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경영학박사 학위논문

Impact of Innovativeness on Firm Value: The Role of Customer Awareness

기업의 혁신성이 기업가치에 미치는 영향
- 소비자인지의 역할을 중심으로

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Abstract

Impact of Innovativeness on Firm Value: The Role of Customer Awareness

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As we witness the Fourth Industrial Revolution in the current era, corporate innovativeness is emerging as a vital determining

factor in the success or failure of a company. Since companies that neglect innovativeness will slowly but surely fall behind, they should pay attention to building their own innovativeness to improve profits and increase sustainability. This study empirically explores the relationship between innovativeness and firm value, while at the same time identifying a third factor that influences that relationship: consumer awareness. This study intensively explores the role of consumer awareness, focusing on the fact that consumers cannot recognize the innovativeness of a company until it is reflected in that company's financial performance. In other words, we expect that the firm value will be further improved when consumer awareness of corporate innovativeness increases along with actual innovative activities such as R&D investment and patent acquisition. This study considered news articles and word-of-mouth communication as a way to indicate consumers' level of perception of corporate innovativeness. According to agenda-setting theory, which is one of the traditional media theories, media agenda setting influences the process whereby public perception of a specific topic is formed. Based on agenda-setting theory, this study predicts that consumers

will form an awareness of the innovativeness of a specific company through the innovative activities it exposes to the media. In addition, the development of information and communication technology and the spread of smart devices have created an environment in which consumers are easily exposed to online word-of-mouth. In this situation, many consumers use online word-of-mouth to search for information and build knowledge. Therefore, if a certain topic is mentioned frequently on an online word-of-mouth platform, consumers will have a high degree of awareness about that topic.

Prior research regards the innovativeness of a company as one of its intangible assets. In other words, R&D expenditure and patents acquired by companies do not build the substance of assets by themselves, but are viewed as assets that will bring benefits to companies in the future. This study investigates the relationship between a company's intangible assets and the firm value based on the market value equation. In particular, we predict that corporate knowledge assets and marketing assets related to innovativeness will have a synergistic effect on enhancing firm value. The results of the study are as follows. First, corporate innovativeness has a significant

impact on firm value. Therefore, when a company engages in innovative activities such as R&D investment and patent acquisition, its value increases. Second, the number of news reports on corporate innovativeness amplifies the impact of innovativeness on firm value. In other words, if companies engage in innovative activities and actively publicize their innovativeness through news media, higher firm value can be expected. Third, the amount of word-of-mouth about corporate innovativeness does not significantly moderate the relationship between innovativeness and corporate value. We suggest two reasons for this. One is that the impact on corporate value may be inconsistent due to the mixture of positive and negative word-of-mouth. Another reason can be found in public confidence in word-of-mouth. This means that information based on an unspecified number of word-of-mouth reports may be difficult to use as a basis for judging corporate value.

This study has various theoretical and practical implications for researchers and corporate decision makers by exploring the relationship between innovativeness and firm value and suggesting several ways to maximize that relationship.

Keyword : Innovativeness, consumer awareness, firm value, market value model, news reports, word-of-mouth

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1. Introduction

Corporate innovativeness facilitates the development of companies and society (Kim 2016) and many companies are now paying attention to corporate innovativeness to secure a competitive advantage. Many studies have attempted to verify the effect of corporate innovativeness and have shown that research and development (R&D) investment, the number of patents, and scientific publications have a positive effect on firm value (Griliches 1981; Hall et al. 2005; Simeth and Cincera 2016). However, while most previous studies have focused on companies' efforts to achieve innovativeness, they have overlooked the consumer's cognitive aspect.

The corporate investment to enhance a company's innovativeness is not always directly linked to its value. The current situation in the automobile industry is a fragmentary example of this claim. Since July 2020, Tesla has become the world's most valuable automaker (Stevenson 2020). As of December 24, 2020, Tesla's market capitalization was over \$600 billion, far exceeding the market caps of traditional automakers such as GM (\$60 billion); but what

drives Tesla's high market value? While there may be many factors at play, one of the major factors is Tesla's reputation for innovativeness (Furr and Dyer 2020). That being the case, has Tesla developed innovativeness by focusing on R&D investment and patent acquisition, as found in previous studies? In 2019, GM spent \$6.8 billion on R&D, while Tesla spent \$1.3 billion. Meanwhile, during the same period, the number of news articles simultaneously containing "General Motors" and the word "innovation" is less than 20,000, but those containing "innovation" and "Tesla" are over 60,000 on the Google news portal. In other words, Tesla's R&D investment was less than that of GM, but there were more innovativeness-related news reports about Tesla in 2019. This suggests that traditional innovative activities may not be the only factor that increases a company's reputation for innovativeness as judged by investors.

This study highlights the importance of customer awareness of corporate innovativeness. The market does not generally value the firm's innovativeness until its effects show up in improved company financials; however, we expect that a firm's marketing efforts can make their innovativeness more visible to consumers. In other words,

the firm should actively inform customers of their innovativeness to enrich their market value more quickly. The existing literature has shown that customer awareness should be prioritized to form a positive relationship between corporate action and financial performance (Servaes and Tamayo 2013; Seok, Lee, and Kim 2020). Furthermore, several studies have argued that R&D expenditure is positively moderated by several marketing variables such as commercialization orientation and advertising expenditure (Lin, Lee, and Hung 2006; Peng et al. 2018; Seok, Kim, and Ko 2019). Consequently, people should be aware of a firm's innovativeness if they are to value it.

The literature applies the well-established market value function to verify the effects of not only the actual innovativeness but also the synergetic effect of customer awareness of that innovativeness. In particular, we choose two different measurements of innovativeness known to customers: news reports and word-of-mouth (WOM). According to agenda-setting theory, news media can determine which topics are highlighted in the public eye (McCombs and Reynolds 2002). In other words, the public will recognize the

importance of topics that appear frequently in the news media. In this context, if a company publishes many news articles about its innovativeness, people will be more focused on that company's innovativeness. On the other hand, several marketing studies have argued that WOM is an important information source for customers (Brown et al. 2005; Godes and Mayzlin 2004; Liu 2006). The proliferation of mobile devices and high-speed Internet allows access to online WOM platforms anytime and anywhere. We expect that when there is a proliferation of online WOM concerning the innovativeness of a particular company, consumers will be more aware of its innovativeness. The main purpose of this study is to examine the role of consumer awareness measured by news media and WOM in the relationship between corporate innovativeness and its value.

This paper is organized as follows. First, we introduce the conceptual framework and propose hypotheses. Second, we present the data and statistical model for testing the relationships outlined in the theoretical framework. Third, we explain the results and then conclude with several theoretical and managerial implications based

on our findings as well as opportunities for future research.

2. Conceptual Framework and Hypothesis

2.1 Firm Innovativeness

Firm innovativeness is defined as “a company’ s receptivity and inclination to adopt new ideas that lead to the development and launch of new products” (Rubera and Kirca 2012). Innovativeness is also defined as a capacity for and engagement in innovation (Hult, Hurley, and Knight 2004; Yenyurt et al. 2019). Hult, Hurley, and Knight (2004) argued that firm innovativeness helps a firm introduce new processes, products, or ideas. In the business field, several studies have attempted to verify the effects of firm innovativeness, demonstrating that the level of corporate innovativeness not only enriches corporate profitability (Hult, Hurley, and Knight 2004) and market value (Simeth and Cincera 2016), but also lowers a firm’s systematic risk (McAlister, Srinivasan, and Kim 2007).

Existing studies have measured firm innovativeness in various ways. Rubera and Kirca (2012) classified the innovativeness measures used in previous studies into three types: (1) innovativeness inputs, (2) innovativeness outputs, and (3)

innovativeness culture. First, innovative inputs refer to the efforts made toward innovation (Rubera and Kirca 2012). Researchers can measure the level of innovativeness inputs by using R&D expenditure and the number of patents. Innovativeness inputs are not always reflected in corporate financial performance because R&D expenditure and patents do not always lead to the launch of new products or the development of existing products (Kochhar and David 1996). However, innovativeness inputs such as R&D investment build market-based assets and influence investors' evaluation of the company (McAlister, Srinivasan, and Kim 2007). Second, innovativeness outputs are closely related to the consequences of innovative actions (Rubera and Kirca 2012). Companies can bring new products or services to the market based on their innovative activities. Innovativeness outputs can enrich financial performance such as revenue and earnings (Pauwels et al. 2004). Finally, an innovativeness culture refers to a corporate culture that represents how open the organization is to new ideas (Hurley and Hult 1998; Rubera and Kirca 2012). Tsai and Yang (2013) showed that innovativeness culture positively influences corporate financial

performance in a highly competitive market.

The three measurements for corporate innovativeness described above are widely used in various studies. Among these three measurements, this study focused on innovative inputs (i.e., R&D expenditure and the number of the patents). The reason for this is as follows. First, companies regularly introduce new products to the market that improve the performance of their existing products (e.g., Apple, Samsung). On rare occasions, some companies bring completely new products to the market, but these cases are few and far between, and calibrating the level of innovativeness of each case is difficult to quantify. Also, the fact that a company has launched a new product does not necessarily mean that the company has high innovativeness (Govindarajan and Desai 2013). Therefore, this study did not assume new product launches as an indicator of company innovativeness. Second, previous studies that assumed a firm's innovative culture as corporate innovativeness attempted to measure it by administering survey questionnaires to managers in each company (Hult, Hurley, and Knight 2004; Tsai and Yang 2013); however, this measurement method not only limits the number of

target companies but also has the disadvantage of not being able to examine the time-series changes of data. Considering the above aspects, this study determined that it would be appropriate to assume the innovativeness of a company as an asset in which companies have invested (i.e., innovativeness inputs) (Griliches 1981; Hall et al. 2005; Simeth and Cincera 2016).

2.2 Relationship Between Innovativeness and Firm Value

This study builds on the large stream of literature that verifies the effect of innovativeness inputs such as R&D investment. Minasian (1969) argued that R&D expenditure has significant effects on the creation of added value for companies. Branch (1974) explained that R&D investment increases corporate profits with a relatively high return on investment while providing additional profit growth from sales of new products developed by R&D. Chauvin and Hirschey (1993) also showed that although the impact of R&D investment on firm value varies depending on the size of a corporation, R&D investment and firm value have a consistently

positive relationship.

Including the above studies, much of the existing literature has examined R&D investment and acquiring patents as credible indicators for firm value (e.g., Chauvin and Hirschey 1993; Dutta, Narasimhan, and Rajiv 1999; Griliches 1981; Hall and Oriani 2006; Simeth and Cincera 2016). They commonly argued that corporate innovativeness creates intangible assets for a firm. In general, corporate stakeholders evaluate a firm based on both the intangible and tangible assets the firm has (Griliches 1981). In other words, a company's intangible assets can be built by its innovativeness, which will be reflected in firm values. Based on the above studies, this study attempts to present the following hypothesis regarding the relationship between firm innovativeness and its value.

H1. The greater the firm's innovativeness, the greater its value.

H1a. The greater the firm's R&D investment, the greater its value.

H1b. The greater the firm's patent counts, the greater its value.

2.3 The Role of Customer Awareness

Although many studies have shown the positive effects of firm innovativeness on its value, some literature has reported that this relationship is not clear. For example, Bublitz and Ettredge (1989) showed that R&D expenditure does not have a statistically significant effect on cumulative abnormal return based on 328 sample firms. Furthermore, Chan, Lakonishok, and Sougiannis (2001) argued that R&D intensity and stock returns are unrelated, reporting that the average stock return of companies with high R&D intensity was not much different from the average stock return of companies with low R&D investment.

One reason for the results presented above may be that a company's innovative actions establish an intangible asset, but the intangible asset is not automatically reflected in the firm value. If this is the case, it is difficult to anticipate an improvement in firm value solely by building corporate innovativeness. In general, the market does not value the firm's innovativeness until its effects show up in improved company financials. At this point, we could expect that the

firm's marketing efforts can make their innovativeness more visible to consumers. Prior studies have argued that consumer awareness should be prioritized to form a positive relationship between corporate action and firm value (Servaes and Tamayo 2013; Seok, Lee, and Kim 2020). In other words, to enrich firm value more quickly, the company should focus not only on R&D investment but also on effective ways to inform customers of their innovativeness. In this context, we considered two effective channels to inform customers of the innovativeness of a company.

First, companies can make consumers aware of their innovativeness through news reports. According to agenda-setting theory, news media influence people's perception of the importance of a particular topic (Lippmann 1922; McCombs and Reynolds 2002). In other words, people perceived topics that are publicized more often as more important than others (Lippmann 1922). Along these lines, Sheng and Lan (2019) argued that the number of news reports is closely related to the success or failure of a business. This study demonstrated that the more news reports there are on corporate financial problems, the greater the likelihood that the company will

be delisted. Furthermore, Seok, Lee, and Kim (2020) argued that CSR news reports have a positive effect on firm value. In this study, although actual CSR activities (i.e., corporate donation) were controlled, the number of news reports significantly increased firm value. Second, companies can make consumers aware of their innovativeness through WOM. WOM is generally defined as consumers' behavior of exchanging information in speech or writing (Anderson 1998; Dichter 1966). WOM also refers to information transmitted from one person to another through a specific communication medium (Brown et al. 2005). Based on this definition, existing studies have distinguished the phenomenon of information being transmitted through online media as online WOM behaviors. Previous studies have demonstrated that the volume of WOM has a positive effect on financial performance (Liu 2006; Duan, Gu, and Whinston 2008; Wang and Kim 2017), stock returns (Tirunillai and Tellis 2012), and firm value (Seok, Lee, and Kim 2020).

As described above, this study attempts to examine whether firm value increases more quickly when companies make an effort to strengthen their own innovativeness and at the same time actively

inform consumers of their innovative capability. In that vein, we expect news reports and WOM are effective channels to inform consumers of a company's innovativeness. Similar attempts have been made in previous research in which advertising expenditure was used as a proxy variable for consumer awareness (Srinivasan et al. 2009; Seok, Kim, and Ko 2019; Servaes and Tamayo 2013). However, studies applying this approach do not know whether a company's advertising spending was used to inform of a certain capability. In other words, advertising expenditure may have been used to promote the company's innovativeness, but it cannot be ruled out that it was used to increase brand awareness or consumer loyalty (Seok, Kim, and Ko 2019). This is one of the limitations of research that uses proxy variables without directly measuring consumer awareness of a specific company's innovativeness through surveys or interviews. To overcome this limitation, this study assumed news reports and WOM describing the innovativeness of a company as proxy variables for consumer awareness of the innovativeness of that company. Therefore, this study can more clearly examine our expectation that the actual innovative activities will have a

synergistic effect on firm value along with the efforts to actively inform consumers. To test these arguments, we propose the following two hypotheses:

H2: Innovativeness–related news reports have a moderating effect on the direct relationship between corporate innovativeness and firm value.

H3: Innovativeness–related word of mouth has a moderating effect on the direct relationship between corporate innovativeness and firm value.

3. Data and Measurement

Companies were selected from manufacturing corporations listed on the Korea Composite Stock Price Index (KOSPI). The period of examination was from the first quarter of 2013 to the fourth quarter of 2019, because the Korean International Financial Reporting Standards (KIFRS) have been applied to all companies since 2013. Since R&D expenditure is the main variable of this study, 10 industries were selected in the order of highest average R&D expenditure among 23 industries. This study considered 10 industries based on the Korea Standard Industry Classification (KSIC), including 1) Manufacture of basic metals, 2) Manufacture of rubber and plastics products, 3) Manufacture of other machinery and equipment, 4) Manufacture of other transport equipment, 5) Manufacture of food products, 6) Manufacture of pharmaceuticals, medicinal chemical, and botanical products, 7) Manufacture of motor vehicles, trailers, and semitrailers, 8) Manufacture of electrical equipment, 9) Manufacture of electronic components and computer visual, sounding, and communication equipment, 10) Manufacture of chemicals and chemical products, except pharmaceuticals and

medicinal chemicals. From the 10 industries, 100 firms were selected based on average sales. Companies with large changes in book value were excluded based on the criteria of an increase of more than 300% or a decrease of more than 75% to avoid potential bias from merger and acquisition (M&A) events (Simeth and Cincera 2016). We also excluded incomplete data, delisted firms, and companies under capital impairment throughout the observation period. Finally, the final sample size comprised 2,520 firm–quarter observations for 90 firms.

News Reports data

Since the main purpose of this study is to examine the moderating effects of innovativeness news reports on the relationship between corporate innovativeness and firm value, we constructed data on news reports from BIG KINDS (Bigkinds.or.kr), a newspaper database serviced by the Korea Press Foundation. We collected two kinds of news reports data. First, the number of news reports about each analyzed corporation was measured by identifying the number of news reports that mentioned the corporate name in the

title. Second, the volume of each company's innovativeness news reports was measured by identifying the number of news articles that described the corporate name and simultaneously had the word "innovation" in the title (Garcia-Sanchez et al. 2014; Seok, Lee, and Kim 2020).

Word of Mouth data

Data on WOM were extracted from the blog platform in Naver (blog.naver.com), which is the biggest portal site in Korea. We crawled nearly 1 million blog posts with each company's name in the title. Thereafter, among all posts, those containing "innovation" in the title were assumed to comprise WOM for corporate innovativeness (Seok, Lee, and Kim 2020). We tried to maintain consistency by collecting both WOM and news article data based on the appearance of specific words in the title.

Patent data

Patent data were obtained from the Korea Patent Information Service. To maintain the consistency of the measurement for patents, this study only considered patent applications granted within seven years of the date of application (Simeth and Cincera 2016).

Financial data

Firm-level financial data came from the Korea Listed Companies Association. To generate the variables including physical assets, Tobin's Q, R&D investment, and other financial variables, we collected information on financial statements and stock prices. We adjusted all financial amounts for inflation using the gross domestic product (GDP) deflator.

To construct the main variables, this study followed the method used by related literature. As a dependent variable, we used Tobin's Q, which has frequently been used in previous studies as a variable representing the firm value (e.g., Dutta, Narasimhan, and

Rajiv 1999; Seok, Lee, and Kim 2020; Servaes and Tamayo 2013; Simeth and Cincera 2016). Tobin’s Q refers to the ratio of the market value to their physical assets (Hall and Oriani 2006). Concerning the independent variables, we introduced stock measures because the returns on firm innovativeness may last much longer (Simeth and Cincera 2016). This study applied a Koyck–type distributed lag function with a lower depreciation rate on more recent quarters to derive measures of main independent variables (Dutta, Narasimhan, and Rajiv 1999; Wang and Kim 2017). For example, the R&D investment stock for a firm i in period t (RDS_{it}) can be calculated as follows:

$$RDS_{it} = \sum_{k=1}^{k=t} (1 - \delta)^{t-k} \times \text{R\&D investment}_{ik}$$

where δ represents the depreciation rate to the past value of R&D investment.

Existing studies have used annual depreciation rate (δ) in the range of .15 to .5 not only for knowledge stocks such as R&D

investment and patent acquisition, but also scientific publication and marketing stocks (DeKinder and Kohli 2008; Dutta, Narasimhan, and Rajiv 1999; Hall et al. 2005; Hall and Oriani 2006; Kung and Schmid 2015; Simeth and Cincera 2016; Jindal and McAlister 2015; Wang and Kim 2017). We applied the different depreciation rates to each corporation's knowledge stock and marketing stock. Following prior research (Jindal and McAlister 2015), this study applied an annual depreciation rate of .15 to the knowledge stocks (i.e., R&D expenditure and patent) and .40 to the marketing stocks (advertising expenditure, news reports, and WOM). Finally, this study applied the depreciation rates of .0375 and .10 to the knowledge stocks and marketing stocks, respectively, which corresponds to annualized depreciation rates of .15 and .40 (Kung and Schmid 2015). As a robustness check, we analyzed the proposed model using different depreciation rates in the range of prior studies applied and found consistent results.

4. Model

This study analyzes the relative market value of firms as a function of their capital stocks, relying on the well-established market value function (Griliches 1981; Hall and Oriani 2006; Simeth and Cincera 2016). A notable advantage of this model is that it assumes a company's market value can be determined by the additive form of a firm's tangible (A_{it}) and intangible assets (K_{it}, I_{it}) (Hall and Oriani 2006). The model can be normalized as follows:

$$V_{it} = V(A_{it}, K_{it}, I_{it}) \quad (1)$$

where V_{it} denotes the current market value of the firm, A_{it} represents ordinary physical assets, K_{it} stands for the replacement value of the firm's technological knowledge assets, and I_{it} represents the replacement value of the firm's other intangible assets.

If single assets are purely additive, the market value of the firm can be expressed as a multiple of its assets:

$$V_{it} = q_{it}(A_{it} + \gamma K_{it} + \lambda I_{it})^\sigma \quad (2)$$

where q_{it} is the market valuation coefficient of a firm's physical

assets, γ and λ allow that the intangible assets are valued differently from physical assets, and the parameter σ allows for the nonconstant scale effect of the market value function and can generally be assumed to equal 1 (Simeth and Cincera 2016).

Equation (2) can be interpreted as a hedonic price model, which suggests that the price of a good is determined by its characteristics, including internal characteristics and external factors. After taking the natural logarithms on both sides, we attain the following equation:

$$\ln(V_{it}) = \ln(Q_{it}) + \ln(A_{it}) + \ln\left(1 + \gamma \frac{K_{it}}{A_{it}} + \lambda \frac{I_{it}}{A_{it}}\right) \quad (3)$$

In this equation, the parameters γ and λ are the relative shadow values of K_{it} and I_{it} to the firm's physical assets. Moving $\ln(A_{it})$ to the left-hand side of the equation, we can obtain the model with the conventional Tobin's q as the dependent variable. Thus, the estimating equation is as follows:

$$\ln\left(\frac{V_{it}}{A_{it}}\right) = \ln(Q_{it}) + \ln\left(1 + \gamma \frac{K_{it}}{A_{it}} + \lambda \frac{I_{it}}{A_{it}}\right) + e_{it} \quad (4)$$

Existing theories do not give clear guidance for the specification of intangible assets in equation (4) and incorporating

intangible assets such as R&D, patents, and publications as a measure of K and I (Simeth and Cincera 2016). Hall et al. (2005) suggested a model based on the view of the knowledge creation process as a continuous process from R&D to patent and from patent to citation. According to this study, when a firm's R&D expenditure is observed, the market will determine the price of the expected value for the company's innovative actions, and the evaluation of this expected value will proceed to patents. Following the theoretical discussion of the literature, this study specifies the variables for our model. In addition, we separate the intangible assets of firms into knowledge and marketing intangibles. Knowledge intangibles are then divided into R&D and patent stocks, and the marketing intangibles are separated into advertising, publicity, and WOM stocks. Equation (5) shows the proposed model of this study:

$$\begin{aligned}
\ln\left(\frac{V_{it}}{A_{it}}\right) &= \ln Q_{it} = \ln(Q_{it}) + \ln\left(1 + \gamma_1 \frac{RDS_{it}}{A_{it}} + \gamma_2 \frac{PTS_{it}}{RDS_{it}}\right) \\
&+ \lambda_1 \frac{ADS_{it}}{A_{it}} + \lambda_2 \frac{NEWS_{it}}{A_{it}} + \lambda_3 \frac{INNNEWS_{it}}{NEWS_{it}} \\
&+ \lambda_4 \frac{WOM_{it}}{A_{it}} + \lambda_5 \frac{INNWOM_{it}}{WOM_{it}} + e_{it}
\end{aligned} \tag{5}$$

In addition, we propose Equations (6) and (7) to test

hypotheses 2 and 3. Equations (6) and (7) examine the moderating effect of consumer awareness in the relationship between R&D investment, which is the most representative innovative activity of a firm, and its value:

$$\gamma_1 = \delta_{00} + \delta_{10} \frac{INNR_{it}}{NR_{it}} + v_{it} \quad (6)$$

$$\gamma_1 = \delta_{01} + \delta_{20} \frac{INNWOM_{it}}{WOM_{it}} + v_{it} \quad (7)$$

We can directly estimate Equations (5) – (7) using a nonlinear least square model (NLLS) or approximate it with “ $\ln(1+x) \sim x$ ” and then estimate this model using linear regression (Simeth and Cincera 2016). As described above, we obtained balanced panel data for 2,520 firm–quarter observations across 90 firms over 7 years. In general, the linear model for panel data can be expressed as follows:

$$y_{it} = \beta_0 + \beta_1 x_{it} + a_i + u_{it}, i = 1, \dots, I, t = 1, \dots, T \quad (8)$$

In Equation (8), the a_i captures unobserved and time-invariant factors that affect y_{it} . An important concern in determining the appropriate model for panel data is the inference to the a_i (Seok, Lee, and Kim 2020). In the existing studies, two models have typically been used to consider a_i in the panel regression model:

fixed-effects (FE) and random-effects (RE) models (Wooldridge 2015). According to econometric theories, the FE model derives consistent estimates, while the RE model yields consistent and efficient estimates only when the covariance of x_{it} and a_i is zero (Clark and Linzer 2015). However, since we cannot observe a_i , the covariance between x_{it} and a_i cannot be specified. Hausman (1978) first proposed a test for significant differences in the coefficients of the FE and RE model's explanatory variables. If the Hausman test is not rejected, estimates from the RE model are not significantly different from those of the FE model, so that it does not matter which is used (Wooldridge 2015). In other words, RE estimates derive not only efficient but also consistent estimates when the Hausman test is not rejected. Since the proposed model cannot reject the Hausman test ($p > .1$), this study applies the RE estimation for the linear regression model. To avoid problems caused by outliers in the data, we winsorized main variables at the 1st and 99th percentiles (Servaes and Tamayo 2013). Finally, this study included industry and year-quarter dummy variables to consider heterogeneous market valuation across industries and time (Simeth and Cincera

2016). As we will discuss below, the main results are robust when analyzed on a yearly basis and the NLLS model.

5. Results

5.1 Descriptive Statistics

TABLE 1. Summary Statistics

Variable	Mean	Std. Dev.	Min	Max
Tobin's Q	1.142	.888	.147	6.042
ln(Tobin's Q)	-.070	.612	-1.916	1.799
A (<i>physical asset</i>)	68872.300	195391.800	699	1940323.000
R&D (<i>flow</i>)	613.077	3606.812	0	34039.960
RDS (<i>stock</i>)	6705.002	46418.390	0	707169.400
RDS/A	.038	.061	0	.307
ADV (<i>flow</i>)	285.517	1299.119	0	15375.670
ADS (<i>stock</i>)	1685.445	6982.492	0	51619.960
ADS/A	.027	.058	0	.310
PTS (<i>stock</i>)	307.207	915.140	0	6738.693
PTS/RDS	.376	.990	0	6.624
NEWS (<i>stock</i>)	1355.815	3469.896	0	21168.780
NEWS/A	.034	.047	0	.250
INNNEWS (<i>stock</i>)	7.720	23.784	0	152.161
INNNEWS/NEWS	.003	.006	0	.037
WOM (<i>stock</i>)	2332.573	5540.636	0	31828.480
WOM/A	.106	.249	0	1.828
INNWOM (<i>stock</i>)	8.782	26.814	0	166.551
INNWOM/WOM	.005	.025	0	.234
Debt Ratio	.495	.173	.118	.955
ROA	.007	.018	-.306	.107
Employees	5330.661	13344.290	154.000	105767.000
Sales	21466.010	60367.240	733.203	484569.900
No. of observations	2,520			

Note. Monetary amounts in 100 million won (in 2015 prices, GDP deflated)

Table 1 provides an overview of the main variables and selected additional measures showing the characteristics of sample companies. It shows several statistics including the mean, standard deviation, minimum, and maximum values of each variable. The average value of Tobin's Q is 1.142, which means that the average ratio of market value to the physical asset is greater than 1. In other words, people evaluate the market value of the sample companies slightly higher than the actual value of their physical assets. Meanwhile, the average value of RDS/A is .038, while the average ratio of the patent stock to the R&D stock (PTS/RDS) is .376. In addition, the ratio of innovativeness related news stock (INNNEWS) and WOM stock (INNWOM) is reported as .003 and .005, respectively. We can also assume the size of the sample companies based on the number of employees and sales. The minimum values of Employees and Sales are 154 and 733, while their maximum values are 105,767 and 484,569, respectively. Since this study selected companies listed on the stock market as samples, most of them are medium- and large-sized firms. However, the significant differences between the minimum and maximum values of Sales and Employees

indicate that there is considerable heterogeneity among the sample companies.

TABLE 2. Correlation matrix

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) ln(Tobin's Q)	1							
(2) RDS/A	.087*	1						
(3) PTS/RDS	.006	-.148*	1					
(4) ADS/A	.358*	.071*	-.053*	1				
(5) NEWS/A	.413*	.162*	-.073*	.604*	1			
(6) INNNEWS/NEWS	.195*	.300*	-.007	.101*	.186*	1		
(7) WOM/A	.267*	.007	.078*	.318*	.497*	.165*	1	
(8) INNWOM/WOM	.018	.067*	-.008	-.047	-.024	-.026	-.056*	1

* shows significance at the .1 level

Table 2 presents the results of the correlation analysis. As reported in Table 2, several independent variable pairs show high correlations such as NEWS/A – ADS/A ($r = .604$) and WOM/A – NEWS/A ($r = .497$). Since a high correlation between independent variables can cause a problem of multicollinearity, this study calculates the variation inflation factor (VIF) value of each variable based on a pooled ordinary least squared (OLS) estimation (Seok, Lee, and Kim 2020). As a result of the analysis, the highest VIF value

is 2.06 (NEWS/A), while the average value is 1.36. Based on these values, we determine that the correlation between independent variables does not have serious problems.

5.2 Hypotheses Testing

TABLE 3. Regression Outputs

	(1)	(2)	(3)	(4)	(5)	(6)
DV: ln(Tobin' s Q)	Coeff (SE)					
RDS/A	1.951*** (.248)	1.567*** (.248)	1.978*** (.248)	1.561*** (.249)	.557* (.299)	1.646*** (.255)
PTS/RDS	.052*** (.011)	.056*** (.011)	.051*** (.011)	.057*** (.011)	.050*** (.011)	.057*** (.011)
ADS/A	2.777*** (.319)	1.727*** (.335)	2.597*** (.331)	1.771*** (.339)	1.824*** (.337)	1.754*** (.340)
NEWS/A		3.409*** (.400)		3.506*** (.431)	3.372*** (.429)	3.513*** (.431)
INNNEWS/NEWS		3.967*** (1.474)		3.828** (1.493)	-1.439 (1.726)	3.846*** (1.493)
WOM/A			.110** (.056)	-.044 (.060)	-.077 (.060)	-.047 (.060)
INNWOM/WOM			-1.168 (.991)	-.714 (.973)	-.744 (.968)	-.346 (1.007)
(RDS/A) × (INNNEWS/NEWS)					104.421*** (17.523)	
(RDS/A) × (INNWOM/WOM)						-15.266 (1.439)
Debt Ratio	-.875*** (.108)	-.821*** (.107)	-.887*** (.108)	-.822*** (.107)	-.830*** (.106)	-.839*** (.108)
ROA	3.415*** (.570)	3.362*** (.563)	3.398*** (.570)	3.356*** (.563)	3.374*** (.559)	3.401*** (.564)
ln(Employee)	.140*** (.033)	.117*** (.032)	.135*** (.033)	.119*** (.032)	.115*** (.032)	.117*** (.032)
Constant	-.957*** (.262)	-.904*** (.249)	-.908*** (.259)	-.904*** (.250)	-.832*** (.250)	-.883*** (.252)
Year-quarter dummy	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummy	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,520	2,520	2,520	2,520	2,520	2,520
Firm-IDs (cluster)	90	90	90	90	90	90
adj. R2	.14	.16	.14	.16	.17	.16

Standard errors in parentheses

*** p<.01, ** p<.05, * p<.1

Table 3 shows the estimated results of the proposed model. Column (1) is the baseline model of this study, while columns (2) and (3) represent the impact of innovativeness news reports and WOM, respectively. In column (4), all main variables are included in the form of addition, while columns (5) and (6) represent models including interactions of the main variables. As shown in Table 3, RDS/A and PTS/RDS have statistically significant effects on firm value in all models. Therefore, H1 is supported.

In column (2), INNNEWS/NEWS have a positive effect on firm value ($\beta = 3.967, p < .01$). In other words, if the number of news reports describing a company's innovativeness increases, its value increases. On the other hand, different results have been reported in WOM, which is one of the important channels to enhance consumer awareness. Column (3) shows that INNWOM/WOM do not significantly influence firm value ($\beta = -1.168, p > .1$).

Columns (5) and (6) include the estimation results of Equations (6) and (7). Column (5) shows that not only RDS/A ($\beta = .557, p < .1$) but also the interaction term of RDS/A and INNNEWS/NEWS has a significantly positive effect on firm value (β

= 104.421, $p < .01$). This means that the effect of R&D investment on firm value is positively moderated by the number of innovativeness news reports. On the other hand, in column (6), RDS/A has a significant effect on firm value ($\beta = 1.646$, $p < .01$), but the interaction term of RDS/A and INNWOM/WOM does not have a statistically significant effect ($\beta = -15.266$, $p > .1$). Therefore, H2 is supported, but H3 is not.

In columns (2) and (3), NEWS/A ($\beta = 3.409$, $p < .01$) and WOM/A ($\beta = .110$, $p < .05$) show significantly positive effects on firm value. These results indicate that when people interact a great deal with a particular company, their interest in the company increases, which affects the valuation of that company. This may also be related to the mere exposure effect. In other words, people tend to develop a preference for a specific company merely because they are familiar with that company (Zajonc 1968; 1980). In addition, Advertising (ADV/A), which has traditionally been used as a proxy for intangible marketing capitals (Davis and Thomas 1993), has constantly positive effects on firm value. Finally, the debt ratio shows a negative effect on corporate value, but ROA and $\ln(\text{Employee})$ have

a positive effect in all models.

5.3 Additional Analysis

Estimation based on annual data

TABLE 4. Regression Outputs (Yearly)

DV: ln(Tobin's Q)	(1)	(2)	(3)	(4)	(5)	(6)
	Coeff (SE)					
RDS/A	2.098*** (.507)	1.647*** (.497)	2.110*** (.508)	1.649*** (.500)	.703 (.606)	1.725*** (.513)
PTS/RDS	.060** (.025)	.066*** (.025)	.056** (.025)	.067*** (.025)	.057** (.025)	.067*** (.025)
ADS/A	3.046*** (.629)	1.731*** (.640)	2.842*** (.645)	1.757*** (.649)	1.798*** (.647)	1.750*** (.651)
NEWS/A		4.306*** (.736)		4.371*** (.781)	4.253*** (.779)	4.386*** (.783)
INNNEWS/NEWS		6.153** (2.952)		6.085** (3.009)	.419 (3.629)	5.977** (3.014)
WOM/A			.122 (.099)	-.030 (.102)	-.051 (.102)	-.033 (.103)
INNWOM/WOM			-.119 (.417)	-.103 (.404)	-.031 (.405)	.068 (.494)
(RDS/A) × (INNNEWS/NEWS)					96.132*** (34.925)	
(RDS/A) × (INNWOM/WOM)						-3.702 (6.042)
Debt Ratio	-.219 (.204)	-.136 (.198)	-.219 (.204)	-.142 (.199)	-.181 (.198)	-.155 (.200)
ROA	2.281*** (.463)	2.339*** (.452)	2.278*** (.464)	2.331*** (.453)	2.279*** (.450)	2.339*** (.453)
ln(Employee)	.013 (.041)	.008 (.038)	.011 (.040)	.008 (.039)	.008 (.039)	.008 (.039)
Constant	-.427 (.318)	-.544* (.300)	-.417 (.315)	-.539* (.304)	-.483 (.305)	-.531* (.306)
Year dummy	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummy	Yes	Yes	Yes	Yes	Yes	Yes
Observations	630	630	630	630	630	630
Firm-IDs (cluster)	90	90	90	90	90	90
adj. R2	.14	.18	.14	.18	.19	.18

Standard errors in parentheses

*** p<.01, ** p<.05, * p<.1

Although this study collected quarterly data, previous studies have verified the hypothesis based on annual data (e.g. Dutta, Narasimhan, and Rajiv 1999; Hall et al. 2005; Simeth and Cincera 2016). For the same number of firms, quarterly data surely provide richer observations than annual data. In addition, quarterly data have less loss of information than annual data. However, in many cases, corporate strategic actions are carried out on a yearly basis, and stakeholders' corporate valuation is also carried out annually. Therefore, as an additional robustness check, this study estimates the models at the yearly level. For the consistency of the study, the variables are measured as stocks reflecting the same depreciation rates described in Chapter 4.

Table 4 represents the estimation results. First, we can find that RDS/A and PTS/RDS have a consistently positive effect on firm value. This is the same as the estimation results for the quarterly data in Table 3. Therefore, the positive impact of corporate innovativeness on firm value is verified once more. Hence, H1 is also supported in the estimation based on the annual data. The hypothesis tests for H2 and H3 also show similar results as the previous analysis.

Column (5) shows that the interaction term of RDS/A and INNNEWS/NEWS has a positive effect on firm value ($\beta = 96.132, p < .01$). However, in the annual data, RDS/A is not significant ($\beta = .703, p > .1$). Meanwhile, RDS/A has a significant effect on firm value ($\beta = 1.725, p < .01$), but the interaction term of RDS/A and INNWOM/WOM does not have a statistically significant effect ($\beta = -3.702, p > .1$). Therefore, H2 is supported, but H3 is not.

Nonlinear least squares (NLLS)

TABLE 5. Regression Outputs (NLLS)

	(1)	(2)	(3)	(4)	(5)	(6)
DV: ln(Tobin's Q)	Coeff (SE)					
RDS/A	2.654*** (.405)	2.230*** (0.435)	2.690*** (.412)	2.255*** (.434)	0.131 (.456)	2.309*** (.456)
PTS/RDS	.084*** (.018)	.105*** (.021)	.083*** (.018)	.105*** (.021)	0.086*** (.019)	.105*** (.021)
ADS/A	4.300*** (.440)	2.941*** (.503)	4.239*** (.449)	2.957*** (.498)	2.807*** (.462)	2.951*** (.497)
NEWS/A		3.932*** (.679)		3.952*** (.703)	3.953*** (.659)	3.933*** (.702)
INNNEWS/NEWS		8.969*** (2.493)		9.239*** (2.586)	-0.219 (2.517)	9.236*** (2.582)
WOM/A			.096** (.082)	-0.043 (.091)	-0.103 (.085)	-0.044 (.091)
INNWOM/WOM			-1.464 (5.244)	-3.882 (5.785)	-5.621 (5.409)	-3.055 (6.116)
(RDS/A) × (INNNEWS/NEWS)					257.670*** (35.155)	
(RDS/A) × (INNWOM/WOM)						-16.540 (39.738)
Constant	-.451*** (.037)	-.552*** (.043)	-.462*** (.040)	-.543*** (.044)	-.485*** (.042)	-.541*** (.044)
Year-quarter dummy	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,520	2,520	2,520	2,520	2,520	2,520
Firm-IDs (cluster)	90	90	90	90	90	90
adj. R2	.09	.11	.09	.11	.12	.11

Standard errors in parentheses
 *** p<0.01, ** p<0.05, * p<0.1

Existing studies using the market-value equation have often applied the NLLS method to estimate their models (Griliches 1981;

Hall et al. 2005; Simeth and Cincera 2016). To control for unobserved effects in panel data, we apply a fixed-effect approach based on time-demeaned data for NLLS estimation (Wooldridge 2015). Table 5 shows the result of NLLS estimations. RDS/A and PTS/RDS have consistently positive effects on firm value. In other words, H1 is supported once again. Estimated results for other variables are also reported similarly to the previous analysis. The interaction term of RDS/A and INNNEWS/NEWS has a positive effect on firm value ($\beta = 257.670, p < .01$), but RDS/A is not significant ($\beta = 0.131, p > .1$) in column (5). On the other hand, the synergy effect between RDS/A and INNWOM/WOM does not significantly affect firm value ($\beta = -16.540, p > .1$), but RDS/A solely has a significant effect on firm value ($\beta = 2.309, p < .01$) in column (6). Therefore, we can conclude once again that H2 is supported, but H3 is not.

6. Discussion

In this study, we applied the well-established market value function to examine the relationship between corporate innovativeness and firm value. Furthermore, we specifically focused on the role of customer awareness in this relationship. The results of the empirical analysis are as follows. Corporate innovativeness such as R&D investment and patent acquisitions have positive and significant effects on firm value. In other words, the more a company builds innovativeness based on R&D investment and patent acquisition, the more intangible assets it has, and as a result, people evaluate the company more highly. On the other hand, the effects of customer awareness of corporate innovativeness show mixed results. First, the interaction terms of news reports related to innovativeness and R&D investment have significantly positive effects on firm value. This impact is consistent across linear and nonlinear, and quarterly and yearly based regression. Therefore, if companies show willingness to innovate and actively publicize their innovativeness through the news media, firm value can increase more rapidly. In addition, the ratio of innovativeness news reports to total news

reports has a significantly positive effect on firm value. This result is in line with previous studies, which argue that news reports affect consumers' awareness of corporate actions based on agenda-setting theory (Seok, Lee, and Kim 2020; Sheng and Lan 2019). In other words, consumers who are exposed to the company's innovativeness-related news reports become interested in the company's innovativeness, which can construct intangible assets for the firm. Second, neither innovativeness WOM nor the interaction term of R&D investment and innovativeness WOM have significant effects on firm value in all models. These differ from the expectations of this study because we consider online WOM as one of the main channels for improving consumer awareness. We can suggest two reasons for the insignificant results of WOM. The first reason is based in the absence of valence in this study. It is well known that the important attributes of WOM are volume and valence (Liu 2006). Previous studies have argued that volume is a more important factor than valence in predicting corporate performance (Chen, Wu, and Yoon 2004; Duan, Gu, and Whinston 2008; Liu 2006; Seok, Lee, and Kim 2020), but several studies have shown that negative WOM

negatively affects company performance (Jeon, Kim, and Seok 2020; Luo 2007; 2009). Since the data in this study do not include valence, it is impossible to determine the positivity and negativity of each message. If the collected WOM data contain many negative articles, WOM cannot have a positive effect on firm value. This is one of the critical limitations of this study. Second, public trust in WOM can be considered. WOM is generally defined as consumers' information-exchanging behavior using speech or writing (Anderson 1998; Dichter 1966). Most consumers do not know who is providing information to them online. This makes it risky for customers to conduct investment decision-making based on information obtained from online WOM. On the other hand, the information in news reports is based on facts to some extent and can be recognized as reliable.

The empirical findings of this study have several theoretical and practical implications. One of the theoretical implications is as follows. This study is the first attempt to focus not only on firm innovativeness but on customer awareness of innovativeness. Existing studies related to firm innovativeness have mostly focused on the knowledge stock, which is an intangible asset constructed by

R&D investment, patents, and scientific publications (Griliches 1981; Hall and Oriani 2006; Hall et al. 2005; Simeth and Cincera 2016). However, it is difficult for the company's stakeholders to recognize the value of corporate innovativeness before the results are revealed as financial performance. We expect that the company's marketing efforts could play an important role at this point. Some studies use advertising expenditure as a proxy variable for consumer awareness (e.g., Servaes and Tamayo 2013; Seok, Kim, and Ko 2019). However, these studies have a critical concern that it is difficult to specify the purpose of corporate advertising expenditure. On the other hand, this study identifies customer awareness by counting the number of news reports and WOM based on related keywords. This method makes it possible to measure consumer awareness more directly and clearly than before. Second, this study shows that marketing assets can be a component of a firm's intangible assets. Based on the market value equation, we decompose corporate intangible assets into knowledge intangibles and marketing intangibles. In the next step, this study empirically verifies the effects of each intangible asset. As a result, we show that marketing intangibles such as advertising, news reports,

and WOM positively affect firm value. Therefore, this study validates the existence of marketing intangible assets by expanding the existing market value model.

This study also has some practical implications. First, a company should not only cultivate innovativeness but also inform consumers that the company is engaged in innovative activities in order to further enrich its value. This study shows consistent effects of innovativeness news reports on firm value, suggesting that corporate innovativeness can be a good topic for public relations. Therefore, companies should make efforts to increase their perceived innovativeness by continuously developing and publicizing their innovativeness-related contents. Second, companies should strive to build their own marketing assets. Marketing does not simply exist as a tool to sell a company's products but acts as an important evaluation factor for the company. In other words, a company can increase its value by building marketing assets, which will be the driving force for further development of the company in the future.

Although this study has various implications, it also has some limitations. First, the number of companies analyzed is somewhat

smaller than in other studies. We selected sample companies based on various criteria, and several firms were eliminated in the process. In addition, this study constructed balanced panel data. Previous studies have revealed that balanced panel data have less bias in the estimate of the empirical model than unbalanced panel data (Verbeek and Nijman 1992). In this study, several selection criteria were applied to obtain more precise estimates even if there were relatively few observations. Second, the valence of news reports and WOM was not included in the dataset. Especially in WOM, valence is an important factor in determining the direction of influence (Jeon, Kim, and Seok 2020; Luo 2007; 2009). That is, negative WOM harms firm value, but positive WOM enriches it. If negative and positive WOM are mixed, WOM may be reported as having no relation to corporate value. This is why we consider the absence of valence to be one of the causes of the results of WOM being reported as insignificant in this study. However, it may not be impossible to judge the valence of approximately a million WOM articles. For example, an approach using a deep learning model for natural language processing (NLP) could be a solution. Deep learning models for NLP such as

Bidirectional Encoder Representations from Transformers (BERT) are continuously developing, and many attempts are being made to use them in empirical research. As such, if the sentiment of WOM can be classified using a new method in future research, different implications from the results of this study may be found.

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국문초록

4차산업혁명을 목도하는 현대에 혁신성은 그 기업의 성패를 결정하는 매우 중요한 요소로 부각되고 있다. 혁신성을 도외시하는 기업은 조금씩 그러나 분명히 도태될 것이다. 기업은 자사의 수익개선과 지속가능성 제고를 위해 혁신성 구축에 주목해야 한다. 본 연구는 혁신성과 기업가치의 관계를 실증적으로 탐구함과 동시에 그 관계에 영향을 주는 제 3의 변수를 규명하였다. 특히 기업의 혁신성은 그 결과가 기업의 재무적 성과로 나타나기 전에는 소비자들이 이를 인지할 수 없다는 점에 착안하여 소비자 인지의 역할을 집중적으로 조명하였다. 즉 R&D 투자와 특허의 취득과 같은 실질적인 혁신활동과 더불어 기업의 혁신성에 대한 소비자 인지가 증가해야 기업가치가 더 크게 향상할 것으로 예상하였다. 본 연구는 소비자들이 가진 기업의 혁신성에 대한 인지수준을 나타내는 채널로서 뉴스기사와 구전을 고려하였다. 전통적인 미디어학 이론 중 하나인 의제설정이론에 따르면, 미디어의 의제설정은 특정 주제에 대한 대중의 인식형성과정에 영향을 미친다. 이에 근거하여 본 연구는 소비자들이 미디어에 노출된 기업의 혁신적인 활동을 통해 특정기업이 구축한 혁신성에 대한 인식을 형성할 것으로 전망하였다. 한편, 정보통신 기술의 발달과 스마트 기기의 빠른 보급은 소비자들이 온라인 구전에 쉽게 노출되는 환경을 만들었다. 이러한 환경으로 인하여 많은 소비자들은 온라인

구전을 이용해 정보를 검색하고 지식을 쌓는다. 따라서 온라인 구전에서 특정 주제가 많이 언급된다면, 소비자들은 이에 대해 높은 인지를 가질 것이다.

선행연구는 기업의 혁신성을 기업이 가진 무형적 자산 중 하나로 간주한다. 즉 기업이 지출한 R&D 비용과 획득한 특허는 그 자체로 실체를 가지지 않지만, 향후 기업에 효익을 가져올 자산으로 보는 것이다. 본 연구는 시장가치모형에 기반하여 기업이 가진 무형적 자산과 기업가치 간의 관계를 살펴보았다. 특히 기업의 혁신성과 관련된 지식자산과 함께 뉴스보도 및 구전과 같은 마케팅 자산 또한 기업가치 제고에 유의한 영향을 미칠 것이라고 예상하였다. 연구의 결과는 다음과 같다. 첫째, 기업의 혁신성은 기업가치에 유의한 영향을 미친다. 따라서 기업이 R&D 투자, 특허 취득과 같은 혁신적 활동을 하면, 기업가치는 증가한다. 둘째, 기업의 혁신성에 대한 뉴스보도의 양은 혁신성이 기업가치에 미치는 영향을 조절한다. 즉 기업이 혁신적 활동을 함과 동시에 그들의 혁신성을 뉴스보도를 통해 적극적으로 알림으로써 더 높은 기업가치 향상을 기대할 수 있다. 셋째, 기업의 혁신성에 대한 구전의 양은 혁신성과 기업가치 간의 관계에서 유의한 영향을 나타내지 않았다. 이러한 결과는 두가지 원인에 기인할 수 있다. 하나는 기업의 혁신성에 대한 긍정적인 구전과 부정적인 구전이 혼재하여 기업가치에 미치는 영향이 일정치 않

을 수 있다는 점이다. 다른 하나는 구전에 대한 공신력의 문제이다. 이는 불특정 다수의 구전에 기반한 정보가 기업의 가치를 판단하기 위한 근거로 활용되기 어려울 수 있음을 의미한다.

본 연구는 혁신성과 기업가치 간의 관계를 살펴봄과 동시에 이를 극대화할 수 있는 방안을 살펴봄으로써 연구자들과 기업의 의사결정자들에게 다양한 이론적, 실무적 시사점을 제공하고 있다.

주요어 : 혁신성, 소비자 인지, 기업가치, 시장가치모형, 뉴스보도, 구전

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