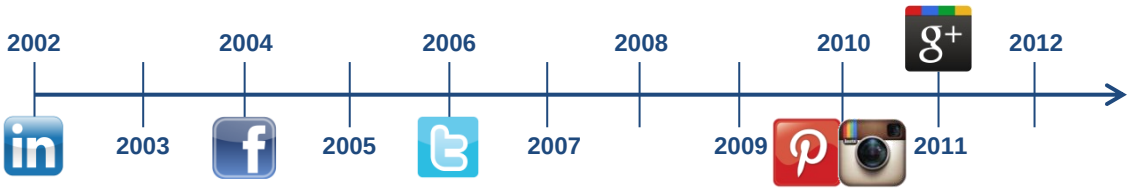


Figure 1. Timeline of year when social media launched.

Given this, one must take into consideration that any conclusion from this thesis is first of all applicable for strong brands within the prepared food industry. Facebook and Twitter are the two largest social network platforms by users. Further, Instagram is the fastest-growing social networking site globally (Techcrunch 2014), why these three social medias were used in this study.

3.3 Design of study

Since innovative users are found among the broad masses of consumers, no test/control groups were used in the study. All respondents answered the same survey, with the exception of the order of statements of Likert scales were randomized to avoid potential order biases. Randomization was used for the order of pictures of new products too.

There are many new prepared food dishes launched every year, why this thesis used pictures of new products from six of the biggest brands (Coop, Dafgårds, Felix, Findus, Grandiosa and Picard) in the category, and three dishes from every brand (except for the brand Felix, where four dishes were asked for, two soups and two pies). The motive for including many different dishes was to increase the likelihood to identify innovative users and better be able to find users who had purchased several of the new dishes.

The method used by Goldsmith and Flynn (1992) to test DSI, was asking the 6 DSI scale items, demographic items and additional behavioral questions (media usage and behavioral domain-relevant questions). The same DSI statements were asked in this thesis, though adjusted for the prepared food industry. Also, the SMUI statements introduced by Jenkins-Guarnieri et al. (2013) were asked without any modification (except for translation). The SMUI statements were applied also on Instagram and Twitter, for respondents replying using those services. The SMUI scale is validated by academia for Facebook, though it is aimed for other social medias as well (Jenkins-Guarnieri et al. 2013). The statements in the scales were translated from English into Swedish by a professional translator and the formulations were controlled by three market researchers from Nepa AB.

3.4 Pre-studies

First, four market researchers at Nepa AB and one translator looked over the survey in the first pre-study, and some corrections and changes of question order and formulations were made, for demographic and behavioral control questions (no changes were made in the scales to avoid biases from changing formulations). Also, some additional control questions concerning social media and prepared food were added.

Before making the full launch of the quantitative data collection, a soft launch pre-study was made with a representative quota sample (n=20) with three main objectives:

1. To control that data was appropriately generated.
2. To control that the questions were formulated reasonably.
3. To control that the chosen products were suitable.

3.4.1 Design of soft launch

The soft launch consisted of all parts that were to be asked for in the main study and the aim was to control whether the survey was accurately made or if some changes were needed. Concerning the first objective mentioned above – that data was appropriately generated – there were no changes needed since the response data was received and stored as wished. The data was generated adequately by Nepa AB's survey tool and stored correctly. The second objective – about question formulation – was controlled for already before the soft launch with the market researchers and thus, no additional changes were made after the soft launch.

Pictures of new products were strictly considered. The new products needed to have been launched nationwide to fit the sample, common enough to cover several different chains of grocery stores and have been on the market long enough for giving the chance to people buying them, but on the other hand still be considered as new products.

Findus Group, Orkla Group and Dafgård AB Gunnar had the biggest market shares for 2013 in frozen processed food (Euromonitor 2014). An e-mail was sent to each of the groups with inquiries for pictures of new products sold nationwide and released within the last 3-9 months. From Orkla Group, containing the Felix and Grandiosa brands, pictures of new products with these brands were used. New products from the Picard store, not as big considering its market share size or nation wideness, were added too since the concept itself is new in Sweden. Finally, new products of Coop's own brand were added before the soft launch.

The soft launch showed that the products had in stores been long enough for people to buy them. Though, not all products had been purchased by any of the 20 responders, which would be unlikely since early adopters are only a few percent. Therefore the products were considered suitable for the study, consistent with the third objective above. For a full list, se Appendix 1.

3.4.2 Evaluation before main study

The output of the soft launch showed reasonable results. All of the chosen products had been purchased by 0-5 respondents (mean was 2.53 times per product, or 12.6% of the responders) and since the definition of an early adopter is to be one of the first 16% to purchase a new product, the chosen products were considered suitable enough and no changes were made. Since the three aims of the pre-studies were controlled for, no changes were made before the full launch.

3.5 Main study

The main study was created with similar academic studies (especially those made by Goldsmith) as starting-point. Thereafter input from researchers, market researchers and translators were taken into consideration, before the pre-study ("soft launch") was performed and analyzed. Finally, the main study was sent out to recipients.

3.5.1 Design of experiment

When validating scales like the ones used in this study, time-of-adoption methods have been a common measurement in previous studies. However, Goldsmith and Hofacker (1991) argue that

time-of-adaption methods cannot be used to predict future behavior. Moreover, they depend on the faulty memory of respondents, and they may be biased by misconceptions of past events or interviewer biases (Goldsmith and Hofacker 1991). A better version of the method is of cross-sectional nature, and was proposed by Midgley and Dowling (1978):

> *Determining how many of a prespecified list of new products a particular individual has purchased at the time of the survey*".

Therefore, cross-sectional data was collected where individuals were asked at one point in time (though they did not all answer at the same moment but during a time span of seven days).

3.5.2 Collection of data

Data collection was accomplished with Nepa AB which is a Swedish market research institute. Managing over 100 panels worldwide, Nepa AB recruits panelists from several different channels (websites, emails, social media, telephone, TV, affiliate marketing). Nepa AB offers high quality of data due to quality controls in the steps of recruitment, panel management and sampling. Samples are taken from several panels, a method called blended sampling. Nepa AB therefore ensures validity overall and over time. Unique survey URLs are used to avoid multiple survey completions. (Nepa AB 2013)

In order to guarantee serious responses, "speed racers", "straight liners" and people who provide faulty background information were eliminated. Logical checks were also in place. These steps are automatically run by Nepa AB's control systems. (Nepa AB 2013)

In this study, quota samples were automatically used by Nepa AB to guarantee a representative sample. This means all quotas were filled before the data analysis was started and thus, the sample representativeness holds high quality. (Nepa AB 2013)

3.5.3 Design of experiment questions

Existing validated scales (Jenkins-Guarnieri 2013; Roehrich 2004; Goldsmith et al. 1998) were used for measuring the DSI and SMUI in order to reduce uncertainty about whether the scales were indeed accurate for measuring the purposed phenomena. However, the scales are developed for English, though the DSI scale is validated for German and French (Goldsmith et al. 1998). A professional translator translated the statements into Swedish in order to reduce the risk of errors and biases. Thereafter, three different market researchers were asked to analyze the

statements to see whether anything was unclear. Their input was adjusted for question order, but the scale items were considered good.

To improve internal reliability, multiple-item measures were used for investigating the variables. This also limits measurement errors (Bryman and Bell 2011). Statements in scales were of Likert type, which according to Alan Bryman (2012) follows the subsequent three rules:

- The items must be statements and not questions
- The items must all relate to the same object
- The items that make up the scale should be interrelated

Cronbach's Alpha was calculated for the scales to ensure their reliability and the items were investigated together for each variable. Before making the full launch, the soft launch showed that some respondents had purchased several of the products in the survey, and the retained data was desirably coded. Thereafter the full launch was done without any further modification.

3.6 Variables of investigation

The responders answered several statements which were used as the basis for variables. The main scale variables were DSI and SMUI.

Domain-specific innovativeness

To control for the DSI in the prepared food industry, Goldsmith's six-item Likert DSI scale (Goldsmith and Flynn 1992) was used. The statements were, before translation into Swedish to be graded strongly agree/strongly disagree on a scale 1-7:

1. In General, I am among the last in my circle of friends to purchase a new prepared frozen food item when it appears.
2. If I heard that a new prepared frozen food style was available in the store, I would be interested enough to buy it.
3. Compared to my friends I do little shopping for new prepared frozen food.
4. I would consider buying a new prepared frozen food item, even if I have not heard of it yet.
5. In general, I am the last in my circle of friends to know the names of the latest frozen food items and styles.
6. I know the names of new prepared frozen food than other people do.

A high score (strongly agree) on statement 1, 3 and 5 generates a low DSI score, while a high score on statement 2, 4 and 6 generates a high DSI score. Therefore, statements 1, 3 and 5 were recoded reversely before starting the analysis by calculating Cronbach's Alpha.

Social Media Activity

To measure the activity on social media, the ten item SMUI scale (Jenkins-Guarnieri et al. 2013), was used. The scale uses Facebook as an example of social media, but in this thesis the scale was also used on Twitter and Instagram for people using these media. Thus, if a respondent uses all three social media, he or she answered for all three media separately. The respondent was asked to grade on a scale 1-7 ranging from strongly disagree to strongly agree.

1. I feel disconnected from friends when I have not logged into Facebook.
2. I would like it if everyone used Facebook to communicate.
3. I would be disappointed if I could not use Facebook at all.
4. I get upset when I can't log on to Facebook.
5. I prefer to communicate with others mainly through Facebook.
6. Facebook plays an important role in my social relationships.
7. I enjoy checking my Facebook account.
8. I don't like to use Facebook
9. Using Facebook is part of my everyday routine.
10. I respond to content that other share using Facebook.

Statement 8 is reverse, which means a high score (strongly agree) results in a low SMUI score. For the other 9 statements, a high score results high. Therefore, item 8 was recoded reversely.

New Product Purchase

A list of 19 new product items was presented for the respondents. Examples of the list are Wallenbergare from Familjen Dafgård and Risotto con Asparagus from Findus. The task for the responder was to mark which of the products he or she had purchased. There was not a single item, but many, which is prescribed in a cross-sectional study (Midgley and Dowling. 1978). Further, using aggregate measures are recommended in studying consumer behavior for relationships within personality/lifestyle and public behavior (Kastovicka and Joachimsthaler 1988). The same procedure was used by Goldsmith and Freiden (1995), when measuring in the clothing and electronic industries. The full survey can be viewed in Appendix 2.

3.7 Credibility of the study

Here follows a description of the reliability and validity of the study, in order to be able to consider it credible.

3.7.1 Reliability

Since this study is of quantitative nature, the results of this thesis should be repeatable. Thus, measurements which are stable over time are needed (Bryman and Bell 2011). For the study to be considered as reliable, the study needs to achieve similar results if replicated. This study is in Chapter 5 compared to previous studies with the same scales in order to examine the reliability.

In order to improve internal reliability, multiple-item measures were used for investigating the variables. This also limits measurement errors (Bryman and Bell 2011). Statements in scales were used of Likert scale type (Bryman 2012).

Cronbach's Alpha was used for evaluating the reliability. It was calculated for the measures to ensure their reliability and the items were investigated together for each variable. Though not an ideal indicator of reliability, since for example the numbers on the scale (for example 1-6 or 1-10) and the number of statements in the scale affects Cronbach's Alpha, it is the common way of interpreting and measuring the reliability (Söderlund 2005).

The mean inter-item correlation was calculated, since it gives an overview if the scales are measuring different nuances of the same phenomenon as an estimation of internal consistency (Söderlund 2005).

Cronbach's Alpha for the DSI scale was $\alpha=0.743$, for the combined scale $\alpha=0.933$, for the SMUI scale for Facebook $\alpha=0.912$, for the SMUI scale for Instagram $\alpha=0.904$ and for the SMUI scale for Twitter $\alpha=0.919$. The criteria for a satisfactory level of basic research is $\alpha=0.70$ (Söderlund 2005; Bryman and Bell 2011). The level of $\alpha=0.743$ for the DSI scale may sound low, especially when considering that some researchers suggest a minimum criteria of $\alpha=0.80$ (Malhotra & Birks 2003), however the obtained average Alpha from a meta-analysis of 154 different measurements was $\alpha=0.75$ (Söderlund 2005). Therefore, as a measure of internal consistency, the results can be considered reliable.

3.7.2 Validity

Concerning validity, researchers are advised to integrate several different types of validity estimations in a study (Söderlund 2005). In this thesis, the most important validity measurements are used through Pearson's correlation coefficient *r*. Scales were interval/ratio in order to use the correlation coefficient as a tool for estimating the validity of the thesis.

Content validity

Multi-item measures were used to make sure that content and response choices compromised what the theoretical variables should measure (Söderlund 2005). The basis of this thesis is using measures which have been validated in previous studies.

Construct validity

The validity measure used in this thesis for evaluating construct validity is convergent validity. The correlation between the new tool (introduced in Chapter 4) of the combined domain-specific scale-social media usage integration scale and the traditional DSI scale on itself, are both intended as measures for predicting new product purchase. A common problem for measuring construct validity, is that the two measured items must be different. Asking different questions, however, are not considered different enough by some researchers. Though, the methods used for obtaining the measured items in this thesis are indeed different; the DSI scale is obtained through a six-item Likert scale with innovativeness-related statements, whereas the combined tool does have the same Likert statements as one part, but is also weighted together with social media statements. The correlation between the two items is r=0.746 which is higher than the meta-analysis of convergent validity of r=0.57. Thus, in terms of construct validity, the study shows desirable results. (Söderlund 2005)

Criterion Validity

This means that the measured variable, the predictor variable, hangs together with another variable, the criterion variable (Söderlund 2005; Bryman and Bell 2011). In this thesis, the criterion variable is new product purchase, which means products within the prepared food domain that were introduced and launched within the last 6-9 months. If the correlation is high, the criterion validity is considered high. Predictor variables in this study is the DSI scale, the SMUI scale and the new tool, combining the two.

As the purpose of this thesis itself is improving the correlation of the criterion variable and the new measuring tool, the results are showed in detail in Chapter 4 and further discussed in Chapter 5.

Söderlund (2005) argues that criterion variables should perhaps be used more by market researchers since the results can be seen in another light and there are exciting criterion variables towards which one could place the results of a measure of a specific theoretical variable.

3.8 Tools for analysis

First, the data was coded (for example reversing scales), and new variables (creating several item variables into scale variables) were created and calculated in STATA. Data was thereafter analyzed in the statistical program IBM SPSS. Calculations of Cronbach's Alpha, frequencies, mean comparisons (t-tests), tests of normal distribution and correlations were performed.

4. Results

This chapter describes the results from the study. First of all, a summarized overview of the data is presented (see Table 3). Secondly, the results of the individual variables and scales are examined and lastly, there is a list of the research questions and their outcomes from data.

4.1 Summary of data

		DSI Scale	SMUI Scale Face-book	SMUI Scale Instagram	SMUI Scale Twitter	SMUI & DSI Scale Com-bined	New Product Purchase
DSI Scale	Pearson Corr.	1	,182**	,156**	,289**	,746**	,426**
	Sig. (2-tailed)		,000	,009	,000	,000	,000
	N	1008	755	278	172	99	1008
SMUI Scale Facebook	Pearson Corr.	,182**	1	,501**	,475**	,611**	,170**
	Sig. (2-tailed)	,000		,000	,000	,000	,000
	N	755	755	260	158	99	755
SMUI Scale Instagram	Pearson Corr.	,156**	,501**	1	,504**	,679**	,210**
	Sig. (2-tailed)	,009	,000		,000	,000	,000
	N	278	260	278	101	99	278
SMUI Scale Twitter	Pearson Corr.	,289**	,475**	,504**	1	,716**	,438**
	Sig. (2-tailed)	,000	,000	,000		,000	,000
	N	172	158	101	172	99	172
SMUI & DSI Scale Combined	Pearson Corr.	,746**	,611**	,679**	,716**	1	,584**
	Sig. (2-tailed)	,000	,000	,000	,000		,000
	N	99	99	99	99	99	99
New Product Purchase	Pearson Corr.	,426**	,170**	,210**	,438**	,584**	1
	Sig. (2-tailed)	,000	,000	,000	,000	,000	
	N	1008	755	278	172	99	1008

Table 3. Correlations from data analysis of the study.

Cronbach's Alpha

Cronbach's Alpha was α=0.743 for the DSI scale items. It was α=0.912 (Facebook), α=0.904 (Instagram) and α=0.919 (Twitter) for the SMUI scale.

4.2 Individually reported results

New Product Purchase

59.7% of the responders, or 602 people (n=1008), had not purchased any of the 19 new products in the survey. 13.0% (131 responders) had purchased one of the new products, 9.4% (95 respondents) had purchased two of the new products and 5.8% (58 responders) had purchased three of the new products. 122 responders had purchased four products or more. The mean was 1.22 new products per person and in Figure 2, the shares of numbers of new products purchased are presented.

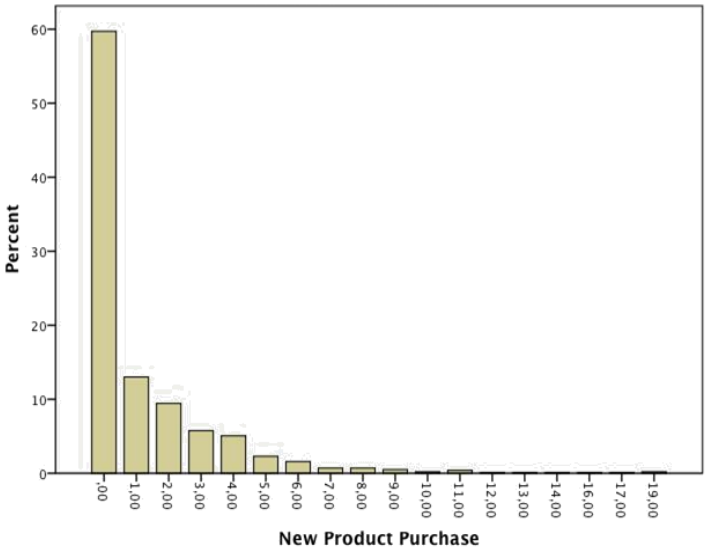


Figure 2. Numbers of new product purchased by customer in percentage.

Domain-specific innovativeness

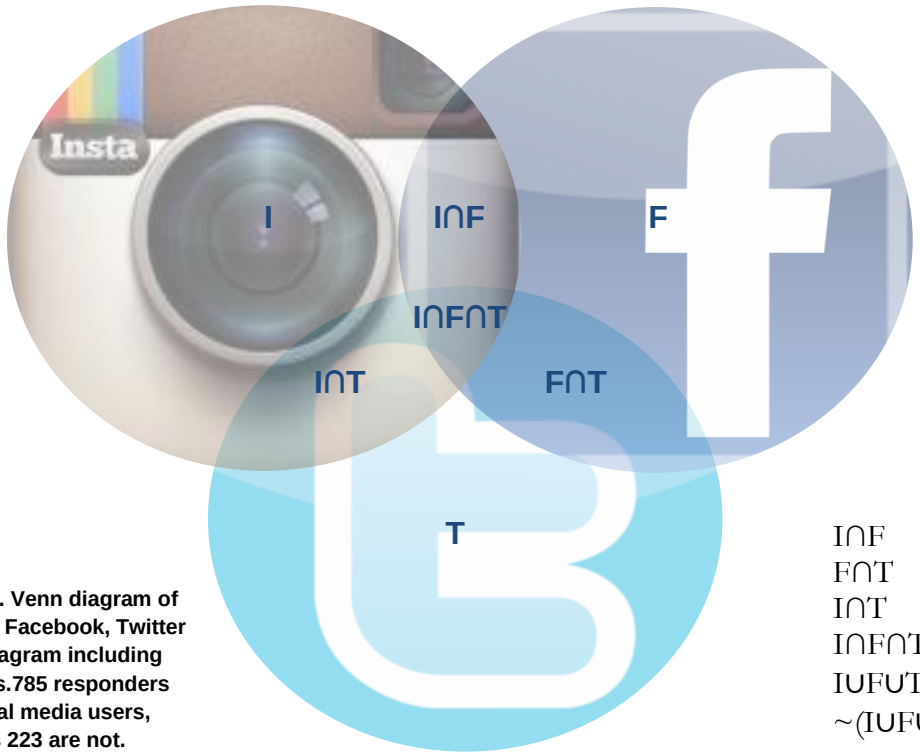
Before analyzing any correlations of the study, a control that DSI can be used for the prepared food industry in order to predict new product purchase was made. The DSI scale has a correlation of r=0.426 (P=0.000) to new product purchase. There is thus a positive correlation between the DSI scale and new product purchase for the prepared fast food industry, which is an important criterion to be able to perform any kind of analysis later on.

The top 16% (185 responders due to several respondents having the same score) on the DSI scale were divided into Early adopters and the other 84% (823 responders) were named Late adopters. The mean on numbers of new products purchased were 2.746 among Early adopters and 0.882 among Late adopters. Totally, 1234 new products were purchased by the entire sample, of which 508 (41.5%) were purchased by the 16% Early adopters and 726 (58.5%) were purchased by the remaining 84% of the sample. Using a t-test in order to study the purpose of this thesis (to identify innovative users), the results showed a statistically significant difference in new product purchase between Early adopters and Late adopters using the DSI scale for identifying them respectively (P=0.000).

Social Media Activity

Facebook was the social media with the highest number of users, Instagram was second and Twitter third. In the Venn diagram below (Figure 3), the distributions between and within the three social media networks are shown. Totally, there were 785 social media users, of which 755 were Facebook users, 278 were Instagram users and 172 were Twitter users.

Twitter's integration usage had the highest correlation with both DSI (r=0.289; P=0.000) and new product purchase (r=0.438; P=0.000), which was even higher than the correlation of the DSI scale itself and new product purchase (r=0.426; P=0.000).



I∩F	260
F∩T	158
I∩T	101
I∩F∩T	99
I∪F∪T	785
~(I∪F∪T)	223

Figure 3. Venn diagram of users of Facebook, Twitter and Instagram including numbers.785 responders are social media users, whereas 223 are not.

High integration usage of Instagram (r=0.156; P=0.009) and Facebook (r=0.182; P=0.000) had positive correlations with DSI as well, though slightly lower than in the case of Twitter. They both had a positive correlation with new product purchase as well, r=0.170 and r=0.210 respectively (P=0.000).

Thus, research question Q1, that there is a positive correlation between the DSI and a high SMUI cannot be repudiated. Q2 cannot be repudiated neither; there is a positive correlation between the SMUI scale and new product purchase.

Combined SMUI & DSI Tool

With the purpose of developing a new tool for identifying DSI, the combined SMUI & DSI tool was calculated through Formula 1:

$$\boldsymbol{Combined\ Tool\ = DSI + \ 0.6 * \frac{SMUI_F + SMUI_I + SMUI_T}{3}}$$

Formula 1. Weighting the scales into two equal parts when calculating the combined tool.

Thus, and average SMUI was calculated, before SMUI and DSI were weighted to contribute equally to the combined tool. The correlation towards new product purchase was higher for users of all three social medias, compared to including only Twitter or only Facebook into the combined scale. The correlation of r=0.584 (P=0.000) between the combined tool and new product purchase was higher than the correlation between the DSI scale itself and new product purchase (r=0.426; P=0.000).

Further, it cannot be rejected that the combined tool was normally distributed (P=0.183) when conducting a Kolmogorov-Smirnov sample test. Cronbach's Alpha for the combined tool was α=0.933 which is higher than for any of the of the established scales (DSI α=0.743, SMUI for Facebook α=0.912, SMUI for Instagram α=0.904 and SMUI for Twitter α=0.919). The mean inter-item correlation was r=0.514. Therefore, as a measure of internal consistency, the results can be considered reliable.

The top 16% (19 responders, for having the same share as the DSI scale above) of the combined scale were divided into Early adopters and the other 84% (80 responders) were named Late adopters. The mean numbers of new products purchased were 4.158 among the Early adopters and 1.088 among the Late adopters. Totally, 166 new products were purchased by the groups, of which 79 (47.5%) were purchased by the 16% Early adopters and 87 (52.5%) were purchased by the remaining 84% Late adopters. Using a t-test, the results showed a statistically significant difference in new product purchase between Early adopters and Late adopters using the combined scale for identifying them respectively (P=0.000). Since a great part of the original sample of totally 1008 respondents were excluded (due to the fact that they did not use all three social media), an independent sample t-test was performed comparing the Late adopters of the combined tool with the excluded respondents, and no significant difference between the two groups was found (P=0.730). However, when performing the same t-test between the Early adopters and the excluded respondents, there was a statistically significant difference (P=0.000).

4.3 Summary of findings

Below in Table 4, the findings are summarized with short interpretations for each research question.

Research Question	Result	Short description
Q1	Yes, positive correlation between SMUI and DSI	The DSI correlates positively with high usage integration on Twitter (r=0.289; P=0.000), Facebook (r=0.182; P=0.000) and Instagram (r=0.156; P=0.009)
Q2	Yes, positive correlation between SMUI and new product purchase	New product purchase correlates positively with high usage integration on Twitter (r=0.438; P=0.000), Facebook (r=0.170; P=0.000) and Instagram (r=0.210; P=0.000)

Table 4. List of research questions with results and short descriptions.

5. Discussion and implications

The results of variables from the previous chapter are discussed in this chapter. After that, limitations of the thesis are discussed and finally, academic as well as managerial implications of the study are provided and discussed.

5.1 Increasing predictive validity of innovative usage

Consistent with the purpose of this thesis, to better be able to identify innovative users as consumers by combining innovativeness and social media scales, the correlation between SMUI and DSI is positive and together these variables, forming a new tool, increase the concurrent validity of new product purchase.

Since the concurrent validity of new product purchase increases significantly and by 15.8 percentage points, this thesis supports and suggests including SMUI when identifying early adopters in the product life cycle of new products. By using the combined tool, one can narrow down into a securer identification of users, at least within the prepared food industry. See Figure 4 for an illustration.

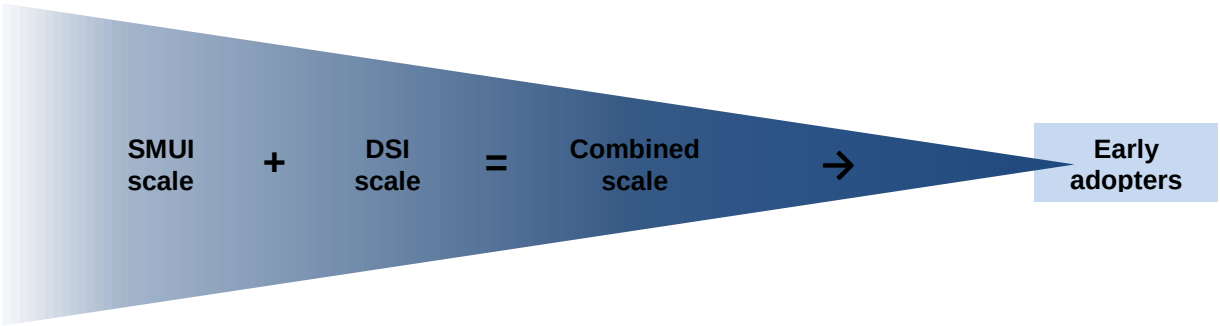


Figure 4. Combining the DSI scale and SMUI scale pin down in coming closer to identifying the 16% of consumers known as early adopters.

DSI scale fits for identification of new product purchase in the prepared food industry

The positive correlation between DSI and new product purchase of r=0.426 is reasonable since previous studies for other industries using the DSI scale have obtained correlations of r=0.38-0.63 (Roehrich 2004). Thus, the prepared food industry in Sweden lies within this interval and this thesis supports that the DSI scale can be used for identifying and predicting which consumers are most likely to purchase new prepared food products when launched.

Cronbach's Alpha for the DSI scale items was α=0.743 which is almost the same level as Goldsmith et al. obtained for the wine industry in Germany (α=0.75) but slightly lower than the level obtained in the same industry in France (α=0.84) and USA (α=0.90) (Goldsmith, d'Hauteville and Flynn 1998). For the online clothing industry, Goldsmith obtained a Cronbach's Alpha of α=0.87 (Goldsmith and Flynn 2004). This difference could be due to translation biases or simply the reason that the scale is not fully as adequate for the prepared food industry as for wine and online clothing industry.

The correlations of the DSI scale and new product purchase could originate from the fact that the more interested and involved in the specific domain, the more likely one would be to be willing to try new products; for example, a consumer who rarely purchases or eats prepared food would perhaps hesitate to try the most exotic new prepared food products, such as Grandiosa: Pizzarulle Mexicana or Felix: Stor matig soppa thai röd curry and instead purchase a more familiar product which has reached further in the product life cycle.

SMUI scale fits for Instagram and Twitter

The SMUI scale is developed for fitting different social media, but however previously only tested for Facebook. Cronbach's Alpha in this scale from this study was α=0.912 for Facebook, which is equal to Cronbach's Alpha in the study of Jenkins-Guarnieri (2013) where α=0.91, but higher than the FUI scale α=0.83 (Ellison et al. 2007). Gratifyingly, Cronbach's Alpha of the SMUI scale for Instagram (α=0.904) and Twitter (α=0.919) are supporting the scale too, and all three social media scales have a high reliability. Therefore, this thesis supports further use of the SMUI scale for Facebook, but also broadening validating the scale for Instagram and Twitter too.

SMUI scale fits for identification of DSI

Heavy SMUI and DSI correlate significantly, respectively for Facebook (r=0.182; P=0.000), Instagram (r=0.156; P=0.009) and Twitter (r=0.289; P=0.000). One can then expect that either the more integrated usage in social media, the more input creates innovativeness among users, or reversely that innovative people are using social media to a higher degree than non-innovative. As Zheng and Gretzek (2010) argues, high social media activity increases attention, awareness and trial. However, with the purpose of predicting new product purchase, this thesis supports the SMUI in identifying early adopters, whatever factor may be influencing the other.

SMUI scale fits for identification of new product purchase

Interestingly, the SMUI scale for Instagram and Twitter correlates even more with new product purchase than with DSI for Instagram (r=0.210; P=0.000) and Twitter (r=0.438; P=0.000). For Facebook the value is slightly lower than for Instagram, but still significant (r=0.170; P=0.000). One reason for this could be that more people use Facebook (n=755) than Instagram (n=278) and Twitter (n=172) and therefore users of Facebook could be a more heterogeneous group even among the heaviest integration users. Nevertheless, heavy users of social media are more likely to purchase new products within the prepared food industry than others, and in accordance with this thesis, the SMUI scales can be used for identification of users likely to purchase new products.

The combined tool increases concurrent validity of new product purchase

The DSI scale has a reasonable concurrent validity regarding new product purchase with r=0.426 and P=0.000 (see discussion above for equivalent numbers from other studies). Though, if combining and weighting the two scales equally, one receive a better concurrent validity of r=0.584 (P=0.000), why this thesis supports using the combined tool for a better prediction of new product purchase for both academia and business, instead of Goldsmith's DSI scale alone.

Interestingly, The SMUI scale for Twitter has a slightly higher correlation with new product purchase (r=0.438; P=0.000) than Goldsmith's DSI scale alone (r=0.426; P=0.000), and the SMUI scale for Twitter has a high positive correlation of r=0.289 (P=0.000) with the DSI scale.

Further, among the top 16% identified as early adopters, the shares of number of purchased products are 41.5% using the DSI scale, and 47.5% when using the combined scale. See figure 5 for a comparison between the two scales.

When using the combined tool, a large number of respondents were excluded since only 99 respondents are users of all three social media. However, no statistically significant difference between the Late adopters (which are not so relevant for companies to use once identified) and the excluded respondents were found in terms of new product purchase. Thus, using the combined tool gives a smaller number of Early adopters (n=19) than the DSI scale (n=185). If applied by a company, it would be easier to handle a smaller number of early adopters.

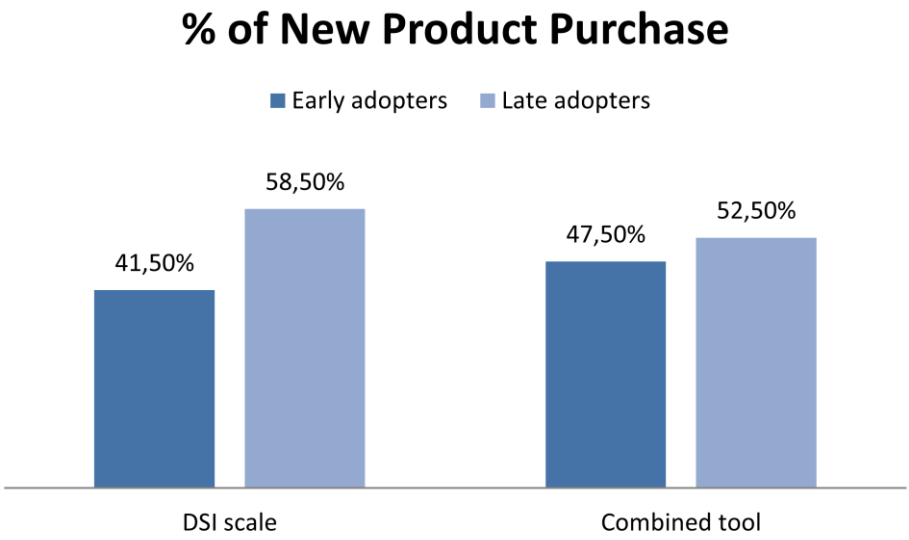


Figure 5. Difference in numbers of new products purchased between Goldsmith's DSI scale and the combined tool of this thesis illustrated in a diagram.

The concurrent validity is better towards new product purchase, the share of new product purchase is higher and the identified users are a more specified group when using the combined tool instead of Goldsmith's DSI scale.

5.2 Limitations

Whether consumers who purchased any of the 19 new products in the survey because the product was new or if they did not know that the product was indeed new, is not explained in the survey. In other words, the reason for purchasing new products are not examined or explained. However, for this thesis, this issue is not relevant in order to draw any conclusions since there is a strong indication of that the products are indeed purchased (and not simply intended to be purchased), which has also been the case in Goldsmith's studies with the DSI scale in other industries. From a comparison perspective, therefore, the method of measuring and validating using the same technique as Goldsmith is accurate.

The usage of a representative sample with 1008 respondents makes it easier to draw general conclusions, though Goldsmith did not use such big samples when measuring DSI. However, for the combined tool, 99 respondents used all three of Facebook, Instagram and Twitter, why a bigger sample was needed in order to find respondents enough to perform data analysis with significant results also for the combined tool.

Since the correlation between the combined tool and new product purchase was significant at the P=0.000 level, 99 users of the three social media can be considered enough. That all results are significant could be a result of the big sample, but however, correlations are compared to other studies and the purpose is not to prove a correlation, but to improve the correlation levels for marketers and companies in early adopter identification purpose.

The design of the experiment with 19 new prepared food products is one weakness of the study. There exists other new products nationwide, though the pre-study showed satisfying results in identification. However, it could have been a stronger or weaker correlation if other products within the prepared food industry were used instead which is a potential weakness of this study. Though, only six new products were used when measuring DSI in electronic innovations (Goldsmith and Freiden 1995).

Using a quantitative method for identifying human behavior could create a false perception about precision and accuracy (Bryman and Bell 2011). In this thesis, there may be a self-serving bias since people tend to judge themselves in a positive manner. For example, respondents may overrate their innovative behavior in order to feel updated and modern, or reject how much time they spend on social media. Though, since the scales show desirable correlations with or without the self-serving bias (people replying themselves more innovative and frequent users in social media purchased indeed more new products), the purpose of the combined tool still works. However, avoiding self-serving bias through another setup of the study could have given other results, but as a method for this purpose, it works in improving the concurrent validity.

5.3 Academic and managerial implications

This thesis supports including usage of social media when identifying innovative users in specific domains for predicting new product purchase among innovative users and early adopters. However, this thesis leaves important areas of further research and applications. These areas are discussed in the two sections below.

5.3.1 Future research

One area which future research could be directed to is validating the findings of this thesis for other industries, either industries for which the DSI scale has not been tested before, or some of the domains which have already been examined.

Since Cronbach's Alpha in the DSI scale of this study was lower than for some of Goldsmith's examined domains, the translation into Swedish could be explored and compared using for example English to the same domain at the same point in time. A study similar to that was done in the wine industry by Goldsmith (2000) and Cronbach's Alpha differed between Germany (α=0.75), France (α=0.84) and USA (α=0.90). Though, whether the differences are from differences in the markets or in the languages are hard to tell; one further study for the combined tool could be in the same market, using different languages (for example a bilingual country such as Switzerland or Belgium).

Another important research area is to determine if equal weights between social media and innovativeness are the best suitable combination, or if another weight combination could produce an even higher concurrent validity. Further, especially in the social media part of the combined tool, there are many statements and it is possible that the concurrent validity could remain high without some of the statements. Adjustments of the scales and weights are perhaps the most important research to be done regarding the combined scale before a full validation could be done.

5.3.2 Practical application

This thesis has implications for companies identifying innovative consumers within their industry. Once identified, an early adopter could help companies in co-creation or co-innovation of new products, reducing the risk of fatal errors in the new product development and launch.

Also, this thesis lifts the question for companies of using social media to a greater extent. Since heavy users of social media buy new products to a greater extent, it is also likely that ads and a presence in social media from the company's point of view is useful in launching new products.

Further uses could be in targeting and marketing actions, where marketers can brainstorm or cowork with early adopters and innovative users. Therefore, facilities such as R&D departments, marketing departments and business strategists could use the findings from this thesis as a tool for saving money (i.e. not failing big investments associated with new product development and launch). Identifying early adopters will also help companies in making the early adopters promoting new products to other consumers. Since encouraging buying among early adopters enhances the spread of the practice to later adopters, who want to see others' reactions before they purchase new products.

The study shows that research must not stagnate but develop as long as new phenomena, such as social media, appear in society. Social media has not been operated for very many years but this thesis suggests continuing research of new areas and within new fields.

Ideally, the combined tool could help companies in launching new products, reducing the number of new product failures from today's high level of 45%. An increased concurrent validity of 15.8% may sound tiny, but it could however make the difference between failure and success for a company when launching a new product.

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7. Appendices
Appendix 1
List of new products

Findus: Risotto con asparagi

Dafgård: Helstekt kotlettrad

Findus: Kryddiga köttbullar

Dafgård: Wallenbergare

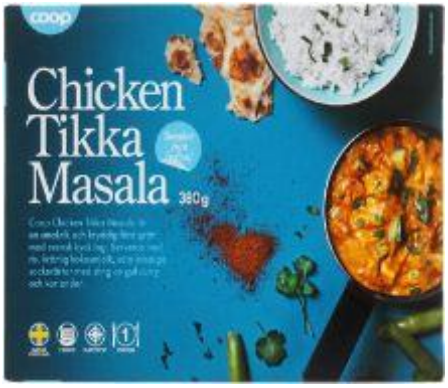
Findus: Kalvfärsbiffar med rödlökschutney

Dafgård: Chicken red curry

Grandiosa: Pizzarulle classic

Coop: Beef Teriyaki

Grandiosa: Pizzarulle pepperoni



Coop: Chicken Tikka Masala

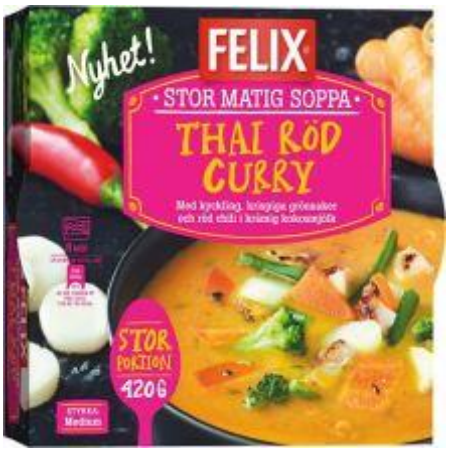
Grandiosa: Pizzarulle mexicana

Coop: Chicken spicy curry

Felix: Stor matig soppa skogssvamp

Felix: Finaste ostpaj
Chèvre och spenat

Felix: Finaste ostpaj
Cheddar och kyckling



Felix: Stor matig soppa thai röd curry

Picard: Confiterat lamm

Picard: Kammusslor

Picard: Kao soi-soppa

Appendix 2
Main study

Vänligen fyll i hur väl du håller med om följande påståenden.

	1 = Håller inte alls med	2	3	4	5	6	7 = Håller helt med
Oftast är jag bland de sista av mina vänner som lär mig namnen på nya produkter och typer av färdigmat.	○	○	○	○	○	○	○
Jag skulle kunna tänka mig att köpa en ny sorts färdigmat även om jag inte hade hört talas om den.	○	○	○	○	○	○	○
Oftast är jag bland de sista av mina vänner med att köpa nya sorters färdigmat som dyker upp i affärerna.	○	○	○	○	○	○	○
Jag vet mer om nya sorters färdigmat än vad andra gör.	○	○	○	○	○	○	○
Jämfört med mina vänner så köper jag lite av nya sorters färdigmat.	○	○	○	○	○	○	○
Om jag får veta att det finns en ny sorts färdigmat i affären, så skulle jag bli tillräckligt intresserad för att köpa den.	○	○	○	○	○	○	○

Vilken eller vilka av följande tjänster använder du?

- ☐ Instagram
- ☐ Twitter
- ☐ Facebook
- ☐ Ingen av ovanstående

If choosing Facebook, the following statements are provided. Same if Instagram and Twitter are selected. If none, the respondent skips this part.

Vänligen fyll i hur väl du håller med om följande påståenden om Facebook.

	1 = Håller inte alls med	2	3	4	5	6	7 = Håller helt med
Jag känner mig bortkopplad från vänner när jag inte har loggat in på Facebook.	○	○	○	○	○	○	○
Jag tycker inte om att använda Facebook.	○	○	○	○	○	○	○
Att använda Facebook är en del av mina vardagliga rutiner.	○	○	○	○	○	○	○
Jag skulle bli besviken om jag inte kunde använda Facebook alls.	○	○	○	○	○	○	○
Jag svarar på innehåll som andra delar med hjälp av Facebook.	○	○	○	○	○	○	○
Jag föredrar att kommunicera med andra huvudsakligen via Facebook.	○	○	○	○	○	○	○
Jag tycker om att titta till mitt Facebook-konto.	○	○	○	○	○	○	○
Facebook spelar en viktig roll i mina sociala relationer.	○	○	○	○	○	○	○
Jag blir arg när jag inte kan logga in på Facebook.	○	○	○	○	○	○	○
Jag skulle vilja att alla använde Facebook för att kommunicera.	○	○	○	○	○	○	○

Totally 19 pictures of new products are randomized in a list.

Kryssa i ifall du köpt respektive produkt i listan.