

## USABILITY OF INTANGIBLE ASSETS IN THE TERMS OF MANUFACTURING COMPANIES

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**Abstract:** As it was already mentioned, intangible assets are source of economic benefits of quality and commercialisation increases prosperity of a business and strengthen competitive position on a market. We believe, it is more advantageous for business to use intangible assets within company, than licensing as it maintains its monopoly position in area on certain intangible asset.

From research results it is possible to conclude that most designs 55% are registered by large businesses, middle sized businesses register number of designs in share 28% and small businesses in share 17%. Apart from patents, know-how, trademarks and licenses in research we found out that businesses register industrial patterns and designs in share 48%, improvement ideas 40% and 12% utility models.

**Keywords:** *intangible assets, tangible assets, patents, know-how, design*

### 1 Introduction

Severe competition is a reality. Market has changed, new players have entered and competitiveness is higher. Slovak production businesses must carefully monitor changes on a market and react to demands of domestic and international markets. Especially, they must consider meeting conditions of foreign markets, as Slovakia is highly dependent on product export. Currently, rapid growth requires connection of tangible resources with intangible assets as a core of successful existence of businesses. In order to achieve desired effect is necessary to minimise tangible resources and concentrate on intangible assets. Increased awareness of business regarding existence and application of intangible assets contributes to improvement of other areas of business, e.g. environment, ethical behaviour of businesses. Businesses should be opened and flexible towards new market options, global productions trends, modern technologies, innovations, research and development, modernisation of production program, product quality assurance, quality working labour and creation of new organisational forms.

### 2 Literature review

Intangible assets (intangibles) are long lived assets used in the production of goods and services. They lack physical properties and represent legal rights or competitive advantages (a bundle of rights) developed or acquired by an owner. In order to have value, intangible assets should generate some measurable amount of economic benefit to the owner, such as incremental turnover or earnings (pricing, volume and better delivery, amongst others), cost savings (process economies and marketing cost savings) and increased market share or visibility. (American Institute of CPAs, 2012)

The study of authors Flatt and Kowalczyk and Stanley (2008) offers some useful contributions to the significance of culture and its relationship to reputation and financial performance. First, we validate prior studies linking reputation to performance and culture to performance. Second, our results support theoretical claims that there is a significant positive relationship between culture and reputation. Third, our findings suggest that culture has a direct and indirect effect on performance. This means that culture not only directly enhances financial performance, but also is able to indirectly influence financial performance through reputation. Therefore, practitioners should be aware of this dual effect that culture has on performance and seize opportunities to develop positive cultures to create a sustainable competitive advantage.

Intangible assets are characterized as more influential than tangible assets because they are more likely to meet Barney's (1991). Hall (1992) refers to intangible assets as the "feedstock" of capability differentials essential for a sustainable competitive advantage. Kaplan and Norton (2004) apply this perspective and develop a "strategic map" to demonstrate how intangible assets, like culture, may be used to attain a strategic advantage and higher performance outcomes.

The quest to identify key variables that predict reputation is important, since without these knowledge researchers can not advise firms how they might improve their reputation to augment their competitive advantage to increase their financial performance. Different researchers have explored non-economic factors in different ways. Rindova et al. (2006) use a stakeholder approach to better capture the predictors of reputation, perceived quality and prominence.

Intellectual property is a central source of wealth in almost all industrial sectors. Establishment of business strength has moved from capital resources to intellectual property. In reality, definition of capital resources is being moved. Term capital resources resemble cash balance or picture of extensive industry hall. Intellectual property, such as technological know-how, patents, trademarks, author rights and trade secret dominates over capital resources (Gordon and Russell, 2000).

Why are intangible assets so important? Strong brands influence decision making processes of customers, as well as assurance premium process would be charged. The same approach is applied in many consumer businesses. In better cases they represent quality assurance and sometimes in case of luxury brands, brand distinguishes social status of consumer. This can also support fast development of new markets.

In 21. Century, the most valuable strategic resources for business subjects are no longer tangible assets, such as properties, machines as it was back in 20. Century, but these are intangible assets, such as knowledge, know-how and intellectual property rights.

Intangible assets, therefore, provide potential competitive advantage, but as assets they clearly demand specialist management and communication skills. Management's ability to deliver its strategy is highly reliant on its customer relationships, brands and performance of key employees – all of which are typical intangible assets for accounting purposes. The relevance of these factors is clearly vital to a company's profitability and to the sustainability of its future performance. So the question should be more about how to improve the management of such assets – rather than why (Rea and Davis, 2009).

Moreover, several authors stated that in order for business to be successful in most of industry sectors, it must have competitive advantage in technology area, which enables it to provide excellent products. Especially technological development is constantly growing in comparison with the last century. The main aim is for the average length of product life cycle and technological progress not to decrease, but to increase strategic importance of technological expertise. Hence, businesses are forced to constantly learn, create and update new technological competences, as well as forget old fashioned practices, to stay competitive in a world and to be distinguished by quick technological advancement (Jennewein, 2005).

Different studies using different designs and methodologies have found that while financial performance is an important predictor of reputation, financial performance has accounted for as little as 11 to 15 percent of variance (Hammond and Slocum, 1996; Roberts and Dowling, 2002) as much as 38 to 59 percent (e.g., Brown and Pery, 1994; Fombrun and Shanley, 1990), leaving at least 40 to 89 percent of the variation unexplained by economic variables. Hence, while researchers have been able to

demonstrate that economic factors predict reputation (Sabate and Puente, 2003) less is known about non-economic factors influencing reputation.

In modern, globalised world is often mentioned term know-how, which for business represents certain intangible wealth, which is possible to be used and transferred into something tangible. It represents source of investments into business, in form of direct participation in transformation process, or sale. We consider know-how as knowledge, wisdom, information from different areas, production, research and development, technological processes. Know-how in business is expressed in form of different procedures, solution methods, which helps to eliminate deficiencies, to improve real production status, to improve working conditions and environment. Results of successful application of know-how are benefits such as profit, increased competitive ability of business, expansion of foreign markets. Currently, there is preferred know-how in area of environment that is exchange of knowledge, experience in order to improve and protect environment. Businesses try to connect production know-how with environmental know-how. They implement into production process policies decreasing emissions, harmful substances and contribute towards production of more ecological products. We could also point out another connection of environmental know-how and other modified item of intangible assets – eco-design. In production of products with eco-design there is applied knowledge and processes, know-how, for successful entrance of product on a market.

We could establish, that know-how represents source of economic benefits from quality for businesses. They are an indirect part of the product, they assess it and in process of commercialisation they create profits. If product is accepted by market, interest on market grows and product is exported to international markets and hence its share on both domestic and international market increases. In advanced economies, investment in intangible assets – knowledge and intellectual property, for example-exceeds that of tangible, such as factories and equipment (Haskel and Wallis, 2013)

Industrial design has primary function to fulfil needs of today's generation – material, esthetical, functional, while it cannot omit future generation to do the same. It is necessary to protect design as it creates added value of the product. Customers perceive it and it can be a mean for sales. Design protection should be part of business strategy of every producer. Why do we protect design? Design represents business property of any company, which is able to increase commercial value of a business. Registration of design encourages fair competition, which supports production of products. It is crucial for businesses to keep documents of design registration, as it is important in proving ownership and author rights.

According to the resource dependence or resource based view (RBV), assets, skills and capabilities create value for the firm that leads to a sustainable competitive advantage and superior financial performance (Barney, 1991). Resources used to create a competitive advantage are categorized as tangible (e.g., financial assets, capital, production capability, etc.) or intangible assets (e.g., intellectual property, trade secrets, corporate reputation, culture, employee know-how, etc.) (Hall, 1993). These resources create value and meet the following conditions: 1) It is valuable due to its ability to add financial value to the firm (sources of differentiation); 2) It is rare (only some firms have it); 3) It is imperfectly imitable by other organizations; and 4) there are no substitutes (Barney, 1991). Culture and reputation are considered intangible assets because each add value through differentiation, is rare, difficult to imitate, and without substitution (Barney, 1991; Hall, 1993; Fombrun, 1996; Porter, 1996; Roberts and Dowling, 2002; Kaplan and Norton, 2004). Significant part of company value (potentially more than 60%) is represented by intangible assets. For many of these companies brand presents majority of this value. These data, of course, are not currently monitored or assessed in most of financial reports.

### 3 Methodology and data

In research of collected background material there were used especially methods of analysis, method of synthesis, comparison, monitoring, induction and deduction. In processing of scientific part we have used also special methods, mathematic – statistical and method of directed interview. In scientific part there was also applied combination of stated methods with an aim to obtain high quality incomes of research and to obtain possibly most relevant information. Application of statistical methods for questionnaire assessment and obtained dependencies we reached further subjects for scientific researches.

Objects of research are small, medium sized and large production businesses in Slovak Republic, businesses which meet recommendation of European commission 2003/361/EC:

- Number of employees according to following classification:
  - microbusiness (0 – 9 employees),
  - small business (10 - 49 employees),
  - medium sized business (50 - 249 employees),
  - large business (250 and more employees).
- For small and medium sized businesses annual turnover does not exceed 50 mil. €
- For large businesses annual turnover exceeds 50 mil. €
- For small and medium sized business annual balance (asset volume) does not exceed more than 43 mil. €
- For large businesses annual balance (asset volume) exceeds 43 mil. €

As these are categorical data, we used area of statistical analysis of categorical data. There are two alterations of questions asked for both questions (yes/no). Appropriate test for mentioned type of variables is Persons chi-quadrat-test of independence, which was applied in analysis. Core of the test is comparison of consensus of theoretical frequency with real researched frequencies and assessing importance of differences between them (Sodomová, 2013).

Another method applied in analysis of questions submitted in the questionnaire was Correlation analysis exercises statistical methods and practices to assess intensity (tightness) of free (statistical) dependence between quantitative variables and to assess quality of equalizing by regression functions (Pacáková, 2009).“ In the following part of the article we interpret synthetic results of research.

Critical area:  $\chi^2_p > \chi^2_{1-\alpha} [(r-1).(s-1)]$  while  $\alpha$  is chosen level of importance, or  $(1-\alpha)$  is responsibility.  $\chi^2_{1-\alpha} [(r-1).(s-1)]$  value can be found in statistical tables, or in statistical software.

If inequality is valid, we accept hypothesis  $H_1$ , hence we can confirm dependence. If inequality is not valid, we do not have enough evidence to dismiss hypothesis  $H_0$  hence dependence between symbols A and B cannot be confirmed.

$$\begin{aligned} \text{In level of importance } 0,1: \\ \chi^2_{1-\alpha} [(r-1).(s-1)] = \chi^2_{0,90} [(2-1).(2-1)] = 2,718 \\ 12,39 > 2,718 \end{aligned}$$

Inequality is valid = we accept  $H_1$ .

With reliability 0,90, or on level of importance 0,1 we accept hypothesis, that between variables 8 and 11 there is statistically important dependence.

### 4 Results and discussion

Based on questions answered within the questionnaire we found out that the biggest share of intangible asset elements in transformation process represents know-how with 34%. In deeper understanding we regard production know-how, which is not a result of scientific activities, but it represents production processes, formulas, knowledge, technical parameters, technology applied in production process. Production businesses

dispose of strong engineering know-how, which ensures them competitive advantage on domestic and international market.

Know-how of a business is tended by business secret and their number is secret due to competition. Second largest share of intangible assets represents designs with 25%. Design enters product in every phase of transformation process, from pre-production phases through main production up to post-production services. It takes not only formal aspect, but also functional function of product. It is part of the product value and customer experience. In pre-production phase, in phase of development and construction there are considered aesthetic and functional aspects of product, for which it was created.

In main production, product is given such shape or content as it was determined by constructor in technical documentation, to achieve level of usefulness with required level of quality and minimal production costs. Post-production phase of transformation process most commonly includes packaging, loading, expedition, and acceptance by customer. As we can see, intangible element of design enters value and core of produced item in every stage of production phase.

Third largest share of intangible assets represents licenses with 21%. Licenses enter transformation process in form of software, computer programs, purchased patents and trademarks based on license agreements. Relationship between granted patents and licences is closely dependant. It is based on the fact, that business with possibility to patent own products is not obliged to enter license agreement to be able to produce a new product. In Slovakia, number of granted patents is lowest amongst countries of European Union. Also results of the research prove the fact, that the second lowest share in transformation process represents patents with 11%. It is a result of stagnation and downfall in area of research and development in Slovakia. Prior privatisation of Slovak businesses by foreign businesses almost every production business had research and development department. However, after sell out mother companies kept research and development as main process subject and daughter companies were only delegated with production construction and technological preparations.

Patents are currently considered one of the means for competitive advantage of business on domestic and foreign market. The more patents business owns, the more its credit grows. It becomes strong competitor for domestic and international businesses. Number of patents and licenses also plays important role in sale of the business. Often it is critical factor in strategic decisions of management of business. Negligible share of intangible assets, which enter production process covers goodwill with 9%.

Businesses perceive goodwill in general as "good name of a business" and not as business value of all intangible holdings of business. Based on an interview realised throughout the research, top managers of businesses, which consider goodwill as element entering production process stated, that primary element included in goodwill is loyalty of employees emerging from their share on production of quality products. Loyalty of employees and customers are the best feedback for business management, to achieve prosperity of the business in the future. Especially when it comes to loyalty of customers, it is important to realise that „customer satisfaction has time dimension and long term character. Product approval requires time and repeated opportunity of use. One time experience with product does not lead to strengthening positive opinion of customer. The more experience is worth mentioning and the stronger is the establishment the more difficult it would be to change the opinion.“

Businesses who took part on questionnaire research stated they register know-how as intangible asset, consisting of various knowledge, information, experience, from several production areas, areas of business and economics. As knowledge and experience are considered different results of research, scientific development, technological, advisory and other professional

papers. Out of the number of business, that register know-how is 37% medium sized and 44% large businesses and 19% represent small businesses. Result emerges from the fact that large businesses with their mass production apply in larger degree production know-how, as for successful operating and uniqueness of their products there are necessary knowledge, experience and technological procedures. As a benefit, business achieves by application of know-how, businesses state improvement of production processes, elimination ineffective production procedures or reduction of material and energy. Initial benefits are reflected in achieving higher profits, improving working conditions or environment, which could not be achieved without application of know-how.

Number of registered know-how depends in high degree on industry sector, in which business operates. The highest number of registered know-how is recorded in electro-technical industry (22%) and in sector of information technologies (28%). Significant number of production know-how was demonstrated in industrial production (35%), while the highest number of know-how was recorded in automobile industry and automobile component producing businesses. Number of know-how in businesses depends in high degree on production type, on construction, development and technological base of transformation process.

Apart from above mentioned intangible assets such as patents, know-how, licences, businesses register other industrial rights. Based on the research it was found out that businesses register industrial patterns and design in share 48%, improvement ideas 40% and 12% utility models. Improvement ideas in businesses represent new knowledge, ideas, proposals obtained from employees, who take part on improvement and effective operation of business on market. They help to put final touches and improve products in individual phases of transformational process. Implemented improvement ideas of business are archived and registered as valuable intangible assets of business. Utility models belong to industrial rights. Their character is similar to patents; however, the difference is in simpler registration, lower expenses and abidance requested for evidence. In the next part we deal with analysis of design evidence, which represents highest share of other industrial rights recorded in businesses.

Analysis of research performed in area of designs, we came to results, that highest number of designs 55% is registered by large businesses, middle sized businesses register number of designs in share of 28% and small businesses in share of 17%.

In implementation of designs, design constructors emerge from certain idea, which should represent core of the product, highlight main idea or purpose of the object. Supporting tool for success of product design are marketing activities, which influences sales of product on a market. However, design alone does not fully grant sales of products. It is especially quality of a product, sum of development factors, sales, while design is assisting factor in assuring of long term sales and loyal customers. Important role has also design management, which manages activities connected with proposal, implementation of design into production. Depreciate design may not only producer, but also design technician. Technician is assigned to prepare product prototype based on ideas and sketches of design. Product prototype should be 100% identical to sketch, however, after number of attempts it happens that constructor is not able to create design in accordance with sketch and applies design wrongfully. Hence, design does not correspond with real idea, which can lead to depreciation of design and decrease of product sales.

## 5 Conclusions

Every company protects its good name on a market, because it represents a tool that opens door for them to foreign markets. As well as brand and other parts of intellectual property good name of a business is valuable intangible property of any business. License itself does not grant successful sales. Tool to profit from

license is item itself, to which license is related to. Business, which tries to achieve profits, must be aware how to effectively use subject of license. To achieve profits can guarantee only success of license agreement subject on a market and hence strengthen good name of a company and its impact. Company chooses licensing if it is not capable producing product, or it is not able to produce it in sufficient amount and quality to cover market demands. Business success of licensed subject depends on different factors such as product design, price, demand and marketing.

As it was already mentioned, intangible assets are source of economic benefits of quality and commercialisation increases prosperity of a business and strengthen competitive position on a market. We believe, it is more advantageous for business to use intangible assets within company, than licensing as it maintains its monopoly position in area on certain intangible asset.

From research results it is possible to conclude that most designs 55% are registered by large businesses, middle sized businesses register number of designs in share 28% and small businesses in share 17%. Apart from patents, know-how, trademarks and licenses in research we found out that businesses register industrial patterns and designs in share 48%, improvement ideas 40% and 12% utility models.

Businesses apart from applying intangible assets in transformation process are forced to monitor development trends. There is modification of basic intangible assets and connecting production area with area of environmental protection and design. Currently, it is expected from quality design to not only function and look aesthetically, but to be ecological. To design ecologically means thinking about product as functional entity. Task of designers is to create form and function of product as well as to create environmental profile of product and hence ensure sustainability of environment. Environmental product from designer perspective must meet all criteria influencing ecology of product, i.e. saving energy, materials, packaging transport, including solving problems related to waste disposal. Ecodesign, as the whole product, is also result of live, creative, intellectual work of employees. Ecodesign in reality represents live creative ability to seek alternative systems, technologies and production strategies.

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