

ECONOMIC SCIENCES

DOES BRAND INFLUENCE THE EFFICIENCY OF INNOVATION STRATEGY IMPLEMENTATION BY A COMPANY?

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Abstract

A number of previous studies aimed at identifying what ensures sustainable development of a company have examined direct links between innovation strategies (IS) and value added (VA), since in value-based management (VBM) it is customary to measure the effectiveness of a strategy, as well as management work in general, by its value. However, little is known about the influence of a brand as one of the types of sustainable competitive advantages (SCA) on this relationship. So, the purpose of this article is to analyze the influence of a company's brand as a moderator on the effectiveness of the implementation of one of the most common types of innovation strategies, namely, *product* strategy.

It was assumed that (1) the relationship between innovative product strategy (IPS) and added value (VA) is linear, positive and significant, and that (2) the influence of a company's brand enhances this relationship. To test these hypotheses, data from a cross-sectional survey of 63 students at the University of Amsterdam were used, followed by a regression analysis of the survey answers.

The results showed a *positive relationship between IPS and VA but no significant influence of brand as a moderator on this relationship*. Thus, the role of the company's brand in strengthening the relationship between IPS and VA *was not confirmed*, which should be taken into account by managers in their current work.

Keywords: innovative strategies, value added, company's brand, sustainable development of the company, sustainable competitive advantages, correlation and regression analysis.

1. Introduction

In today's dynamic and uncertain competitive environment, which is a consequence of the globalization of markets and the digitalization of communications in economic processes, for any entrepreneur and any business, perhaps the most important question is: how to make a business successful? Obviously, those interested in solving this problem are, first of all, the owners of the company, its management and, ultimately, the consumers of the company's goods and services. At the same time, theorists and sophisticated (experienced) business consultants invariably answer the question as follows: a company is successful (i.e. develops) when it creates new (added) value. The exceptional importance of the concept of added value (VA), applied within the framework of the value-based management (VBM) theory, is that it allows you to evaluate the effectiveness of using a variety of tools from the arsenal

of strategic management, be it restructuring, M&A or reorganization of the company and other methods. But all of them begin to work only with a competent impact on the driving forces of value growth, the change in which over time was noted by Slywotzky in his monograph [41]. He showed that the main drivers of value growth in the 1950s–1970s were products and technologies (Figure 1), and product and technological innovations remained the main drivers of value growth in the 1980s and 1990s.

At the top of their pyramid is currently the “innovation strategy” (IS). It is generally recognized that one of the most common types of IS is *the innovative product strategy (IPS)* – the development of new or improvement of existing products to meet changing customer needs or conquer new markets [24, pp. 1483–1506; 7, pp. 167–178].

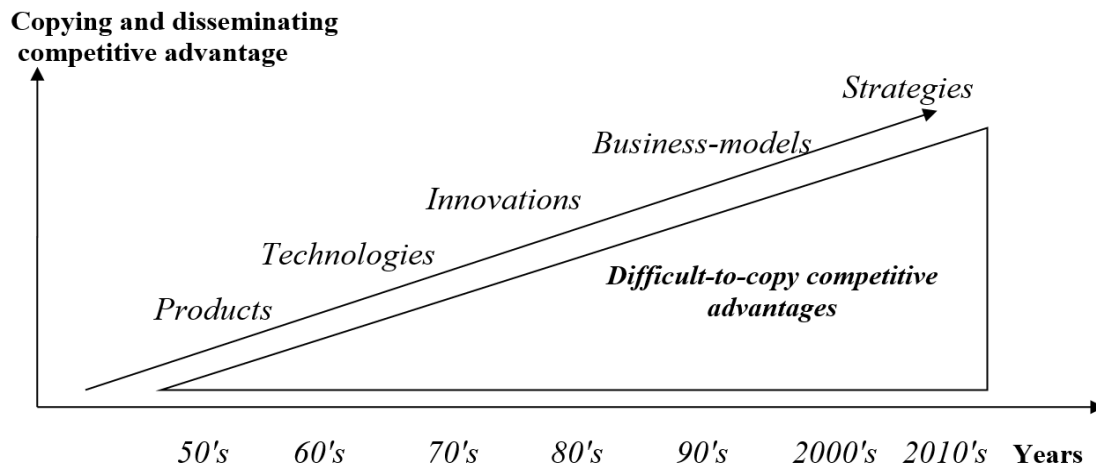


Fig. 1 - The significance of value-driving forces [41]

It should also be noted that the effectiveness of the innovation strategy (IS) for creating added value (VA) is influenced by the *competitive advantages* that the company has [36, pp. 78–92; 37, pp. 62–77], the creation and maintenance of which over a certain period of time allows the company to be competitive. However, in modern conditions, this is not enough. It is worth paying attention to the concept of “*sustainable competitive advantage (SCA)*”, which largely creates the basis for the sustainable development of the company as a whole [5, pp. 70–78]. This is a *long-term advantage* that is difficult for competitors to reproduce or neutralize over time. Common types of SCAs include, but are not limited to, brand reputation, technological superiority, unique resources or capabilities, strong customer relationships, and others.

However, in this study, we focus on such a type of SCA as *a company's brand*, which is associated with the growing importance of this intellectual asset in modern entrepreneurship. As climate conditions worsen, environmental issues are becoming a key reason for consumers to choose brands that pay attention to improving the environmental performance of both products and production conditions, including more efficient use of non-renewable resources [31, pp. 113–139]. It should be noted that the issue of the influence of SCA, including brand, on the process of creating VA through the implementation of IPS *has not been studied* in the specialized literature. At the same time, we are especially interested in the role of brand as a *moderator* in the context of this study.

Thus, there is a *relevant scientific problem* of interest to business in general and to each specific company, which determined the choice of the research topic. The research question is as follows: *does the company's brand affect the added value (VA) of the company's business when implementing an innovative product strategy (IPS)?* The answer to the research question is planned to be received using a questionnaire and regression analysis of the data obtained.

2. Literature Review

Innovations as Driving Forces of Business Value Growth in the 21st Century. By “innovation” we mean the result of the creative process in the form of creation

(and implementation) of a new product (goods or services), technology or business model, the application of which requires changing the usual stereotypes of the company's activities. This is an improvement that provides cost savings or creates conditions for such savings. And this applies to any area of human activity. Shqipe et al. [40, p. 10–26] argue that innovations are the best way for companies to achieve a competitive advantage. They also considered different types of innovations. Many researchers [34, p. 534–553; 11, p. 476–505] characterized innovations as a significant source of excess profits. Others studied the influence on the effectiveness of innovations of both internal factors, such as the size of R&D investments, and external factors, such as regional location and cooperation with other firms and research centers [21, p. 104–316].

However, later one of the reasons for the decline in the impact of innovation on company value was recognized as the decline in the number of innovative technological breakthroughs in many industries. And already in the 1990s, carefully thought-out business-models led to a large-scale shift in value creation. Many managers began to choose business-models that create value [45, p. 272–290; 2, p. 427–442]. The importance of such models was emphasized by Teece [43, p. 172–194].

A significant aspect of value creation through a business-model has been linked to the choice of strategy, which Hamel [18, pp. 69–82] compared to a “revolution”. The goal of the strategy may be to create an innovative business-model, for example, in the form of a business ecosystem [17, pp. 417–433; 15, pp. 31–41]. It is important that business-models and strategies do not conflict with each other and attract opportunities to influence value growth and other drivers of past periods, which allows for the best preservation of competitive advantages and makes them difficult to imitate. Teece [43, pp. 172–194] also noted the relationship between a business-model and a strategy, which is reflected in the “value equation”:

$$V = M \cdot S (P, T, I),$$

where V is value, M is a business-model, S is a strategy, P is a product, T is a technology, I is innovation.

Theoretical and empirical studies of innovation strategies. As noted above, innovation strategy (IS) is currently the leader in the hierarchy of driving forces; in practice, it has proven to be the most effective of them for creating new value. In their theoretical studies, Rothaermel and Hess [38, pp. 12–15] examined the pros and cons of various approaches to strategic innovations underlying IS. Onufrey and Bergek [33, pp. 102–190] examined the types of IS in mature industries. How innovation strategies create value was studied by Pisano [35]. At the same time, he noted that only top managers can develop and implement IS, but they are also responsible for the correct choice of strategy.

Cooper and Edgett [10, pp. 33–40] proposed an algorithm for developing an *innovative product strategy (IPS)* from the stage of defining its goals and objectives to building strategic roadmaps. Empirical studies have revealed the importance of IS as a factor determining a company's financial results [46, pp. 15–37]. The impact of the 2008–2010 crisis on IS was studied [28, pp. 1319–1331]. Also, the problem of sustainability (the possibility of repeated implementation) of innovations and their causes were considered by Clausen et al. [9, pp. 553–585].

Oke et al. [32, pp. 273–302] examined the impact of HR policies and environmental uncertainty on innovation strategy performance. Jajja et al. [22, pp. 1054–1075], using resource-based theory, examined the relationship between a firm and its supplier as a moderator of the relationship between IS and firm business innovation performance in emerging markets.

Turner et al. [44, pp. 854–872], using a case study of firms competing in the US packaged software industry in the 1990s, examined how competitive concentration in a market influences the adoption of product innovations through the implementation of IPS. Jayaram et al. [23, pp. 4424–4439] conducted a study based on a sample of 207 firms in Australia and found that IPS implementation had a positive impact on business performance.

Bouhelal & Adouka [7, pp. 167–178], using empirical analysis in their article, compare the effectiveness of IPS in enhancing the competitiveness of Algerian SMEs. Li, Su, & Liu [30, pp. 300–309] investigated the effect of strategic flexibility (consisting of resource flexibility and coordination flexibility) as a moderator on the relationship between IPS and firm performance, using an empirical test that examined a sample of 607 Chinese firms.

Thus, the study of IPS offers contexts different from those of interest to us, that is, the study of the specific impact of IPS on the nature of VA formation under certain conditions is practically *not presented in the specialized literature*, which once again confirms the relevance of the chosen research topic.

Brand as a Sustainable Competitive Advantage and its Function in the Value Creation Process. The connection between strategy and competitive advantage was established by Michael Porter and Mark Kramer [36, pp. 78–92]. Strategy implementation within the VBM concept is based on identifying and optimizing *key value factors* (drivers) [34, pp. 534–

553; 14, pp. 1395–1403; 16, pp. 42–60], which allows realizing the competitive advantages that the company possesses. Tantalo and Priem [42, pp. 314–329] consider stakeholder synergy as a promising source of value creation, which, in their opinion, is more likely to lead to sustainable competitive advantage (SCA).

Barney et al. [6, pp. 1480–1495] used resource-based theory to study the issue of value creation (dependent variable in their model) based on strategic corporate social responsibility (independent variable) that enables a firm to achieve SCA represented in their model as a mediator rather than a moderator. Similarly, Sharma et al. [39, pp. 5662–5669] used regression analysis to study panel data of 1356 food brands. In this study, R&D expenditure and brand equity (independent variables) influence product innovation (mediator) and marketing effectiveness (dependent variable).

As follows from the above, studies that consider a company's brand as an SCA are extremely rare. Even rarer are studies that consider brand as a *moderator* for the IPS→VA relationship. Thus, Kumar et al. [27, pp. 16–30] in their empirical study (using a survey of top managers of 261 companies) examined the influence of a company's market orientation on its performance over the period from 1997 to 2005, showing that market orientation is a source of SCA. In their model, market orientation was chosen as an independent variable, and efficiency as a dependent variable. In this case, environmental uncertainty (but not SCA) was chosen as a moderator.

In the paper by Jajja et al. [22, pp. 1054–1075], the relationship between a company and its supplier was used as a moderator of the relationship between innovation strategy (independent variable) and the efficiency of the company's innovative business (dependent variable). Hanaysha & Hilman [20, pp. 567–576] studied the impact of IPS on brand equity in the Malaysian automobile market using data collected from 287 passenger car owners through self-administered questionnaires at several shopping malls. Li and Atuahene-Gima [29, pp. 1123–1134] studied the impact of IPS on the efficiency of new technology ventures in China. However, they considered environmental factors as moderators.

Some studies have examined the moderating function of *not the brand, but its characteristics*. Thus, Davetas & Diamantopoulos [12, pp. 218–227] conducted an empirical study using the scenario method, where the moderating role was assigned not to the brand, but to *brand identification*. It was also proven that branding usually leads to increased revenue, reduced costs, and increased profits [3, pp. 237–248]. Moreover, in some industries, there is a tendency for a positive relationship between brand quality and its contribution to company value [26, pp. 488–500]. However, these studies examined the *direct influence* of the brand on VA.

In summary, the theoretical and empirical literature reviewed suggests that there is some interest in the role of brand (one of the SCAs) in the VA creation process, but *not as a moderator* for the IPS→VA relationship. *This issue has not been previously studied*, which can be seen as an important omission in research on

such topics. This research gap in the specialized literature confirms the relevance and some scientific interest in the research question that we formulated in the Introduction.

3. Conceptual Framework

This section examines and describes in detail the variables that figure in the formulation of the research question. Since we are talking about the problem of value creation, in the conceptual aspect, first of all, it is necessary to pay attention to the definitions of the concepts of "strategy" and "innovation strategy", a special case of which is "the innovative product strategy" (IPS), which acts as an independent variable in the study. Then we will discuss "competitive advantages" and identify how they differ from "sustainable competitive advantages" (SCA), of which "brand" stands out as a moderator of the relationship (IPS→VA).

Innovative Product Strategy (IPS). By the term "strategy" we mean a system of well-thought-out (reasonable) targeted actions that allow a business to move from its current state to a desired future state over a long period of time. Thus, the strategy can be implemented in various ways by managing certain factors that are different for different industries. A value creation factor is a certain characteristic of an enterprise's activities, on which the company's performance results depend (for example, production efficiency or customer satisfaction). The primary task of management is to identify *internal key factors* (the most significant ones) that ensure value growth.

Key value drivers [34, p. 534–553] are the parameters (characteristics) of an enterprise's activities that form the basis for formulating strategic goals. In this sense, strategies in VBM theory are called "constructor" of drivers. According to the well-known "Pareto principle," key value drivers are the 20% of factors that determine 80% of a company's value. However, since the early 1990s, within the framework of functional strategies, close attention has been paid to *innovation strategies (IS)*, the most common types of which theorists include *product, process, organizational, and marketing strategies* [24, p. 1483–1506; 7, p. 167–178]. At the same time, it is generally recognized that IPS, one of the types of IS, is the most widely used. Thus, in our study, we will adhere to the following definitions:

Innovation strategy (IS) is a long-term process of introducing a new idea (approaches, principles) instead of an existing one, helping to meet new market needs and bringing economic benefits to the company.

Innovative product strategy (IPS) is the development of new or improvement of existing products to meet changing customer needs or conquer new markets.

Thus, innovation strategy (IS) is one of the most frequently sought-after drivers of company value growth since the end of the 20th century, and IPS is considered a special type of IS.

The conceptual basis for the relationship between the independent variable and the moderating variable was laid by Hamel and Prahalad [19], who argued that

"at the core of every strategy is a competitive advantage" and to achieve it, a firm must justify and choose its strategy. So, the next step is to consider the essence of the moderating variable – *brand* as a sustainable competitive advantage (SCA).

Company Brand as SCA. In recent years, the importance of competitive advantages that allow companies to survive in the competitive struggle has increased dramatically. Any company in these conditions must create a long-term strategy that would allow it to keep up with changes in the external environment. That is why it is necessary to use a *sustainable (long-term) competitive advantage (SCA)*. Let us offer a definition of SCA:

Sustainable competitive advantage (SCA) is a type of competitive advantage that represents a unique combination of internal, original (specific) resources and difficult to copy capabilities that cannot be available to competitors in the long term, - which ensures long-term benefits from the use of a certain strategy that creates value.

The combination of such resources and capabilities creates core competencies that lead to the creation of VA. That is, SCA allows a business to maintain its competitiveness over a long period of time. Thus, SCA can be considered the key to creating VA.

According to recent studies, business growth and the competitiveness of companies increasingly depend on the efficiency of using internal resources, the main one of which is *intellectual capital*: patents, a strong brand, exclusive licenses or unique knowledge (know-how), effective leadership or teamwork. That is why in this study, out of all the SCAs, *the company's brand* was chosen as a moderator, the nature of whose controlling influence on the relationship (IPS → VA) remains to be determined.

As for the definition of the concept of "brand", the situation is quite complex. Thus, Avis & Henderson [4, pp. 351-374] used a sample of 730 journal articles in the existing literature to analyze the scope and number of concepts related to brand, combining criticism with empirical research. They stated that there was no agreement on the definition of the concept of "brand", and without clarity of definition, they considered the concept of brand "problematic, opaque and cumbersome". The authors of this article themselves proposed to define "brand" as "a set of tangible and intangible attributes designed to create recognition and identity, and to form a reputation for a product, service, person, place or organization". However, from a logical point of view, such a definition represents only an incomplete "set" of brand characteristics. At the same time, a brand should be considered as something more than the sum of the unique physical characteristics of a product.

In this study, we will understand a brand as follows:

A brand is a set of visual characteristics and methods of positioning a product (goods or services) of a company or the company itself on the market, that is, a brand can be called a mental shell of a product or a virtual image of a company.

A brand forms a set of emotional, psychological and behavioral patterns that determine the interaction of a brand with consumers, helping them to distinguish the goods or services of one company from another. However, this is not only a trademark and not only a firm name. A brand is a fairly wide range of concepts, unique solutions, feelings of perception and value properties associated with a product or service of a particular company.

When forming and developing a brand (branding), such tools as a logo, corporate identity, slogan that sets the company's mission, font, special colors, photographs or illustrations, as well as mascots or characters are used to create images and emotions. With the help of signs, symbols, words or their combination, a brand is perceived as a unique name that is imprinted in a person's memory, associated with a certain established image and reputation of a specific company that occupies a special place in the consciousness and psychology of consumers.

Despite the fact that the brand itself is not a material but rather an intellectual product, its impact on the surrounding reality is quite noticeable. On the one hand, consumers are more willing to choose products of brands they know, which makes it easier for them to find a product of the desired quality. Thus, according to the consulting company Accenture, 71% of people buy products of brands that convey values that suit them. On the other hand, for a company, branding makes it easier to launch new products on the market, create advertising, reduce risks and increase VA.

We consider it inappropriate to further specify the IPS and the moderator (i.e. consider a specific strategy for a specific brand), since in this case the general study will be reduced to the level of a calculation example illustrating the activities of this specific company over a period.

Next, it is important to outline our understanding of the concept of "value added" (VA), which is used as a dependent variable in this study.

Value Added (VA). The theoretical foundations of the concept of VA were formulated by the classics of economic science: Adam Smith and David Ricardo (the concept of surplus value), Karl Marx (the labor theory

of value) and Jean-Baptiste Say (the concept of marginal utility). They created the basis for further research on the concept of value added (VA).

Currently, the term "value added" is used in a number of subject areas, each having its own meaning and specificity, namely:

- as an increase in the value of a product (at the company level, this is that part of the value of products (goods/services) that is created in the company over a certain period of time, usually a financial year);

- as an increase in the company's capital (is a source of economic growth and income generation for the owners of the company and its employees).

However, we are interested in the third value added (VA) as the only universal criterion by which the success of any strategy can be measured:

Value added (VA) is an increase in the value of a company's business, i.e. an increase in its equity (shareholder) capital as a result of management efforts.

According to the VA concept [25], the value of a company's business consists of two elements: its initial value (on the valuation date, at the beginning of a certain period of strategy implementation - Vpre-strategy) and the value added - obtained during this period as a result of certain management actions - Vpost-strategy.

This concept in VBM is used for management purposes, since VA is *a criterion for the effectiveness of the company and its management*. Strategy implementation in this theory is based on identifying and optimizing key cost factors (drivers) that determine the competitive advantages of the company at its various levels (in the company as a whole, business units, functional divisions, business processes, etc.) [14, p. 1395–1403; 16, p. 42–60]. This determines the relationship between VA and both the independent variable (IPS) and the moderating variable (company's brand). Analysis of the introduced variables and their roles in interaction allows us to build a conceptual research model.

Conceptual model and formulation of hypotheses. The above allows us to introduce the following conceptual model of the study (Fig. 2). This model uses three introduced variables, the relationships between which, indicated by arrows, are subject to further study: the independent variable (IPS) will be used for comparison with the dependent variable (VA) in the presence of a moderating variable (company's brand).

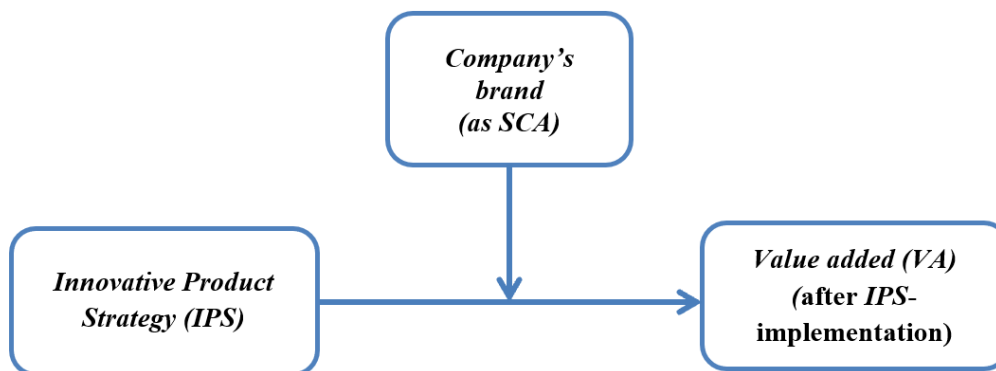


Fig. 2. Conceptual moderation model of the study

Accordingly, based on Fig. 2, the following hypotheses can be formulated on the research question, which will be confirmed or refuted by further research:

H1: there is a positive relationship between IPS and VA during strategy implementation;

H2: the positive relationship between IPS and VA is strengthened by the presence of a company's brand.

These hypotheses reflect the direction of our research and serve as a basis for testing the relationships between the introduced variables (Fig. 2) using the regression analysis methodology.

4. Methodology

Measuring the introduced variables. The independent variable — *innovative product strategy (IPS)* — was chosen by us as the best option among the value creation drivers and the most common type of IS, which also reflects the company's attitude to production ecology issues. To measure it, quantitative indicators are usually used, such as: (1) the number of new products/services launched during a certain period of time, (2) R&D expenses, (3) revenue growth in percentage (after the implementation of the strategy), (4) time to market for new products, (5) market share growth associated with the release of new products, (6) the speed of customer adoption of new products, (7) customer satisfaction scores (Net Promoter Score - NPS or Customer Satisfaction Index - CSI), etc.

To formulate the survey questions, four indicators were selected: (1), (2), (3) and (5), which will allow a sufficiently complete quantitative assessment of the company's innovative activity in the development of new products.

The dependent variable - *Added Value (VA)* (after the implementation of IS) - reflects the effectiveness of the impact of IS on the process of creating VA. It can be measured using quantitative financial and other indicators, such as: (1) revenue growth (after the implementation of the strategy), (2) increase in net profit, (3) return on investment (ROI) in innovation, (4) cost reduction or increase in their efficiency, (5) expansion of the existing market or entry into new markets due to innovative products, (6) increased productivity, etc.

Four indicators were also selected for the questionnaire: (1), (3), (4) and (6).

The moderator in this study is *the company's brand*, considered as SCA. The influence of the brand as a control variable is manifested through the company's ability to maintain performance indicators higher than competitors over a long period. Its strength and significance can be measured using indicators such as: (1) brand awareness, (2) reputation, (3) differentiation, (4) trust, (5) brand loyalty, (6) visibility and (7) brand reach, etc. However, in the absence of brand specificity, some brand characteristics cannot be measured because they are related to the degree of consumer familiarity with a particular brand [1]. Thus, brand visibility and reach indicators can only be tested for a specific company.

The remaining brand strength indicators seem to be important enough brand characteristics to be used in the questionnaire. Aaker noted that consumer *loyalty* to a brand's products is usually associated with positive

customer perceptions of the brand and even influences their decision to purchase the product [1]. At the same time, Falahat et al. [13] and Chatzipanagiotou et al. [8, pp. 328–343] believed that *brand loyalty* can be assessed by the level of consumer's willingness to recommend the brand's products to their friends. Taking this into account, we use the following indicators: (1), (2), (3), (4), and (5). In one group of questions, respondents are asked to estimate the importance of a particular selected brand characteristic in reflecting its strength, and in the other, their importance for the brand as a moderator of the relationship (IPS→VA).

Therefore, to enhance the reliability and validity of the measurements, the possibility of using multiple indicators for each variable, which will be measured on a 5-point Likert scale, was considered. The scales will be programmed in English in an online survey format using Qualtrics. These indicators were adapted to the context of the conceptual model of the study when constructing survey questions related to the implementation of IPS and the measurement of VA. In this way, the survey questions will accurately reflect the constructs and relationships between the variables being studied (Appendix A).

Sampling strategy. Due to limited material and time resources, a multi-stage sampling was chosen, which combines two methods - *convenience* (reaching easily accessible people) and *purposefulness* - to reach participants based on specific criteria corresponding to the objectives of the study. The most accessible contingent for surveys in such studies are university students. It is also important that they have higher professional economic knowledge regarding the interpretation of the variables used and the relationships between them compared to ordinary people. At the same time, they are fully adult people with everyday experience and a formed understanding of the quality of products of various brands that they use in everyday life. Thus, the choice of the survey contingent, determined by the characteristics of our audience and the objectives of this study, is the student population of the University of Amsterdam. To ensure the reliability and validity of the results and to achieve sufficient statistical power for the conducted analysis, an adequate sample size should be $N > 60$ survey participants.

Data collection. The online questionnaire contained a total of 19 questions (Appendix A), which were divided into 4 groups. The answers to these questions served as data for further analysis. In their answers, respondents were required to rate their perceptions, attitudes or behaviors using a 5-level Likert scale, with "1" being the lowest and "5" being the highest.

The design of *the first group* of survey questions to collect data on the quantitative indicators of IPS involves ensuring clarity, specificity and consistency in their wording, which would accurately reflect all the nuances of this strategy within the framework of the study and various aspects of innovation in the product context. *The second group* of questions allows for collecting data on the quantitative indicators of the dependent variable (VA) after the implementation of IPS

and involves assessing respondents' perceptions of changes in various aspects of the company's activities after the implementation of this strategy.

The third set of survey questions to collect quantitative data on the moderating variable, the company's brand, included a number of questions related to various aspects of the strength and influence of various brand characteristics. The fourth set of questions aimed to find out respondents' opinions on how the brand as a whole and its individual characteristics influence the impact of IPS on VA. The use of a Likert scale allows respondents to express the degree of influence they attribute to the brand in this context.

Instagram, WhatsApp and email were used to contact participants. Pre-testing was conducted on 12 completed questionnaires, which showed that respondents found it difficult to answer three questions, which were then adjusted. A total of 63 responses were received from the secondary distribution of the questionnaire.

Data Analysis. The following variables were used in the conceptual model (paragraph 3): product innovation strategy (IPS), value added (VA), and company's brand.

1. *Quantitative variables.* The collected data were entirely quantitative (paragraph 4).

2. *Strong correlation between variables.* All correlations were above 0.30 (0.492; 0.603; 0.477) (Table B.4 in Appendix B) and statistically significant.

3. *Shapiro-Wilk test*, which tests the normality of the distribution of data regarding the dependent variable for a small sample size. The p-value = 0.15 (i.e. $p > 0.05$), which confirmed the normality of the distribution (Table B.2 and Figures B.1 and B.2 in Appendix B).

4. *Cronbach's Alpha (CA)* is used to measure the internal reliability of the administered scales for each variable. All CA values were greater than 0.6 (0.648; 0.630; 0.641; 0.685) (Table B.1, Appendix B), which confirms the reliability of the introduced scales.

No items were removed during the data preparation process. When deciding to remove an item, it is

important that the gain in reliability outweighs the loss of information (removing an item would mean losing information). However, removing even one item (any item) from the item list would, at best, result in a small increase in Cronbach's alpha (no more than 0.025). In some cases, there would be no increase, and some alpha values would even decrease. In our case, acceptable results were obtained for all alphas ($\alpha > 0.60$), so removing items would not have been appropriate, and the original item scale for each variable was retained.

5. Results

Several types of statistical analyses of SPSS software were used to process the collected data and effectively test the introduced hypotheses, namely:

- *descriptive statistics* to summarize the collected data regarding our variables (estimated means, standard deviations, modes and frequency distributions);

- *correlation analysis* to study the relationship between variables (in particular, Pearson correlation coefficients will be calculated, estimating the strength and direction of the relationship between pairs of variables);

- *regression analysis* to predict the nature of the interaction of the variables introduced into the model and to test the relationship between IPS and VA;

- *multiple regression analysis* to test the main effect of the independent variable (IPS) on the dependent variable (VA) with control for the moderation effect.

Correlation analysis

The presence of a relationship between variables is determined by their correlation, which varies from (-1) (strong negative correlation) to (+1) (strong positive correlation). And Pearson's correlation indicates the presence of a relationship between variables with a normal distribution. Such statistical indicators as "mean" (M), "standard deviation" (SD), " α -Cronbach", as well as the correlation between the studied variables are presented in Table 1.

Table 1

Descriptive statistics and correlation					
Variables	M	SD	1.	2.	3.
1. Innovative product strategy	3.91	0.572	(0.648)		
2. Company's brand as a moderator	3.95	0.510	0.603**	(0.685)	
3. Value added	3.72	0.686	0.492**	0.477**	(0.630)

Notes. N = 63. Cronbach's Alphas are in parentheses on the diagonal.

** $p < .01$.

The analysis of the relationship (IPS $\rightarrow$ VA) shows that it is *positive, of medium strength and statistically significant*. This is evidenced by the values of the r and p indicators ($r = 0.492$, $p < 0.01$) (Table 1 and Table B.4 of Appendix B). As for the relationship between the company's brand and VA, the results showed that it is also *positive, of medium strength and statistically significant* ($r = 0.477$, $p < 0.01$). However, it turned out that the relationship between IPS and the company's brand, also being *positive, is the strongest*

and statistically significant ($r = 0.603$, $p < 0.01$). And since Cronbach's α is above 0.6 (Table 1), this means that all the analyzed variables were measured reliably.

Regression Analysis

Testing Regression Assumptions. In order to adequately estimate the regression coefficients, 5 assumptions for the relationship between IPS and VA were tested. First, a scatter plot (Figure B.3, Appendix B) was constructed to test the linearity between the two

variables, indicating a *positive linear relationship* between them. Second, we need to ensure that *the residuals are independent*. However, this assumption 2 (independence of residuals) is met because the data were collected using a cross-sectional survey with independent participants. The next assumption is *the normality of the residuals*, which is tested by plotting a P-P plot (Figure B.4). It shows that the residuals are approximately normally distributed, so the 3rd assumption is met.

The homoscedasticity of the residuals (4th assumption) was also estimated by plotting the scatter plot (Figure B.5) and the results show that the residuals are constant, hence this assumption is also satisfied. Finally, to test the fifth assumption (the requirement of *no outliers*), the standardized residuals were estimated with a benchmark of 2. Table B.5 shows that there are 2 outliers. Since the sample size is quite small and a certain part of the data is reflected in these outliers, we did not remove them in order to preserve this part of the information. However, in this case, one should be cautious about the results of the analysis. Since all 5 assumptions are satisfied, the regression analysis can be carried out.

The results of the regression analysis (Tables B.6 - B.8) showed:

- IPS is a significant predictor of VA (if IPS changes by one unit, VA increases by 0.590). This is

indicated by the values of the indicators $B = 0.590$, $p < 0.01$;

- IPS describes a quarter of the variation in VA ($R^2 = 0.242$; $F(1.61) = 19.494$, $p < 0.01$).

Hypothesis testing

The first hypothesis assumes a positive relationship between IPS and VA. PROCESS (model 1) by Hayes (2022) was applied for this test. A significant positive effect of IPS on VA was found (coeff. = 0.45, SE = 0.17, $p = 0.01$) (see Table 2), i.e., holding the moderator variable constant, an increase in IPS by one unit leads to an increase in VA by 0.45 units. The significance of the effect is confirmed by the p-value ($p < 0.05$). Thus, *hypothesis 1 is confirmed*.

To test Hypothesis 2, which suggests that the positive relationship between IPS and VA is enhanced by the company brand, PROCESS (Model 1) by Hayes (2022) was also used. *The results did not confirm the significance of the moderation effect ($X*W$)* (coefficient = 0.24, SE = 0.17; $p = 0.1749$) (see Table 2), which *refutes Hypothesis 2* ($p > 0.05$). That is, the relationship between X and Y does not depend on the values of W. In other words, the moderator — the company's brand — does not have a significant effect on the relationship ($IPS \rightarrow VA$), or this effect is completely absent.

Table 2

Model coefficients for the moderated influences of Innovative Product Strategy on Value Added

Antecedent	Y (Value Added)		
	Coeff.	SE	p
X (Innovative Product Strategy)	.45	.17	.01
W (Company's Brand)	.42	.18	.0273
$X*W$	.24	.17	.1749
Constant	3.68	.08	< .001

Model summary:

$$R^2 = .32; F(3,59) = 9.04; P = .0001.$$

$$\Delta R^2 = .0219; F(1,59) = 1.89; P = .1749.$$

6. Discussion of the research results and their limitations

The purpose of this study was to find out whether the interaction between IPS and VA is positive and to what extent it depends on the company's brand. The research question assumed the identification of the brand's influence as a moderator on this relationship. The obtained results confirm the first hypothesis, i.e. the presence of a positive direct relationship ($IPS \rightarrow VA$). In other words, a higher quality of the implemented IPS, which largely depends on the professionalism of management, makes a greater contribution to VA than in the case where the strategy was not carefully prepared. This is consistent with the fact that (in VBM) VA reflects the effectiveness of strategy implementation. However, the effectiveness of the chosen strategy, namely *the product strategy*, also depends on the degree of innovativeness of the new product being introduced into production.

The second hypothesis, which states that the moderator (company's brand) has a positive effect on the relationship ($IPS \rightarrow VA$), is not confirmed. This means that the company brand as one of the SCAs does not

have a significant effect on the effectiveness of IPS implementation. Thus, the Research Question of the article posed in the Introduction is answered negatively.

Comparison of the obtained results with the results of other researchers. Previous empirical studies have revealed the importance of innovation strategies as a factor determining the financial performance of a company [46, pp. 15–37], including VA. Paladino [34, pp. 534–553], as well as Dani and Gandhi [11, pp. 476–505], also characterized innovation as a significant source of excess profit. The results of the study by Hervás-Oliver et al. [21, pp. 104–316] confirmed the influence of such an internal factor as the size of R&D investments (in our study, one of the IPS measures) on the effectiveness of strategy implementation.

Thus, *the result of hypothesis 1 is in line with current research and, moreover, is consistent with it*. However, Bouhelal & Adouka [7, p. 167–178], having proven the effectiveness of IPS in increasing the competitiveness of Algerian SMEs, nevertheless recommended moving to another type of innovative strategy

(namely, marketing), which can be considered an alternative result. At the same time, the study of the specifics of the influence of IPS on the nature of VA formation is not presented in the specialized literature, which makes the conducted study original.

The results of the study by Li, Su & Liu [30, pp. 300–309] on the influence of strategic resource flexibility as a moderator on the relationship between IPS and firm performance showed that the moderator effect is negative. *This result is similar to the conclusion regarding our second hypothesis*, but for a different type of moderator. An important issue concerning the study of the influence of IPS on VA indicators in the presence of a brand as a moderator has not been studied previously. However, a number of studies recognizing the importance of a brand have proven its positive direct influence on the company's performance [3, pp. 237–248], which can be considered *the opposite conclusion regarding hypothesis 2*. The positive relationship between brand quality and its contribution to company value in some industries was also established by Kirk et al. [26, pp. 488–500]. But there was a significant difference: the brand was used as an independent variable, but not as a moderator. As follows from the above, there are practically no studies that would consider the company brand as a moderator of the relationship (IPS→VA), which indicates the originality of the result with respect to the second hypothesis.

Limitations of the Study. The methodology of the study (paragraph 4) generates some methodological limitations that should be taken into account when evaluating the results. These include: (1) the study was conducted as a cross-sectional study with simultaneous data collection; (2) a Likert scale was used to measure the indicators. These features could have affected the nature of the detected causal relationships between the variables under consideration.

The generalizability of the study could also be limited by the fact that the target sample among the survey participants was not random. However, the sample was conducted among students of different nationalities, which gave it some diversity, ensuring sufficient reliability of the analysis results. Also, when checking the regression conditions, two outliers were not removed, since they did not have a significant impact on the variability and significance of the results.

In view of the above, the findings of the study can be considered quite reliable, despite the limitations described.

There are several other limiting factors in this study. Firstly, the time frame of the study, which affected the extensiveness of the data collection process and obtaining a larger sample size, which could have made the results more generalizable. Therefore, due to time constraints, the best (fastest) way to distribute the questionnaires was used - via the Internet. Secondly, the contingent of respondents was quite strictly limited. It was deliberately selected among students of the University of Amsterdam. The main reason for this was the good level of competence of the respondents compared to the average representatives of the population.

Another limiting factor in this study is the choice of brand as SCA. However, this choice is determined by a number of reasons (motivations) listed in the Introduction. After all, it is the strength of the brand that reflects the sustainability of the company's development and its commitment to the ecological principles of the economy. In addition, the choice of five brand characteristics from a more complete list (paragraph 4) can be considered a certain limitation in the study of the moderating effect of the brand.

Of course, the study cannot claim any absolute applicability of its results, since some industries have quite strict specifics. For example, sometimes in the virtual business sphere special VA indicators are used, such as *growth of traffic quality* (its volume and speed) or *increase in the number of so-called "unique users"*. These VA indicators were not considered in paragraph 4, and this can be considered another factor limiting the scope of application of the obtained results.

Some of the described limitations could be eliminated within the framework of a larger research project, which, however, would require more time. Other limitations noted would change the essence of this study and its conceptual model.

However, it is also worth noting some *advantages* inherent in this study, i.e. aspects of generalizability and reliability of the obtained results. Firstly, this concerns the range of companies that can treat them with attention. The answer to the research question is important for an entrepreneur of any industry and does not depend on the geographical location of the company and its size, i.e. these can be companies of almost any industry and region. Secondly, the choice of strategy was not strictly restrictive - these are IPS, the most common in their application by strategic management, which also indicates a sufficient level of generalizability of the obtained results. Thirdly, this is the contingent of respondents selected from among students of the University of Amsterdam. Our respondents have a good level of competence compared to the average representatives of the population, which gives reason to hope that the obtained results have a good degree of reliability and validity. Nevertheless, this study can be continued and expanded in the future.

Directions for Future Research. It would be worthwhile to conduct further empirical research in order to confirm, refute or extend the scope of the results of this study on the moderator effect on the IPS→VA relationship. In such research, it is recommended to: (1) expand the sample of respondents by including respondents from other European countries to increase the reliability of the survey results; (2) conduct a longitudinal study for a specific brand to clarify the causal relationships. While maintaining the conceptual model in principle, for example, it would be possible to consider another innovation strategy (not a product one) and another SCA as a moderator (not a brand), which could yield a different (positive) result for hypothesis 2.

In addition, it would be possible to increase the number of brand attributes introduced into the study.

Finally, future research could focus on the field of virtual business using specific VA measures, which are characteristic for these companies.

Practical recommendations. The results of the study provide valuable information for strategic managers, encouraging them to take certain actions to improve the effectiveness of the chosen strategy implementation. It is proposed that managers, firstly, in accordance with hypothesis 1, which was confirmed, realize the importance of carefully developing IPS in all its areas and divisions of the company if they want to increase VA. Secondly, they should understand that even a very strong and promoted brand will not save a poorly prepared strategic plan. Thirdly, as the results of the study on hypothesis 2 showed, sometimes the brand may not have a significant impact on the relationship (IPS → VA), and this should be taken into account by managers developing a strategy.

Moreover, a negative result obtained in relation to the company's brand suggests considering the possibility of choosing another SCA that the company has (for example, technological superiority or unique resources).

7. Conclusion

Previous studies regarding the impact of SCA on the effectiveness of strategy influence on VA (or its characteristics) focused on various types of SCAs, without touching on the brand. At best, studies were conducted for some of its characteristics. It remained unclear whether the company's brand itself influences the (IPS→VA) relationship. Therefore, in this article, attention was focused on studying the influence of the company's brand itself as a moderator on the linear positive and significant relationship between IPS and VA (in accordance with Hypothesis 1), which was also found to be positive in a number of studies. Simply put, we were interested in whether managers implementing the strategy can receive increased benefits in the presence of the company's brand as a moderator, given the established positive (IPS→VA) relationship.

The results of this study showed that *the company's brand as a moderator does not have a significant impact on the relationship between IPS and VA* (hypothesis 2 was not confirmed).

Thus, it can be argued that the conducted study makes a certain contribution to the development of this area of research, and also suggests that both researchers and managers consider the possibility of choosing a different moderating variable to study its impact on the relationship between IPS and VA.

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Appendix A: Questionnaire (extract)**Block 1: Questions related to the independent variable - *Innovative Product Strategy (IPS)***

1.1 Please indicate the extent to which you agree with the following statement: "A company pursuing an innovative product strategy usually brings new products to market on a regular basis"

- ☐ Strongly disagree (1)
- ☐ Disagree (2)
- ☐ Neutral (3)
- ☐ Agree (4)
- ☐ Strongly agree (5)

.....

Block 2: Questions related to the dependent variable - *Value added (VA) (after IPS implementation)*

.....

2.2 In your opinion, how satisfied are the owners of the company with the financial return on investment (ROI) in the company's innovation activities as a result of its adoption of an innovative product strategy?

- ☐ Extremely dissatisfied (1)
- ☐ Somewhat dissatisfied (2)
- ☐ Neither satisfied nor dissatisfied (3)
- ☐ Somewhat satisfied (4)
- ☐ Extremely satisfied (5)

.....

Block 3: Questions related to *the company's brand as SCA*

3.1 When presented with a list of brands, how likely are you to recognize the brand of the company whose products you use?

- ☐ Extremely unlikely (1)
- ☐ Somewhat unlikely (2)
- ☐ Neither likely nor unlikely (3)
- ☐ Somewhat likely (4)
- ☐ Extremely likely (5)

.....

Block 4: Questions related to *the company's brand as a moderator*

.....

4.3 To what degree do you think brand reputation in the market contributes to the success of innovation initiatives in increasing the company's value added?

- ☐ Not at all (1)
- ☐ Slightly (2)
- ☐ Moderately (3)
- ☐ Significantly (4)
- ☐ Extremely (5)

Appendix B: Statistics Summary

Table B.1. *Reliability test*

Reliability Statistics	
Cronbach's Alpha	N of Items
.648	4

Reliability Statistics	
Cronbach's Alpha	N of Items
.630	4

Reliability Statistics	
Cronbach's Alpha	N of Items
.641	5

Reliability Statistics	
Cronbach's Alpha	N of Items
.685	6

Table B.2. *Shapiro-Wilk's test*

Tests of Normality							
VA	Kolmogorov-Smirnov ^a			Shapiro-Wilk			
	Statistic	df	Sig.	Statistic	df	Sig.	
VA	.113	63	.046	.971	63	.150	

a. Lilliefors Significance Correction

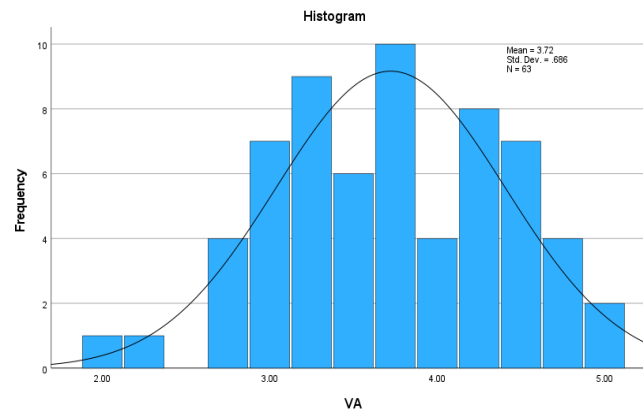
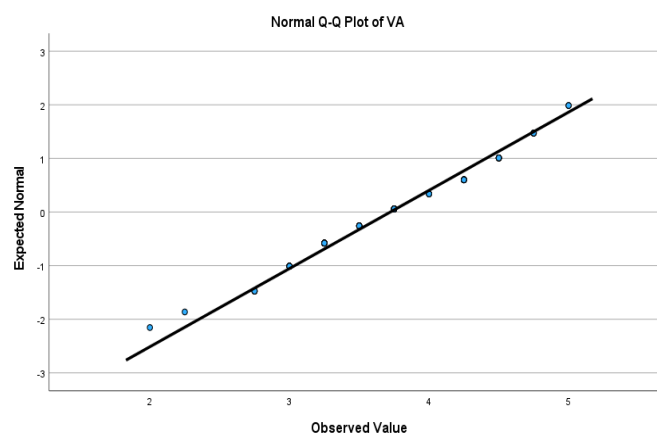
Figure B.1. *Histogram of Normal Distribution*Figure B.2. *Q-Q Plot of Normal Distribution*

Table B.3. Descriptive Statistics Table

	Descriptive Statistics		N
	Mean	Std. Deviation	
IPS	3.9087	.57203	63
VA	3.7222	.68555	63
BRAND2	3.9471	.50961	63

Table B.4. Correlations Table

		Correlations		
		IPS	VA	BRAND2
IPS	Pearson Correlation	1	.492**	.603**
	Sig. (2-tailed)		.000	.000
	N	63	63	63
VA	Pearson Correlation	.492**	1	.477**
	Sig. (2-tailed)	.000		.000
	N	63	63	63
BRAND2	Pearson Correlation	.603**	.477**	1
	Sig. (2-tailed)	.000	.000	
	N	63	63	63

** . Correlation is significant at the 0.01 level (2-tailed).

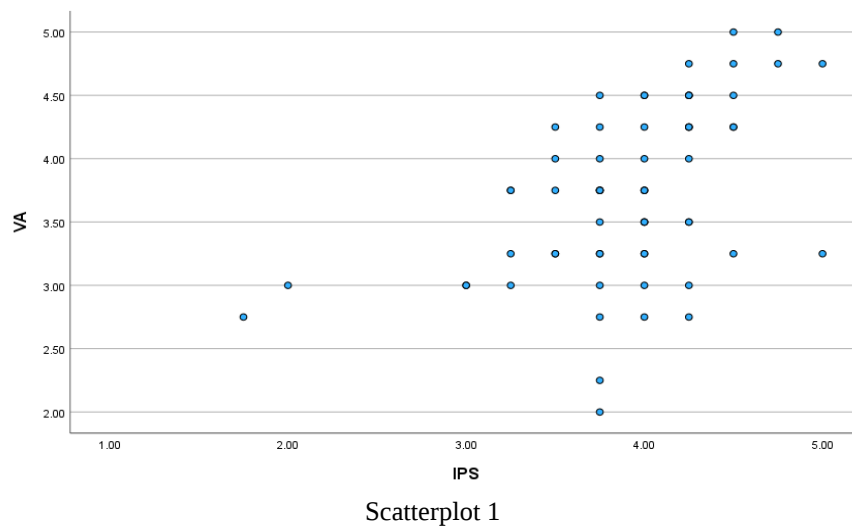
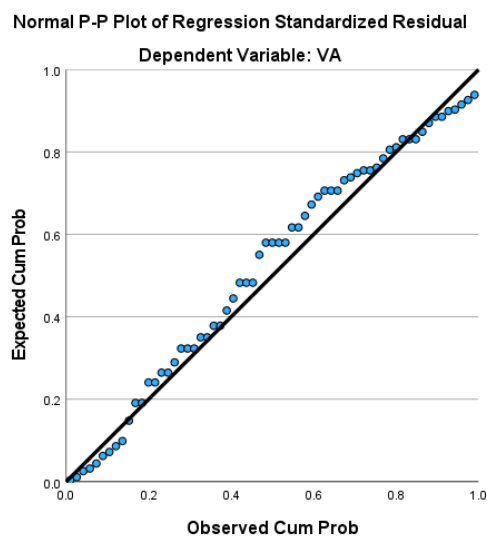
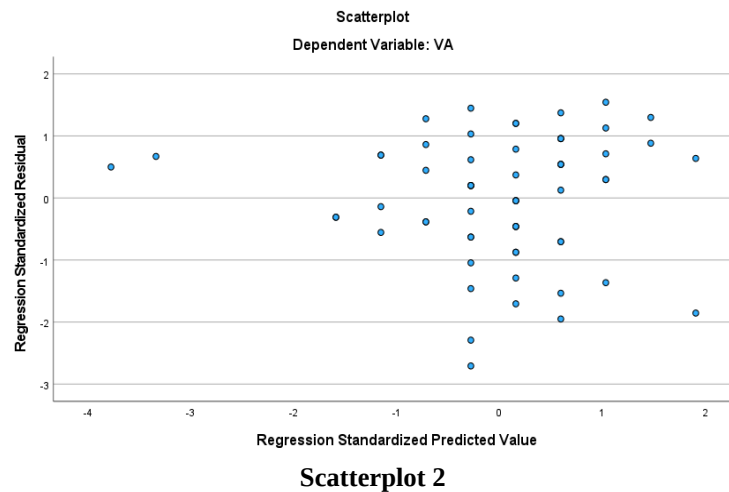
Figure B.3. Test of Regression Assumption 1**Figure B.4. Test of Regression Assumption 3**

Figure B.5. Test of Regression Assumption 4**Table B.5. Test of Regression Assumption 5 (outliers)**

ZPR_1	ZPR_1
-3.77379	1.90771
-3.33675	1.90771
-1.58860	1.47067
-1.58860	1.47067
-1.15156	1.03363
-1.15156	1.03363
-1.15156	1.03363
-1.15156	1.03363

Tables B.6 - B.8 - Linear Regression**Tables B.6**

Model Summary ^b				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.492 ^a	.242	.230	.60166

a. Predictors: (Constant), IPS

b. Dependent Variable: VA

Table B.7

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.057	1	7.057	19.494	.000 ^b
	Residual	22.082	61	.362		
	Total	29.139	62			

a. Dependent Variable: VA

b. Predictors: (Constant), IPS

Table B.8

Coefficients ^a					
		Unstandardized Coefficients		Standardized Coefficients	
Model		B	Std. Error	Beta	t
1	(Constant)	1.417	.528		2.686
	IPS	.590	.134	.492	4.415

a. Dependent Variable: VA

B.9. Hypothesis testing**Run MATRIX procedure:**

***** PROCESS Procedure for SPSS Version 4.0 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022). www.guilford.com/p/hayes3

Model : 1
Y : VA
X : IPS
W : BRAND2

Sample
Size: 63

OUTCOME VARIABLE:
VA

Model Summary
R R-sq MSE F df1 df2 p
.5611 .3149 .3384 9.0383 3.0000 59.0000 .0001

Model
coeff se t p LLCI ULCI
constant 3.6812 .0791 46.5223 .0000 3.5229 3.8396
IPS .4475 .1681 2.6617 .0100 .1111 .7839
BRAND2 .4154 .1836 2.2630 .0273 .0481 .7828
Int_1 .2367 .1724 1.3732 .1749 -.1082 .5817

Product terms key:
Int_1 : IPS x BRAND2

Test(s) of highest order unconditional interaction(s):
R2-chng F df1 df2 p
X*W .0219 1.8857 1.0000 59.0000 .1749

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
95.0000

NOTE: The following variables were mean centered prior to analysis:
BRAND2 IPS

----- END MATRIX -----