



CORPORATE CREDIT ASSESSMENT AND BUSINESS DECISIONS BY GREEK BANKS USING THE AHP METHOD

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ABSTRACT

Background

Making a business decision is a major issue for a business. Specifically, for a bank, which is the backbone of a country's economy, any incorrect decision may have unpleasant consequences such as capital loss, deterioration in financial figures, market share decline, resource wastage etc. The most important business decision that a bank receives is that of lending its money and. This is, in fact, the main activity for the repayment of borrowed funds with interest, the main income for a bank in conjunction with other income (commissions, insurance, etc.). **Objectives:** This study initially scopes to find the "best" candidate companies to start a new cooperation with a bank, i.e. businesses that stand out among the others with which they will be compared and meet the required banking criteria. On the merits banks will be able to end up with those businesses that have the least chance of defaulting. **Methods:** An empirical model of mass business rating will be presented. A two-stage evaluation will be used including the ex-ante exclusion (1st stage) and the use of multicriteria analysis via AHP method (2nd stage). This method saves time, sources and assures stability, credibility and quality results. In the present study, the main problem is divided into smaller problems so that the results that will be obtained are more accurate and in more detail. In this way, it is possible to study and analyze all the individual parameters and the data of each smaller subproject. The methodology followed is fully comprehensive and quantified using appropriate analysis techniques. **Results:** This analysis will result to a list of mass scored businesses saving time and resources. In advance, a database of checked high rated business for potential use of the banks (special products etc.). The results are stable, based on the ahp method and other techniques that will be presented. **Conclusions:** The present study can simplify the procedure of business rating. Furthermore, it is a comprehensible and easy executable method for any user to deal with. It can be modified in various ways depending on the strictness of the criteria set by the researcher.

Keywords: AHP, business rating, superdecisions.

1. INTRODUCTION

Very often an incorrect decision has led many businesses to shrink, to produce loss-making financial results, to reduce their good reputation in the marketplace but even to threaten their own viability.

More specifically, for a bank, which is the backbone of a country's economy, any incorrect decision may have unpleasant consequences such as capital loss, deterioration in financial figures, market share decline, resource wastage etc. The most important business decision that a bank has to take is that of lending its money and, in general, which customer (business or private) will trust for cooperation. This is, in fact, the main activity for the repayment of borrowed funds with interest, the main income for a bank in conjunction with other income (commissions, insurance, etc.).

This study initially deals with finding the "best" candidate companies to enter a new partnership with a bank, i.e. businesses that stand out among the others with which they will be compared and meet the required banking criteria. On the merits, from the endless lists of unfamiliar candidates with whom day-to-day bankers are flooded, they will be able to end up with those businesses that have the least chance of defaulting, that is, those that by banking criteria and then are considered to be the best customers to attract. This will result from multi-level audits and analyzes of their financial and qualitative data using the AHP method with the help of Superdecisions software [1] and other computing tools and decision making techniques.

This result is gaining even more value today due to both the difficult economic environment for most businesses (meaning that all banks are looking for the remaining healthy businesses to work together) and the need for banks to reorganize their portfolio by putting in their clientele new "clean and healthy" businesses to cover the enormous damage they have suffered (red loans, drop in equity etc.)

Until now, banks have been evaluating each business separately, using and analyzing its financial and qualitative data, which has a measurable and significant cost, no matter if the cooperation between client and bank will eventually proceed.

In this study, we will present an empirical model of mass business evaluation. By using the financial and qualitative data of each business, they will be compared at the same time, and companies will be ranked according to their

creditworthiness, leading the bank to the best decision, while at the same time saving significant resources (time, cost, man-hours, etc.).

Here, 20 businesses can be evaluated together and ranked from "best" to "worst". In addition, with specific techniques, it will be analyzed whether these "best" businesses are close to the standards set by the bank. In simple words, the following questions will be answered: These companies are evaluated by a randomized list and ranked by the best in the worst are they really "good" potential clients or just out of a list of very bad businesses that just happened to be examined at the same time? How close is a business to the Bank's level of creditworthiness?

The AHP methodology to be used is one of the most widespread in international markets and has been applied in areas such as: corporate and private banking, supermarket, electronics, catering and clothing as well as in the telecommunications sector. In the present study, the main problem is divided into smaller problems so that the results that will be obtained are more accurate and in more detail. In this way, it is possible to study and analyze all the individual parameters and the data of each smaller subproject. This rationalizes the process of making a decision, giving precise results that are not only useful for the present but also for future decisions. This is achieved by comparing the values of the measurable sizes of the alternatives. For non-measurable sizes, a rating is based on qualitative data. The methodology followed is fully comprehensive and quantified using appropriate analysis techniques.

2. METHODS AND TECHNIQUES

2.1 credit scoring and credit rating methods

For business lending, banks use credit rating tools to measure credit risk from a possible collaboration with a business. Depending on the economic environment and market requirements, the models used are more or less "strict". That is, the criteria used to finance or not companies are changing in terms of complexity and rigor, depending on each bank's credit policy, economic conditions, etc.

In order to measure credit risk, which is an important stage of risk management for a bank, it is generally necessary to assess and rank borrowers into grades or categories of credit risk.

The basic methods for grading are as follows: [2]

Credit Scoring:

It is suitable for borrowers, who use a small amount of bank products, but they are a large crowd, that is, it is suitable for individuals and small businesses. This method includes evaluation through computational systems. Information is input from the user and the assessor grades and classifies the borrower into a credit risk category. Advantages of this method are the speed and the objectivity and disadvantages of this less accurate risk measurement. This method will be used in the present paper.

Credit Rating:

It is suitable for large companies, i.e. a small number of borrowers but with a high level of funding. The evaluation is performed by specialized executives and involves a subjective judgment. The method results in more accurate results and classification of the borrower in a credit risk category taking into account items that cannot be included in an objective system. It is used more often by rating agencies, but there are banking institutions that have developed their own systems.

The most common criteria used for ranking are:

- **Quantities:** drawn from financial books and accounts of the borrower.
- **Qualitative:** they include the organization and management of the company, the experience of its executives, the adequacy of control systems, the competitiveness of products, etc.
- **Criteria for transactional behavior:** derived from its transactions and related to the borrower's consistency in meeting its obligations.

The credit risk assessment is carried out through the continuous statistical monitoring for each class of each borrower, as well as through its reassessment and reassignment at regular intervals. The borrowers who delay the payment of their borrowings for a certain period are also taken into consideration, in order to calculate the statistical magnitude of the default probability.

2.2. Specifications of credit risk models

A credit risk assessment model to be effective must meet specific standards such as [3]

- The differentiation of the individual levels of credit risk so that borrowers with common characteristics fall into the same category.
- The continuous assessment of borrowers (usually on annual basis).

- Continuous monitoring of the compliance model in collaboration with all stakeholders (bank executives, model makers, model and process controllers).
- Proper selection of the borrowers' rating criteria.
- Existence of sufficient quantity and quality of data for each rated individual or business (for example, historical data such as transaction behavior from past borrowing, existence of overdue debts and adverse data).
- Proper control of the system. Banks must have adequate procedures in place to control their systems in detail, and at the same time be able to demonstrate to the competent supervisory authorities the adequacy and appropriateness of these controls.

A good credit scoring model should be able to integrate properly into the bank's systems. It should be used by qualified personnel to have the maximum positive result for the bank minimizing as much as possible the probability of future defaults by the borrowers. In addition, it must be flexible enough to easily adapt to new types of data and information. The person skilled in handling these systems must have knowledge of financial analysis, statistics, actuarial methods and programming.

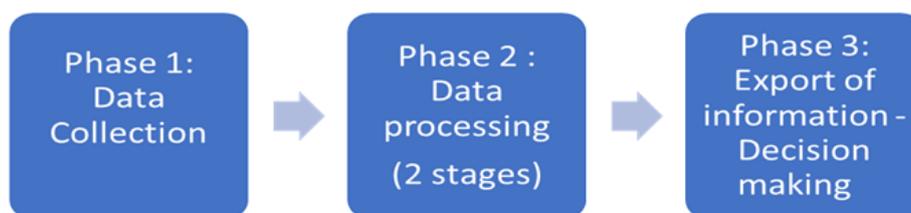
In this study a credit scoring model will be presented with use of non-parametric techniques.

2.3. The three phases of the candidate competences candidate criterion system are the following (figure) [4]

PHASE 1 - DATA COLLECTION (financial data and market data, customer history, analytical models, risk assessment tools).

PHASE 2 – PROCESSING DATA (exposure to risk)

PHASE 3 - EXPORT OF INFORMATION - DECISION (Borrower rating sheet, credit limits, funds to be made available for funding, risk taking).



The outcome of the processing of the above data includes the granting or not of a loan (credit), the determination of the terms of that loan or credit and the frequency of the client's financial position control.

2.5 ex ante exclusion procedure

Prior to the evaluation of the quantitative and qualitative characteristics which will lead to the rating / classification of the undertakings concerned, an ex-ante blocking procedure may be followed. That is, a process that looks at "YES" or "NO" answers to various questions (e.g., if there are adverse data, overdue debts, loss-making results, etc.). If any of these answers is "YES" then the evaluation process ends with rejection of the prospective customer without further analysis of the qualitative or quantitative elements.

This saves time, resources, etc. and clears the separation of desirable clients from the Banks in relation to undesirable at a relatively early stage.

2.6 selection and use of factors

Performance: A reliable and properly structured model should reflect as accurately as possible the classification of the businesses under review.

Data quality: The better the quality of the data, the better the likelihood of better processing by the analyst.

Understanding the Model by the Analyst: The analyst using and feeding the model must have fully understood its function and general philosophy. Thus, it will be able to better evaluate the results produced and their usefulness. In addition, he will be able to propose ways to improve the effectiveness of the evaluation model in the future.

Required time for data processing: The time it takes for a rating model to process the data it feeds on is very important. This has to do with the number of businesses that one wants to evaluate. Regarding Banks, it is very important that this time be as small as possible because of the large number of businesses they need to assess, given that only one business may need a re-evaluation (one or more times).

3.2 summary presentations in steps of the evaluation process

Sample: 20 enterprises - potential clients of the bank without any previous cooperation with the bank.

PHASE 1 - COLLECTION OF DATA:

The financial and other data of the businesses under assessment are aggregated so that they can be adequately assessed. The results from the "credit bureau" records for each business are also collected.

PHASE 2 - DATA PROCESSING:

Stage 1. Initially, the foreclosure process will be performed using "MS EXCEL" application. Businesses showing adverse data such as overdue debts, loss-making results, etc. will be discarded without further analysis of their qualitative or quantitative elements. These customers will be placed on the last (worst) part of the evaluation. This is because the banks want to attract only the healthiest businesses in order to minimize the risk of default on a possible cooperation agreement.

Stage 2. Then the rest of the companies will go to the next stage of the assessment where they will be classified using the AHP method using the Superdecisions software. In order to do this, their data (quantitative and qualitative) should be modeled and grouped in classes (again by using "MS EXCEL" application) so that the model can easily be processed (the way various techniques).

PHASE 3 - EXPORT OF INFORMATION - DECISION:

At this stage the system extracts the results and follows their interpretation - decoding. What is important is that in addition to the results for the overall evaluation, it is also possible to draw individual results for each criterion separately. Thus, we can draw more precise conclusions about the companies under consideration, but also decide otherwise if we simply need to set other priorities in our criteria. We can also "experiment" by altering or deleting a criterion or even modifying the importance of one criterion over another.

In this way, the processed sample will also be useful for future bank decisions without repeating the whole process.

2.3 Examined Businesses: In the present study, we examine 20 businesses from a given "cold" list. These potential clients have no lending from the analyzer bank.

1ST PHASE –20 CANDIDATE COMPANIES

In the 1st phase, the pure data of the companies given are collected and presented in an excel file

| NUMBER IN LIST | NAME | OBJECTIVE | SECTOR | SECTOR RISK | DEPOSITS (€) | REALTY (€) | LENDING (€) | LENDING/ TURNOVER | 3 YRS AVG TURNOVER | 3 YRS AVG NET PROFIT | PROFIT/ TURNOVER | BLACK LIST DATA | OVERDUE DEBTS |
|----------------|---------------|-------------------------------|------------|-------------|--------------|------------|-------------|-------------------|--------------------|----------------------|------------------|-----------------|---------------|
| 1 | PROMITHEAS | Accounting Office | Services | H | 37.263 | 100.000 | 28.000 | 23.33% | 120.000 | 12.000 | 10.00% | NO | YES |
| 2 | PEGASUS | aluminum constructions | Industry | M | 55.489 | 183.000 | 59.999 | 26.09% | 230.000 | 62.000 | 26.96% | NO | NO |
| 3 | CHEMICALS SA | Commerce of chemical products | Retail | L | 117.000 | 51.000 | 140.000 | 31.11% | 450.000 | 50.000 | 11.11% | NO | NO |
| 4 | HERMES SA | transport company | Transports | M | 30.000 | 240.000 | 0 | 0.00% | 234.444 | 35.435 | 15.11% | YES | NO |
| 5 | KAPNIKA SA | Smoke commerce | Wholesale | L | 188.000 | 458.888 | 213.000 | 9.17% | 2.323.230 | 780.000 | 33.57% | NO | NO |
| 6 | AUTOMOTIVE SA | Car sales | Car sales | M | 95.000 | 233.330 | 132.000 | 26.40% | 500.000 | 84.000 | 16.80% | NO | NO |
| 7 | PATSOURIS | Tires wholesale | Wholesale | L | 3.966 | 185.900 | 30.400 | 8.88% | 342.331 | -42.716 | -12.48% | NO | YES |

| | | | | | | | | | | | | | |
|----|-----------------|---------------------|-----------------------------|---|---------|---------|--------|--------|-----------|---------|---------|-----|----|
| 8 | KALLIGERIS | Architect services | Services | L | 50.927 | 126.600 | 24.820 | 12.71% | 195.241 | 85.000 | 43.54% | NO | NO |
| 9 | SERRAKOS LTD | Woodcrafts | Small industry | M | 500 | 76.000 | 22.000 | 97.77% | 22.502 | 2.401 | 10.67% | YES | NO |
| 10 | KITROVASIOS | marketing company | Information – Communication | H | 43.288 | 202.323 | 18.574 | 10.91% | 170.192 | 78.272 | 45.99% | NO | NO |
| 11 | DIMOPOULOU | Pharmacy | Retail | L | 49.358 | 64.550 | 57.697 | 30.74% | 187.679 | 35.842 | 19.10% | NO | NO |
| 12 | MAKRIPODIS | Coffee wholesale | Wholesale | M | 246 | 168.860 | 9.697 | 26.56% | 36.510 | -15.741 | -43.11% | NO | NO |
| 13 | KARACHALIOS LTD | Pharmacy | Retail | L | 17.968 | 348.000 | 33.529 | 11.80% | 284.033 | -5.216 | -1.84% | NO | NO |
| 14 | FATOUROU | Souvenir shop | Retail | M | 69.400 | 89.800 | 12.778 | 16.82% | 75.964 | 27.117 | 35.70% | NO | NO |
| 15 | ROGKAKOS | electrical services | Services | M | 22.531 | 83.737 | 0 | 0.00% | 135.336 | 30.474 | 22.52% | NO | NO |
| 16 | GARONIS | hydraulic services | Services | M | 32.729 | 177.769 | 23.558 | 26.03% | 90.498 | 37.828 | 41.80% | NO | NO |
| 17 | KARVOUNOPOULOS | Patisserie | Small industry | H | 145 | 59.639 | 15.000 | 24.77% | 60.548 | -13.592 | -22.45% | NO | NO |
| 18 | KLOTSANIOTIS | butcher shop | Retail | H | 52.458 | 64.238 | 0 | 0.00% | 122.553 | -4.268 | -3.48% | NO | NO |
| 19 | MICHANON SA | Fuel trade | Retail | M | 73.621 | 98.432 | 14.987 | 0.78% | 1.925.117 | 68.211 | 3.54% | NO | NO |
| 20 | VIEW PRESS | Publications | Information – Communication | H | 112.746 | 28.000 | 18.000 | 7.16% | 251.501 | 4.794 | 1.91% | NO | NO |

3.3.1. Criteria for the first evaluation stage - execution of the ex-ante exclusion

The bank's strategy is to initially make a first clearing of which customers are for sure not desirable. After filtering and removing the "unwanted" in the first evaluation stage then it will proceed to the classification and ranking of the remaining customers (2nd stage). Questions to be put to the foreclosure process are "YES / NO". In order to proceed to the second stage of the procedure a business must answer the three questions that will be asked to be "NO". Even if just one answer is "YES", the business is automatically excluded from the process without proceeding to the next evaluation stage.

The criteria examined in stage 1 using the foreclosure and analyzed below are as follows:

1. Show loss-making results by taking the average of the sum of the past three years (LOSS)

Account shall be taken of the results of the last three financial years of the enterprise as shown in financial data sheets for the last three financial years. If the enterprise has suffered losses in the past three years ("YES" option) then it is

excluded from the further process. For example, in the year 2016 it has profits of € 10,000, in the year 2017 profits of € 5,000 while in the year 2018 losses of € 20,000, total € 10,000 + € 5,000 - € 20,000 = € - 5,000 (losses). This business is excluded from the next stage because the cumulative loss results in three years show poor financial management, negative industry prospects, or a consequence of another event (increased local competition, etc.).

2. Application of overdue debts over 30 days (OVERDUE DEBTS)

Overdue debts of more than 30 days are taken into account in other banks or third parties (public funds, insurance funds, etc.). It is obvious that no bank would like to cooperate with someone who is not fully consistent with his transactions so far.

3. Appearance of unfavorable data in the "Credit bureau" system (BLACK LIST DATA) [5]

It expresses all kinds of unfavorable elements that appear in the "Credit bureau" system such as seizures, unsecured checks, etc.

Note: Here the criterion of results could be tightened (e.g. a minimum percentage of turnover gains or even minimal profitability in each financial year) but considering the general adverse environment, we thought the three years would be more a fair crisis for the financial figures of an enterprise.

2ND PHASE – STAGE 1

In the 2nd phase – stage 1, we will apply a filter based on the data given for the values of "LOSS, OVERDUE DEBTS and BLACK LIST DATA" as mentioned above. The companies that are eliminated in this phase are marked in yellow line. The marked in red shows what value causes the rejection.

| NUMBER IN LIST | NAME | OBJECTIVE | SECTOR | SECTOR RISK | DEPOSITS (€) | REALTY (€) | LENDING (€) | LENDING/ TURNOVER | 3 YRS AVG TURNOVER | 3 YRS AVG NET PROFIT | PROFIT/ TURNOVER | BLACK LIST DATA | OVERDUE DEBTS |
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| | | | | | | | | | | | | | |
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2ND PHASE – STAGE 2

In this stage the AHP method will be applied [6].

The criteria considered in 2nd phase – stage 2 using multicriteria linear programmings are discussed below:

1. Three-year Net Profit Index (PROFITABILITY)

This ratio, also known as a net profit margin, determines the profitability of operating activities, that is, the percentage of profit remaining in the enterprise after deducting the net cost of sales and other expenses. The higher the score, the more profitable the business.

2. Debt to Turnover (LENDING)

This number is the amount of the company's debt to its turnover. The substance is an indication of whether or not a business is over-lended. The lower this ratio, the healthier a business is, since it is not burdened with bank lending and may be financed by a bank.

3. Deposit Products (DEPOSITS)

It refers to the interest rates on the deposit products of the business and its entities (Taxation, Term, Bonds, Shares, etc. - the terms of the business are not visible since these amounts are used purely for the operating needs of the business and are not considered as savings).

4. Real Estate (REAL ESTATE)

Refers to the sum of the commercial value of the real estate of the company and its entities (based on the presented ENFIA certificates).

5. Industry Risk (RISK)

It refers to the risk of the business sector as defined by the Central Bank authorities but also designated by the relevant bank risk management. It is classified into three categories: (HIGH - Y, MIDDLE - M and LOW - X). Obviously the lower the risk the better. In addition to the setting of the five criteria, we also must ensure the success of our method independently from the quality of our sample.

To ensure the reliability of the sample and the faster production of the results we introduce the term of the ideal customer (IC).

The IC is in fact the benchmark for each of the customers to be compared to and is the best customer desired by each bank. What characteristics should this customer have in relation to the given criteria?

IC (for the bank we examine) is considered to be a customer with:

1. Deposits at least €120.000,
2. Borrowing equal to 0% to turnover,
3. Profit of at least 40% to turnover,
4. Real estate at least €200,000 and
5. Low Industry risk

A customer with the above characteristics is ideal and whichever of the interested customers approaches the above combination of criteria is a desirable customer for the bank.

Next, we will make the classes of the nine-degree scale required for the use of the AHP method who's optimal (Value 1) are the corresponding IC values.

| 2. PROFIT | |
|-----------------------|--------|
| NET PROFIT / TURNOVER | VALUE |
| (40 - 45%+] | 1 (IC) |
| (35 - 40%] | 2 |
| (30 - 35%] | 3 |
| (25 - 30%] | 4 |
| (20 - 25%] | 5 |
| (15 - 20%] | 6 |
| (10 - 15%] | 7 |
| (5 - 10%] | 8 |
| (0 - 5%] | 9 |

| 1. LENDING/TURNOVER | |
|---------------------|--------|
| LENDING/ TURNOVER | VALUE |
| (0- 7%] | 1 (IC) |
| (7 - 14%] | 2 |
| (14 - 21%] | 3 |
| (21 - 28%] | 4 |
| (28 - 35%] | 5 |
| (35 - 42%] | 6 |
| (42 - 49%] | 7 |
| (49 - 56%] | 8 |
| (56 - 63%+] | 9 |

| 3. DEPOSITS | |
|----------------------|--------|
| DEPOSITS | VALUE |
| (120.000 - 135.000+] | 1 (IC) |
| (105.000 - 120.000] | 2 |
| (90.000 - 105.000] | 3 |
| (75.000 - 90.000] | 4 |
| (60.000- 75.000] | 5 |
| (45.000 - 60.000] | 6 |
| (30.000 - 45.000] | 7 |
| (15.000 - 30.000] | 8 |
| (0 -15.000] | 9 |

| 4. REALTY | |
|----------------------|--------|
| REALTY | VALUE |
| (200.000 - 225.000+] | 1 (IC) |
| (175.000 - 200.000] | 2 |
| (150.000 - 175.000] | 3 |
| (125.000 - 150.000] | 4 |
| (100.000 - 125.000] | 5 |
| (75.000 - 100.000] | 6 |
| (50.000 - 75.000] | 7 |
| (25.000 - 50.000] | 8 |
| (0 - 25.000] | 9 |

| 5. INDUSTRY RISK | |
|------------------|-------|
| INDUSTRY RISK | VALUE |
| LOW | 1(IC) |
| MEDIUM | 2 |
| HIGH | 3 |
| - | 4 |
| - | 5 |
| - | 6 |
| - | 7 |
| - | 8 |
| - | 9 |

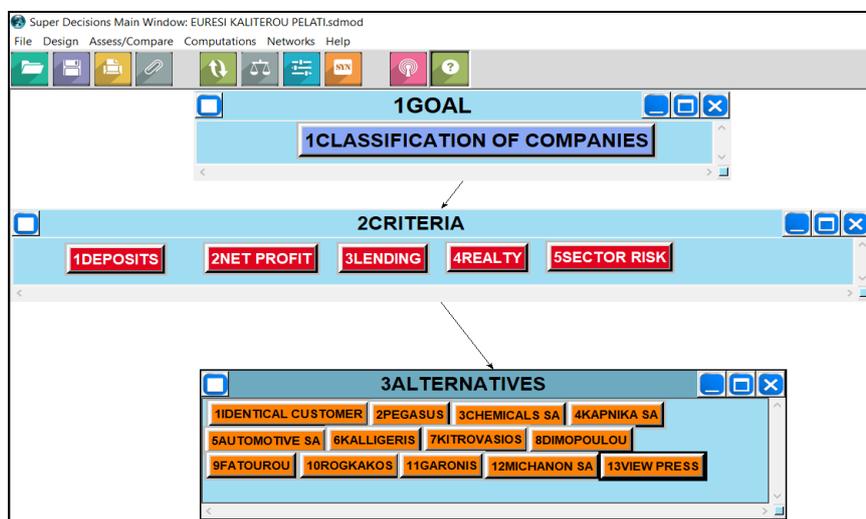
Thus, the table of 12 remaining companies compared one by one with the IC will be shown as below:

| A A | NAME | INDUSTRY RISK | IC VS CUST. IN AHP | PROFIT | IC VS CUST. IN AHP | DEPOSITS (THOUS.EURO) | IC VS CUST. IN AHP | REALTY THOUS.EURO | IC VS CUST. IN AHP VALUE | LENDING/ TURNOVER | IC VS CUST. IN AHP |
|-----|---------------|---------------|--------------------|--------|--------------------|-----------------------|--------------------|-------------------|--------------------------|-------------------|--------------------|
| 1 | IC | L | 1 | 40%+ | 1 | 120+ | 1 | 200+ | 1 | 0% | 1 |
| 2 | PEGASUS | M | 2 | 26.96% | 4 | 55.489 | 6 | 183 | 2 | 26.09% | 4 |
| 3 | CHEMICALS SA | L | 1 | 11.11% | 7 | 117 | 2 | 51 | 7 | 31.11% | 5 |
| 5 | KAPNIKA SA | L | 1 | 33.57% | 3 | 188 | 1 | 458.888 | 1 | 9.17% | 2 |
| 6 | AUTOMOTIVE SA | M | 2 | 16.80% | 6 | 95 | 3 | 233.33 | 1 | 26.40% | 4 |
| 8 | KALLIGERIS | L | 1 | 43.54% | 1 | 50.927 | 6 | 126.6 | 4 | 12.71% | 2 |
| 10 | KITROVASIOS | H | 3 | 45.99% | 1 | 43.288 | 7 | 202.323 | 1 | 10.91% | 2 |
| 11 | DIMOPOULOU | L | 1 | 19.10% | 6 | 49.358 | 6 | 64.55 | 7 | 30.74% | 5 |
| 14 | FATOUROU | M | 2 | 35.70% | 2 | 69.4 | 5 | 89.8 | 6 | 16.82% | 3 |
| 15 | ROGKAKOS | M | 2 | 22.52% | 5 | 22.531 | 8 | 83.737 | 6 | 0.00% | 1 |
| 16 | GARONIS | M | 2 | 41.80% | 2 | 32.729 | 7 | 177.769 | 2 | 26.03% | 4 |
| 19 | MICHANON SA | M | 2 | 3.54% | 9 | 73.621 | 5 | 98.432 | 6 | 0.78% | 1 |
| 20 | VIEW PRESS | H | 3 | 1.91% | 9 | 112.746 | 2 | 28 | 8 | 7.16% | 2 |

Following, the values of the 13 (12+1) competitors for each of the five criteria will be set to the Superdecisions software in order to be compared in a head to head comparison in a classic AHP application with one important variation: each one of the 12 competitors will be compared only with the IC, and not with the other 11 companies. That leads to the following results:

1. Establishes a benchmark which is the comparison with the best (IC).
2. Saves time and sources because there will be only 12 comparisons for each criterion (12 with the best - IC) instead of 66 (the 12 companies between them) comparisons.
3. Protects the quality and credibility of the survey because sets a low barrier to the inquiries of the bank for the desired customer. Thus, even if a given sample is of bad quality, that may result to a classification (1st, 2nd etc.) but this will be also filtered by the percentage – rating of the tested companies. For example, supposing that the IC is rated with 100% (best), if the 1st of the classification gets 45% (which means that it is as 45% as good as the best one), this company will not be considered as desired one.
4. Can be used to future ratings, by just adding new companies to the existing list, making an adequate tank of potential customers. Otherwise, there would be a new large scaled comparison starting from the begging costing sources, time etc.
5. This benchmark (bank’s minimum criteria) can easily be tightened or loosened by changing the desired numbers of the IC. In this way, there will be not much effort and new tasks to start a new rating taking other low limits. In a following study, we could examine two more scenarios to evidence the success, credibility and stability of the present method: 1) Scenario of rating the same 12 companies by loosening the criteria by 30% and after that a following scenario of adding new companies to the rating procedure by using the same superdecisions file after the first 12 known companies.

Once all the necessary data has been entered, the program is ready to process and produce the results.



Initially, for the weight of each criterion as to the decision we must mention that all the criteria set to be of the same weight. All the criteria count the same (5 criteria by 0.2 weight each). In the 9 -grade scale this can be expressed by the value 1 to each of the criteria (equal weight) (figure below)

Comparisons for Super Decisions Main Window: EURESI KALITEROU PELATI.sdm

1. Choose 2. Node comparisons with respect to 1CLASSIFICATION OF C~

Node Cluster Graphical Verbal Matrix Questionnaire Direct

Choose Node Comparisons wrt "1CLASSIFICATION OF COMPANIES" node in "2CRITERIA" cluster

1CLASSIFICATIO~

Cluster: 1GOAL

Choose Cluster 2CRITERIA

| | | | | | | | | | | | | | | | | | | | | | |
|----------------|-------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-------|----------|-------|
| 1. 1DEPOSITS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | >=9.5 | No comp. | 2NET |
| 2. 1DEPOSITS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | >=9.5 | No comp. | 3LEND |
| 3. 1DEPOSITS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | >=9.5 | No comp. | 4REAL |
| 4. 1DEPOSITS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | >=9.5 | No comp. | 5SECT |
| 5. 2NET PROFIT | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | >=9.5 | No comp. | 3LEND |
| 6. 2NET PROFIT | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | >=9.5 | No comp. | 4REAL |
| 7. 2NET PROFIT | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | >=9.5 | No comp. | 5SECT |
| 8. 3LENDING | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | >=9.5 | No comp. | 4REAL |
| 9. 3LENDING | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | >=9.5 | No comp. | 5SECT |
| 10. 4REALTY | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | >=9.5 | No comp. | 5SECT |

After that and before proceeding to the alternatives and the rating we have to assure that the inconsistency index is below 0.1 as the AHP theory demands, else we should change our priorities to the criteria.

3. Results

Normal Hybrid

Inconsistency: 0.00000

| | |
|------------|---------|
| 1DEPOSITS | 0.20000 |
| 2NET PROF~ | 0.20000 |
| 3LENDING | 0.20000 |
| 4REALTY | 0.20000 |
| 5SECTOR R~ | 0.20000 |

Normally, as we expected, the inconsistency index is 0.00, so our values to the criteria set do not need to be changed. Starting with the rating of the alternatives, we will present the nine-level superiority scale in relation to the ideal customer by creating classes in which the IC has the superior grade (1)

Following, we transfer the relative values for each criterion in the superdecisions software as below:

Comparisons for Super Decisions Main Window: EURESI KALITEROU PELATI.sdm

1. Choose 2. Node comparisons with respect to 2NET PROFIT 3. Results

Node Cluster Graphical Verbal Matrix Questionnaire Direct

Choose Node Comparisons wrt "2NET PROFIT" node in "3ALTERNATIVES" cluster

2NET PROFIT

Cluster: 2CRITERIA

Choose Cluster 3ALTERNATIVES

1IDENTICAL CUSTOMER is moderately to strongly more important than 2PEGASUS

| | | | | | | | | | | | | | | | | | | | |
|----------------------|-------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
| 1. 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | |
| 2. 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | |
| 3. 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | |
| 4. 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | |
| 5. 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| 6. 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| 7. 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | |
| 8. 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | |
| 9. 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | |
| 10. 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | |
| 11. 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | |
| 12. 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | |
| 13. 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | |
| 14. 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | |
| 15. 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | |
| 16. 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | |
| 17. 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | |
| 18. 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | |
| 19. 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | |
| 20. 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | |
| 21. 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | |
| 22. 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | |

Completed Comparison Copy to clipboard

| | |
|------------|---------|
| 1IDENTICA~ | 0.18242 |
| 2PEGASUS | 0.04561 |
| 3CHEMICAL~ | 0.02606 |
| 4KAPNIKA ~ | 0.06081 |
| 5AUTOMOTI~ | 0.03040 |
| 6KALLIGER~ | 0.18242 |
| 7KITROVAS~ | 0.18242 |
| 8DIMOPOUL~ | 0.03040 |
| 9FATOUROU | 0.09121 |
| 10ROGKAKOS | 0.03648 |
| 11GARONIS | 0.09121 |
| 12MICHANO~ | 0.02027 |
| 13VIEW PR~ | 0.02027 |

Comparisons for Super Decisions Main Window: EURESI KALITEROU PELATI.sdmmod

1. Choose

Node Cluster: 3LENDING
Cluster: 2CRITERIA
Choose Cluster: 3ALTERNATIVES

2. Node comparisons with respect to 3LENDING

Graphical Verbal Matrix Questionnaire Direct

Comparisons wrt "3LENDING" node in "3ALTERNATIVES" cluster
1IDENTICAL CUSTOMER is moderately to strongly more important than 2PEG

| | | | | | | | | | | | | | | | | | | | |
|-----|------------------|-------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| 2. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| 3. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| 4. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| 5. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| 6. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| 7. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| 8. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| 9. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 10. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 11. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 12. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 13. | 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| 14. | 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| 15. | 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| 16. | 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| 17. | 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| 18. | 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| 19. | 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| 20. | 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| 21. | 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| 22. | 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |

3. Results

Inconsistency: 0.00000

| | |
|------------|---------|
| 1IDENTICA~ | 0.15424 |
| 2PEGASUS | 0.03856 |
| 3CHEMICAL~ | 0.07712 |
| 4KAPNIKA ~ | 0.07712 |
| 5AUTOMOTI~ | 0.03856 |
| 6KALLIGER~ | 0.07712 |
| 7KITROVAS~ | 0.07712 |
| 8DIMOPOUL~ | 0.03856 |
| 9FATOUROU | 0.05141 |
| 10ROGKAKOS | 0.15424 |
| 11GARONIS | 0.03856 |
| 12MICHANO~ | 0.15424 |
| 13VIEW PR~ | 0.07712 |

Completed Comparison
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Comparisons for Super Decisions Main Window: EURESI KALITEROU PELATI.sdmmod

1. Choose

Node Cluster: 1DEPOSITS
Cluster: 2CRITERIA
Choose Cluster: 3ALTERNATIVES

2. Node comparisons with respect to 1DEPOSITS

Graphical Verbal Matrix Questionnaire Direct

Comparisons wrt "1DEPOSITS" node in "3ALTERNATIVES" cluster
1IDENTICAL CUSTOMER is strongly to very strongly more important than 2PE

| | | | | | | | | | | | | | | | | | | | |
|-----|------------------|-------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| 2. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| 3. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 4. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 5. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 6. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 7. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 8. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 9. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 10. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 11. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 12. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 13. | 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| 14. | 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| 15. | 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| 16. | 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| 17. | 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| 18. | 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| 19. | 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| 20. | 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| 21. | 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| 22. | 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |

3. Results

Inconsistency: 0.00000

| | |
|------------|---------|
| 1IDENTICA~ | 0.21533 |
| 2PEGASUS | 0.03589 |
| 3CHEMICAL~ | 0.10766 |
| 4KAPNIKA ~ | 0.21533 |
| 5AUTOMOTI~ | 0.07178 |
| 6KALLIGER~ | 0.03589 |
| 7KITROVAS~ | 0.03076 |
| 8DIMOPOUL~ | 0.03589 |
| 9FATOUROU | 0.04307 |
| 10ROGKAKOS | 0.02692 |
| 11GARONIS | 0.03076 |
| 12MICHANO~ | 0.04307 |
| 13VIEW PR~ | 0.10766 |

Completed Comparison
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Comparisons for Super Decisions Main Window: EURESI KALITEROU PELATI.sdmmod

1. Choose

Node Cluster: 4REALTY
Cluster: 2CRITERIA

2. Node comparisons with respect to 4REALTY

Graphical Verbal Matrix Questionnaire Direct
Comparisons wrt "4REALTY" node in "3ALTERNATIVES" cluster
1IDENTICAL CUSTOMER is equally to moderately more important than 2PEGAS

| | | | | | | | | | | | | | | | | | | |
|-----|------------------|-------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 2. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 3. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 4. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 5. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 6. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 7. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 8. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 9. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 10. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 11. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 12. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 13. | 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 14. | 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 15. | 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 16. | 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 17. | 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 18. | 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 19. | 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 20. | 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 21. | 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 22. | 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

3. Results

Inconsistency: 0.00000

| | | |
|----|-----------|---------|
| 1 | IDENTICA~ | 0.16232 |
| 2 | PEGASUS | 0.08116 |
| 3 | CHEMICAL~ | 0.02319 |
| 4 | KAPNIKA ~ | 0.16232 |
| 5 | AUTOMOTI~ | 0.16232 |
| 6 | KALLIGER~ | 0.04058 |
| 7 | KITROVAS~ | 0.16232 |
| 8 | DIMOPOUL~ | 0.02319 |
| 9 | FATOUROU | 0.02705 |
| 10 | ROGKAKOS | 0.02705 |
| 11 | GARONIS | 0.08116 |
| 12 | MICHANO~ | 0.02705 |
| 13 | VIEW PR~ | 0.02029 |

Completed Comparison
Copy to clipboard

Comparisons for Super Decisions Main Window: EURESI KALITEROU PELATI.sdmmod

1. Choose

Node Cluster: 5SECTOR RISK
Cluster: 2CRITERIA

2. Node comparisons with respect to 5SECTOR RISK

Graphical Verbal Matrix Questionnaire Direct
Comparisons wrt "5SECTOR RISK" node in "3ALTERNATIVES" cluster
1IDENTICAL CUSTOMER is equally to moderately more important than 2PEGA

| | | | | | | | | | | | | | | | | | | |
|-----|------------------|-------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 2. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 3. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 4. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 5. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 6. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 7. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 8. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 9. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 10. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 11. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 12. | 1IDENTICAL CUST~ | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 13. | 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 14. | 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 15. | 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 16. | 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 17. | 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 18. | 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 19. | 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 20. | 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 21. | 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 22. | 2PEGASUS | >=9.5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

3. Results

Inconsistency: 0.00000

| | | |
|----|-----------|---------|
| 1 | IDENTICA~ | 0.11538 |
| 2 | PEGASUS | 0.05769 |
| 3 | CHEMICAL~ | 0.11538 |
| 4 | KAPNIKA ~ | 0.11538 |
| 5 | AUTOMOTI~ | 0.05769 |
| 6 | KALLIGER~ | 0.11538 |
| 7 | KITROVAS~ | 0.03846 |
| 8 | DIMOPOUL~ | 0.11538 |
| 9 | FATOUROU | 0.05769 |
| 10 | ROGKAKOS | 0.05769 |
| 11 | GARONIS | 0.05769 |
| 12 | MICHANO~ | 0.05769 |
| 13 | VIEW PR~ | 0.03846 |

Completed Comparison
Copy to clipboard

3. RESULTS

After processing, the Superdecisions software produces the following results (Figure 1):

Figure 1: The figure presents the results of Super-decisions software after the execution of the comparisons.

| Name | Graphic | Ideals | Normals | Raw |
|---------------------|---------|----------|----------|----------|
| 1IDENTICAL CUSTOMER | | 1.000000 | 0.165940 | 0.082970 |
| 2PEGASUS | | 0.312049 | 0.051781 | 0.025891 |
| 3CHEMICALS SA | | 0.365370 | 0.060629 | 0.030315 |
| 4KAPNIKA SA | | 0.760471 | 0.126192 | 0.063096 |
| 5AUTOMOTIVE SA | | 0.434799 | 0.072150 | 0.036075 |
| 6KALLIGERIS | | 0.544050 | 0.090279 | 0.045140 |
| 7KITROVASIOS | | 0.591885 | 0.098217 | 0.049109 |
| 8DIMOPOULOU | | 0.284096 | 0.047143 | 0.023571 |
| 9FATOUROU | | 0.325946 | 0.054087 | 0.027044 |
| 10ROGKAKOS | | 0.364455 | 0.060478 | 0.030239 |
| 11GARONIS | | 0.360836 | 0.059877 | 0.029939 |
| 12MICHANON SA | | 0.364376 | 0.060464 | 0.030232 |
| 13VIEW PRESS | | 0.317954 | 0.052761 | 0.026381 |

In figure 1, the column "Ideals" is the only column that is of interest in this study. It presents the score of all the alternatives related to the excellent score of the IC. For example, Pegasus takes 0,312049 which means that is 31,2049% as good as IC, while Chemicals SA is 36,5370 as good as IC. The final score for each of the candidates is as follows:

Table 1: classification.

| Ranking | Name | Ideals |
|---------|---------------------|---------|
| ----- | 1IDENTICAL CUSTOMER | 100.00% |
| 1 | 4KAPNIKA SA | 76.05% |
| 2 | 7KITROVASIOS | 59.19% |
| 3 | 6KALLIGERIS | 54.41% |
| 4 | 5AUTOMOTIVE SA | 43.48% |
| 5 | 3CHEMICALS SA | 36.54% |
| 6 | 10ROGKAKOS | 36.45% |
| 7 | 12MICHANON SA | 36.44% |
| 8 | 11GARONIS | 36.08% |
| 9 | 9FATOUROU | 32.59% |
| 10 | 13VIEW PRESS | 31.80% |
| 11 | 2PEGASUS | 31.20% |
| 12 | 8DIMOPOULOU | 28.41% |

Table 1 (classification): The table shows the rating score and ranking of the final 12 companies that succeeded stage. On the top, identical customer scores 100 % and all the following companies score a percentage as good as his score.

PHASE 3 – DECISION

In the third and last phase, the prospective customers are divided in the following categories according to the score they receive relatively to the IC at stage 2 rating [7]:

Table 2.a: The table presents the bank's approval loans score policy.

| MODELING RATIO | SCORE POINTS | DEFAULT RISK | LOAN DECISION |
|----------------|--------------|--------------|---------------------------------------|
| A | (90% - 100%] | Minimum | Approval |
| B | (80% - 90%] | Low | Approval |
| C | (70% - 80%] | Acceptable | Approval |
| D | (60% - 70%] | High | Approval with at least 50% collateral |
| E | (50% - 60%] | Very high | Approval only with 100% cash cover |
| F | <50% | Maximum | Rejection |

The results of table 1 are applied to table 2.a and the following bank decisions are made as shown in Table 2.b. (Decision Table) [8].

Table 2.b. (Decision table)

| NAME | SCORE POINTS | MODELING RATIO | DEFAULT RISK | LOAN DECISION |
|----------------|--------------|----------------|--------------|------------------------------------|
| 1 IC | 100.00% | A | Minimum | Approval |
| 4KAPNIKA SA | 76.05% | C | Acceptable | Approval |
| 7KITROVASIOS | 59.19% | E | Very High | Approval only with 100% cash cover |
| 6KALLIGERIS | 54.41% | E | Very High | Approval only with 100% cash cover |
| 5AUTOMOTIVE SA | 43.48% | F | Maximum | Rejection |
| 3CHEMICALS SA | 36.54% | F | Maximum | Rejection |
| 10ROGKAKOS | 36.45% | F | Maximum | Rejection |
| 12MICHANON SA | 36.44% | F | Maximum | Rejection |
| 11GARONIS | 36.08% | F | Maximum | Rejection |
| 9FATOUROU | 32.59% | F | Maximum | Rejection |
| 13VIEW PRESS | 31.80% | F | Maximum | Rejection |
| 2PEGASUS | 31.20% | F | Maximum | Rejection |
| 8DIMOPOULOU | 28.41% | F | Maximum | Rejection |

4. DISCUSSION

What is new?

- The 2-stage evaluation including the ex-ante exclusion which saves time, sources and assures stability, credibility and quality results,
- The introduction of the IC, which is the benchmark and filter. It saves time and resources because there will be only 12 comparisons for each criterion (12 with the best - IC) instead of 66 (the 12 companies between them) comparisons. The bigger the list the more computations it saves;
- The use of 1 execution file for each list in which new companies for comparison can be added later without problems, execution delays and double computations. There is no need for a new file since the already rated companies will be deselected from comparing with the IC. Only the new added companies will be rated comparing with the IC;
- Simplicity of the procedure even if there must be changes or variations to the main scenario. Easy loosening or tightening the criteria by just changing the values of the IC. Also, the use of MS excel application for finding the new 9 grade priorities through the given new benchmarks (IC new values) makes it easy for any beginner user to deal with the whole procedure.

In further analysis, the score of each of the five criteria should be examined one by one for each potential customer. Thus, even a rejected for a loan customer could be approached for another finance product. For example, to one rejected customer with big realty an insurance package should be proposed or to a customer with retail and big turnover a pos machine could be offered etc.

5. CONCLUSION

In this study, a new business mass rating method is presented, which could aid Greek (and not only) Banks to score and classify at the same time potential business customers using the AHP method and other techniques – tricks (IC) with a relatively simple and comprehensible way with quite precise results. It can be easily modified (change IC values, add criteria, transform alternatives) without annoying the stability and the credibility of the method. Basic knowledge and understanding of AHP method are adequate to use the superdecisions software for the execution of the file and production of the results. This can help even beginner bank analysts to make a “quite proper” decision.

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