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Motives for Financial Valuation of Intangibles and Business Performance in SMEs¹

MOTIVOS PARA LA VALORACIÓN FINANCIERA DE INTANGIBLES Y SU RELACIÓN CON EL DESEMPEÑO EMPRESARIAL DE PEQUEÑAS Y MEDIANAS EMPRESAS

En conjunto con el enfoque en recursos de una firma, los activos intangibles se han convertido en elemento clave para la generación de ventajas competitivas, especialmente, en pequeñas y medianas empresas (Pymes), cuya ventaja competitiva regularmente se centra en sus intangibles. A pesar de su importancia es poco lo que se ha hecho para evaluar y medir el papel de los recursos intangibles de las empresas, así como los motivos que impulsan su proceso de valoración financiera, teniendo en cuenta que la mayor parte de los estudios en este campo se han llevado a cabo en grandes empresas. Mediante el estudio de aportes teóricos y evidencia empírica, este artículo tiene como objetivo analizar la relación entre los motivos internos y externos que impulsan el proceso de valoración de intangibles, y el desempeño general de las Pymes analizadas. Partiendo de la información presentada en hipótesis reconocidas, y con base en una muestra representativa de 369 gerentes de Pymes en España, e información financiera de las firmas que representan, se examinó si los motivos que impulsan a las empresas a valorar económicamente sus intangibles se ven reflejados en el desempeño empresarial de la firma, y si estos se encuentran condicionados por su estructura financiera y el carácter mismo de sus intangibles. Los resultados indican que las Pymes consideran relevante presentar el valor de sus intangibles a terceros, ya que estos se ven representados en una capacidad de endeudamiento superior y un reporte de mayores activos en sus balances generales, a lo que se suma una mejoría en el desempeño financiero en general. Finalmente, se discuten las implicaciones de los resultados obtenidos por este estudio y se presentan ciertas recomendaciones para investigaciones futuras.

PALABRAS CLAVE: Intangibles, valoración financiera de intangibles, pequeñas y medianas empresas (Pymes), opinión de los directivos, desempeño de la firma.

MOTIFS DE LA VALORISATION FINANCIÈRE DES RESSOURCES IMMATÉRIELLES ET LEUR RELATION AVEC LA PERFORMANCE ENTREPRENEURIALE DES PETITES ET MOYENNES ENTREPRISES

RÉSUMÉ: Conjointement avec l'approche fondée sur les ressources de l'entreprise, les actifs intangibles (ou immatériels) sont devenus un élément clé pour la génération d'avantages concurrentiels, en particulier dans les petites et moyennes entreprises (PME), dont l'avantage concurrentiel réside habituellement en leurs ressources immatérielles. En dépit de l'importance de ce type de ressources, peu d'études ont cherché à évaluer et mesurer leur rôle et à préciser les motifs qui impulsent leur processus de valorisation financière; en outre, la plupart des études menées en ce domaine portent sur de grandes entreprises. À travers une étude des apports théoriques et des évidences empiriques, cet article se propose d'analyser la relation entre les motifs internes et externes qui impulsent le processus de valorisation des ressources immatérielles et la performance générale des PME étudiées. À partir de l'information présentée en hypothèses reconnues et sur la base d'un échantillon représentatif de 369 dirigeants de PME espagnoles et de l'information financière des firmes qu'ils représentent, on examine si les motifs qui incitent les entreprises à valoriser financièrement leurs ressources immatérielles se reflètent dans la performance de la firme et s'ils sont conditionnés par la structure financière des entreprises et le caractère même de leurs ressources immatérielles. Les résultats montrent que les PME considèrent comme important de présenter aux tiers la valeur de leurs ressources immatérielles vu que celles-ci sont représentées dans les bilans généraux par une capacité d'endettement supérieure et un rapport de plus grands actifs, à quoi s'ajoute une amélioration de la performance financière en général. Enfin, l'article analyse les implications des résultats obtenus par cette étude et formule quelques recommandations pour de futures recherches en ce domaine.

MOTS CLÉS: Ressources immatérielles, valorisation financière des ressources immatérielles, petites et moyennes entreprises (PME), opinion des dirigeants, performance de la firme.

MOTIVOS FINANCEIROS PARA AVALIAÇÃO DE INTANGÍVEIS E DESEMPENHO DOS NEGÓCIOS PARA AS PEQUENAS E MÉDIAS EMPRESAS (PMES)

RESUMO: Em linha com a Visão Baseada em Recursos (Resource-Based View – RBV), os intangíveis tornaram-se o principal recurso para gerar vantagens competitivas em uma empresa. Isso é particularmente importante no caso das Pequenas e Médias Empresas (PMES), cuja vantagem competitiva é frequentemente baseada em recursos intangíveis. No entanto, tem havido pouco esforço para avaliar e medir o papel dos recursos intangíveis no desempenho das empresas e dos motivos de dirigir seu processo de avaliação. Além disso, a maioria dos estudos têm sido realizados em grandes empresas. Este artigo combina contribuições teóricas e dados empíricos; tem por objetivo analisar a relação entre os motivos, internos ou externos, a condução do processo de avaliação dos intangíveis e o desempenho obtido pelas pequenas e médias empresas. Considerando-se as hipóteses reconhecidas e com base em uma pesquisa com uma amostra representativa de 369 gestores de PMEs espanholas, além dos dados financeiros obtidos a partir dessas empresas, exploramos se os diferentes motivos de condução das empresas para realizar uma avaliação financeira de seus ativos intangíveis, são refletidos no desempenho dos negócios, e condicionada pela estrutura financeira e o nível de intangíveis. Os resultados indicam que as PMEs consideram importante fazer relatório dos bens incorpóreos de valor para as partes interessadas externas porque estas mostram um maior nível de endividamento, bem como um maior nível de intangíveis contabilizados no balanço. Além disso, as PME consideram que conseguem um melhor desempenho da avaliação financeira de seus intangíveis por razões internas. As implicações desses resultados são discutidas, bem como são dadas sugestões para futuras pesquisas.

PALAVRAS-CHAVE: Intangíveis, avaliação financeira de bens incorpóreos, Pequenas e Médias Empresas (PMES), Gestores de Opinião, desempenho dos negócios.

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ABSTRACT: In line with the Resource-based view, intangibles have become the key resource for generating competitive advantages in a firm. This is particularly significant in the case of small and medium enterprises (SMEs) whose competitive advantage is frequently based on intangible resources. However, there has been little attempt to assess and measure the role of intangible resources in firms' performance, and the motives driving their valuation process. Besides, most of the studies have been carried out in large firms. This article, combining theoretical contributions and empirical evidence, aims to analyze the relationship between the motives, external or internal, driving the valuation process of intangibles and the performance obtained by SMEs. Considering the recognized hypotheses and based on a survey of a representative sample of 369 Spanish SMEs' managers, in addition to the financial data collected from these firms, we explore whether the different motives driving the companies to perform a financial valuation of their intangibles are reflected in the business performance, and conditioned by financial structure and the level of intangibles. Results indicate that SMEs consider important to report intangibles value to external stakeholders as they depict a higher level of borrowing, as well as a higher level of intangibles accounted in the balance sheet. Furthermore, SMEs that consider the financial valuation of their intangibles for internal reasons achieve better performance. The implications of these results and suggestions for future research are discussed as well.

KEYWORDS: Intangibles, financial valuation of intangibles, small and medium enterprises (SMEs), managers' opinion, business performance.

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Introduction

Intangibles are the major drivers of company growth (Lev & Zambon, 2003). There are numerous studies that find evidence of the positive relationship of investing in intangibles and the value creation of the company (Firer & Williams, 2003; Riahi-Belkaoui, 2003; Sáenz, 2005; Prieto & Revilla, 2006; Tan *et al.*, 2007).

Interest in intangibles is not limited to the academic field and has arisen as a growing concern also detected in the business world. Studies such as Hall (1992), Gray *et al.* (2004), Gallego and Rodríguez (2005), or Lonqvist *et al.* (2008) show management conviction regarding the key role that intangibles play in the development of competitive advantages. This is particularly significant in the case of SMEs whose competitive advantage is frequently based on intangible resources, mainly those companies intensive in knowledge that represent one of the principal revitalizing elements of the economy. The importance of an adequate management of intangible resources is clear, and is especially relevant during economic crisis periods.

In order to adequately manage intangibles it is necessary to get information relating to them. The constraints of the information provided by the markets and accounting systems have fostered a research approach, which emerged in the 1990s, to identify and value the intangible resources of the companies. Nevertheless, the identification and valuation of intangibles is not exempt from difficulties: 1) it is necessary to acquire costs for obtaining the information; 2) in most cases there are no standardized processes to value them; 3) it results difficult to individually assess each intangible because of the existence of synergies; 4) managers are afraid of providing competitors with critical information.

What can lead the companies to incur in costs in order to value their intangibles? The motives that drive companies to value their intangibles can be internal –related to generating information for managers– or external –related to the report on intangibles to external stakeholders. Greater knowledge regarding intangibles and their value, among other benefits, allows an efficient allocation of the resources (Cañibano *et al.*, 1999), reduces the risk of opportunist behavior by managers (Abbody & Lev, 2000) and reduces capital costs (Botosan, 1997; Lev, 2001). Independently of the motive that drives the valuation of intangibles, the generated information should contribute to a better management and thus improve results. Nevertheless, the motive that stands out in each case can determine both the results obtained, and the intensity of the obtained enhancement.

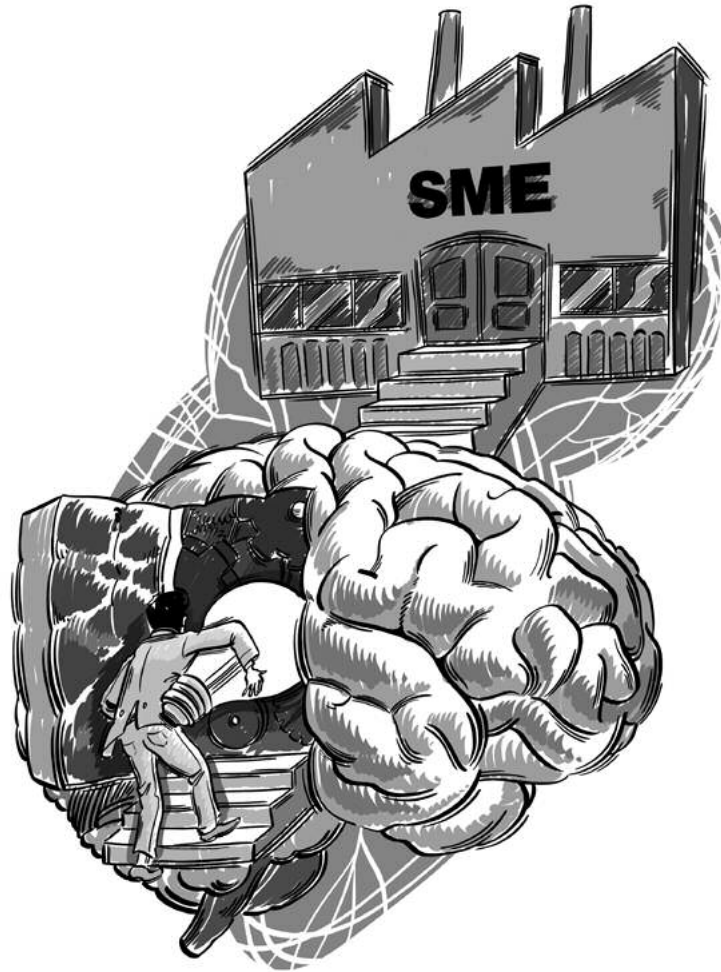
There is ample literature on the measurement and valuation of intangibles and their relationship with business performance (Bontis *et al.*, 2000; Bontis & Fitz-Enz, 2002; Riahi-Belkaoui, 2003; Sáenz, 2005; Chen, 2005; Chen *et al.*, 2005; Tan *et al.*, 2007; Wang, 2008; Hang, 2009; Francisco *et al.*, 2010; Garanina & Pavlova, 2011; Zerhri *et al.*, 2012). However, very few authors analyze whether there is a relationship between the motives that may lead to a financial valuation process of the intangibles and business performance. Lonqvist *et al.* (2008) find that companies pay greater attention to internal motives, rather than external, when they measure their intangibles.

It is noteworthy that most of the studies so far conducted focus on large companies, whereas SMEs are the mainstay of the European business structure, and that is particularly true in Spain (Eurostat, 2009). SMEs with fewer financial and tangible resources should support their competitive advantage in intangible resources.

In recent years, some works analyzing the importance of intangibles in SMEs and their influence in management have been published. Thornhill and Gellatly, (2005), Yasuda (2005), Calvo (2006) and Nunes and Almeida (2009), establish a positive relationship between companies' investments in intangibles and their growth. Durst and Gueldenberg (2009) found that, in the case of external succession in SMEs, intangible assets have a remarkable influence decision-making on the external successor. Bakar and Ahmad (2010) suggest that intangibles are the main innovation drivers in Malaysian SMEs, and Peña (2002) concludes that intangibles in Spanish companies are associated with the survival and growth of startups.

Still, there are very few studies on the valuation of SMEs' intangibles, the possible motives behind this valuation and their effect on results. Salojärvi (2004) found that Finnish SMEs that implement active practices to manage their intangibles obtain better results in innovation and developing new products.

Because of this lack of empirical studies we analyze the relationship between the motives driving the valuation process and the results obtained by companies. The study shows that SMEs that consider the financial valuation of their intangibles to be important for internal reasons get a better performance, with a statistically significant growth in profits. On the other hand, SMEs that believe the financial valuation of their intangibles is important in order to facilitate information for external stakeholders are pressured to do so, because they have higher levels of leverage, and because of the load of the intangibles resources in relation to total resources with the weight of intangible resources is statistically significant.



The study is structured as follows. First, the role that SMEs intangibles play in determining business competitiveness is justified, using the Resource-based view. Subsequently, the advantages and difficulties generated by the financial valuation of intangibles are analyzed. The third section considers the hypothesis of this study, namely, whether the different motives driving companies to perform a financial valuation of their intangibles are reflected in business performance and conditioned by financial structure. In the following section, the methodology to test the proposed hypothesis is described. The results are then explained and the main conclusions presented.

Intangibles as Strategic Resources and the Reasons for their Financial Valuation

Intangible Resources as a Source of Competitive Advantage

Bettis and Hitt (1995) state that the traditional limits of sectors have become blurred, and markets are intermingled and overlaid in highly volatile environments. It is therefore

now more difficult and less evident to determine what constitutes a sector. Therefore, a strategy must be defined in terms of what the company is capable of doing, instead of using the customers and their needs as the benchmark (Quinn, 1992). Management strategy must consider the impact on the adjustment of the company's resources and capabilities to respond to the opportunities that emerge from its environment (Grant, 2002).

All the same, not all resources are equally important for business success. Barney (1991) argues that those resources that provide a competitive advantage, and therefore determine value creation in the firm, must be valuable, rare, inimitable and non-substitutable. A competitive advantage is sustainable when based on heterogeneous and imperfectly transferable resources (Lippman & Rumelt, 1982; Grant, 1991; Barney, 1991; Amit & Schoemaker, 1993). With rare exceptions, the resources that fulfil these criteria are usually intangibles (Itami & Roehl, 1987; Hall, 1992; Barney, 1991; Grant, 1991; Boisot, 1998; Kristandl & Bontis, 2007). Their specific characteristics provide them with substantial differentiating potential (Villalonga,

2004), that competitors find difficult to imitate (Kaplan & Norton, 2004; Rodríguez & Ordóñez, 2003).

The Resource-based view has evolved in recent years and mainly focuses on three dimensions: the Knowledge-based approach, the Relational approach and the Intellectual-capital approach. The Intellectual-capital approach (Reed *et al.*, 2006) involves the primacy of intangibles in achieving better and sustainable business performance. This pragmatic-theory approach represents a focalization or specialization of the Resource-based view on those intangibles or factors that may lead to business success. This trend, that emerged from professional practice, distinguishes different categories of intangibles: 1) human capital, or knowledge, skills, experiences and attitudes held by the members of an organization (Bueno, 2003; Subramaniam & Young, 2005); 2) structural capital, which includes the knowledge that provides coherence and a common thread to the whole organization (Edvinsson & Malone, 1997); and 3) relational capital, which emerges from the ability that the organization needs to have relationships with its external stakeholders (Bueno, 2003; Reed *et al.*, 2006).

Reed *et al.* (2006) point out that the different types of intangibles are complementary resources, so that an allocation to one increases the allocation to the others, resulting in a new indivisible resource that directly affects the performance of the organization. This characteristic precisely increases the difficulty of valuing intangibles, as it is not easy to attribute performance to a specific intangible.

The Resource-based view approach gives a general explanation of business success, but does not establish differences between SMEs and large companies; their size is the only difference². Deloof (2003), Rogers (2004) and Fong (2008) conclude that intangibles are a fundamental element for the survival and the growth of SMEs. The study by Hyvonen and Tuominen (2006) shows that innovation capability and relationships with customers and supply chain partners are the key determinants of competitive advantage and performance in SMEs.

Financial Valuation of Intangibles

The importance of intangibles as determining factors of competitive position come up against the difficulty involved in trying to quantify them (Guthrie *et al.*, 2006). Nonetheless, in the last two decades the measurement and evaluation of intangibles have played a prominent role in academic research.

² Works as Bakar and Ahmad (2010), Aragón-Correa *et al.* (2008), Fong (2003) and Rangone (1999) consider this approach for SMEs.

In regard to measurement, great progress was made in 1995, with the publication by Skandia of the first report on intellectual capital. Other pioneering studies were presented by Brooking (1996), Kaplan and Norton (1996), Edvinsson and Malone (1997), Sveiby (1997), Bueno (2003), and more recently López and Nevado (2008). Measurement basically consists of two tasks: on the one hand, identification and classification of intangibles; and on the other, a search for indicators that enable the intangibles to be measured, that is, to monitor their development and compare the situation of the company with other benchmarked firms.

Most of the models do not assign financial value to intellectual capital using financial indicators to measure it (Ciprian *et al.*, 2012), so this measurement does not permit monetary valuation of intangibles, nor determine their potential to create value in the firm; thus managers must consider whether the decisions being adopted are increasing the value of the firm's intangibles and firm performance. Subsequently, attempts to measure the contribution to the value of the company of intangible resources in monetary terms have been made, receiving the name of "financial valuation". The main methods developed along this line can be grouped into:

- Those methods based on the efficiency of stock markets³;
- those based on cash flow discounting;
- and those supported by option theory.

They all have pros and cons⁴, and as a result, it is not an easy task to look for straightforward and accurate methods and models for the financial valuation of intangibles. According to Olivé Tomás (2008), there are no standardized procedures for the majority of intangibles, but rather each intangible has to be analyzed in depth considering it is context-specific. This makes it difficult to apply generally accepted models.

Most attempts at implementing intangible valuation models have involved large companies. Very little research has focused on valuation methods that might also be applicable to small and medium enterprises. SMEs have fewer resources to identify and manage intangibles and they usually have less developed information databases. Therefore, additional costs associated with gathering

³ In case of the SMEs most of them do not quote on stock markets, making it necessary to apply the analogical-stock exchange method (Caballer & Moya, 1997).

⁴ A review of the different methods for the financial valuation of intangibles can be consulted at Rodríguez-Castellanos *et al.* (2007).

information are expected, making it particularly difficult to isolate the effects generated by each intangible, and thus requiring a frequently global valuation (Martin & Hartley, 2006).

As Johanson *et al.* (2001) point out, the lack of reliable financial information about intangibles is one of the main problems for their management. Ross and Ross (1997), and Liebowitz and Suen (2000) state that in order to better manage such resources, it is necessary to count on a method to measure them. Therefore, a valuation process for the intangible resources of a company will improve knowledge and management. In the same way, García-Merino *et al.* (2008) point out that managers of 75 percent of medium enterprises, and 73 percent of small enterprises, consider the financial valuation of intangibles to be highly important.

Motives for the Financial Valuation of Intangibles: External and Internal

The motives behind a company beginning a valuation process of intangibles are determining factors, both to establish the valuation methodology to be applied, and the expected results of this process. Specifically, Marr and Gray (2002) and Marr *et al.* (2003) put forward the following:

1. *Strategy formulation.* In order to formulate a strategy, it is fundamental to establish the available resources, the existing relations between the intangibles and other resources, and the connection between intangibles and the performance (Grant, 1991).
2. *Strategy assessment and execution* (Neely *et al.*, 1996; Kaplan & Norton, 1996; Bassi & Van Buren, 1999). Intangibles are part of the inputs that a company has to use to develop a specific business strategy, but they are also outputs once the strategy is implemented.
3. *Defining compensation systems.* The majority of companies have realized that trusting only in financial measures may encourage operations to be seen from a short-term perspective (Johnson & Kaplan, 1987), particularly if the incentive systems are linked to them (Bushman *et al.*, 1995). The incentive systems need to be established according to the way the company is managed with the purpose of increasing its capacity to generate value in the future, which is going to depend in great part on the development of its intangibles.
4. *Strategic development, diversification and expansion* (Teece, 1980). In order to better exploit their resources many companies plan to diversify, merge or join

in partnership agreements with other companies. Lev (2001) suggests that the network economies and synergies associated to research and development (R&D) investments and other intangibles are very important. Morck and Yeung (2003) find that diversification generates value in the presence of intangibles such as R&D or advertising, but in turn destroys value in other cases.

5. *Communicating the value of the company's resources to stakeholders.* The lack of information on a firm's intangibles has a negative effect due to: (i) insider trading (Aboody & Lev, 2000); (ii) excessive volatility and undervaluing of firms; and (iii) an increase in the cost of capital (Leadbeater, 2000; Gu & Lev, 2001). In general, the dissemination of information about intangibles has a positive impact on the image of the company (Cañibano *et al.*, 2002).

Marr and Gray (2002) argue that the motives behind a valuation process are divided into external and internal. A financial valuation process could improve knowledge about a firm's intangibles towards two directions: internal and external agents. External motives are those related to the report on intangibles to external stakeholders: shareholders, borrowers, suppliers, possible partners and, in general, society. The fifth of the above motives and also the fourth, insofar as they refer to possible mergers, come under the external category. Internal motives are related to generating information for internal stakeholders, mainly managers. Lev (2001) considers that managers show a significant lack of information on firms' intangible resources. This internal category includes the first three motives set out above, and also the fourth with regard to internal growth strategies.

Methodology

Hypothesis

Valuing Intangibles for External Motives

As previously indicated, external motives are those relating to generating information for external stakeholders. In the greatest number of cases financial statements are their fundamental source of information, though many authors stress on the shortcomings of these, especially with respect to intangible valuation (Lev, 1989; Lev & Zarowin, 1998; Martínez Ochoa, 1999).

In this context, companies intending to reduce information asymmetry must disclose voluntary information about their intangibles. Following this approach, the RICARDIS Report considers that directives for publishing standardized

reports on SMEs intangibles need to be developed (European Commission, 2006).

Even so, as Rylander *et al.* (2000) indicate, there are curbs on publishing this type of information: 1) managers are afraid of providing competitors with critical information, and 2) there are additional costs associated with gathering and disclosing the information. In the case of SMEs these difficulties are higher than in large companies, because SMEs have fewer resources (Blaug & Lekhi, 2009). Further, Ittner (2008) believes that more research about the effect of the valuation of intangibles on performance is required. We consider that SMEs that voluntarily disclose information about their intangibles must have concrete incentives to do so. Therefore, the following hypothesis is advanced:

H₁: SMEs that consider external motives as driving forces for a financial valuation of their intangibles have incentives to disclose the value of the intangibles to external stakeholders.

In order to test this hypothesis, it is necessary to set out the characteristics of the companies that can generate those incentives. A characteristic that is widely reported by the literature is the standard of leverage. Thus, according to agency theory, the higher the leverage in a company, the more likely are the conflicts between internal and external stakeholders, which imply greater agency costs (Kim & Sorensen, 1986; Brennan, 1995); the higher the debt, the greater the tendency of managers to disclose information on intangibles as they aim to reduce agency costs. Vicente (2001) found that highly specific and opaque resources (he analyzed internal investments in R&D and investment in specific human capital) limit the leverage capacity of the company.

In the case of SMEs, there is general consensus regarding the financial restrictions faced, taking into account that their fragile nature represents a highly perilous investment compared with large companies (Blaug & Lekhi, 2009). These difficulties have been a serious problem in SMEs during the current crisis, particularly in those whose majority of resources are intangibles, because they need to show more guarantees to obtain financing. Therefore, where there is higher leverage, the managers will be more likely to disclose information regarding intangible resources in order to reduce agency costs.

We now put forward the following secondary hypothesis:

H_{1a}: SMEs that consider external motives as driving forces to develop a financial valuation of their intangibles have a higher level of leverage.

For an intangible asset to be accepted as collateral, this must be easily identifiable and preserve its value when disentangled from the firm (Guimón, 2005). Bezant and Punt (1997), and Blaug and Lekhi (2009) conclude that intangibles are accepted as guarantees on very few occasions; thus we can state that the value of intangibles tends to be context-specific. This situation causes a higher financial cost to firms. For the listed companies, Shi (1999) expresses that an increase in R&D expenses is associated with an increase in the cost of debt. Lev *et al.* (2000) conclude that the companies with a high rate of growth of investments in R&D are systematically undervalued, and this undervaluing implies a higher capital cost.

This fact is aggravated in the case of the SMEs that wish to finance projects linked to intangibles, such as innovation activities. The difficulties attached to quantifying intangible assets, information asymmetries and perceived risks weigh very negatively against these companies when looking for funding. This is even more pressing in the case of technology-based SMEs (Bank of England, 2001). The only way that they have to improve this situation and reduce their information asymmetries is to report information on all their resources, and particularly, on their intangibles. SMEs with higher level of intangibles will have more incentive to know the value of their intangibles.

Even though it is difficult to measure the magnitude of intangibles, one possibility might be to use the Market Value/Book Value ratio as proxy. However, this is only possible with listed companies, while the great majority of SMEs are not listed. As Spanish accounting legislation allows some intangibles to be included on the balance sheet, such as R&D expenditure, patents, licenses, brands, etc., we use the book value of these intangibles as a proxy (Intangible Assets). Thus, we suppose that SMEs with a higher proportion of intangibles accounted for in the balance sheet, have an incentive to disclose information about them. Therefore, we have formulated the following secondary hypothesis:

H_{1b}: SMEs that consider external motives as a driving force to develop a financial valuation of their intangibles have a higher level of accounted intangible assets.

One of the predictable consequences of disclosing information on the value of intangibles will be the reduction in the cost of financial resources that should lead to an increase in the return on equity (ROE). Therefore, the following hypothesis is advanced:

H₂: SMEs that consider external motives as driving forces to develop a financial valuation of their intangibles obtain a higher ROE.

Valuation of Intangibles for Internal Motives

These motives prevail in companies which prioritize improving their management. Given the information shortcomings noted by Lev (2001) and the managers' need for this information, the development of a financial valuation process of the business intangibles should increase companies' profits. Efficient strategic management must be supported by quantitative and qualitative information regarding intangibles (Vitale *et al.*, 1994).

Most of the literature finds a positive relationship between the development and formalization of the strategy and the performance of SMEs (Bracker & Pearson, 1986; Rangone, 1999; McKiernan & Morris, 2005). Implementing a process to financially value intangibles as the most important strategic resources, is an example of this strategic thinking process. Therefore, we believe that SMEs that consider knowledge of their intangibles to be important for an improvement in their management, should achieve better performance.

In that respect, it does not seem that one way of measuring performance is more appropriate than another, therefore the following hypothesis and sub-hypotheses considering different valuation measures are proposed⁵.

H₃: SMEs that consider internal motives as driving forces to develop a financial valuation of their intangibles will obtain better performance:

H_{3a}: SMEs that consider internal motives as driving forces to develop a financial valuation of their intangibles will obtain higher ROE.

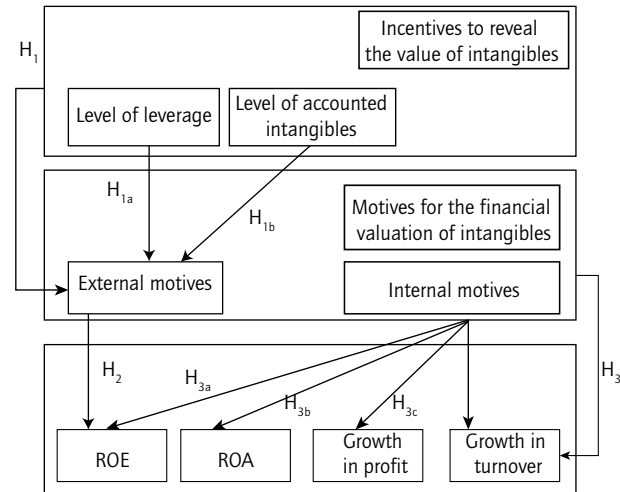
H_{3b}: SMEs that consider internal motives as driving forces to develop a financial valuation of their intangibles will obtain higher return on assets (ROA).

H_{3c}: SMEs that consider internal motives as driving forces to develop a financial valuation of their intangibles will obtain greater growth in profits.

H_{3d}: SMEs that consider internal motives as driving forces to develop a financial valuation of their intangibles will obtain greater growth in turnover or sales.

Figure 1 graphically represents all the hypotheses put forward.

FIGURE 1. Study Hypotheses



Source: Own elaboration.

Process for Obtaining the Data

Presentation of the Process

In order to obtain the necessary data to test the hypotheses, two types of information are necessary: on the one hand, the information relative to the importance assigned by the managers of the companies to the motives, internal or external, for the financial valuation of intangibles; and on the other, financial information about the results and the economic and financial structure of enquired SMEs.

Information about the motives to value the intangibles, was obtained by conducting a telephone survey with chief financial officers (CFOs)⁶ about aspects relating to business intangibles and their valuation, the degree of knowledge that they had about them and their motives for valuing them. To carry out the fieldwork we prepared the questionnaire, selected the population and obtained the sample.

With reference to the questionnaire, the research team prepared a preliminary proposal. Consequently, in order to be able to improve this scheme and check its validity, a pre-test was carried out in conjunction with the members of the Basque Country Finance and Management Forum, consisting in semi-structured interviews⁷.

The study focused on companies of the Basque Country. As García *et al.* (2010) have justified, the relevance of this geographical area was based on several reasons relating to its differentiating characteristics:

⁵ These variables have been widely used in the literature to assess the performance of companies, *e.g.*, Bontis *et al.* (2000), Chen *et al.* (2005), Maditinos *et al.* (2011) and Fathi *et al.* (2013).

⁶ The survey was focused on CFOs or the person that the company considered more suitable to answer it.

⁷ Any additional information relative to the study and the questionnaire can be requested to the authors.

- The Basque Country, located in the North of Spain, is an autonomous community with legislative capacity in certain areas and its own government.
- The three provinces in this region have tax autonomy as they collect all taxes, in addition to have the capacity to establish tax characteristics.
- The Basque Country, despite of its lack of natural resources, has been one of Spanish regions with a strong business and industrial tradition. Given precisely this lack of natural resources, we estimate that Basque companies will give special value to their intangible resources.

Information on the companies was obtained from the SABI (*Sistema de Análisis de Balances Ibéricos*) database, that gathers data on all the Spanish companies. Out of the initial population, consisting of 44,424 SMEs⁸, micro-companies (those with less than ten employees or annual turnover of less than two million euros) were excluded, obtaining a final population of 3,264 SMEs for the purpose of this research. We obtain a random sample of 463 firms which provided a level of confidence of 95 percent, and a maximum error rate of 4.2 percent. The fieldwork was carried out between November 20, 2007 and January 14, 2008.

The data about economic and financial results of the SMEs was obtained from available information in the SABI database in January 2011. On this date, for most of the companies, the last information available was from 2008. For this reason, the empirical study has been done with the available five year period, 2004-2008.

The companies whose data was not available for at least four years were excluded from the analysis. Very extreme cases, with more than five deviations from the mean, were likewise eliminated. The total number of companies to be analyzed was reduced to 369, which provided a maximum error level of ±4.8 percent, for a confidence level of 95 percent. The basic characteristics of the process are summarized in Table 1.

Information about the Importance of Internal and External Motivations

In order to determine the type of motives that can drive an SME to financially value its intangibles, was first necessary to know whether the CFO considered the valuation as an important matter. If the response was affirmative,

⁸ In order to select the SMEs population we chose the first of the three criteria most often used (number of employees, turnover and total assets), as we consider this criterion is more stable over time and less subject to situational factors. Under this criterion a SME is a company with 249 employees or less.

TABLE 1. Technical Details of the Study

Questionnaire	
Population	3,264 SME domiciled in the Basque Country
Sample	463 valid questionnaires to CFOs
Random error	±4.2 percent, with confidence level of 95 percent, p = q = 0.5
Interview data collection technique	Telephone interviews with CFOs
Calendar	November 20, 2007-January 14, 2008
Financial Information	
Financial performance data collection technique	SABI database
Calendar	January 2011
Final sample	369 firms
Final random error	±4.8 percent, with confidence level of 95 percent, p = q = 0.5

Source: Own elaboration.

we asked the CFO about the motives which drove them to value their intangibles.

Different motives were set to the managers in the questionnaire, to determine whether the financial valuation of the intangibles was important from an internal or external point of view. The quantification of the importance granted to motives by the managers, was carried out by calculating the average valuation obtained for the external and internal motivations, being understood that managers considered the internal (or external) motives to be important if the average value was, at least, of 4 (the importance is measured on a scale of 1 to 5, with 1 corresponding to "unimportant" and 5 corresponding to "very important").

Information about Business Performance

In order to check the H_{1a} hypothesis, the level of leverage was measured using the liabilities to equity ratio. In order to check the H_{1b} hypothesis, the level of intangibles was defined as the ratio of intangible assets to total assets. The operating profit was used to calculate the ROA and the growth in profits. In all cases, the mean value of the variables in the analysis period (2004-2008) was taken in order to test the hypothesis.

Statistical Analysis

First of all, a descriptive analysis was carried out to establish to what extent the data met the relationships specified by the hypotheses. Secondly, statistical hypothesis testing was performed.

When checking H_{1a} , the normality of "logarithm of leverage" variable was not rejected at a 5 percent level according to the Kolmogorov-Smirnov test. Once verified there is not homoscedasticity using the Levene statistics, the Welch test was performed to analyze the mean difference. With the other variables, the Mann-Whitney U test has been used because of the abnormal distribution of the variables. When the relationships proposed in each hypothesis were statistically significant, we proceeded to model such relationships in order to assess their magnitude.

Results

Regarding the first two hypotheses, H_1 and H_2 , the descriptive analysis (Table 2) shows that companies considering external motives as important driving forces for a financial valuation process have greater incentives to initiate such a process. Their level of leverage and the weight of intangible assets to total assets are greater than in the case of the SMEs that consider the external motives less important. Further, such companies obtained an improvement on their financial performance.

The statistical test of the hypothesis H_{1b} (Table 4) shows that the difference in the accounted intangible assets

level is significant at the 5 percent level. Nonetheless the difference in the logarithm of the leverage level is not significant (Table 3). Therefore the H_{1b} hypothesis is accepted, but it is not possible to accept H_{1a} hypothesis.

The propensity to disclose information about the company's intangibles is not transferred to the financial results. Even though the financial return is higher, the differences are not statistically significant (Table 4), thus the H_2 hypothesis cannot be accepted.

A possible explanation may be that the SMEs with more leverage or that have greater value of intangibles in the balance sheet, start from a situation with high financial costs. Under these circumstances, the improvement in the financial cost, as a result of facilitating information about their intangibles, does not enable them to achieve better financing conditions than the SMEs with less leverage or less weight of intangible resources on their balance sheets.

With regards to internal motives, the descriptive analysis shows that the performance obtained by the SMEs that consider these motives important to carry out a financial valuation process of intangibles is better than those who do not (Table 5).

TABLE 2. External Motives for Valuing Intangibles and Business Performance. Descriptive Statistics (2004-2008)

		<i>N</i>	Mean	Standard deviation
Consider financial valuation of intangibles important for external motives	Mean leverage (percent)	124	260.42	268.35
	Mean intangible assets / Total assets (percent)	133	3.74	5.39
	Mean ROE (percent)	125	11.37	13.73
Not consider financial valuation of intangibles important for external motives	Mean leverage (percent)	221	253.80	253.69
	Mean intangible assets / Total assets (percent)	231	2.52	4.21
	Mean ROE (percent)	222	10.51	15.08

Source: Own elaboration.

TABLE 3. Intangible Valuation Driven by External Motives Related to Logarithm of Leverage and Business Performance

	<i>g1</i>	<i>g2</i>	F	Asymptotic Sig. (2-tailed)
Logarithm of the leverage (H_{1a})	1	280,602	0.715	0.399

Source: Own elaboration.

TABLE 4. Intangible Valuation Driven by External Motives Related to Intangible Assets

	Mann-Whitney U test	Wilcoxon W test	Z	Asymptotic Sig. (2-tailed)
Mean intangible assets/Total assets (H_{1b})	12,990	39,786	-2.455	0.014
Mean ROE (H_2)	12,813	37,566	-1.184	0.236

Source: Own elaboration.

TABLE 5. Intangible Valuation Driven by Internal Motives and Business Performance. Descriptive Statistics (2004-2008)

		N	Mean	Standard deviation
Consider financial valuation of intangibles important for internal motives.	Mean ROE (percent)	136	11.32	14.73
	Mean ROA (percent)	144	5.54	7.31
	Mean growth in operating profit (percent)	139	5.92	163.92
	Mean growth in turnover (percent)	144	3.38	14.81
Not consider financial valuation of intangibles important for internal motives	Mean ROE (percent)	211	10.50	14.52
	Mean ROA (percent)	223	5.52	6.98
	Mean growth in operating profit (percent)	220	-27.40	130.77
	Mean growth in turnover (percent)	217	4.41	11.60

Source: Own elaboration.

TABLE 6. Intangible Valuation Driven by Internal Motives and Business Performance. Test Statistics for H₃

	Mann-Whitney U test	Wilcoxon W test	Z	Asymptotic Sig. (2-tailed)
Mean ROE (H _{3a})	13,771	36,139	-0.633	0.527
Mean ROA (H _{3b})	16,139	41,115	0.084	0.933
Mean growth in operating profit (H _{3c})	12,780	36,433	-2.43	0.015
Mean growth in turnover(H _{3d})	16,198	40,508	0,365	0.715

Source: Own elaboration.

However, only the differences of growth in operating profit are statistically significant, so we can only accept the H_{3c} hypothesis. According to the Mann-Whitney U test (Table 6) the sub-hypotheses H_{3a}, H_{3b}, H_{3d} cannot be accepted.

A possible explanation of these results is that firms can take decisions to strengthen their intangibles, which are detrimental to their more immediate performance. Many of the investments in intangibles are considered expenses. Training policies, advertising costs, etc., increase the value of the resources of the SMEs and its capacity to generate profits, in spite of affecting negatively the most immediate results. The positive impact on the performance is therefore tempered over the early years. The prudent approach of accounting methods when profits are measured tends particularly to undervalue the return on investment in intangibles (Vicente, 2001).

On the other hand, as argued by Rodríguez (2004), though the valuation of intangibles is considered fundamental, in many cases this option is not accompanied by an active management. The concern with valuing intangibles involves a change in the approach of the SMEs, but if it is not applied to specific practices, it will be difficult to obtain a notably better performance.

A third justification for the results is that carrying out a financial valuation process of intangibles presents

theoretically internal and external advantages. However, the deployment of a valuation process can incur in a series of costs. Aside from the costs of identifying and collecting information, there are others related to the disclosure of that information. As far as intangible assets are strategic resources for the SMEs, the dissemination of information may lead to a loss of competitive advantage (Macagnan, 2005). This threat arises both from the risk of being imitated by competitors, and from the fact that the causal ambiguity is often the strength that converts intangibles into competitive advantages. As Gray *et al.* (2004) indicate, SMEs only collect information on their intangibles and therefore acquire expenditures, when they are forced to do so.

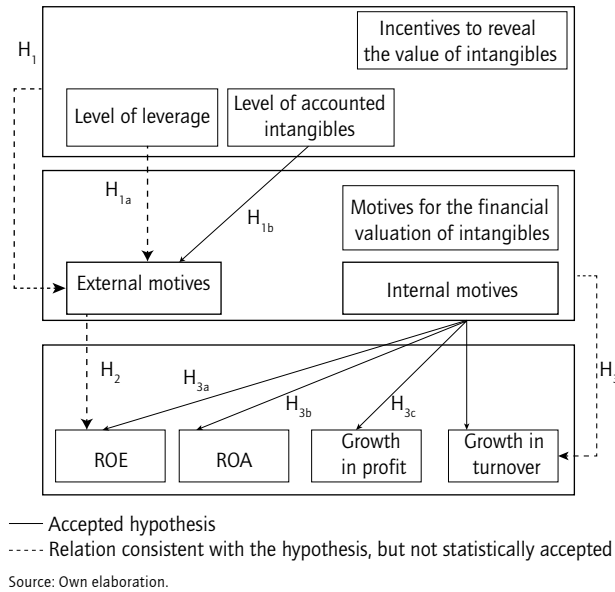
As seen in Figure 2 the univariate analysis shows that the Intangible assets/Total assets ratio, a proxy for the level of accounted for intangibles, is the only factor significantly related with external motives. We measured this relationship using a logistic regression, because the dependent variable is categorical.

$$\varphi_{jin}^Y = \lambda_{jin} + \beta^Y + \beta_j^{YZ} \tag{1}$$

Where,

Y is external motives (value = 1 if external motives are important; value = 2 if external motives are not important).

FIGURE 2. Study Results



Z is level of accounted intangibles (value = 1 if Intangible assets/Total assets is greater than mean; value = 2 if Intangible assets/Total assets is not greater than mean). The results are presented in Table 7.

With a beta of 0.47, significant at the 10% level, the Odds ratio is $e^{0.47} = 1.6$; based on this numbers we can affirm that in the case when the accounted for intangibles level is greater than average, the probability that external motives are important is 1.6 times greater than the case when the level is below the average.

As seen in Figure 2, the relationship between internal motives and the growth in operating profit is statistically significant as well. Since the dependent variable, growth in operating profit, fulfills the hypothesis of homogeneity of variances, and the independent variable, the importance of internal motives, the Univariate General Linear Model can be applied. The results are as follows (Table 8):

TABLE 7. External Motives (EM) and Accounted Intangibles (AI)

		λ_{ikm}	β_Y	β_Y, Intan	ϕ_{Yki}	Estimate Freq. (%)	Real Freq. (%)
AI > mean	EM Important	4.53	-1.22*	0.47**	3.77	44.84	44.79
	EM not important	5.20	-1.22		3.98	55.16	55.21
AI ≤ mean	EM Important	4.53			4.53	33.76	33.70
	EM not important	5.20			5.20	66.24	66.30

* Significant at the 1% level ** Significant at the 10% level.
Source: Own elaboration.

TABLE 8. Growth in Operating Profit and the Internal Motives

Internal motives	Mean	Standard error	Confidence interval 95%	
			Lower limit	Upper limit
Not important	-0.274	0.098	-0.467	-0.081
Important	0.059	0.123	-0.182	0.300

Source: Own elaboration.

Then, it can be stated that:

$$\text{Growth in Operating Profit} = -0.274 + 0.333 \text{ Internal Motives}$$

Since the value of b is significant at the 95% level, we can affirm that when managers considered internal motives important, on average, growth in profit was 33,3% higher than when these motives are not regarded as essential.

Conclusions

Intangibles have become a fundamental element for competitiveness in SMEs. For their management, it is necessary to have the information on how these resources contribute to value creation. However, accounting information is increasingly less representative of company value and intangibles are invisible resources many times. The intangibles valuation could provide useful information for making decisions regarding the allocation of intangible resources and their management. Then, performance of firms that are interested in their valuation will prove better.

Difficulties for the valuation of intangibles are even more relevant in SMEs, as firms have fewer means to value them. This shows that valuation models should be adapted to the needs of these companies, assisting managers in the task of identifying and knowing the contribution of intangibles to the company value.

Motives that drive managers of SMEs to value their intangibles could be internal –related to generating information

for managers– or external –related to reporting on intangibles to external stakeholders. Independently of the motive that led to the valuation of their intangibles, a process of financial valuation that improves knowledge of intangibles should help obtain a better performance. This study is an attempt to measure the existing relationship between the concern of SMEs to financially value their intangible resources, the reasons behind that valuation and firm's performance.

Accordingly, results show that SMEs' interest in providing information about intangibles is greater as the weight of the intangible assets increases and there is a higher leverage, although the second possible explanatory variable is not significant. The presentation of reports on intangibles generates advantages for the companies that do so. The report reduces information asymmetries and agency costs, which should result in an improved company image, in particular, for creditors. Providing information about intangibles to external stakeholders facilitates the attainment of financial resources. Going further, the improvements to the image of the SMEs are not only limited to those companies with high levels of leverage and significant intangible resources, but rather to every company. Therefore, reporting on the intangibles of the company should be a recommended widespread practice.

Those SMEs that consider important to value their intangibles and take into account the possibility of increasing their knowledge of these resources, should be able to better manage them and thereby obtain better results. Nonetheless, the analysis of the data in this study shows that only the improvements obtained in profits growth are momentous. Implementing a valuation process generates costs, reducing the potential positive impact of a better knowledge of intangibles. These costs depend on the complexity of the valuation methods applied, whose majority have been developed in large companies that own more resources. SMEs' information systems are less developed so is more expensive to obtain the information. We consider vital to develop methods for financial valuation of intangibles adapted to SMEs that enable an easy implementation taking into account the limitations of their information systems, at a reasonable cost. To the extent that the application of these methods will result in a better understanding of intangibles, their use will become widespread and consequently improve the competitiveness of SMEs.

This study only considers the effect that a greater interest in the financial valuation of intangibles has on the accounting results. The practical basis of accounting methods to measure profits tends particularly to undervalue the

return on the investment of intangibles. It would also be of interest to consider subjective performance measurements in future studies.

We consider that further research is of a great interest in order to establish to what extent SMEs with greater concern in their intangibles perform better during the last economic crisis. The hypothesis should then be that a decline in performance of SMEs that consider important to carry out a financial valuation process of their intangibles, should be smaller.

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