The influence of trust and empathy in word-of-mouth communication on the Internet on consumer behaviour: Research based on a questionnaire

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Abstract—The aim of this research is to analyse quantitatively the influence which word-of-mouth communication in social networking, prospering today on the Internet, has had on consumer behaviour. In this study, the customer’s purchasing process was divided into decision making before a purchase and after-purchase satisfaction, and the influence on both of these in terms of factors such as the sense of trust, expertness, the assessment system, access frequency, and degree of empathy, were evaluated quantitatively. As an interesting finding, while trust in word-of-mouth promoted consumers’ purchasing behaviour, empathy raised the satisfaction level. Although consumers’ trust in word-of-mouth stimulated decision making in relation to purchases, it lowered the satisfaction level.

Keywords—consumer behaviour, empathy, trust, word-of-mouth communication

I. INTRODUCTION

The aim of this research is to analyse quantitatively the influence which word-of-mouth communication in social networking, prospering today on the Internet, has had on consumer behavior for the purchase processes of consumer goods [1]. Social networking communities can be accessed on the Internet using personal computers, smart phones, iPads, etc. and sites such as Facebook have appeared one after another. The numbers of people using these sites and the frequency of use have expanded rapidly in only a few years. Correspondingly, word-of-mouth communication on the Internet has had a major impact on consumers’ buying behaviour and how a company addresses word-of-mouth communication on the Internet has become an important subject in terms of strategy and marketing.

There have been many examples of failures in the past. For example, although many companies tried to intervene directly in word-of-mouth communication between consumers using advertisements and promotions under the cover of the anonymity afforded by the Internet, such trials were often discovered and received severe critiques from consumers [2],[3]. What may be important for a company is not controlling consumers, but rather developing a good understanding of consumers’ thoughts and feelings and offering information appropriately. It is desirable for a company to build consumers’ trust by putting their opinions and grievances to positive use as a source of innovation. Furthermore, the company has to consider what kind of information is relevant to consumers.

There are several ways in which word-of-mouth communication on the Internet differs from traditional advertising. Of these, anonymity is perhaps the most salient and presents a risk of myriad word-of-mouth communications spreading irresponsible and incorrect information easily [4], [5]. Therefore, in order to protect and raise the profile of their brands, companies need to take constant care that expert information is circulated through word-of-mouth communication on the Internet and that trust is high. It is desirable for users and potential consumers of products to be able to access trustworthy information easily and in large quantities so that they are encouraged to purchase the products.

Moreover, the creation of empathy between various consumers is an additional attraction of word-of-mouth communication on the Internet [6], [7]. Consumers’ satisfaction levels may be improved by like-minded users forming various communities on the Internet and freely exchanging various experiences, information, etc., and new customer values may thus be created. For a company, when information about its products is exchanged by word-of-mouth communication, product loyalty may increase and such information can also become a source of new innovation. However, the concept of empathy is not always coherent with trust or expertness. For example, a user’s ingenuous comment may tend to raise empathy to a greater extent than expert product information. Thus, how a company can induce and develop empathy is a subject of interest.

In order to consider various aspects of Internet word-of-mouth communication, it is necessary to clarify the relationship between a series of consumer behaviour processes and word-of-mouth communication, such as data-gathering, preferences, decision making, and satisfaction (dissatisfaction), in detail. Therefore, in this research, the survey of previous studies on theories of word-of-mouth communication and
consumer behaviour was carried out, as discussed in section 2. An empirical study of the impact of word-of-mouth communication on the Internet on consumer behaviour was then carried out with consumers in the younger age group considered to be familiar with this mode of communication, reported in section 3 (hypotheses) and section 4 (methodology and results). Finally, suggestions for corporate strategy are considered in terms of the implications of the research findings in section 5.

II. PREVIOUS RESEARCH

A. Word-of-mouth communication and the Internet

According to Arndt [8], word-of-mouth communication is communication concerning a brand, a product, or a service through an oral exchange among speakers without commercial consciousness. In this definition, word-of-mouth communication is an oral personal communication channel between friends and acquaintances. Dichter [9] proposed that there are several important features for a speaker and a hearer respectively in terms of the mechanism generating word-of-mouth communication: for a speaker, these are product involvement, self-involvement, involvement with others and message involvement; for a hearer, there are certain conditions, such as authority, trust, expertise, interest or the intimacy of a source, etc. According to Arndt [8], word-of-mouth communication can be divided roughly into positive word-of-mouth communication and negative word-of-mouth communication in relation to a product or service. Furthermore, word-of-mouth communication can be classified in terms of certain dimensions, such as information about a product’s attributes, use information, and experience information.

Engel, Blackwell, and Kegerreis [10] compared the word-of-mouth effect with the effect of advertising, and concluded that advertising is effective in gaining early attention or interest, whereas word-of-mouth communication becomes important just before the purchasing decision. According to Day [11], the difference in the effect of advertising and word-of-mouth is more noticeable in a new product than an existing product. Wilson and Peterson [12] analysed the difference of the effect of advertising and word-of-mouth if the potential buyer held a prior expectation (i.e. had evaluated the product) prior to exposure. In the case of new products, only in the case that there is a “fit” with the prior expectation is the influence of word-of-mouth strong.

According to Bristor [13], word-of-mouth inducement primarily comprises three factors: an individual factor, a product factor and a situational factor. Moreover, a word-of-mouth effect is prescribed by the social relationship between sources and recipients. The strength of ties, homogeneity, and the level of trust in a source are important for the social relationship as it affects word-of-mouth communication. According to Engel, Blackwell and Miniard [14], the requirements and conditions whereby word-of-mouth communication is most likely to happen are as follows: (1) when satisfactory information for consumers to make a product choice is insufficient; (2) when appraising the objective standard of a product is intricately difficult and others’ experience can be used as a vicarious trial; (3) when the capability to appraise a product or service is lacking; (4) when other sources are perceived to be untrustworthy; (5) when it is easier to use the information of people with influence than other sources; (6) when there is a strong social relationship between a messenger and a recipient; (7) when an individual has a strong desire for social recognition. Wells and Prensky [15] list the product types which tend to generate word-of-mouth communication as products new to consumers, technically complicated products, products accompanied by risk, and products with extensive exposure.

For Buttle [16], there is no requirement for meeting in word-of-mouth communication; rather it can comprise communication on the Internet, but can also be initiated through other communication tools, such as letters and the telephone. If there is a social relationship with the companion of a communication, word-of-mouth communication will be realized. In Helm and Schlei’s [17] view, word-of-mouth communication is not solely that between consumers and can comprise the exchange of information between an third party expert, an acquaintance, a potential consumer, etc.

Rosen [18] argues that present-day consumers are sceptical about information disseminated by a company and tend to disregard the overflow of advertising information as a self-defence method. On the other hand, through the development of the Internet, consumers seek the opinions of other consumers concerning products before purchasing and come together with other consumers online to share their expenditure experience and evaluate the product and service provided after the purchase. Word-of-mouth information on the Internet is exchanged with many consumers and others. An informant’s appraising information is easier to understand than advertising information and is more readily accepted. Therefore, consumers use word-of-mouth communication on the Internet as a source of decision making concerning purchases rather than the conventional mass media. As a result, the interaction between consumers and companies by word-of-mouth communication on the Internet is of importance to the business strategy.

Ab Hamid and Cheng [19] argues that the power of word-of-mouth created by Facebook, for example, provides a cost effective means to reach out to the like-minded group of potential customers. Juříková, Jurášková, and Kocourek [20] argues that cost effective word-of-mouth communications are highly encouraged due to decreasing marketing budgets. A Sitar-Taut, Stanca, Buchmann, and Lacurezeanu [21] argues that Word of mouth is more important than using search engines in order to locate products and services in E-Commerce Environment. Cernea, Del Moral, and Labra [22] applied a Collaborative Filtering algorithm using the “Word of Mouth” principle used by the Ringo music recommendation system based on the similarity between users’ profiles to social trust test.
B. Anonymity and trust

According to Joinson [4], an addresser’s anonymity is characteristic of the communication model of the Internet. Sproull and Kiesler [5] argue that the anonymity of communication on the Internet causes a lack or a shortage of social context (geographical, organizational, and situational). Since the subordinate information about the consumers who are writing the product appraisals, etc. in word-of-mouth communication on the Internet is insufficient, in order for the information to be trusted, trust in not only the content but also the source is important.

As Wang and Emurian [23] point out, the concept of trust is treated in various fields, and there are various definitions. Hovland and Weiss [24] found a significant difference in opinion transformation when comparing sources with high credibility those with low credibility and similarly, Kelman and Hovland [25] noted that an informer’s credibility had an influence on changes in attitude. Walster, Aronson, Abrahams, and Rottman [26] found that when informants described content to the detriment of their own profit, the trust from a recipient tended to decrease. According to Wheeless and Grotz [27] and McGinnies and Ward [28], trust originates in an informer’s seriousness, the intent not to persuade, profit independence, etc. In a similar vein, Blackwell, Mniard, and Engel [29] and Sheth and Mittal [30] found that sources which stand to gain a profit and those with a direct stake were viewed as untrustworthy.

C. Trust and expertness

According to Hovland, Janis, and Kelly [31], trust depends greatly on who is providing information and an addresser’s credibility in a communication affects changes in the hearer’s attitude. Fogg and Tseng [32] categorize the components of credibility as trustworthiness and expertise. Trustworthiness relates to the perception of the addresser’s goodness and morality, and expertise to the perception of the addresser’s knowledge and capability. Thus, expertness is the extent to which an addresser is perceived to be the source of the “right” opinion and trust relates to the perception of the intent of the addresser and the extent to which the information can be valued. Expertness is closely related with to the theme or content of a communication, and the degree of an informer’s expertness changes with themes. It is considered to some extent that an addresser’s age, leadership, and similarity of social background are indicators of expertness. Cohen [33] suggested that recipients are persuaded to a greater extent by the addresser who has the greatest expert knowledge. The perception of expertness is based on an informer’s qualifications, for example, training, experience, capability, etc. (Horai, Naccari, and Fatoullah [34]).

According to Wallace [35], since there is a high level of anonymity on the Internet, it is difficult to find indicators of status, race, age, sex, etc., but it is easier to discern immediately whether an addresser is an expert. Therefore, on the Internet, the significance of expertise is higher than in the real world. This perceptual significance was noted by Briggs, Burford, De Angeli, and Lynch [36], who found that the addresser’s perceptual expertness was the most important factor in whether recipients accepted advice gained from the Internet or not.

On the other hand, Sternthal, Dholakia, and Leavitt [37] found that, in some circumstances, an expert addresser had less of a persuasion effect than a moderately credible addresser (i.e. when the addresser was identified beforehand and the recipient already held a favourable opinion on the issue). Furthermore, Hovland and Weiss [24] found that the persuasion effect of an informer with high credibility was lost one month afterward, whereas the persuasion effect of the informer with low credibility increased over time. The upturn of the persuasion effect accompanying the passing of time was named the sleeper effect. According to Kelman and Hovland [25], the recipient of a persuasive communication gradually forgets ties with a highly credible informant and the contents of the communication, whereas the effect of a less credible informant is more pervasive over time.

D. Expertness and similarity

According to Bremerick and Howell [38], Minnick [39] and Robert Oliver [40], to name but a few, the similarity between an addresser and a recipient may be linked to a recipient’s attitude transformation in persuasive communication. However, the rationale for this view was not clarified. Berscheid [41], Simons, Berkowitz, and Moyer [42] and King and Sereno [43] argued that the notion that similarity is connected with attitude transformation is contradictory to that which suggests the persuasive power of expertness. This is because the similarity of an expert speaker and a common recipient is low in many cases. Subsequent studies have resulted in different interpretation of the relationship between similarity and trust. For example, Brown and Reingen [44] hypothesized that information would exert a greater influence when similarity was high, but the results did not support this.

According to Coleman, Katz, and Menzel [45] and Rogers and Bhowmik [46], in the field of diffusion research, similarity is important in the communication between an addresser (opinion leader) and a recipient (follower). However, Alpert and Anderson [47], Kaigler-Evans, Leavitt, and Dickey [48] and Rogers and Shoemaker [49] consider that diversity is also important. According to Rogers [50], while there may be differences between an opinion leader and a follower in terms of knowledge and experience of an innovation, ideally all other variables (for example, schooling and social position) will be similar. Diversity in knowledge or experience relates to expertness, whereas similarity relates to the characteristics of the addresser and recipient. Wallace [35] posits that there is a trend for one’s own opinion to be strengthened by finding similar opinions on line. Moreover, since the others’ attributes are rarely known, a similarity judgment is chiefly made based on the harmony of attitudes and interests.

E. The purchase process and customer satisfaction

As mentioned above, there are various conflicting research findings concerning the relationship between trust, expertness, and similarity in word-of-mouth communication and consumer behaviour. Based on studies of the consumer purchase
decision-making process, this relationship is considered further.

According to Kotler [1], by the time consumers decide on the purchase of a product, they will have passed through the following five purchase processes:

1. Problem recognition: this is the first step in which consumers are driven to feel the need for a product by a certain stimulation. For example, a person who sees a friend’s new car may also want a new car.

2. Information retrieval: in order to know about a product in more detail after the generation of need, this step involves collecting information. However, this may not be performed when the need can be fulfilled by purchasing immediately.

3. Evaluation of alternatives: in this step possible substitutes are compared.

4. Purchase decision: this is the step that determines the purchase of a particular product through an appraisal. At the time of the purchase decision, the outcome may not be decided by a purchaser’s intention per se, but may be affected by the influence of external preventive factors such as others’ attitudes.

5. Post-purchase behaviour: consumers experience satisfaction or dissatisfaction after purchasing merchandise. When satisfied, the same product may be purchased again, or the outcome might be told to an acquaintance. In the case of dissatisfaction, the product might be returned, or information may be used to increase the value of a product.

Favourable attitude formation and overcoming perceived risk conquest constitute key aspects of purchase decision making. According to Fishbein [51], consumer behaviour can expressed in terms of a multi-attribute attitude model which appraises each attribute (cognitive element) of a product and the sum of the products of each appraisal informs purchase decision making. Fishbein and Ajzen [52] suggest that the intention of an individual in taking a particular action is affected not only by his/her own attitude but also by the influence of others. An attitude which indicates the desirability of using a product and subjective norms, i.e. perceptions of the attitudes and expectations of important others drive behavioural intention towards using a product. Although it is difficult for a company to change a consumer’s personal attitude directly, it is possible to affect a consumer’s attitude through influential others surrounding the consumers.

Moreover, in marketing today, which pays attention to customer relations, improvement of customer satisfaction by gathering data after a purchase is an important practice. According to Richard Oliver [53], customer satisfaction relates to the attitude to the service or the product after purchase and is defined by the expectation disconfirmation model. Satisfaction or dissatisfaction results from the comparison of the perception of a service performance with prior expectations. Parasuraman, Zeithaml, and Berry (A conceptual model [54], SERVQUAL [55]) contend that quality of service can be defined as the degree of the difference between consumers’ expectations and experience. Consumers compare the expectation of the service with that actually provided and perceive the quality of the service as a result. Since consumers’ perceptions of quality are subjective, they need to be measured using cognitive scales (e.g. SERVQUAL).

F. Perceived risk and diffusion theory

According to Bauer [56], perceived risk is a subjective risk characterization evaluation. Bettman (Relationship of Information-Processing Attitude Structures [57]) considers that perceived risk affects consumers’ attitudes. If a perceived risk fails to occur, a favourable attitude will be formed towards the product.

Information derived from personal communication reduces uncertainty and affects changes in a recipient’s attitude (Lazarsfeld, Berelson, and Gaudet [58]) and opinion leaders are especially influential. There are two steps in the flow of information, “mass media to an opinion leader” and “an opinion leader to a general consumer” [59]. Although the influence of personal communication tends to be considerable, the extent to which it is given serious consideration depends on the source and differences are found depending on the field of study.

Rogers [60] proposes that there are five roles of social members in the diffusion process of an innovation and its adoption: innovator, early adopter, early majority, late majority, and laggard. In the diffusion process of an innovation, mass communication has a major impact on data-gathering, and personal communication has a major impact on decision-making. Since an opinion leader connects with the mass media more positively compared with the general public, this view has an affinity with the two-step model of Katz and Lazarsfeld [59].

The Bass model [61] of new product revenue projection describes various diffusion curves; this model projects total revenue at the macro level. The model divides consumers into two types, innovator and imitator, and captures the interaction between consumers. The model has been elaborated with the inclusion of diverse variables, such as pricing, advertising, etc.; its widespread use, for example in Europe, America and Japan, has found a good fit in numerous production scenarios, with a similar curve in different circumstances. From a variety of results, it has been found that in the diffusion process of a new product, the influence of an imitator is considerably larger than the influence of an innovator, and this suggests the significance of the interaction between consumers.

However, Sheth [62] argues that the flow of information does not comprise two steps but many steps. In terms of early adopters, the percentage of those affected by the influence of personal communication is higher; those who adopt under the influence of personal communication then transmit information to others and so on. Feick and Price [63] distinguish between an opinion leader, who has knowledge or expertise by virtue of involvement with a product, and an early adopter, who has knowledge and expertise based on experience. In addition to the opinion leader and the early adopter, there is also the “market maven”, a consumer who has a great deal of up-to-date knowledge often of multiple products or markets, and who is trusted as a source by others; the ratio of females is higher and market mavens are looked to by the media to lead opinion.
In terms of risk, Forsythe and Shi [64] classify the perceived risk in Internet shopping into four types: settlement risk, product risk, credit risk and time risk. The rise in consumption through Internet shopping requires that companies develop a marketing strategy that can reduce perceived risk. To do so, according to Doh and Hwang [65], since perceived risk increases in the comparison and selection/purchasing steps in Internet shopping, word-of-mouth communication with a high level of integrity and trust is required.

G. Purchase type and cognitive dissonance

There are many approaches to categorizing consumers’ purchase types. One such theory is that of cognitive dissonance. Cognitive dissonance is a term in social psychology according to which a person simultaneously holds inconsistent or contradictory attitudes or beliefs (Festinger [66]); this leads to discomfort and the person engages in a mental process to reduce the discomfort by realigning the attitudes or beliefs to restore balance.

According to Kaish [67], the concept of cognitive dissonance is applicable to the uneasy resolution in the purchase process. The significance of a purchase is constituted by three factors – price, permanence, or involvement – and risk changes with the variety of product. Peter and Olson [68] consider that involvement is a perception of the consumer’s individual relevance and significance to a phenomenon or an activity. Enis and Roering [69] distinguish between shopping goods and convenience goods and classify them in terms of whether a perceived risk is reducible by information exploration. In terms of convenience goods, the purchase unit value, permanence (expended hours), and involvement (consumers’ intensity) are generally low and the risk is small. In contrast, non-convenience goods (shopping goods) generally have a high purchase unit value, permanence (expended hours), or involvement (consumers’ intensity) and the risk is greater. This is almost synonymous with Bauer’s [56] concept of perceived risk.

According to Petty and Cacioppo [70], when consumers’ information-processing capability or motivation is high, consumers elaborate information, process information in the quality of alternatives carefully, and make an essential judgment. This is expressed as the central route. Moreover, when consumers’ information-processing capability or motivation is low, fringe keys, such as a company name, are used and a surface judgment is made. This is expressed as the fringe route.

Assael [71] describes four categories of buying behaviour according to the degree of product involvement or purchase involvement (high or low), and the extent to which there are significant differences between brands (many or few). The four categories of behaviour are:

• Habitual buying behaviour. In the combination low involvement/few differences, such as purchasing regular foodstuffs, consumers feel no great involvement and perceive no significant differences between the brand with which they are familiar and others; they therefore purchase their usual product, generally without thinking.

• Dissonance reducing behaviour. In the combination high involvement/few differences, there is an investment in terms of time or value, but no great perceived difference between brands. Thus lengthy consideration is meaningless, so not much time is spent on selection; rather, after a purchase, in order to avoid the disagreeable feeling that possibly the selection was wrong, consumers aim to cancel uncertainty by engaging in dissonance reducing behaviour, for example by accessing advertising, talking to a product-friendly acquaintance, etc.

• Variety seeking behaviour. In the combination low involvement/many differences, the frequency of brand switching tends to be high as consumers do not have a particular bias towards a certain brand and try different varieties.

• Complex buying behaviour. In the combination high involvement/many differences, consumers engage in complex buying behaviour, involving information processing and the assessment of alternatives.

H. Recognition and feeling

According to Rosenberg and Hovland [72] and Breckler [73], there have been many studies in the field of social psychology on consumers’ attitudes conducted over a long period of time. Much of this research suggests two components of consumer attitudes: recognition (appraisal based on an objective indicator), and feeling (appraisal based on consumers’ subjective experience). However, although recognition and feeling have been considered in social psychology and consumer behaviour research through numerous studies, there has been little comparative study of the significance of these components in the formation of an attitude.

Many of the views on cognitive processing had coalesced in consumer behaviour research by the 1970s. For example, the human brain was compared to the electronic computer and consumer behaviour was systematically explained by information processing models, such as external information inputs, processing, and storage (Bettman, An information processing theory [74]). Thus, Ajzen [75] contends that in these studies, consumers were assumed to behave in rational patterns, that is, they appraise the attributes of a product rationally and purchase what is recognized objectively to be the best product.

However, according to Buck, Anderson, Chaudhuri, and Ray [76], Chaudhuri [77], and Robinette, Brand, and Lenz [78], in later years, many studies asserted the magnitude of the role of feelings in consumer behaviour. Now, in many industrial fields a stage of maturity has been reached wherein the view that consumers’ buying behaviour is predicated only on making a product that is excellent in terms of technical specifications is no longer tenable. According to Schmitt [79] and Chaudhuri [77], in the industrial world, emotional marketing and experiential marketing have attracted attention, and importance is increasingly attached to appealing to consumers’ emotions in marketing strategies. Furthermore, Lindstrom (2008), on the basis of a neuro-economics and neuro-marketing study, indicates that judgment founded on recognition is preceded by emotion. In the field of social psychology, Wilson, Lisle,
Schooler, and Hodges [80] propose that judgment by emotion or intuition does not necessarily pass through systematic processing. For example, once the reason for the selection is carefully considered after a decision is made, satisfaction will decrease.

As mentioned above, latterly research has found emotion to be an important factor that influences consumers’ attitudes towards a brand. However, according to Keller [81], there is almost no preceding research that has indicated positively and quantitatively that the influence of emotion is greater than the influence of cognitive processes on consumer attitude.

1. Changing models of consumer behaviour

Historically, there have been many models of consumer behaviour. Barry [82] refers to the AID model proposed by Lewis to explain consumer behaviour in 1898, which consists of three steps, attention, interest, and desire. This hierarchical model, which divides the actions of the consumers at the time of a product or service purchase, was the beginning of research that applied psychology in the field of business administration. Lewis amended the AID model in 1900, adding action, resulting in the four-step AIDA model. Since then, various new models have been proposed by researchers or those in business. Approaches such as that of AIDA presented a simple model supposing a typical consumer image. After the 1970s, research on consumer behaviour incorporated various factors, such as the aforementioned individual differences, and elaborated the analysis. However, even now, the AIDA model and its variations are often mentioned for their simplicity and are widely used.

In Japan, the AIDMA model, advocated by Hall and which added M (memory) has long been widely accepted. The consumer behaviour represented in the AIDMA model is as follows. Consumers recognize a product from commercial messages on television or in magazines, etc., develop an interest or regard, and desire is produced. This results in the buying behaviour of the product through the emotion step where consumers’ desire is incorporated.

Again, in Japan, Dentsu Inc. advocated the application of the AISAS model incorporating the concept of “search and share” instead of the desire–memory process in the AIDMA model after the appearance of the Internet. The AISAS model categorizes consumer behaviour in five steps: attention, interest, search, action, and share. These reflect the transition of the consumer behaviour process in engaging in on-line purchasing. The birth of on-line catalogue-selling sites and price comparison websites resulted in the need to consider the process of searching before buying. Consumers share information through blogs, social networking sites, sharing sites, etc. after purchasing, and this helps other consumers’ decide on purchases.

Although the AISAS model captured a feature of consumer behaviour in the Internet age, it does not engage sufficiently with consumers’ recognition and emotion processes. Thus, the Dentsu Inc. Open Innovation Laboratory proposed SIPS which consists of sympathize, identify, participate, share, and spread. At present, on social media such as Twitter or Facebook, the level of information sharing has been increasing steadily. In a SIPS model, empathy with the information or philosophy disseminated by the person and the company serves as the initiator of consumer behaviour. Through consumers’ empathy and identification, the motivation for action is born, in turn leading to participation (also including action without purchase), sharing and the beginning of diffusion. Through initial motivation, consumers look for further information using search engines or social media and take certain actions (also including action without purchase). Thus, when considering future marketing, it is important for companies to disseminate and share information, in order to induce empathy and to develop participation. It is thought that the concept of empathy is connected with the concept of similarity discussed above. Although there is currently insufficient empirical research to substantiate this, it may be that the concept of empathy captures the young Internet generation’s behavioural patterns especially well.

III. DEVELOPMENT OF HYPOTHESES

The aim of this research is to analyse how word-of-mouth communication on the Internet is related to the consumer purchasing process. According to previous research on word-of-mouth communication on the Internet, since anonymity is high for Internet sources, trust poses a problem. The more consumers perceive that a word-of-mouth source is trustworthy, the more it is thought that a purchase process is promoted. Thus:

\( H1: \) A high level of perceived trustworthiness of a source in word-of-mouth communication on the Internet tends to result in the decision to purchase.

Next, drawing on prior studies, the requirements for consumers to perceive that the trustworthiness of a word-of-mouth source is high are the extent to which they are experts. In terms of perceived expertness, a cause–effect relationship is verified in some studies, but not in others. Thus, the relationship between perceived trustworthiness and expertness is taken up in this research, leading to the following hypothesis:

\( H2: \) Consumers tend to perceive that the trustworthiness of word-of-mouth communication on the Internet is high to the extent that they perceive that the informant is an expert.

In this research, I consider the basis on which the source is considered to be an expert and to be highly trustworthy, and thus able to promote a purchase. That is, in the step before a purchase, perceived risk reduction and favourable attitude formation towards an unknown product or service are considered to be important concepts which influence the decision to make a purchase. To reduce the perceived risk, use information on the product or service from a trusted opinion leader is useful. Therefore, it is thought that word-of-mouth communication on the Internet disseminated by an opinion leader tends to reduce perceived risk to lead to the decision to make a purchase. Moreover, these days on Internet shopping sites, schemes by which ordinary users appraise word-of-mouth
communication and information sources have been introduced (for example, “like” in Facebook, the customer review on Amazon.com, etc.). It is thought that such schemes lead to improving trust in word-of-mouth communication. Thus:

H3. Consumers perceive that the trustworthiness of word-of-mouth communication on the Internet is high to the extent that other consumers’ appraisals of the word-of-mouth communication are high.

Moreover, in previous research, the notion that similarity improves trust is not shown clearly. It is thought that similarity is connected with “empathy” which is a key concept in terms of the influence that word-of-mouth communication of the Internet has on consumer behaviour. In this research, similarity is treated in relation to empathy later. Drawing on research on diffusion theory and cognitive dissonance, it is possible that the reason why consumers access the information on a word-of-mouth site changes with consumer type. As one type, consumers with high information-processing capabilities search for information positively, solving a problem and reducing perceived risk. I hypothesize that these consumers seek information similar to that of an opinion leader. Although they seek out a considerable amount of word-of-mouth communication, their sense of trust in word-of-mouth communication may not be high. Rather, since they may consider the risk of each word-of-mouth communication to be high, they may look at as much word-of-mouth communication as possible. Thus:

H4. The more frequently consumers look at word-of-mouth communication on the Internet, the lower their trust in word-of-mouth communication.

In contrast, consumers who experience difficulty in discerning between brands search for friendly information, justifying their own selection and thus reducing cognitive dissonance. Since they do not have confidence in their selection, satisfaction may be increased by searching and perusing positively the affirmative and friendly opinions of others concerning the product. Smart phones have high performance levels and various functions just like personal computers. Each company has invested in one new function after another and service menus including price plans are becoming increasingly complicated. Therefore, the smart phone is no longer a simple product available to everyone and it is difficult to distinguish between models and services. Furthermore, since the components and applications of smart phones scarcely differ between suppliers, there is little difference in practice between smart phones sold on similar terms. As Isada and Isada [83] reported, a smart phone is a tool for communication and information exchange between consumers on how to enjoy a product, etc., the (emotional) satisfaction level with the product may increase. On the Internet, the potential for discovering and exchanging information with a companion whose likes and tastes match is greater rather than in the sphere of “real life”. In the case of the community participant who has not yet purchased the product itself, so to speak, the participant may be impulsively urged to purchase the product because empathy increases through interaction. Thus:

H5. The more frequently consumers look at word-of-mouth communication on the Internet, the higher the customer satisfaction with a product.

According to previous research on the purchase process, customer satisfaction is important in strategy and marketing because improvements in customer satisfaction motivate consumers to make further purchases. Simultaneously, customer satisfaction promotes purchasing behaviour by other consumers with the expansion of word-of-mouth communication on the Internet. Since customer satisfaction is defined as the gap between prior expected performance and perception of that actually received, it is necessary to consider customer satisfaction by dividing into two. First, I consider the relationship between trust in word-of-mouth communication and customer satisfaction, i.e. the more consumers trust word-of-mouth communication on the Internet, the greater the expectation before a purchase may be. Thus, especially when a consumer whose information-processing capability is lower than that of an opinion leader places too much credence on the opinion of the informant, expectations may be too high. Consequently, the actual product or service may be a disappointment. As a hypothesis, high levels of trust in word-of-mouth information before purchase may lower the satisfaction level after purchase:

H6. To the extent that consumers have a high level of trust in word-of-mouth communication on the Internet before purchase, customer satisfaction after purchase is lower.

Next, according to preceding research on customer satisfaction or emotion, the perception of performance which is a component of a customer satisfaction is an integrative indicator which not only consists of the apparent product attributes in terms of the specification and price, but also of various factors. Since consumer satisfaction is based on consumers’ emotions, it needs to be measured using a cognitive scale. If H5 is put another way, it can be interpreted as the perception of performance of the same product being improved by solving the emotional problem of cognitive dissonance. Moreover, according to the latest studies on empathy in consumer behaviour, when consumers participate in friendly communities on the Internet and there is an increased information exchange between consumers on how to enjoy a product, etc., the (emotional) satisfaction level with the product may increase. On the Internet, the potential for discovering and exchanging information with a companion whose likes and tastes match is greater rather than in the sphere of “real life”. In the case of the community participant who has not yet purchased the product itself, so to speak, the participant may be impulsively urged to purchase the product because empathy increases through interaction. Thus:

H7. The more consumers participate in a word-of-mouth site friendly to the product on the Internet, the more the product tends to be purchased.

H8. The more consumers participate in a word-of-mouth site friendly to the product on the Internet, the more customer satisfaction tends to increase.

IV. METHODOLOGY AND RESULTS

This study employed a survey. Purchasing behaviour varies according to the purchase type and the aim and extent of data gathering (in relation to consumers or products); specifically, the extent of information processing changes according to
consumers’ information-processing capabilities, product involvement, and variation in brand perception. In this study, in order to eliminate the influence of product differences, the survey product was limited. The smart phone was selected in view of the fact that the influence of information exploration on word-of-mouth sites is considerable, a smart phone being a shopping good rather than a convenience good. As it is those who are in the younger age group who tend to be interested in smart phones and the ownership ratio is also comparatively high, they are considered to be a readily available population in terms of responding to a questionnaire. Moreover, a smart phone is expensive for young people and purchasing frequency is approximately once in a few years; as new products come out one after another, it is thought that the perceived risk is high.

A. Summary of the questionnaire

In order to verify (nullify) each hypothesis, a consumer questionnaire was utilized in this research. The target of the questionnaire was the younger age group in view of the fact that their utilization of word-of-mouth communication on the Internet is comparatively active. Thus, the questionnaire was distributed to college students and graduate students (a working member of society was included) who were able to purchase a smart phone independently. The time period of the survey was from December 2012 to January 2013 and it was implemented in a university class of which the author was in charge. There were 60 participants (the rate of collection was 100% because all those solicited responded) and the respondents’ age was from 18 years old to 24 years old, and the average age was exactly 20 years old.

The questions were developed as follows. Two questions were developed in relation to two objective (explanatory) variables: 1) a dichotomous question in relation to the purchase of the product after perusing word-of-mouth communication on the Internet (yes/no), and 2) satisfaction level after purchase (a five-point Likert-style appraisal, as 1.Strongly disagree, 2.Disagree, 3.Neutral, 4.Agree, 5.Strongly agree). In terms of explanatory variables, questions were asked about word-of-mouth communication on the Internet and browsing in the purchase process in relation to: the degree of the sense of trust, the perception of expertness, the value of other consumers’ appraisals of word-of-mouth communication, the frequency of access of word-of-mouth communications, and the extent to which word-of-mouth communications made a favourable impression. Each question item in relation to explanatory variables comprised a five-point Likert-style scale (as the above).

B. Regression analysis

A path analysis between each objective variable and each explanatory variable was conducted. As there were few question items and responses, the responses for each question item were used as they were, a regression analysis by a stepwise procedure was performed, and only significant paths were extracted statistically. Regression analysis was applied after checking the distribution of the responses for each question item and establishing that there was no ceiling or floor effect. Only when a condition indicator of multi-collinearity was 15 or less, the explanatory variables were adopted. The statistical analysis was conducted using the IBM statistical software package SPSS v.21. In addition, ** indicates that the significance (p) is less than 1% for a standardized partial regression coefficient, and * indicates a significance (p) of less than 5%.

C. Analysis of purchasing behaviour

The results of the regression analysis of product purchase, which is one of the objective variables, and each explanatory variable is given in Fig. 1.

From the regression analysis of purchasing behaviour (yes/no) and explanatory variables, only trust was extracted and it had a positive influence (a standardized partial regression coefficient of 0.390**). On the other hand, empathy was not extracted. Next, in terms of trust, as a result of applying regression analysis with other explanatory variables, both expertness and appraisal showed a positive influence, and the frequency of word-of-mouth access had a negative influence (in order, standardized partial regression coefficients are 0.587**, 0.262*, and -0.364**). As for the above results, hypotheses 1–4 are verified and hypothesis 7 is rejected.

In order to reduce perceived risk when purchasing an unknown product, it is thought that word-of-mouth communication on the Internet perceived by consumers as trustworthy is useful. Moreover, it is thought that the greater the perception of word-of-mouth expertness and the greater the appraisals from other consumers of word-of-mouth communication, the higher the trust in word-of-mouth communication.

However, this study found that the sense of trust in word-of-mouth communication suffers when the frequency of perusing word-of-mouth communication prior to purchasing is high. Since the content of word-of-mouth communication on the Internet is anonymous and is rich in diversity, if a considerable amount of word-of-mouth communication is seen, the sense of trust in each word-of-mouth communication may be reduced. In other words, consumers who consider each word-of-mouth communication to be less than trustworthy are likely to peruse more word-of-mouth communication.

Moreover, the influence of empathy on purchasing behaviour is not verified. It is thought that empathy in word-of-mouth communication may increase interest in a product. However, since the price of smart phones is not cheap for consumers around 20 years old, they may have opted for purchase after
judging the trustworthiness of various word-of-mouth communications, rather than purchasing impulsively by virtue of empathy with friendly word-of-mouth communications.

D. Analysis of customer satisfaction ratings

The results of regression analysis of customer satisfaction ratings and explanatory variables are shown in Fig. 2.

![Fig. 2 Results of regression analysis of customer satisfaction ratings](image)

In terms of customer satisfaction, the frequency of word-of-mouth access and the degree of empathy have a positive influence, whereas sense of trust has a negative influence (in order, the standardized partial regression coefficients are 0.307**, 0.550*, and -0.281*). Thus, hypotheses 5, 6, and 8 are verified.

Post-purchase satisfaction is represented by the magnitude of the gap between expectation and perception of the realization. Greater frequency of word-of-mouth access may correct excess expectation before purchase or may lower the potential discrepancy in perception of satisfaction level after use. Moreover, viewing friendly word-of-mouth communications concerning a product could afford faith in the purchase and possibly reduce or nullify cognitive dissonance. Furthermore, when there are various uses and pleasures such as those provided by a smart phone, the customer value may increase by using a product in excess of the initial purchase objective based on various word-of-mouth communications after purchase.

On the other hand, it is notable that the customer satisfaction rating falls in relation to those who trust word-of-mouth communication on the Internet. While the sense of trust in word-of-mouth communication encourages a customer to make a purchase, it has the adverse repercussion of lowering customer satisfaction. Word-of-mouth communication is varied in terms of providing informants’ individual and subjective opinions and comments, and is not always objective or trustworthy. In certain cases, word-of-mouth communication on the Internet may be fit for improving consumers’ satisfaction ratings. Consumers may enjoy finding companions who suit their sensibilities among the myriad word-of-mouth communications on the Internet, or receiving various responses to their communications. However, if consumers place too great a trust in word-of-mouth communication and the expectation of a purchase grows to excess, it may result in lowering customer satisfaction after purchase.

V. Implications and Conclusions

The objective of this research was to investigate how word-of-mouth communication on the Internet influences the consumer purchasing process. As an interesting finding, while trust in word-of-mouth promoted consumers’ purchasing behaviour, empathy raised the satisfaction level. Although consumers’ trust in word-of-mouth stimulated decision making in relation to purchases, it lowered the satisfaction level. Moreover, while consumers with a high frequency of access to word-of-mouth communication had low trust in this communication, customer satisfaction in word-of-mouth communication was high.

Some suggestions can be gleaned from this study so that companies may unite word-of-mouth communication on the Internet with corporate strategy and marketing. In today’s corporate strategy, it is important to realize that a customer is an asset, to realize that a long-term customer relationship is important, and to raise the lifetime customer value. First, it is desirable to be impartial in providing both good information and measured information on a product or service rather than giving a customer a superfluous and overly high expectation through word-of-mouth communication, perhaps promoting a purchase in the short term, and to improve the environment in which consumers can access expert information easily. Moreover, it is desirable to activate occasions in which users can develop empathy mutually and engage in problem solving; thus, the increased utilization of a product or service will emerge.

There are limitations in this research. Since the target product of the survey was specified as the smart phone, there is no telling whether the same conclusions could be reached with other products. Also, as the survey focused only on the young Japanese population in a university class, the search result may have been affected by the local influence of Internet usage or the consumer process. The subject of future research will be to develop the exploration to encompass an international comparison, and extend knowledge to an international business strategy and international marketing.

REFERENCES


