NordDesign 2014
August 27 – 29, 2014
Espoo, Finland

Lead User Identification through Twitter: Case Study for Camera Lens Products

Sanjin Pajo, Paul-Armand Verhaegen, Dennis Vandevenne, Joost R. Duflou

Center for Industrial Design, KU Leuven, Celestijnlaan 300 bus2422, Heverlee 3001, Belgium
{Sanjin.Pajo, PaulArmand.Verhaegen, Dennis.Vandevenne, Joost.Duflou}@kuleuven.be

AbstractLead users are a significant segment of the user population that exhibit product use related needs that cannot be met by existing commercially available solutions. They expect high benefits from actively engaging in innovation activities. To identify lead users, researchers have looked to the Web as a potential source of lead users. This paper discusses identification of lead users on the social networking site Twitter using a validated online questionnaire, that explores various facets of being a lead user including speed of product adoption, technical expertise, dissatisfaction with commercially available solutions, opinion leadership and innovation activity. The results of the documented study show that lead users in the case of lens products have a presence on Twitter and they support further exploration of automated and systematic online approaches to finding and identifying lead users, a crucial step at the fuzzy front end of innovation.

Keywords: lead user identification, data mining, social networking, Twitter.

1 Introduction

Many industrial product ideas and solutions originate from customers [1, 2]. A significant section of the customer population, called lead users, experience product related needs before the rest of the marketplace and stand to benefit from product modification and innovation [3]. Urban and von Hippel [4] discovered that 82% of the customers that were identified as lead users in their sample had developed or modified a product while only 1% of other users had done the same. Integration of lead users into the product development process is beneficial for companies and leads to better products [5]. Lead users can help companies develop new products and solutions to using products in novel ways to meet rapidly changing consumer needs and to stay competitive. New products can have high failure rates that can reach 50% [6]. By engaging lead users, companies can reduce failure rates of new product introduction into the marketplace [6]. They develop commercially attractive products [4, 7, 8] and can help by aiding successful introduction of products into the marketplace. Lilien et al. [9] showed that products developed by lead users have significantly higher annual sales than products developed by traditional approaches where a company develops new products based on internal customer need identification.

Contribution of customers to the development process can be greatly varied [10], so companies should take great care in the process of finding lead users. Empirical studies have shown that lead users exhibit select characteristics that can be used to separate them from the rest of the users [11]. The questionnaire developed for validation of lead user identification and described in detail further in this article, makes use of empirically researched lead user characteristics or dimensions: 'ahead of trend', 'dissatisfaction', 'product use experience', 'product knowledge' and 'opinion leadership'. As stated by von Hippel [3], only a certain portion of users will experience certain needs before the rest of the market place and this quality in research is referred to as 'ahead of trend' [11]. The discrepancy between user needs and actual solutions available in the marketplace results in 'dissatisfaction' and this according to Lüthje [7] can be used as measure of user's expected benefit. Schreier and Prügl [12] state that lead users tend to have more knowledge about the product and the target field than other users. Modification of a product is possible when a customer has some 'use experience' and 'knowledge' about various product aspects to bring about effective improvements or modifications [5, 7, 11, 12]. Lastly, lead users are part of social networks that share interest in a specific product field and exhibit 'opinion leadership' qualities [11-14]. Lead users not only tend to adopt products more easily, but they also diffuse them, displaying qualities of leadership rather than opinion seeking [15].

The goal of this paper is to evaluate and discuss the feasibility of identifying lead users on Twitter for camera lens products and note the correlation between the aforementioned lead user characteristics and actual innovation. Twitter has a rich public data set with a varied user base and it supports an easy access API. It also provides means to contact online users. The product case was handpicked as the initial case for validation from the existing and documented lead user study domains. The two hypotheses can be stated as follows:

H1: Twitter users with characteristics of being a lead user can be found on the social networking site Twitter.

H2: Lead user characteristics or constructs show a positive correlation with innovation activity.

The next section describes the online questionnaire and the constructs used to identify lead users on Twitter.

2 Questionnaire Constructs

A self-administered questionnaire was used to collect user data on Twitter. Lead user empirical questionnaires vary greatly with respect to the number of measured lead user characteristics [7, 8, 11, 16]. The questionnaire helps evaluate a respondent using five empirically derived characteristics or questionnaire constructs. In addition, statements examining engagement in innovation processes were added, to test the claim that there is a positive relationship between exhibiting lead user characteristics and actual innovativeness as shown in other empirical research [11, 13, 17, 18]. The examined dimensions allow for identification of lead users in consumer areas [7]. Similarly to the study by Spann et al. [16] with three constructs, the study allows for all six dimensions, 5 lead user characteristics and innovation engagement items, to capture unique information.

The constructs gathered have been proven reliable and valid in previous empirical studies reported by different authors [11, 16, 17, 19, 20]. The dissatisfaction (D) construct is

measured by the first 8 items listed in Appendix A1 that were obtained from a validated lead user survey conducted by Franke et al. [19], with items originally classified as High Benefit Expected. The items help predict innovation likelihood [19] and express dissatisfaction with the available marketplace solutions and were therefore categorized as part of the dissatisfaction construct. The product knowledge (PK) construct is measured by the next 5 items listed in Appendix A1, taken also from the aforementioned study as part of user Technical Expertise, the ability of a user to accomplish modifications on the product [3]. The next 4 items allow for measuring the use experience (UE) of which one item was taken from the study by Franke et al. [19] and 3 items were taken from a lead user study by Spann et al. [16]. Although the item taken from the study by Franke et al. [19] is part of the Technical Expertise construct, the statement describes use experience rather than product knowledge. Technical expertise can be divided into two constructs, use experience and product knowledge, shown in empirical research as independent constructs [11]. The opinion leadership (OL) construct is measured by the next 7 items gathered from a report by King and Summers [20]. A slightly modified version of this opinion leadership scale was used that has a higher consistency reliability and better nomological and known group validity [21]. The next two items were used by Morrison et al. [8] examining innovativeness in libraries to measure ahead of trend (AOT). The last five items were gathered from the lead user surveys by Cate [17] and Morrison et al. [8]. The innovativeness (I) is measured by actual steps taken by a user towards innovation, including recognition of product development within the larger community. The items were added to examine the correlation between actual innovation and lead user characteristics, as lead userness can be deducted from actual innovation activities [8, 17]. In total, 31 questionnaire items allow for measuring reliability and validity of the questionnaire and underlying constructs and identification of lead users on Twitter. All constructs are intended to capture unique information about each respondent.

3 Study Procedure

Detection and identification of lead users on social networking sites like Twitter are a challenge due to lack of publicly available user information, including unreliable and incomplete contact data. The list of Twitter users was obtained by making use of the Twitter search engine through a Java tool, built by the authors, with a query consisting of a bigram, product name, i.e. ‘lens’ and a product component or feature, i.e. ‘glass’. The survey population consists of Twitter users that discuss or follow lens related topics on Twitter and communication is in English. Thereafter, users were contacted through Twitter and asked to fill in an online questionnaire. No incentive was provided to complete the form. 1330 users were contacted by tweets and of those 107 completed the questionnaire in its entirety, giving a response rate of 8%. Online questionnaires tend to have a low response rate and, surveys with high response rates also do not result in more accurate measurements than the ones with lower response rates [17, 22]. Significant numbers of Twitter accounts are spam or large institutions, some no longer used by the owners or removed by Twitter and therefore it is likely that the actual response rate is greater. The field time of the survey was five months. The respondents were asked to read each of the 31 statements and to specify their attitude in response on a five point symmetric Likert scale. Although respondents find Likert scales simple and easy to use, [17, 23] their use may not be most exact when trying to quantify responses into predefined categories. Respondents were able to get through the questionnaire rather quickly, 2-3 minutes and no misunderstandings were noted. In the following section, the results of the questionnaire are presented.

4 Findings

In the analysis of the questionnaire, descriptive statistics are used for summarizing the results and all constructs are measured for consistency and validity. To statistically process the data each answer is coded with a number between 1 and 5, with 1 the most positive and 5 most negative score. The questionnaire measurement scores were calculated using algorithmic implementation in *R*, widely used open software for statistical analysis. Tables 1a and 1b document the results of the descriptive statistics, with correlation values indicating how positively or negatively questions and constructs are related. Correlation values above 0.7 indicate a strong positive linear relationship, values between 0.3 and 0.7 a moderate relationship and values less than 0.3 a weak positive relationship [24]. Questionnaire items tend to have a moderate to strong relationship with associated constructs. Question 22 has a slightly weaker relationship with the opinion leadership construct, with the correlation value being 0.42. Items within each construct tend to also have a moderate to strong positive relationship, with questions 15 and 22 having a slightly weaker positive relationship with other related questionnaire items.

Table 1a Correlation Matrix

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13
D*	*0.64*	*0.57*	*0.71*	*0.66*	*0.84*	*0.85*	*0.70*	*0.64*	0.38	0.34	0.07	-.01	0.12
PK	0.12	0.38	0.14	-.03	0.25	0.16	0.06	0.27	*0.71*	*0.72*	*0.61*	*0.76*	*0.76*
UE	0.15	0.39	0.17	0.06	0.21	0.11	0.07	0.20	0.47	0.51	0.31	0.41	0.44
OL	0.22	0.39	0.25	0.04	0.26	0.16	0.16	0.25	0.53	0.44	0.21	0.41	0.25
AOT	0.10	0.31	0.26	0.06	0.35	0.25	0.20	0.32	0.46	0.45	0.29	0.48	0.42

Table 1b Correlation Matrix

	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26
D	0.33	0.10	0.20	0.09	0.32	0.32	0.25	0.17	0.13	0.25	0.17	0.23	0.37
PK	0.43	0.44	0.39	0.42	0.42	0.53	0.41	0.42	0.19	0.33	0.33	0.57	0.47
UE	*0.68*	*0.55*	*0.81*	*0.72*	0.57	0.58	0.50	0.48	0.10	0.28	0.44	0.49	0.41
OL	0.48	0.24	0.48	0.42	*0.72*	*0.82*	*0.80*	*0.82*	*0.42*	*0.64*	*0.78*	0.49	0.45
AOT	0.39	0.18	0.46	0.41	0.40	0.51	0.37	0.41	0.24	0.38	0.42	*0.87*	*0.87*

* D – Dissatisfaction, PK – Product Knowledge, UE – Use Experience, OL – Opinion Leadership, AOT – Ahead of Trend.

Reliability analysis is performed to assess the degree of internal consistency between the questionnaire items, shown in Table 2. The construct reliability is sufficient for all five constructs and the innovation questions as indicated by the levels of Cronbach's alpha, with values near or above 0.7 [16, 25]. For example, the overall Cronbach's alpha of the dissatisfaction factor that consists of 8 items is 0.85, which is high and indicates strong consistency among the dissatisfaction questionnaire items.

Table 2 Reliability

	D	**PK**	**UE**	**OL**	**AOT**	**I**
Cronbach's α	0.85	0.76	0.64	0.84	0.70	0.85

To test the assertion that constructs behave in the same manner and constitute the same factor, the Confirmatory Factor Analysis (CFA) technique was used [10]. The model fit is mediocre, with GFI=.72, CFI = .83 and RMSEA= .082. The GFI and CFI values range from 0 to 1, with

values above 0.90 indicating a good fit [26]. The RMSEA is slightly above the commonly accepted value of 0.08, which may be due to a smaller sample size [27]. The average variances extracted (AVE) are 29% dissatisfaction, 69% for product knowledge, 39% for use experience, 58% for opinion leadership and 68% for ahead of trend. In the case of dissatisfaction and use experience, the values are below the commonly accepted level of 50% [28]. Additionally, the variance shared between product knowledge and use experience is higher than the variance of the two constructs. For the remaining constructs, the model met the criteria that require the explained variance of any two constructs to be higher than the variance shared between the constructs [28]. The confirmatory factor analysis reveals a weaker fit than found in previous studies [11, 16, 17, 19, 20].

Regression analysis is used to explore the relationship between lead user characteristics and actual innovation. Table 3 provides the R, adjusted R^2 and p values for each innovation measurement item. The strength of the relationship depends on the size of the error variance, and the range of the predictor. The R values indicate a moderate positive correlation between the innovation items and the five lead user characteristics. For all the items, $p < 0.05$, which indicates that, overall, the model applied can statistically significantly predict the outcome variable. The R^2 value helps in surmising how much of the innovation activities can be explained by the lead user characteristics. As shown in Table 3, in almost all cases less than 50% of variation in response variable can be explained with the predictor.

Table 3 Regression

	Q27	Q28	Q29	Q30	Q31
D	R=.33 R^2=.15, p=.00	R=.35 R^2=.10, p=.01	R=.40 R^2=.26, p=.00	R=.19 R^2=.07, p=.04	R=.31 R^2=.18, p=.00
PK	R=0.51 R^2=.24, p=.00	R=0.31 R^2=.07, p=.02	R=0.63 R^2=.39, p=.00	R=0.61 R^2=.41, p=.00	R=0.56 R^2=.38, p=.00
UE	R=0.30 R^2=.09, p=.01	R=0.25 R^2=.07, p=.01	R=0.44 R^2=.21, p=.00	R=0.47 R^2=.21, p=.00	R=0.35 R^2=.16, p=.00
OL	R=0.30 R^2=.12, p=.01	R=.31 R^2=.16, p=.00	R=0.54 R^2=.29, p=.00	R=0.38 R^2=.20, p=.00	R=0.36 R^2=.18, p=.00
AOT	R=0.49 R^2=.24, p=.00	R=0.42 R^2=.17, p=.00	R=0.57 R^2=.32, p=.00	R=0.45 R^2=.21, p=.00	R=0.47 R^2=.21, p=.00

Lead users are identified based on the five questionnaire constructs. Sample mean for a construct is commonly used in lead user studies to separate lead users from other customers, for example in studies by Lüthje [7] and Spann at al. [16]. This is done by calculating the mean for each construct and comparing it to mean value of the construct for all the users. The threshold level is the sample mean for each construct: 3.09 for D construct, 3.26 for PK construct, 2.63 for UE construct, 2.86 for OL construct and 2.82 for AOT construct. Threshold level for opinion leadership was found to be slightly less stringent than in the study by Spann et al. [16]. However, threshold levels for UE and PK constructs are more stringent than for the expertise construct as given by Spann et al. [16]. Comparative data for the remaining constructs is unavailable. From a total of 110 respondents, 12 (=11%) had positive scores and meet the required threshold levels. Furthermore, analysis of tweets and metadata of Twitter respondents by experts was performed as a secondary verification of the given results. The percentage of found lead users was found to be slightly greater than in two lead user identification studies for board games and local transport (both less than 10%) by Lüthje [7]. However, the percentage is smaller than the percentage of lead users found for the case of

outdoor sports equipment, (30%) as researched by Lüthje [7] and for identification of lead user for consumer products via Virtual Stock Markets (20.6%) as researched by Spann at al. [16].

5 Discussion

The results of the documented empirical study show that lead users in the case of lens products have a presence on the micro-blogging site Twitter. The results are based on a single case study and further studies on similar products are necessary for a more general validation. Lack of similar studies impedes further analysis and conclusion drawing. The study also shows that it is feasible to contact users on social networking sites to gather product knowledge and product use information. At the same time, acquiring information by contacting Twitter users through Twitter is very time and resource consuming, with the process lasting over five months and an alternative approach should be investigated.

Although the questionnaire consists of measurement items evaluated in existing empirical research, the analysis results fail to conclusively validate the model and the existing constructs for the camera lens case. Confirmatory factor analysis on the original model indicates only a mediocre fit. Alternative measurement items can be used for the ahead of trend construct and Q22 and Q15 can be excluded from the opinion leadership and use experience construct, respectively, increasing the internal consistency of both constructs. Further studies for similar products are needed for refining the method.

Additionally, questionnaire analysis shows that there is a significant positive correlation between lead users characteristics and innovation activities. The more lead user characteristics a user displays the more likely it is for the user to be innovative or to take part in developing new products. R^2, the coefficient of determination, gives the greatest indication of the strength of the relationship and in most cases is below 0.5 indicating that other unknown factors or characteristics may further explain innovation behaviour. Additional lead user characteristics should be investigated and may emerge as factors for possible user engagement in innovation activities. For example, intrinsic motivations, i.e. enjoyment, or extrinsic motivations, i.e. monetary reward may play an important role. Further studies with additional constructs can give greater insight into the relationship between engagement in innovation activities and characteristics of being a lead user.

The results support further research in systematic identification of lead users on social networking sites. The results of the study concur with existing research that demonstrates that lead users can be found online [29]. The study also adds further clarification to what are characteristics of an online lead user. It will lead to a better understanding and definition of lead user factors and constructs. It also shows how researchers could systematically differentiate between lead and non-lead users online. New approaches making use of data mining techniques to systematically identify lead users can make use of well researched lead user characteristics or constructs to effectively identify lead users online.

6 Conclusion

The study contributes to the management of design and innovation field by evaluating the feasibility of lead user identification through social media and analysing empirically derived characteristics in the process of identification. It adds to the advancement of the lead user theory in an online context. The findings are relevant for the researchers in innovation and design management as they point to opportunities in lead user identification on social media

sites. With growth of social networking sites and the user base, more studies in systematically identifying lead users on social networking sites are expected.

References

[1] von Hippel, E., "The dominant role of users in the scientific instrument innovation process", *Research Policy*, Vol.5, No.3, pp 212-239, 1976.

[2] von Hippel, E., "Successful Industrial Products from Customer Ideas", *Journal of Marketing*, Vol.42, No.1, pp 39-49, 1978.

[3] von Hippel, E., "Lead Users: A Source of Novel Product Concepts", *Management Science*, Vol.32, No.7, pp 791–805, 1986.

[4] Urban, G. I. & von Hippel, E., "Lead User Analyses for the Development of New Industrial Products", *Management Science*, Vol.34, No.5, pp 569–582, 1988.

[5] Gruner, K. & Homburg, C., "Does Customer Interaction Enhance New Product Success?", *Journal of Business Research*, Vol.49, No.1, pp 1-14, 2000.

[6] Urban, G. L. & Hauser, J.R., "*Design and Marketing of New Products. Second Edition*", Prentice-Hall, 1993.

[7] Lüthje, C., "Characteristics of innovating users in a consumer goods field: An empirical study of sport-related product consumers", *Technovation*, Vol.24, pp 683-695, 2004.

[8] Morrison, P., Roberts, J., Midgle, D., "The nature of lead users and measurement of leading edge status", *Research Policy*, Vol.33, No.2, pp 351–362, 2004.

[9] Lilien, G.L., Morrison, P.D., Searls, K., Sonnack, M., von Hippel, E., "Performance assessment of the lead user idea-generation process for New Product Development", *Management Science*, Vol.48, No.8, pp 1042-1060, 2002.

[10] Nambisan, S., "Designing Virtual Customer Environments for New Product Development: Toward a Theory", *The Academy of Management Review*, Vol.27, No.3, pp 392-413, 2002.

[11] Bilgram, V.,, Brem, A., Voigt, K., "User-Centric Innovations in New Product Development - Systematic Identification of Lead Users Harnessing Interactive and Collaborative Online Tools", *International Journal of Innovation Management*, Vol.12, No.3, pp 419-458, 2008.

[12] Schreier, M. & Prügl, R., "Extending lead-user theory: Antecedents and consequences of consumers' lead userness", J*ournal of Product Innovation Management*, Vol.25, No.4, pp 331–46, 2008.

[13] Franke, N. & Shah, S., "How communities support innovative activities: an exploration of assistance and sharing among end-users", *Research Policy*, Vol.32, No.1, pp 157-178, 2003.

[14] Kratzer, J. & Lettl, C., "The distinctive role of lead users and opinion leaders in the social networks of schoolchildren", *Journal of Consumer Research*, Vol.36, pp 646-659, 2009.

[15] Schreier, M., Oberhauser, S., Prügl, R., "Lead Users and the Adoption and Diffusion of New Products: Insights from Two Extreme Sports Communities", *Marketing Letters*, Vol.18, Nos.1-2, pp 15-30, 2006.

[16] Spann, M., Ernst, H., Skiera B., Soll JH. "Identification of lead users for consumer products via virtual stock markets", *Journal of Product Innovation Management*, Vol.26, pp 322–335, 2009.

[17] Cate, E., "Patterns in Lead User Innovation: the Case of Winter Windsurfing", MS Thesis Aarhus School of Business, Aarhus University. Web. 2 Jan. 2014.

[18] Lüthje, C., Herstatt, C., von Hippel, E.A., "The Dominant Role of 'Local' Information in the User Innovation The Case of Mountain Biking", *MIT Sloan Working Paper*, No.4377-02, 2002.
[19] Franke N., von Hippel, E., Schreier, M., "Finding commercially attractive user innovations: a test of lead-user theory", *Journal of Product Innovation Management*, Vol.23, pp 301–315, 2006.
[20] King, C.W. & Summers, J.O., "Overlap of Opinion Leadership A cross Consumer Product Categories", *Journal of Marketing Research*, Vol.7, pp 43-50, February 1970.
[21] Childers, T.L., "Assessment of the Psychometric Properties of an Opinion Leadership Scale", *Journal of Marketing Research*, Vol.23, No.2, pp184-188, 1986.
[22] Visser, P.S., Krosnick, J.A., Marquette, J., Curtin M., "Mail Surveys for Election Forecasting? An Evaluation of the Coombia Dispatch Poll", *Pulgic Opinion Quarterly*, Vol.60, pp 181-227, 1996.
[23] Churchill, G.A. & Iacobucci, D., "*Marketing Research: Methodological Foundations 10th edition*", South Western Cengage Learning, Ohio, 2010.
[24] De Vaus, D. "*Surveys in Social Research*", Routledge, London; 2004.
[25] Peterson, R.A., "A meta-analysis of Cronbach's coefficient alpha", *Journal of Consumer Research*, Vol.21, pp 381–391, 1994.
[26] Bentler, P. M., "Comparative fit indexes in structural models", *Psychological Bulletin*, Vol.107, No.2, pp 238-46, 1990.
[27] Browne, M. W. & Cudeck, R., "Alternative ways of assessing model fit", *Sociological Methods and Research*, Vol.21, pp 230-258, 1993.
[28] Fornell, C. & Larcker, D.F., "Evaluating structural equation models with unobservable variables and measurement error", *Journal of Marketing Research*, Vol.48, pp 39–50, 1981.
[29] Belz, F.M. & Baumbach, W., "Netnography as a Method of Lead User Identification", *Creativity and Innovation Management*, Vol.19, No.3, pp 304-313, 2010.

Appendix A1. Questionnaire Constructs and Measurement Items

Construct	Measurement Item
Dissatisfaction	Q1: I am dissatisfied with some commercially available camera lens products. Q2: I am constantly searching for improved camera lens products. Q3: I often get irritated about the lack of sophistication in certain pieces of camera lens products. Q4: In my opinion, there are still unresolved problems with camera lens products. Q5: I have needs related to use of camera lens products that are not covered by the products currently offered on the market. Q6: While using camera lenses, I am often confronted with problems that cannot be solved by lens products available on the market. Q7: I have already had problems with my camera lens products that could not be solved with the manufacturer's conventional offerings. Q8: The camera lens products available in stores are sufficient for my needs.
Product Knowledge	Q9: I always try to keep up to date with regard to the materials, innovations, and possibilities with regard to my camera lens products. Q10: I am a huge fan of the technical aspects in regard to camera lens products.

	Q11: I can repair my own camera lens products.
	Q12: I can help other users solve problems with their camera lens products.
	Q13: I can make technical changes to my camera lens products on my own.
Use Experience	Q14: I frequently use camera lens products.
	Q15: I enjoy tinkering with camera lens products.
	Q16: Activities involving camera lens use are very important to me compared other activities.
	Q17: Activities involving camera lens use (i.e. taking photos) consume a large portion of my free time in relation to other activities.
Opinion Leadership	Q18: In general, do you talk to your friends about camera lens products: always – very often – sometimes – rarely – never
	Q19: When you talk to your friends about camera lens products do you give: a great deal of information – much information – some information – little information – no information
	Q20: During the past six months, how many people have you told about camera lens products? Told a number of people – told a few people – told a couple of people – told one person – told no one
	Q21: Compared with your circle of friends, how likely are you to be asked about camera lens products? Always – very often – sometimes – rarely – never
	Q22: In a discussion about camera lens products would you be most likely to: definitely listen to your friend's ideas – probably listen to your friend's ideas – uncertain – probably convince your friends of your ideas – definitely convince your friends of your ideas
	Q23: In discussions about camera lens products, which of the following happens most often? You always tell your friends about camera lens products – you probably tell your friends about camera lens products – uncertain – your friend's probably tell you briefly about camera lens products – your friends always tell you about camera lens products
	Q24: Overall in all of your discussions with friends about camera lens products how often are you used as a source of advice? Always – very often – sometimes – rarely – never
Ahead of Trend	Q25: I am usually ahead of others in recognizing and planning new solutions to problems with camera lens products.
	Q26: I can benefit significantly by the early adoption and use of technological innovations in camera lens products.
Innovation	Q27: I often find that I am suggesting new applications to camera lens manufacturers.
	Q28: I have been used as a test subject for prototype versions of new camera lens products.
	Q29: I have ideas on how to improve camera lens products.
	Q30: I make improvements to camera lens products myself.
	Q31: I am regarded as having pioneered some applications of technology for camera lens products.