A Ten-Step Model for Solving Ethical Dilemmas

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Abstract
This paper suggests a ten-step model for solving ethical dilemmas taking into account a wide spectrum of ethical values. The model has a prescriptive content that should help decision-makers to find a solution to ethical dilemmas according to the dictates suggested by moral obligation. For each step of the model, different types of simplification procedures are used in order to guide the decision-maker progressively toward a satisfactory solution. We begin with a discussion of the main characteristics that the model should possess. The paper then gives a detailed description of the single steps of the model. Lastly, a case study was analysed.

Keywords: decision-making, ethical values, moral reasoning, decision-making model

1. Introduction
Ethical decision-making has been examined extensively for centuries by philosophers, economists, psychologists and politicians. The variety and the richness of moral doctrines developed in the course of time (e.g. Shaw, 2005; Velasquez, 2006; Weiss, 2006) reveal the extent of the debate on this issue. Academics and practitioners who deal with ethical dilemmas have also proposed several models structured into key steps in order to describe and/or to facilitate decision-making. The problem dates back a long way. For example, Thomas Aquinas in the 13th century (Summa Theologica, Prima Secundae) broke down decision-making into the following steps (De Finance, 1997): the acknowledgment of an ethical value to which the will adheres (voluntas); the intention of acting in order to attain ethical values (intentio); the examination of the issue in order to identify a solution (consilium); the acceptance of some alternatives (consensum); the choice of the best solution (electio); the command to put in practice the chosen solution (imperium); the execution of the chosen option (usus); the consumption of the material good (fruitio).

More recently, research literature has produced a large amount of studies that describe the main steps of ethical decision-making in a business context. For example, in one of the most cited models, ethical decision-making consists of four stages: recognizing an ethical issue, making a moral judgment, establishing moral intentions and engaging in moral behaviour (Rest, 1986). Other stages and factors that affect moral reasoning in a business context have been similarly developed in many other models. Specifically, models usually present individual and organizational factors that could affect moral reasoning, such as ego strength, locus of control, the immediate job context, the organizational culture (Trevino, 1986), personal, professional, social and legal environments, individual qualities (Bommer et al., 1987), moral intensity (Jones, 1991), ethical philosophy (Stead, Worrell, & Stead, 1990) and others identified in models for decision-making in marketing (e.g. Dubinsky & Loken, 1989; Hunt & Vitell, 1986; Ferrell & Gresham, 1985). Factors affecting moral reasoning, including gender, age, nationality, religion etc., have also been empirically examined by a large number of studies (for literature reviews, Ford & Richardson, 1994; Loe, Ferrell, & Mansfield, 2000; O’Fallon & Butterfield, 2005; Craft, 2013) on the basis of several approaches not, however, without limitations (Randall & Gibson, 1990; Bartlett, 2003; Weber & McGivern, 2010). There are also models that recommend a variety of steps with a more pragmatic approach, such as the identification of the problem, the collection of information, consultation of ethical guidelines, the generation of alternative decisions, an examination of the consequences of each decision and the choice of the best course of action (for a review, Cottone & Claus, 2000; Garcia et al., 2003).

Although several attempts have been made to develop models more analytically (e.g. Forester-Miller & Davis, 1996; Garcia et al., 2003; Bowen, 2005; McDevitt, Giapponi, & Tromley, 2007), there are grounds for continued strengthening of studies related to ethical decision-making and its implementation. For example, making moral
judgments is an important step in several models, but it cannot drive effectively managers’ choices if criteria for the identification of good and bad are omitted. Similarly, some models recommend ethical standards provided by Codes of ethics without explaining which of them should prevail if they are simultaneously affected by managers’ choices, just as no mention of a preference order can be found in the large number of ethical standards listed in the Codes of ethics adopted by many firms around the world (Cressey & Moore, 1983; Carasco & Singh, 2003; Kaptein, 2004; Singh et al., 2011).

We pointed out the importance of a model having a prescriptive nature that can effectively assist managers in decision-making, describing how real people make decisions (McFall, 2015). In particular, although we are aware of the complexity of providing a comprehensive model that needs a subjective evaluation that is essentially based on moral judgments, our purpose is to develop a model that can help managers and consultants to identify which course of action can give a satisfactory solution to an ethical dilemma.

The paper is organized as follows. The second section identifies the main characteristics of the model, in the third section we present the steps of the model, in the fourth section a case study is examined and in the last section, we give some concluding remarks.

2. Assumptions

Two main assumptions about how decision-making operates in practice characterize our model.

The first one concerns the way of identifying ethical values. Although philosophical thinking on this issue needs an in-depth analysis (for an overview of moral doctrines, Shaw, 2005; Weiss, 2006; Velasquez, 2006), moral experiences (for the varieties of the concept, Audi, 1998) play a key role in the decision-making suggested in this model. More specifically, moral experiences of admiration or scandal of the behaviour of others, the gratification or the remorse for our behaviour allows a person to have a reaction of approval for an ethical behaviour or a reaction of disapproval for an unethical behaviour (De Finance, 1997). Values that derive from a moral judgment are shown as good that need to be upheld, a “duty to be” which demands a “must do”. Moral duty leads a person to do good acts and the fulfillment of the good action confirms the positive experiences of admiration and gratification and clears the negative experiences of remorse and moral scandal. Values that are identified by moral judgment belong to a broad spectrum of ethical values that are only partially underlined in the research literature on ethical decision-making and/or the content of the Codes of ethics. More specifically, ethical or human values are classified according to the following criteria, ranging from the physical to the spiritual nature of mankind (De Finance, 1997): biological values (e.g. basic needs and health), sensitivity values (e.g. rest, serenity), economic values (e.g. wealth creation, professional skills), social values (e.g. social relationships, leadership, ability in resolving disputes), aesthetic values (e.g. aesthetics in product design and the pleasantness of the workplace), knowledge values (e.g. experience, education, competence and information), values concerning the will (e.g. temperament, perseverance, courage), moral values (making a moral judgment and acting honestly) and finally religious values (e.g. religious anti-discrimination in the workplace).

The second assumption is related to the way of examining ethical values in a business context. An ethical decision model requires the integration of ethical values into business processes in order to examine “what happens if” a course of action is chosen. Ethical values can be examined in relation to the input of a business process, during the execution of a process or related to the output of a business process. As an input, we have for example the purchase of goods which have an artistic quality (an aesthetic value) or the purchase of natural raw materials that do not have an impact on pollution (a biological value). During the execution of a process the needs of disabled workers can be satisfied (a sensitivity value), an adequate wage paid to employees (an economic value), an artistic initiative organised in a business context (Schiuma, 2011) engaging employees both rationally and emotionally (an aesthetic value). As an output of a business process, firms’ goods and services with a clear effect on ethical values could include life-saving drugs, the care of poor children (a biological value), a product that makes a contribution to scientific progress (a knowledge value) or the beauty of a dress or of a building (an aesthetic value). We used Activity-Based Budgeting (Hansen, Orley, & Van der Stede, 2003; Brimson & Antos, 1999; Bunce, Fraser, & Woodcock, 1995; Hansen, 2011) as a tool for an initial analysis of the issue. Aware that other attempts to integrate ethical values into business processes have been made in some research concerning ethical culture (Ferrell, Fraedrich, & Ferrell, 2011; Waters & Bird, 1987; Grojean et al., 2004; Adam & Rachman-Moore, 2004; Valentine & Barnett, 2003) and strategic planning (Robin & Reindencbach, 1987; Guerrette, 1988; Hosmer, 1994; Rampersad, 2003; Bonn & Fisher, 2005; Ferrell, Fraedich, & Ferrell, 2011), Activity-Based Budgeting allows managers to have a detailed plan of business processes, highlighting their single components that encompass several aspects of actions for a certain period of time (e.g. the inputs, the resources and number of employees, the workload and outputs of processes).
3. The Model
We developed an ethical decision model articulated in ten steps (Figure 1). The decision-making takes place progressively using a small number of consequential steps based on various simplification procedures, as are needed for a subjective evaluation that involves several heterogeneous aspects.

**Step 1.** The first question which must be answered is; “Are you experiencing admiration, scandal, gratification or remorse?” As mentioned in section 2, moral experiences emerge from the observation of our behaviour and/or the behaviour of other people. In a business context, these people are usually employees, consumers, investors, suppliers and local communities. Moral experiences allow a manager to initially identify ethical values. The classification of ethical values shown in section 2 (sensitivity, economic, social, aesthetic values, etc.) can assist decision-makers in this task. If the answer is positive, it means that you have a moral experience (De Finance, 1997). On the contrary, if the answer is negative, the process can be considered complete since, from the point of view of managers, there is no ethical issue to be solved.

**Step 2.** The issue to be solved in this second step can be summarized in the following question: “Can you identify the actions and their single parts that will affect ethical values?” One or more alternative solutions should be identified in their single components. Decomposition is one of the main ways of solving a complex problem (March, 1994). More specifically, each alternative can be composed of several actions and each action can be further divided into elementary parts. The first part of an action is its ontological aspect that shows the objective nature of an action (e.g. the purchase of equipment or the dismissing of employees). The second part is the so-called finis operis that describes the purpose of the action (e.g. the purchase of equipment could be for the production of weapons or cars). The third part of an action is the so-called finis operandis or, in other words, the reason for the act (e.g. the reason for dismissing employees could be increased efficiency or an act of retaliation). The last part of the action refers to the wide range of effects that can involve employees, consumers, investors, suppliers or other stakeholders.

**Step 3.** If the answer to the question posed in step 2 is negative, additional information is needed. Getting data and information about ethical issues is an important stage in decision-making and is explicitly included in several ethical decision models (e.g. Cottone & Claus, 2000). However, we considered this phase as a supplementary step, since we presumed that managers should already know about the business processes of the firm. Anyway, if more accurate information is needed for a better understanding of the ethical problems, managers should decide the type of measurements to be implemented in order to gather information about the various actions that are related to a firm’s stakeholders. These types of measurements usually need the implementation of specific processes. It is worth noting that “the thing included in the measurement become relevant; the things omitted are out of sight and out of mind” (Drucker, 1954).

**Step 4.** When all the single parts of actions have received a positive moral evaluation, actions can be considered ethical. The immorality of one part of the act denies morality to the whole action. For example, if the production of goods that have an artistic merit (e.g. handiworks in a developing country) needs the work of a child under the minimum school leaving age (an ontologically unethical act), the decision to produce these goods should be considered unethical. An attenuation of this apparently radical solution can probably be accepted if an act unintentionally produces effects that are not good. For example, the production of a life saving drug certainly has several harmful side effects, but the drug has not been produced to cause the death of patients and the harmful effects are not intentionally increased in order to have a more effective drug. Therefore, this step of the model shows the conditions that decision-making should initially meet. Except for the effects of actions that are subject to a subsequent evaluation, the ontological aspect, finis operis and the so-called finis operandis, should be considered ethical. Briefly, at this stage of the model, the question that needs to be answered is the following: “Are the ontological aspect, the finis operis and the finis operandis of the actions ethical?” In this step, as in the others that follow, the answer to this question depends on the evaluation based on the moral judgment of a decision-maker.

**Step 5.** The fulfillment of the aforementioned conditions allows a manager to move on to the step 5, where the effects of each alternative are evaluated. The assessment of the ethical implications of the alternatives that decision-makers believe appropriate to solve an ethical problem can be carried out profitably after a simulation process in which the variables of the business processes are identified. Examples of these variables usually include the output of a process, the workload, employees’ wages, working hours, tangible and intangible resources, the time period for each process cycle and the deadlines to be met. Other variables are analysed when the business process simulation gives initial results, such as bottlenecks, the number of actual working hours, the quantity of outputs in each process, a variety of ratios based on these variables and the overall cost and revenues.
of the system as a whole. The results of the simulation should lead managers to make a qualitative assessment of the ethical consequences of each alternative. Managers could also assign a rating to the ethical effects of each action and therefore to each alternative in order to simplify the problem, underlining and schematizing the ethical aspect of the alternatives. In particular, we assume a system of ratings articulated as follows. Managers assign a score of -2 if the ethical effects of the action are harmful, a score of -1 when the action affects negatively some ethical values, 0 if the effects are considered neutral, a score of 1 for actions that have good ethical effects and a score of 2 in case of actions that show very good ethical effects.

**Step 1.** Are you experiencing admiration, scandal, gratification or remorse?

→ No → End of Process

↓ Yes

**Step 2.** Can you identify the actions and their single parts that will affect ethical values?

→ No → **Step 3.** Supplementary investigation

↓ Yes

**Step 4.** Is the ontological aspect, the finis operis and the finis operantis of the actions ethical?

→ No → The alternative is rejected

↓ Yes

**Step 5.** Evaluate the effect of each action giving a rating and identifying the number of people affected by alternative(s)

↓

**Step 6.** Has this alternative(s) some effects that should definitely be avoided?

→ Yes → The alternative is rejected

↓ No

**Step 7.** Has this alternative(s) some effects that should definitely be achieved?

→ Yes → The alternative is approved

↓ No

**Step 8.** For a similar number of people involved, has the alternative a number of negative effects greater than the negative effects of other alternatives and a number of positive effects lower than those present in other alternatives?

→ Yes → The alternative is rejected

↓ No

**Step 9.** Does the alternative have greater negative effects than the other alternatives?

→ Yes → The alternative is rejected

↓ No

**Step 10.** Does the alternative have greater positive effects than the other alternatives?

→ Yes → The alternative is approved

Figure 1. Ten-step model of ethical decision-making

**Step 6.** In this step managers verify whether there exists a priority of some values over others. The criterion we suggest does not specify the type of values that has a priority over others, but rather its general content. In particular, we assume that avoiding evil has a priority over achieving good. In other words, the first question that needs to be answered is the following: “Has an alternative some effects that should definitely be avoided?” For example, even if an alternative could have some positive effects, it should be rejected if the production puts the lives of some employees at risk or the products of the firms can seriously damage the beauty of a landscape. The rating assigned to the ethical effects of the alternatives in step 5 helps managers in this evaluation. The “harmful” rating can be used for suggesting the rejection of an alternative.

**Step 7.** After verifying that the alternative will presumably not have negative effects that could harm essential
ethical values, managers explore the possibility of acting to produce positive effects that have a priority over others. The question that needs to be asked is whether an alternative will have effects that should definitely be achieved even if the alternative could have some negative consequences that are not considered detrimental to fundamental ethical values. The “very good” rating that managers have assigned to the effects of the alternative could indicate as the best choice. If this situation does not occur, the decision-making cannot be considered complete.

**Step 8.** When priorities cannot be applied according to steps 6 and 7, managers have to identify a course of action by comparing the alternatives on the basis of other criteria. The first aspect we consider is the number of effects that an alternative will presumably have. A numerical comparison allows managers to find a solution without dealing with the complex issue of weighing the ethical effects of the alternatives. On the other hand, a numerical comparison has some limits that restrict its effectiveness. In particular, the evaluation cannot be made by offsetting the number of negative effects with the number of positive effects since the negative ones continue to exist even if the number of positive effects is higher. We therefore have to ask whether, for a similar number of stakeholders affected by managers’ decisions, an alternative has a number of negative effects that is greater than the number of negative effects of other alternatives and simultaneously whether the number of positive effects of an alternative is lower than the number of positive effects of other alternatives. If this question has an affirmative answer, the alternative should be rejected.

**Step 9.** A quantitative measurement of the ethical effects of each alternative should be made if the previous steps do not allow managers to reach a decision. Even though we are aware that there is no single perfect solution to fit all circumstances, we calculate the extent of the ethical effect of each alternative by multiplying the ratings assigned in step 5 by the number of stakeholders who are affected by the alternative. In particular, when the number of stakeholders varies greatly, it may be useful to compute the logarithm of the aforementioned number in order to avoid an underestimation of the ethical intensity expressed by the ratings. In line with the proposal of this model, we firstly examine the negative effects since these should be avoided as a priority. As suggested in step 8, the comparison of alternatives cannot be made by offsetting the negative with the positive effects of the alternatives since the negative ones still exist even if the extent of the positive effects may be greater. Therefore, the question that needs to be asked is whether an alternative has greater negative effects than the other alternatives. If the answer to this question is positive, the alternative receives a negative evaluation.

**Step 10.** In the last step, in a similarly way to what has been shown in the previous stage, managers compare the extent of the positive effects of an alternative with the positive ones of other alternatives. We suggest evaluating the above-mentioned extent of the ethical effects by multiplying the ratings assigned to the effects of each alternative by the number of stakeholders affected by this alternative. As in the previous step, it could be useful to compute the logarithmic transformation of the number of stakeholders in order to avoid an overestimation of this number at the expense of the ratings. Therefore, the question that needs to be asked is whether an alternative has greater positive effects than the other alternatives.

4. A Case Study

We considered a small family-owned construction company that provides building and renovation services in central Italy. A moral experience of remorse led the management of Edilizia MD Limited to analyse the morality of a possible reduction in projects with a high architectural merit in favour of an increase in projects with a standard quality level. This decision could have various effects on the economic conditions of employees, environmental pollution and, last but not least, on the beauty of the firm’s products (step 1).

Two alternatives have been identified in order to find a solution to this issue (step 2). The first one is to leave the current situation unchanged. The second alternative is the reduction of the number of projects with a high architectural merit and an increase in the number of a standard quality production. This alternative involves two main changes: a decrease in working hours and the annual wage of the employees with an artistic skill in favour of an increase in working hours and the total wage of the other employees; the substitution of part of the natural raw and semi-finished materials with synthetic ones. In this step, the management identified the single components of each action in the two alternatives, namely, the ontological aspects, the finis operis, the finis operantis and the effects of the alternatives on the stakeholders involved in the decision-making.

The ontological aspects, the finis operis and the finis operantis of the actions were not evaluated as unethical (step 4). More specifically, the ontological aspect of each action was not considered substantially harmful. The finis operis of each action was related to a reduction in cost of the inputs that are used in the production, whilst the finis operantis of the actions was wealth creation for shareholders. These aims were both considered economic values that are part of the overall system of ethical values specified in Section 3.
The ethical consequences of the two alternatives were then evaluated (step 5). Table 1 shows a brief overview of the main simulation results of alternatives 1 and 2 using a software tool (Rockwell Automation, 2006) following the Activity-Based Budgeting approach. Although some information is not shown in table 1, simulation software tools provide exhaustive operational and financial reports on a single process and on the system as a whole (e.g. workload, total wages, time to perform each activity and the cost of resources). A subjective assessment and the evaluation of their ethical aspects were then made for alternative 1 and alternative 2 for a period of one year. Ethical ratings, an estimate of the number of stakeholders affected by the two alternatives and its logarithm are shown in Table 2. Aesthetic, biological, sensitivity and economic values were involved in the examination. First, the beauty of products could diminished and therefore the deterioration of an aesthetic value was expected, as shown by the reduction of the number and the revenues of high quality projects in relation to the total number and value of the projects (Table 1, alternative 2). The second kind of effect concerns the consequences on pollution, and therefore a biological value related to the health of people was considered, because of the increase in the use of synthetic materials (Table 1, note 1 and 2). The difficulty of identifying the number of people involved in the production, utilization and disposal of synthetic raw and semi-finished materials has led the company to consider only the number of employees of the company who use this material (Table 2, note 1). Third, a sensitivity value of psychological pain for some employees could emerge if alternative 2 were chosen, since the production of projects with a standard quality level requires \textit{ceteris paribus} fewer working hours and thus a reduction in the annual wage (Table 1, note 1 and 2). Lastly, economic values were affected by the alternatives. In particular, although the standard quality production could be sold at a lower unit price, the company expected to achieve higher profits due to an increase in sales volume and to a reduction in labour costs and in the cost of supplies (Table 1, alternative 2). Moreover, the reduction of the unit price could also give an economic advantage to the firm’s clients in terms of saving money. Alternative 1, which consists in maintaining the current business activities, presented the main effect of a reduction in shareholders’ value.

With regard to the questions raised in steps 6 and 7 on the possible priorities of some values over others, a negative response was given. In other words, actions did not have effects that should definitely be avoided or achieved. The question set out in step 8 was also negative. Specifically, it was not possible to reject or accept alternative 2, since it had a greater number of both negative and positive effects than alternative 1.

Table 1. Edilizia MD limited, business activities

<table>
<thead>
<tr>
<th>Activities</th>
<th>Client Service</th>
<th>Planning &amp; Control</th>
<th>Architectural Design</th>
<th>Quality Manufacturing</th>
<th>Standard Manufacturing</th>
<th>Test</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Alternative 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of inputs</td>
<td>31.7</td>
<td>17.0</td>
<td>12.0</td>
<td>7.6</td>
<td>2.2</td>
<td>8.6</td>
<td></td>
</tr>
<tr>
<td>Total average cost</td>
<td>32505</td>
<td>5724</td>
<td>48366</td>
<td>267141</td>
<td>28172</td>
<td>11936</td>
<td>393845</td>
</tr>
<tr>
<td>Number of outputs</td>
<td>26</td>
<td>12</td>
<td>9.8</td>
<td>6.5</td>
<td>2.1</td>
<td>8.1</td>
<td></td>
</tr>
<tr>
<td>Revenues</td>
<td>422500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>505300</td>
</tr>
<tr>
<td>Profit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>111455</td>
</tr>
<tr>
<td><strong>Alternative 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of inputs</td>
<td>30.1</td>
<td>16.6</td>
<td>12.1</td>
<td>2.5</td>
<td>7.3</td>
<td>9.3</td>
<td></td>
</tr>
<tr>
<td>Total average cost</td>
<td>31106</td>
<td>5564</td>
<td>47714</td>
<td>91750</td>
<td>92950</td>
<td>12579</td>
<td>281664</td>
</tr>
<tr>
<td>Number of outputs</td>
<td>25.4</td>
<td>9.8</td>
<td>12</td>
<td>2.3</td>
<td>7</td>
<td>8.9</td>
<td></td>
</tr>
<tr>
<td>Revenues</td>
<td>148850</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>429250</td>
</tr>
<tr>
<td>Profit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>147586</td>
</tr>
</tbody>
</table>

**Note.** The table reports the main results of a simulation of business activities of a small family-owned construction company (Edilizia MD Limited). The total average cost, revenues and profit are expressed in Euro. The input is the event that triggers an activity and it is commonly the output of an upstream activity. A software tool was used for the simulation (Rockwell Automation, 2006). (1) The total average cost includes, among others, cost of synthetic materials (21,100 €), cost of natural materials (181,750 €), total wages (209,445 €); (2) the total average cost includes, among others, cost of synthetic materials (72,200 €), cost of natural materials (63,250 €), total wages (177,590 €).

Therefore, the issue needed to be solved in step 9, where a quantitative measurement of the effects of each alternative is needed. As shown in table 2, alternative 2 had greater negative effects than alternative 1. More specifically, the sum of the negative ratings multiplied by the logarithm of the number of stakeholders affected
by alternative 2 was -3.45 whilst for alternatives 1 it was -0.6. The results of this computation gave the management the necessary information on which to base their moral judgment. In particular, this step suggested that alternative 2 had unethical values that strengthen the experience of remorse. Consistent with this experience that had led some managers to address the ethical dilemma, alternative 2 was rejected.

Table 2. Ethical ratings and the effects of alternatives

<table>
<thead>
<tr>
<th>Activities</th>
<th>Biological values</th>
<th>Sensitivity values</th>
<th>Economic values</th>
<th>Aesthetic values</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alternative 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employees</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shareholders</td>
<td>-1</td>
<td>4</td>
<td>0.6</td>
<td>-0.6</td>
<td></td>
</tr>
<tr>
<td>Customers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td>-0.6</td>
<td></td>
</tr>
<tr>
<td>Alternative 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employees</td>
<td>-1</td>
<td>7</td>
<td>0.84</td>
<td>-1</td>
<td>7</td>
</tr>
<tr>
<td>Shareholders</td>
<td>1</td>
<td>4</td>
<td>0.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customers</td>
<td>1</td>
<td>7</td>
<td>0.84</td>
<td>-1</td>
<td>5</td>
</tr>
<tr>
<td>Community</td>
<td>-1</td>
<td>12</td>
<td>1.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>-3.45</td>
<td>1.44</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. The table presents the rating (score) of the ethical effects of each alternative and the number (Num.) of the stakeholders involved in each of them. The logarithm of this number (log N) is used to avoid an underestimation of ratings. The rating system is the following: -2 (harmful effects), -1 (negative effects), 0 (neutral), 1 (good effects), 2 (very good effects). The extent of the ethical effect of each alternative (Results) is computed by multiplying the ratings by the logarithm of the number of stakeholders. (1) number of employees in the company who use synthetic materials; (2) the number of additional projects with a standard quality level.

5. Summary and Conclusion

The present paper has proposed a model for decision-making that encompasses a wide spectrum of ethical values ranging from the physical to the spiritual nature of mankind. An overall evaluation is necessary for solving ethical dilemmas when heterogeneous values are involved.

Two main assumptions characterized our model. First, moral experiences have a key role in decision-making, since solving ethical dilemmas needs a subjective evaluation that is essentially based on a moral judgment. In particular, moral experiences of admiration or scandal of the behaviour of others, the gratification or the remorse for our behaviour lead a person to approve or to disapprove respectively an ethical or an unethical action. In this sense, our model is designed to provide steps that allow moral judgment to come to a solution that responds to the dictates of moral duty. Second, we used Activity-Based Budgeting as a tool for an initial analysis of the alternatives by which ethical dilemmas can be solved, underlining the qualitative and quantitative variables that result from the course of actions. The results of the simulation of the business processes should lead managers to make a qualitative evaluation of the ethical consequences of each alternative.

On the basis of these assumptions, the model has been developed in ten steps. Our approach provided various simplification procedures for solving ethical dilemmas that should represent some of the main reasoning mechanisms that lead decision-makers to reach a solution when many ethical values are involved. In particular, ethical problems are identified in the first step by the moral experiences of decision-makers. The fourth step provides a condition that a decision-maker should meet. In steps five, six and seven, the decision-making depends on the application of possible priorities among different types of values. In the steps eight, nine and ten, the decision-maker explores the possibility of a quantitative evaluation of the effects of the alternatives. Moral experiences are explicitly mentioned in the first step of the model, but they also affect the assessment of decision-makers in the subsequent steps until the final decision is reached.

The analysis of a case study highlighted the effectiveness of the model to solve ethical dilemmas. The model proves to be a valuable guide for making decisions in a comprehensive manner, using few essential steps, in
accordance with the moral judgment of the decision-maker. However, the model has some limitations. First, the implementation of the model is limited in this paper to a single case study. Further research should be done to apply the model to a larger number of cases. Second, the model needs to perform a simulation process of the possible alternative solutions of ethical dilemmas. This implies the need to organize and plan business activities in order to make visible several quantitative and qualitative variables which allow managers to make a judgment on the morality of the alternatives by which ethical dilemmas can be solved.

References


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