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A decision support system for financial and social investment

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This paper proposes a decision-making model that assesses the different aspects associated to Social Venture Capital (SVC) investment decisions. SVC companies buy shares of investee companies, valued according to financial and social aspects. The proposed model includes three main factors: the previous experience with the company (the past); its financial information and intangible assets (the present); and the proposed project, considering financial and social criteria (the future). The model has 26 criteria and 160 indicators, prioritized by means of Analytic Hierarchy Process (AHP). AHP simplifies a complex problem using hierarchical analysis methodology, which enables subjective judgements among different criteria. The model has been tested in a given SVC company. Its development is explained in the paper.

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Abstract

This paper proposes a decision-making model that assesses the different aspects associated to Social Venture Capital (SVC) investment decisions. SVC companies buy shares of investee companies, valued according to financial and social aspects. The proposed model includes three main factors: the previous experience with the company (the past); its financial information and intangible assets (the present); and the proposed project, considering financial and social criteria (the future). The model has 26 criteria and 160 indicators, prioritized by means of Analytic Hierarchy Process (AHP). AHP simplifies a complex problem using hierarchical analysis methodology, which enables subjective judgements among different criteria. The model has been tested in a given SVC company. Its development is explained in the paper.

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1. Introduction

Bank credit scoring is complex, because analyzing annual accounts and credit history of a company to assess the default probability is a difficult task. What venture capital companies do is even more complex. These companies buy shares of investee companies, after assessing aspects such as expected cash flows as well as several intangibles that are not visible in the balance sheet. Financial institutions with social purposes, like microfinance institutions or social investment funds, assess social impact issues and this is an additional difficulty, given its non-financial nature. In this paper, we focus on Social Venture Capital institutions (SVC). SVCs participate in the capital and in the management of organizations that create social value. Valuations by SVC incorporate all the aspects previously mentioned: financial statements, intangible assets, credit history and social and financial valuation of the applicant project. The paper presents a financial and social scoring model, tested in a given SVC.

Developing a social and financial scoring for a SVC poses interesting problems. The first one is the kind of information used. Bank credit scoring starts from a large database with historical data on bad and good customers. According to Hand and Henley (1997), a typical credit scoring database can contain over 100,000 applicants measured on more than 100 variables. As for the variables, they are generally extracted from annual accounts, but nonfinancial information is also relevant. Statistical techniques to be used range from the traditional linear discriminant analysis (Altman, 1968) to artificial neural networks (West, 2000). These techniques analyze past behaviour to predict the future. But a SVC does not have the same amount of clients as banks, so does not have a large enough database with homogeneous variables. This characteristic rules out the use of the mentioned statistical techniques or other such as logistic regression (Wiginton, 1980) or cluster analysis (Edelman, 1992).

SVC analysts are real specialists that know the key financial and social aspects in the valuation of investment projects well. Facing the lack of enough data to develop statistical models, and having the opportunity of enjoying the knowledge of these analysts, it was decided to develop a decision support system to gain from this experience, in other words, we developed an expert system. Metaxiotis and Psarras (2003) revise expert system applications in finance and banking. Expert systems have been used in credit scoring, see Srinivasan and Ruparel (1990), and Hartvigsen (1990),

but unfortunately, published papers on this subject do not go into great detail (Hand and Henley, 1997). Expert systems have also been used in microfinance social credit scoring (Schreiner, 2002), who affirms that they are probably the most relevant type of scoring methodology for most micro lenders today.

Another key aspect to be considered is SVC preferences. Some projects can have strengths in their social impact, but they can have weaknesses in financial projections, or the other way round. What to prioritize? Even the social impact presents differences: a given project can benefit the environment and another project can create insertion employment. So it is necessary to prioritize the projects according to the mission of the SVC. Usually, a committee makes the final decision, by prioritizing the different proposals considering the technical reports –social and financial- presented by analysts. This is a multi criteria decision, because several factors must be taken into consideration. There are many tools that help to select investment projects for a firm (Zopounidis, 1999). The chosen technique in this paper is AHP (Analytic Hierarchy Process) by Saaty (1980). AHP is the most popular multicriteria method used in the literature, according to Bozbura et al (2007).

AHP is a technique that simplifies a complex problem by means of hierarchical analysis methodology, which enables subjective judgments among different criteria. It has been used in social projects evaluation. Marimin et al (2007) use AHP to set up priority of feasible microfinance practices given certain agriculture constraints. Yong (2009) evaluates the performance of household's microfinance in a Chinese region by using AHP. AHP has also been used to build a credit risk assessment model, using a limited set of financial variables (Aouam et al, 2009). In our opinion, AHP provides a good solution to deal with the financial vs. social problem. To the best of our knowledge, this technique has not been previously used in SVC.

Through AHP a decision-making model has been developed that incorporates, assesses and weighs social aspects together with financial aspects of an investment project. The model was agreed on with several experts of financial entities, and particularly with experts from financial institutions with social purposes. The model assesses the credit history (past), the company (present) and the project (future). The company's accounting information is a key input, but the model also includes nonfinancial information, such as intangible assets belonging to the so-called

intellectual capital. Intellectual capital has been studied by pioneers such as Stewart (1994), Edvinsson and Sullivan (1996) or Sveiby (1997). As for the future, the model incorporates financial indicators such as the Net Present Value (NPV) or payback period, but it also calculates the social impact, with indicators such as the Social Return on Investment (SROI) by Emerson and Twersky (1996). The model has been named H-TI-FS, which stands for History, Tangible and Intangible, Financial and Social.

The model contains 26 criteria and 160 indicators. It is flexible, and it can be easily adapted to different kinds of companies, by adding new criteria and indicators, and changing priorities. The model has been developed and tested in a Spanish SVC, CREAS (http://creas.org.es/eng). Its mission aims at replicating the venture capital method to create social value. CREAS looks for both financial return and social impact in investee companies. Its investment model allows the participation of individuals and companies by means of a social investment fund. The investors buy shares of this fund, managed and supervised by CREAS, that receive a percentage for the services provided.

The rest of the paper is structured as follows: Section 2 describes social venture capital and the problem of selecting social investment projects. Section 3 presents the decisional model, with its criteria and indicators. This section ends with a short explanation of the AHP technique. Section 4 presents an application of the model in the evaluation of social venture capital applications. In the final section the conclusions are discussed.

2. Social Venture Capital

The social investment world is complex and heterogeneous. According to the Social Investment Forum (2007), nearly one out of every nine dollars under professional management in the United States today is involved in socially responsible investing. Socially responsible mutual funds invest with ethical criteria. The first socially responsible fund was the Pax World Fund, founded in 1971 in the US (Renneboog et al, 2008). Community investing institutions guarantee loans to individuals and organizations that have been denied access to capital (Schueth, 2003). Microfinance institutions give loans to people excluded from financial services. The pioneer was the Grameen Bank (Yunus, 1999). There are also Internet-based peer to peer lending companies that facilitate small loans between individuals. There are also ethical banks

concerned with the impacts of their investments and loans. Another player is social venture capital (Silby, 1997). Social venture capital participates temporally in the shares of non-quoted companies. They fund projects with social value. The same way as conventional venture capital, the investor withdraws his shares and obtains a return once the investment has matured.

Venture capital origin is attributed to Georges F. Doriot, professor at Harvard, who created the American Research and Development Fund in 1946 to raise funds for the commercial development of new technologies created in American universities (Gompers and Lerner, 2001). Nowadays, venture capital is still associated with high-tech industries, but also with more traditional businesses (Bottazzi and Da Rin, 2002). At the beginning of 2010, venture capital investments amounted to $7 billion worldwide, according to Dow Jones VentureSource (dowjones.com, 2010). This means a 13% increase over the $6.2 billion invested in the same period of the previous year.

The decisional process of venture capital is different from other financial institutions. Since they buy shares, they not only analyze the default probability of the investee company, but also other key issues such as the expected profitability. Their common investment criteria are purely financial and they assess the risk, expected profitability and liquidity of the investment. Many venture capital entities call for a minimum expected return, as well as a maximum maturity term to recover the funds. Venture capital designs the most tailored investment options, from participated loans to share offers.

As well as financial support, venture capital also provides nonfinancial support. It is common that some companies need, even more than funds, support to improve their management model. For example, venture capital experts can assist an investee company to enter the international market. This support is temporary, and it is removed when the strategic plan is accomplished. The common length of time in the venture capital sector is 3-5 years.

As for social venture capital, its origins go back to social entrepreneurs, which focus on creating social value. There are many kinds of social entrepreneurship, from philanthropists to social business angels or financial services cooperatives. The growing importance of this investment method is followed by a growing interest from academics.

Hill et al (2010) perform a meta-analysis on social entrepreneurship and they found that there are more than 400 scholarly articles published on the subject, nearly all since 2000. The vast majority of this research has been conceptual and case based, making it difficult to develop consistent theory, and formulate empirical tests.

Social Venture Capital only selects projects with a positive social impact. Unlike socially responsible funds, it is not only a matter of exclusion of sectors like tobacco companies, but SVC only invests in projects with high social impact. As for the valuation process, there is usually a first screening to select projects that meet the investment criteria: being socially responsible and economically feasible. It is clear that if two projects have the same financial strengths, the one with the higher social impact will be chosen, understood for example as helping in the fight against poverty, generating employment, fostering of disadvantaged people, improving the environment, or promoting social initiatives. Problems arise when a given project has a higher financial performance than another one, but its social performance is lower. Also, the project can have strengths in some criteria, but weaknesses in other criteria. This situation is very common and it justifies the need for a coherent decisional system.

3. The model

Every social institution deals with the problem of incorporating social and financial matters to its decisional system. This is known as the "Double Bottom Line", Yaron (1994). Although the financial assessment is complex, it is based on well-known and established procedures, like discounted cash flow valuation. A number of methodologies have assessed the social bottom line. Gutiérrez-Nieto et al (2009) analyze six of them: IMP-ACT, AIMS, SROI, Accion PAF, CGAP (PAT) and SPI. But social impact assessment remains an unresolved issue, with many academics researching on it (Zeller et al, 2002).

We agree with Tsaiha et al (2004), who affirm that a requirement of a credit scoring decision support system for small business loans is that the embedded scoring model can be easily altered in accord with the change of business environment. We tried to build a model as general as possible. Social venture capital analyzes many criteria before taking an investment decision. Although the model presented in this paper was intended for a SVC, it can be easily adapted to different kind of financial entities with

social purposes, such as microfinance institutions, financial services cooperatives or social investment funds. With this aim, 12 representatives of different kinds of financial entities collaborated in the design of the model. They came from ethical banking, microfinance institutions, private banking, family offices, financial services cooperatives, social finance and venture capital. The research team, as well as members of the board and analysts of the SVC, also participated in the building of the model. Several individual meetings were held. Finally, a global meeting was organized to agree on the model and the criteria included in it.

Figure 1 shows the proposed model with its criteria and subcriteria. When assessing a project, the model takes into account the past, the present, and the future. These three factors are represented in the main branches of the figure. The first branch (the past) assesses the past relationship of the SVC with the applying company, as well as with other partners, such as financial institutions, suppliers or government bodies. The second branch assesses the present, and tries to analyze the current situation of the company through its accounting statements and intangible assets. The third branch (the future) analyzes the intended project in terms of financial investment criteria and expected social impact.

*** Figure 1 ***

3.1. Criteria and indicators

Before developing the model, it is necessary to clarify the meaning of the words criteria and indicators. The model includes a good number of qualitative criteria, a total of 26. They are constructs or latent variables. These are variables that cannot be directly measured. To assess each criterion, a set of measurable indicators were selected. They are objective variables, closely related to the criteria. This way, each criterion is associated with a set of indicators. It is easy to find measurable indicators for some criteria. For example, the profitability criteria can have different financial ratios as indicators, like return on investment or return on activity. Other criteria are much more difficult to quantify, like the social impact of the project. For this reason, it is very important to find adequate, valid and reliable indicators. The selection of indicators was performed by a small group of SVC's analysts and academics. The final choice was agreed on by the rest of professionals involved in the building of the model.

The first branch evaluates the past. In the case of a commercial bank, it corresponds to the credit history, the record of the applicant's past borrowing and repaying. This criterion is the most frequently used in bank credit scoring (Mester, 1997). If the past relationship has been of a supplier-customer nature, the quality of this relationship is assessed, understood as trust or reliability of the applicant. In addition, third-party information is collected. For example, if there are delayed payments of Social Security contributions, if the company appears on the bad debts list, or if the company is engaged in lawsuits. This information is collected from internal information, public records or companies that trace any active commercial enterprise and check their creditworthiness. So, this branch has three sub-branches. The first one analyzes the past experience of the funding company with the applicant (criterion number 1 in Figure 1). This is a key criterion, but sometimes this relationship does not exist. The second sub-branch analyzes the credit history with financial institutions and public bodies (2). The third sub-branch analyzes any other past information, coming from suppliers or customers (3). Some common indicators associated to these criteria are the number of overdue debts and their amount, or the number of unpaid city taxes.

The second branch evaluates the company's health, that means, the present. It assesses the current situation of the company. This has been traditionally done through accounting statements analysis. But annual accounts only allow the assessment of financial aspects of the company. So, to get a broader picture of the company, it is necessary to analyze its intangible assets, also known as intellectual capital. This fact explains the presence of two sub-branches: accounting situation and intangibles.

Four criteria are of special interest to evaluate the situation of what accounting statements reveal: profitability, efficiency and productivity (4), liquidity (5), solvency (6), and business growth (7). To identify the indicators associated to these criteria, we analyzed different methods, especially the qualifications by Standard and Poor's, Moody's, and Fitch IBCA, which use several types of financial ratios. So, the indicators associated to these criteria are mainly financial ratios and their growth rates.

Aspects outside annual accounts have been grouped under the intellectual capital framework. There are different models of intellectual capital, see the review by Bontis (2001). We have followed the Intangible Assets Monitor by Sveiby (1997), which classifies the intangible assets into three categories: external assets, internal assets and

human capital. The indicators related to intellectual capital follow Bontis (1998) framework, who provides a set of indicators that have been proven to be valid, reliable, significant and substantive.

Human capital is the employee's ability to act in various situations, and includes skills, education, experience, values and social abilities. Three subcriteria evaluate the management board (8), the performance of the staff (9) and the third one examines the relationships between the company and its employees, that is to say, its human resources management (10). Some indicators are the employees' educational levels or the number of working days lost due to strikes in the company.

Internal structure is related to processes, work procedures, and skills that make it possible for the organization to achieve its objectives. The subcriteria include the coherence between the vision and values and the activity of the company (11), the adequacy of its processes and technology (12), and its innovation level (13). Some indicators are the number of R&D projects in which the company participates, or the presence of a computerized management accounting system.

External structure criterion consists of all the relationships a company has with customers, partners, suppliers, and the rest of its external stakeholders. The subcriteria assess the customer value (14), the image of the company (15), its partners and its presence in networks (16) and its transparency (17). Some indicators are the average length of customer relationships, the number of incoming links to the company's web page or the disclosure of sustainability reports.

The third branch analyzes the submitted project. This kind of assessment has been traditionally made through pure financial criteria. Given the social nature of the SVC, social criteria have also been incorporated. The criteria in the financial sub-branch are the expected return of the investment based on hypotheses on the evolution of income and expenses (18), the risks associated to the project (19) and its liquidity, understood as how and when the investment will be recovered (20). To act as indicators of the return criterion, the Net Present Value (NPV) and the Internal Rate of Return (IRR) have been selected. NPV calculates the sum of the present values of the expected cash flows. IRR is the discounted cash flow rate of return. As indicators of the risk criterion, risk matrices have been built. They incorporate different types of risks faced

by the applicant, for example, the risk that irreplaceable brilliant employees will leave the company. Liquidity is measured by indicators such as the payback, the break-even point of the investment. This is usually a key issue in venture capital investment criteria.

Social criteria were based on the Millennium Development Goals, a set of international development goals that all United Nations member states have agreed to achieve. We adapted those goals to a business environment to produce the following social criteria: impact on employment (21), impact on education (22), diversity and equal opportunities (23), community outreach (24), impact on health (25), and impact on the environment (26). The same way as in the rest of the criteria, we selected measurable indicators. Many of them were taken from the Sustainability Reporting Guidelines by the Global Reporting Initiative (GRI) and from the draft of the future Guidance on Social Responsibility, which will become ISO 26000. Some indicators are the number of new jobs to be created, the percentage of insertion jobs among them, or the tons of carbon emissions to be saved by the project. The model also includes the SROI, Social Return on Investment, (REDF, 2001) as another social impact indicator. SROI adapts traditional cost-benefit analysis to the social assessment, capturing the expected economic value of social benefits, by monetizing them.

3.2 Scoring and AHP priorities

Once the model was built, with its criteria and indicators, a good balanced scorecard can be obtained, to identify strengths and weaknesses of the investee company. Several authors use scorecards in social finance: Schreiner (2004), Schreiner and Dellien (2005), and Viganò (1993). But to take a final decision, a mathematical model has to weigh each criterion. The SVC has to prioritize the importance of the criteria in the final decision. What does the SVC prefer: a project with a high impact on employment or a project with a high impact on education? How much does the SVC prefer it? This is what the AHP technique tries to solve. AHP performs pair wise comparisons to set preferences among the different criteria. This is much easier for the human mind than asking for preferences among all the criteria together. The comparisons are aggregated in matrices that collect the decision-maker's preferences. The results are obtained by means of matrix theory, Saaty (1980).

AHP technique has several stages. In the first one, the model is represented by means of a hierarchy. The final goal is placed at the top of the hierarchy, and the criteria and subcriteria are placed at the lower levels. In the next stage, each decision-maker incorporates his judgements by means of pairwise comparisons among the different criteria. The third stage obtains local priorities for each element from the information provided by the decision-maker in the previous stage. From these local priorities, and applying the Hierarchical Composition Principle, the final score is obtained in the fourth stage. The ideal mode suggested by Belton and Gear (1983) has been used because this method allows rank preservation. When using this method to evaluate new investment opportunities, rank reversals among existing evaluated investments do not happen. The scores previously obtained by other projects remain the same.

Among AHP characteristics, three are highlighted which make it a suitable technique to solve the proposed problem: (1) its capability to incorporate the expertise of the organization; (2) its ability to manage with social criteria; and (3) its capability to aggregate the judgements of different analysts.

(1) Capability to incorporate the expertise of the organization. Schreiner (2002) affirms that conventional scoring complements but does not substitute the individual evaluation by loan officers. According to the BIS (2010, p 11) "credit approval by loan committees depends heavily on the skill and integrity of loan officers and managers for accurate and timely information." The AHP approach captures the know how of SVC's analysts by means of the weights assigned. Once the decision-makers have set their preferences through AHP, internal processes gain consistency. This consistency is compulsory for financial institutions, according to banking laws and regulations issued by the Basel Committee on Banking Supervision, and it is highly recommended for SVCs.

(2) Capability to deal with social criteria. Social criteria are difficult to measure and to manage. We agree with Brown and Murphy (2003), who affirm that the lack of one universally accepted method of social accounting makes social returns difficult to quantify to enable comparison with other businesses. The social enterprise sector is extremely diverse and hence benchmarks may be appropriate. AHP can incorporate and weigh variables of different nature, in our case, social and financial. Social entities have different missions; some of them focus on specific issues, such as indigenous population,

women empowerment or environmental issues. Suppose a project that expects to create ten jobs, that could be occupied by ex-convicts, former drug addicts, or unemployed graduates. The economic valuation of the social impact is similar for the three outcomes: ten jobs created, with their wages and their social security contributions. But a social entity that works to find jobs for ex-convicts would find a higher social impact if the jobs are given to these people. We think that social impact is a relative issue, and social investors should be asked on their preferences, according to their mission statements.

(3) Capability to aggregate the judgements of different analysts. SVC decisions are not usually based on a report by a single analyst. This report is frequently written by a group of analysts. Another common solution is the presence of a social committee and a financial committee. Sometimes, every expert writes a report, and the committee studies them to make a final decision. Some other times the SVC makes group decisions. AHP can deal with all these different situations.

4. Applying the model in practice. The case of CREAS' social venture capital applications

This section explains the setup process of the model in CREAS. CREAS is the Spanish acronym for *Capital Riesgo En el Ámbito Social* (Venture Capital For Social Projects). It invests in entrepreneurial projects that create social and environmental value. In contrast to Anglo-Saxon countries, like USA or UK, where venture capital is widespread, this financing tool is hardly known in Spain. In the case of SVC, there are not many more companies. The Spanish social sector is dominated by powerful savings banks that fund wealthy social foundations to finance social projects. Any person or company can invest in CREAS under two modes. Investments from 1,000 to 20,000 € will take part of the social mutual fund. Investments from 20,000 € can also take part of the social mutual fund, or can be directly invested in a given project.

CREAS receives numerous funding applications. The selection process includes a first screening where the projects have to meet 10 basic requirements. (1) To have an innovative business model, seeking the creation of social value to obtain high social, economic and environmental impact. (2) To prove self-financing potential. (3) To have a committed staff with good management skills. (4) To allow a temporary investment

between 4 and 8 years. (5) To allow investment methods such as corporate shares, participated loans, loans, collaterals or any kind of guarantee. (6) To require funds between 25,000 and 250,000 € (7) To be a company of 2 or more years of life. (8) To allow exit strategies with social criteria that allows the participation of staff, beneficiaries and society. (9) To be legally based in Spain. (10) To develop an activity within CREAS investment priorities.

Once the analysts verify the fulfilment of these requirements, it starts the valuation of the project. Although there is commercial software that implements AHP, for example Expert Choice, we decided to build a self-made spreadsheet-based information system. The spreadsheet has four tabs. Figure 2 shows a screenshot of the spreadsheet. The software is freely available upon request to the research team, to allow tailored solutions for financial entities with social purposes.

Figure 2

The first tab sets the preferences for every criterion. This process was performed all at once, asking for their preferences to the board members of the SVC. Then, the assigned preferences were aggregated by means of the geometric mean, which is the less sensitive measure to extreme valuations. Decision-makers were asked using the ordinary AHP verbal judgments of preference, that is: equal importance, weak importance of one over another, strong importance, demonstrated importance, and absolute importance. For each decision-maker we calculated the value of the inconsistency ratio, which assesses the coherence of the judgements. Its value should be less than 10%, Dyer and Forman (1992).

The second tab incorporates all the available data for each applicant and its project, of social, financial or management-related nature. The third tab obtains the 160 indicators. All the CREAS experts analyze the indicators for each criterion seperately, and assign a score to the criterion by using a 7-points Likert scale, from 1-extremely low to 7-extremely high. The model allows the use of incomplete information: if there is a criterion without indicators, the expert can mark it as "N/A". This way the lack of information does not necessarily penalize the applicant. However, the fewer the judgements, the less accurate are the results, Dyer and Forman (1992). Finally, all the scores by the different analysts are aggregated by means of the geometric mean.

Forth tab shows the scorecard. It summarizes the model, with the score associated to each criterion, weighted by its relative importance. Each criterion is accompanied by a traffic light icon, for better visual presentation of the strengths and weaknesses of the project. At the bottom of the tab, the final score appears, ranging from 0 to 10.

How is CREAS making use of the model and the proposed methodology of this paper? The company is interested not so much in the final score, but in a balanced scorecard that reveals opportunities and weaknesses of the applicant. The process of extracting knowledge has been useful to identify what really matters. The organizational culture of the SVC is clearly financial, and the financial aspects of investment projects are familiar to them. The possibility of quantifying the social aspects has been of great help to them. They are more self-confident knowing that their decisions are taken on the basis of previously weighted criteria and quantitative indicators supporting them.

A final reflection on what can be expected from this tool is based on our reading of Sveiby and Armstrong (2004). Karl Sveiby is recognized as one of the pioneers in the study of intangible assets, as well as the designer of the Intangible Assets Monitor, Sveiby (1997). After long years of building intellectual capital models for businesses, he affirms that it is not possible to measure social phenomena with anything close to scientific accuracy. The failure to acknowledge this fundamental problem can create a gap between managers' expectations. Sveiby and Armstrong warn of the risks of using intangible assets valuation for management control purposes or for reporting to external stakeholders. This is because all social measurement systems are open to manipulation. They claim that measuring intangibles is useful to uncover costs or to explore value creation opportunities otherwise hidden in the traditional accounts. We, the research team, think that these thoughts can be applied to the valuation of social impact.

5. Conclusions

This paper has proposed a decisional system for the valuation of Social Venture Capital (SVC) investments. SVC is a form of socially responsible investment, which looks for financial and social return. Venture capital companies participate temporarily in investee companies. There are many key aspects to consider when taking an investment decision.

The proposed model assesses three aspects. The first one, the past. This is evaluated in terms of knowledge of the applicant and assessment of the quality of its past relationship with the SVC, financial institutions, public bodies or suppliers. The credit history is especially considered: if the applicant meets his payments or if he is not engaged in lawsuits. Secondly, the current situation of the company is evaluated, that means, the information extracted from annual accounts and intangible assets. Thirdly, the proposed project is evaluated, both from classical investment analysis criteria (Net Present Value and Internal Rate of Return), and from expected social impact criteria. Social impact indicators include the SROI, Social Return on Investment.

The model is based on AHP methodology (Analytic Hierarchy Process) by Saaty (1980). This technique simplifies a complex problem by means of hierarchical analysis methodology, which enables subjective judgements among different criteria. AHP, by means of its judgements and assessments, is able to reflect the know how and experience of SVC analysts. This tool can reflect the mission or vision of the institution, because it enables to put weight on key criteria for a given institution. AHP can incorporate different kinds of variables: quantitative and qualitative, social and financial. AHP also deals with collegiate decisions problems, because it integrates within the expert system the different opinions of committee members.

Several meetings have been held to build the decisional hierarchy and to allow pair wise comparisons among criteria and subcriteria. The model has been tested in a Spanish SVC. Although the model gives a final score, it is, above all, a tool to identify investment opportunities and to correct its weaknesses.

Finally, we think that the flexibility of the model allows its use in different social decisional processes, like microcredit granting, or performance valuation of social entities. Financial entities with social purposes can adapt the model including new criteria and indicators and establishing priorities among them. Everything that matters can fit into the model, because every key factor to be assessed either belongs to the present, the past, or the future branches. When assessing the company, any factor can be considered tangible or intangible. When evaluating the project, any aspect can be incorporated into social or financial categories.

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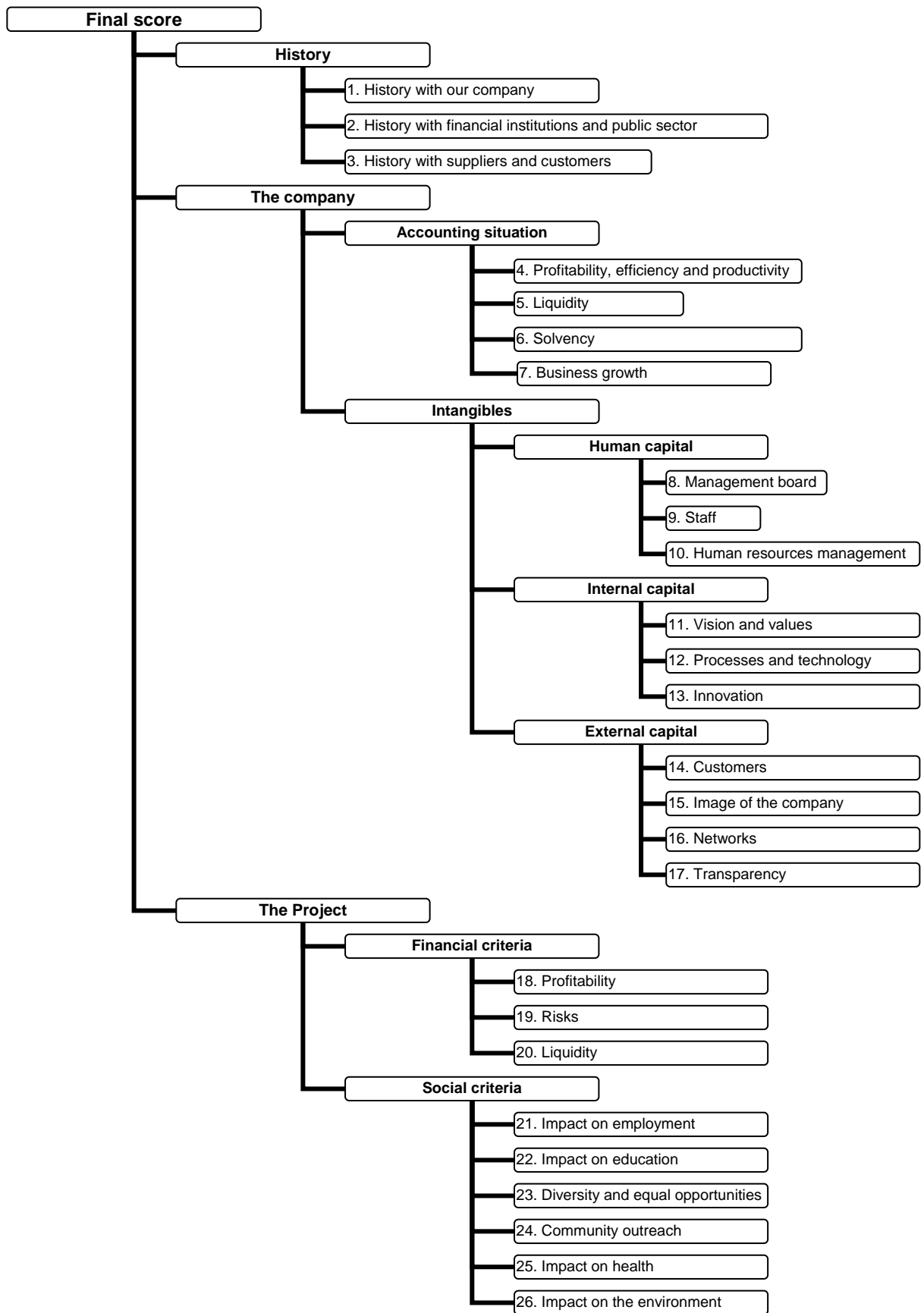
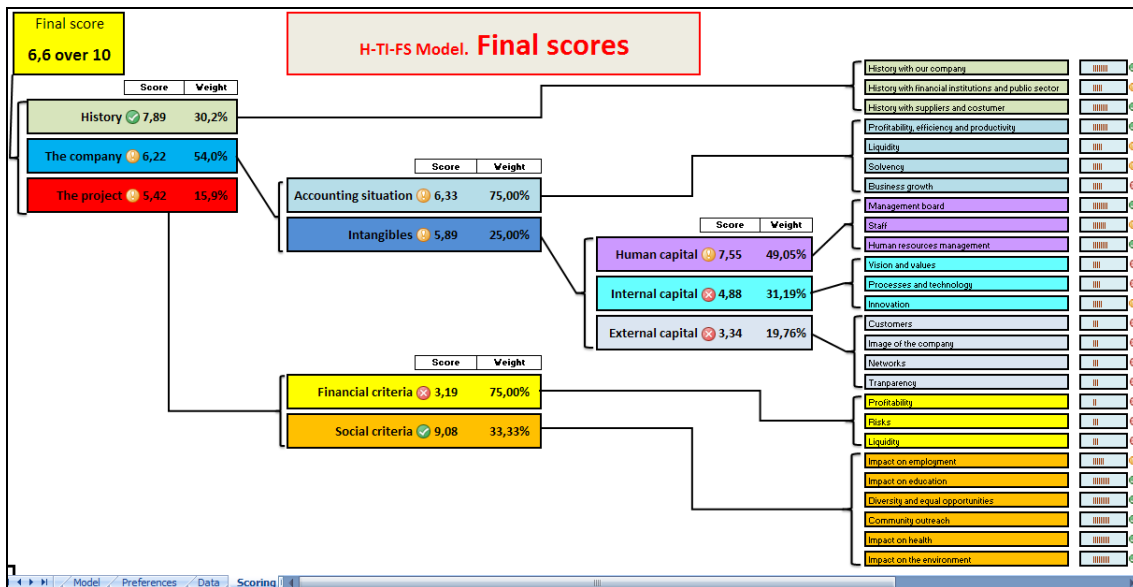**Figure 1.** The model. Weights and data are simulated and do not correspond to any real project.

Figure 2. A screenshot of the spreadsheet-based information system used