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Ethical Decision Making*

Műhelytanulmány

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The self-centeredness of modern organizations leads to environmental destruction and human deprivation. The principle of responsibility developed by Hans Jonas requires caring for the beings affected by our decisions and actions.

Ethical decision-making creates a synthesis of reverence for ethical norms, rationality in goal achievement, and respect for the stakeholders. The maximin rule selects the "least worst alternative" in the multidimensional decision space of deontological, goal-achievement and stakeholder values.

The ethical decision-maker can be characterized as having the ability to take multiple perspectives and make appropriate balance across diverse value dimensions.

Modern organizations should develop a critical sensitivity to and empathy toward human and non-human beings with which they share a common environment.

1 Perverse Decisions of Modern Organizations

Modern organizations are *disembedded* from their environmental and social contexts and usually consider the natural environment and human persons as mere means to accomplish their own purposes and goals. The dominating *self-centered orientation* of modern organizations produces ecological destruction and human deprivation.

Perverse decisions of modern organizations appear in such phenomena as decision under risk and discounting in space and time. Prospect theory and the general theory of discount can help us in describing and analyzing these phenomena.

1.1 Risky Decisions

The *prospect theory* developed by *Daniel Kahneman* and *Amos Tversky* is an empirically well-established theory that gives us a realistic picture about the main regularities of decision-making under risk. (Kahneman, D. and Tversky, A. 1979)

Prospect theory states that decision-makers display *risk aversion* in choices involving sure gains. For example, they prefer gaining USD 1,000 surely over gaining USD 10,000 with a 10 % chance.

Prospect theory also states that decision-makers display *risk seeking* in choices involving sure losses. For example, they prefer losing USD 10,000 with a 10% chance over losing USD 10,000 surely.

From prospect theory it follows that decision-makers are *more sensitive to losses* than to gains. This means, for example, that they prefer gaining USD 10,000 surely and, at the same time, losing USD 100,000 with a 10% chance over losing USD 10,000 surely and, at the same time, gaining USD 100,000 with a 10% chance.

Risky decisions made by corporate and governmental decision-makers often endanger the safety and integrity of the natural environment and human populations. The so-called *catastrophic risk* is a closely related phenomenon. The probability of catastrophes caused by modern, large-scale technologies is usually low but never zero. And the possible negative consequences are horrifying: irreversible destruction of ecosystems and enormous losses of human life.

The most tragic examples of this kind of ecological and human tragedy are the *Chernobyl* nuclear reactor explosion in 1986 that sent nuclear fallout across Europe, increasing human and animal cancers, and the wreck of the *Exxon Valdez* oil tanker at the Alaskan coastline in 1989 that produced the largest oil spill in American history.

1.2 Discounting in Space and Time

Decision-makers usually overvalue things here and now in comparison with things far and later. This phenomenon is produced by the mechanism of *discounting*.

According to the general theory of discount, decision-makers *discount gains* that are distant in space and time. For example, they prefer gaining USD 1,000 here and now over gaining USD 1,000 far and later. "A bird in the hand is worth two in the bush"

According to the general theory of discount, decision-makers put off negative things till the morrow because they *discount losses* that are distant in space and time. For example, they would rather lose USD 1,000 far and later than here and now.

From the general theory of discount it follows that decision-makers *undervalue* both gains and losses that are distant in space and time. For example, they prefer gaining USD 1,000 here and now and losing USD 1,000 far and later over losing USD 1,000 here and now and gaining USD 1,000 far and later.

Decision-makers use *discount rates* to value things distant in space and time. The *present value* of a thing is usually calculated as follows:

$T = t / (1 + \alpha)^{x}$

where T is the present value of the thing t, x is a measure of the distance of t in space or in time, and α is the discount rate, which is usually between 5 % and 15 %.

If the distance of a thing in space and/or time is great enough then its present value becomes extremely small. Also, the present value depends on the applied discount rate: the greater the discount rate, the smaller the present value. The present value of a thing is determined by the applied discount rate and its distance in space and time.

Discounting in space and time may produce negative consequences in corporate and governmental decision-making. Decision-makers, who strongly discount things in space and time, are interested in neither the solutions of long-range ecological and human problems, nor the global impacts of their activities on the natural environment and human communities.

The *international trade* in *hazardous wastes* is an illustrative case in point. American and West-European countries transport and dump hazardous wastes in distant and less-developed Third World countries, without displaying any interest in the future ecological and human health impacts of these materials. (Sing, J.B. and Lakhan, V.C. 1989)

1.3 Self-Centered Organizations

By combining the main lessons of prospect theory and the general theory of discount we can arrive at a better understanding of the self-centeredness of modern organizations.

Modern organizations *favor sure gains here* and *now* and *unsure losses far* and *later* while *disfavoring sure losses here* and *now* and *unsure gains far* and *later*. For example, they would rather gain USD 1,000 here and now for sure and lose USD 10,000 far and later with a 10% chance rather than lose USD 1,000 here and now for sure and gain USD 10,000 far and later with a 10% chance. (Table 1)

Table 1 Self-centered Choices of Modern Organizations

	sure, here and now	unsure, far and later
gains	favored	disfavored
losses	disfavored	favored

Modern organizations experience a sharp distinction between themselves and their natural and social environments. In *Gregory Bateson*'s words, this state of mind can be called "non-*participating consciousness*." In such a state of mind the subject "in here" sees himself or herself as radically disparate from the object he or she conceptually confronts "out there." In this view the self is created by the subject-object dichotomy, the distance between nature and ourselves. (Berman, M. 1981)

The self-centered orientation of modern organizations is deeply rooted in their non-participating consciousness, which leads to *environmental destruction* and *human deprivation*.

2 The Principle of Responsibility

The outstanding German-American philosopher *Hans Jonas* has injected the problem of moral responsibility into contemporary moral discourse. Jonas published the German version of his theory of responsibility in 1979 under the title "*Das Prinzip Verantwortung. Versuch einer Ethic fur die Technologische Zivilization*." The rewritten and enlarged English edition was published in 1984 under the title "*The Imperative of Responsibility: In Search of an Ethics for the Technological Age*." (Jonas, H. 1979, 1984)

Jonas argues that the nature of human action has changed so dramatically in our times that a correspondingly radical *change* in *ethics* is called for as well. He emphasizes that in previous ethics "all dealing with the nonhuman world, that is, the whole realm of techne was ethically neutral. Ethical significance belonged to the direct dealing of man with man, including man dealing with himself: all traditional ethics is *anthropocentric*. The entity of 'man' and his basic condition was considered constant in essence and not itself an object of reshaping techne. The effective range of action was small, the time span of foresight, goal-setting, and accountability was short, control of circumstances limited." (Jonas, H. 1984. pp. 4-5.)

According to Jonas new dimensions of responsibility emerged because *nature* became a subject of human responsibility. This is underscored by the irreversibility and cumulative character of the human impact on the living world. *Knowledge*, under these circumstances, is a prime duty of man and must be commensurate with the causal scale of human action. We should seek "not only the human good but also the good of things extrahuman, that is, to

extend the recognition of ‘ends in themselves’ beyond the sphere of man and make the human good include the care of them.” (Jonas, H. 1984. pp. 7-8.)

For Jonas, an imperative responding to the new type of human action might run like this: “*Act so that the effects of your actions are compatible with the permanence of genuine human life*.” Or, expressed negatively: “*Act so that the effects of your actions are not destructive to the future possibility of such life*.” (Jonas, H. 1984. p. 11.)

Jonas argues that our duties to future generations and to nature are independent of any idea of rights or reciprocity. Human responsibility basically consists of a *non-reciprocal duty* to guarding beings.

Jonas states that the necessary conditions of moral responsibility are as follows: “The first and most general condition of responsibility is causal power, that is, that acting makes an impact on the world; the second, that such acting is under the agent’s control; and the third, that he can foresee its consequences to some extent.” (Jonas, H. 1984. p. 90)

Jonas emphasizes the fact that prospective responsibility is never formal but always *substantive*. “I feel responsible, not in the first place for my conduct and its consequences but for the matter that has a claim on my acting.” For example “the well-being, the interest, the fate of others has, by circumstance or by agreement, come to my care, which means that my control over it involves at the same time my obligation to it.” (Jonas, H. 1984: p. 92. & p. 93.)

Jonas differentiates between *natural responsibility* on the one hand and *contractual responsibility* on the other. “It is the distinction between natural responsibility, where the immanent ‘ought-to-be’ of the object claims its agent a priori and quite unilaterally, and contracted or appointed responsibility, which is conditional a posteriori upon the fact and the terms of the relationship actually entered into.” (Jonas, H. 1984: p. 95.)

The parent and the statesman are presented as ideal types of natural responsibility and contractual responsibility, respectively. The parent is responsible for his or her child not because of the child's own will or even contrary to it. However, the responsibility of the statesman comes from the political contract that he or she has established with his or her constituencies.

There are important similarities between Jonas’s theory of responsibility and the ethic of care described by *Carol Gilligan* in her best-seller book “*In a Different Voice*: *Psychological Theory and Women’s Development*” (Gilligan, C. 1982)

Gilligan characterizes the morality of women as an *ethic* of *care*. “The ideal of care is thus an activity of relationship, of seeing and responding to need, taking care of the world by sustaining the web of connection so that no one is left alone.” The ethic of care “is the wish

not to hurt others and the hope that in morality lies a way of solving conflicts so that no one will be hurt." Women consider the inflicting of hurt as "selfish and immoral in its reflection of unconcern, while the expression of care is seen as fulfillment of moral responsibility." (Gilligan, C. 1982: p.62., p.65., and p.73.)

Gilligan states that men and women represent two *different moral ideologies*: the ethic of rights and the ethic of care, respectively. Separation is justified by an *ethic* of *rights* while attachment is supported by an *ethic* of *care*. "The morality of rights is predicated on equality and centered on the understanding of fairness, while the ethic of responsibility relies on the concept of equity, the recognition of differences in need. While the ethic of rights is a manifestation of equal respect, balancing the claims of other and the self, the ethic of responsibility rests on an understanding that gives rise to compassion and care." (Gilligan, C.1982:p.165.)

Gilligan does not argue for the superiority of women's morality. The two disparate modes of moral experience are connected in *mature morality*. "While an ethic of justice proceeds from the premise of equality - that everyone should be treated the same - an ethic of care rests on the premise of non-violence - that no one should be hurt." In maturity "both perspectives converge in the realization that just as inequality adversely affects both parties in an unequal relationship, so too violence is destructive for everyone involved." (GILLIGAN, C. 1982: p. 174.) An advanced concept of responsibility integrates the *reverence* for *rights* represented by men and the *non-violence* of *care* represented by women.

3 Making Ethical Decisions

In an economic context *Kenneth E. Goodpaster* offers the most operationalized–model of ethical decision-making. (Goodpaster, K. E. 1983)

3.1 Rationality and Respect

Goodpaster proposes understanding moral responsibility as a combination of two basic components, namely rationality and respect.

Rationality involves the following attributes:

(i) lack of impulsiveness;

(ii) care in mapping out alternatives and consequences;

(iii) clarity about goals and purposes;

(iv) attention to details of implementation.

Rationality described by attributes (i),...,(iv) greatly differs from the rationality postulate of mainstream economics that requires consistent utility maximisation. The rationality concept used here is *process-oriented* and does not require maximizing anything. *Max Weber*'s concept of 'zveckrationalitat" and *Herbert Simon*'s notion of procedural rationality are closely related to it. (Weber, M. 1921-1922, Simon, H.A. 1978)

Respect is the other component of moral responsibility. For Goodpaster, respect means a special awareness of and concern for the effects of one's decisions and policies on others, beyond seeing others as merely instrumental in accomplishing one's own purposes. This is respect for the lives of others and involves taking their needs and interests seriously, not simply as resources in one's own decision-making but as limiting conditions, which change the very definition of one's habitat from a self-centered to a shared environment. (Goodpaster, K.E. & Matthews, J.B. 1982. p. 134.)

Respect described in this way has a basic similarity to the *altruistic behavior* that is widely discussed in psychology, economics, and sociology. The prominent Italian economist *Stefano Zamagni* offers a clear conceptualization of altruistic behavior. He defines individuals as altruistic when they feel and act as if the welfare of others were an end in itself; that is, as something of relevance independently of its effects on their own well-being. If your concern for the welfare of others is merely instrumental in promoting your own longer-term ends and ceases once these ends can be more easily pursued in some other way, you are an enlightened self-interested person, not a genuine altruist. (Zamagni, S. 1992)

3.2 The 3 R Model

Goodpaster's model is a consequentialist system interwoven with agent-relative elements. *Agent-relativity* means that the model permits the decision-maker to produce less than the overall best consequences for the stakeholders in order to realize her or his own goals and purposes. The model also extends to incorporating agent-relative constraints that would simply forbid certain courses of action for the decision-maker.

Consequentialist models can be criticized on consequentialist as well as non-consequentialist grounds.

In complex economic and political decision situations phenomena can emerge that make the consequentialist evaluation of an act very difficult, if not impossible. The most important of these phenomena are *marginal contributions, uncertain consequences,* and *distant effects.*

There are cases where the agent's choice produces only marginally negative consequences to the stakeholders but the cumulative and/or aggregate effect of this kind of behavior is detrimental to them. The ecologist *Garret Hardin*'s famous "*tragedy of the commons*" model describes such situations. (Hardin, G. 1968)

If some consequences of an act are rather uncertain then the decision-makers tend to *neglect* them in their consequentialist considerations. This may lead to inadequate accounting. Similarly, if the consequences of an act are distant in space and/or time then the decision-makers discount them at a positive (and sometimes very high) rate. Hence consequences beyond the normal space and time reference of the decision-makers are usually *overdiscounted.*

The phenomena of marginal contributions, uncertain consequences, and distant effects present *decision traps* from which there is no escape within the consequentialist framework.

Consequentialist models are also criticized from a deontological point of view. Deontological ethicists have developed strong deontological arguments that overwrite consequentialist considerations. The decision-maker may have deontological reasons not to do certain things even if they would lead to good overall consequences. Deontological reasons limit what we may do to others or how we may treat them. (Nagel, T. 1986)

It is better to define respect exclusively in terms of altruistic orientation toward the affected parties. Also, we can introduce deontological considerations as a separate component into the model of ethical decision-making. In this way we can get a more robust model in which ethical decision-making is characterized by the making of a *synthesis* of *deontological considerations*, *rationality* in *goal-achievement*, and *respect* for the *stakeholders*. This model of ethical decision-making can be called the *3 R model*, since its components are reverence & rationality & respect. (Zsolnai, L. 1997) (*Figure 1*)

Figure 1 The 3 R Model

Ethical Decision Making =

reverence + rationality + respect

3.3 Complex Decision Situations

The following features can characterize complex business or public administration decision situations. First, at least two *decision alternatives* are available for the decision-maker; that is, she or he can choose among different courses of action. Second, in the decision situation *ethical norms* apply which represent duties of the decision-maker. Third, the decision-maker has *goals* that she or he wants to achieve in the decision situation. Finally, different *stakeholders* are present that can be affected by the outcome of the decision.

We can formalize the above-listed elements of complex decision situations as follows:

(1) **A1,...,Ai,...,Am** (**m ≥ 2**)

This means that at least two decision alternatives are feasible for the decision-maker.

(2) **D1,...,Dk,...,Dp** **(p ≥ 1)**

This means that at least one ethical norm applies in the choice situation.

(3) **G1,...,Gj,...,Gn** **(n ≥ 1)**

This means that the decision-maker has at least one goal that she or he wants to achieve.

(4) **S1,...,Sq,...,Sr** **(r ≥ 1)**

This means that at least one stakeholder is present in the choice situation.

Ethical decision-making involves finding and implementing the decision alternative that best corresponds to the idea of moral responsibility in the given context. Which is the appropriate decision rule for making an ethical decision?

(5) **A* = Ω (A1,...,Ai,...,Am)**

where **A*** refers to the selected alternative.

Deontological value can be defined as the value of a decision alternative seen from the perspective of the applicable ethical norms. The deontological values of the decision alternatives **A1,...,Ai,...,Am** can be represented by a vector as follows:

(6) **$\underline{d}$ = [D(A1),...,D(Ak),...,D(Am)]**

D(Ai) can be measured on the ordinal scale **[1, 0, -2]**. This means that **D(Ai)** = **1** if **Ai** is right regarding the ethical norms; **D(Ai)** = **0** if **Ai** is neutral regarding the ethical norms; and **D(Ai)** = **-2** if **Ai** is wrong regarding the ethical norms.

The deontological values of decision alternatives depend on two things:

(i) Which are the considered ethical norms?
(ii) How are the importance weights assessed?

The answer to these questions is that an *ideal third party*, the so-called 'impartial spectator,' should define the set of applicable ethical norms and assess the corresponding weights in the given situation. That no such ideal third party exists necessitates real world surrogate. Possibilities include some of the newer institutions of deliberative democracy such as the citizens' jury, for example.

It is natural that the decision-maker considers the value of the decision alternatives with a view toward the achievement of her or his own goals. In classical decision theory this was the only dimension in which courses of action were evaluated and decided upon.

Goal-achievement value can be defined as the value of a decision alternative seen from the locus of the achievement of the decision-maker's goals. The goal achievement value of the decision alternatives **A1,...,Ai,...,Am** can be represented by a vector.

(7) **$\underline{g}$ = [G(A1),...,G(Ai),...,G(Am)]**

G(Ai) is measured on the ordinal scale **[1, 0, -2]**. This means that **G(Ai)** = **1** if **Ai** is useful regarding the goals; **G(Ai)** = **0** if **Ai** is neutral regarding the goals; and **G(Ai)** = **-2** if **Ai** is useless regarding the goals.

The important question is to what extent the decision-maker is free to choose her or his goals and the weights she or he attributes to the chosen goals.

Decision-makers are embedded in interpersonal relations and the social context, so it is realistic to presuppose that decision-makers set goals and assign weights to them with reference to those communities and organizations in which they happen to exist and function.

Stakeholder value can be defined as the value of a decision alternative seen from the perspective of the stakeholders. The stakeholder values of decision alternatives **A1,...,Ai,...,Am** can be represented by a vector:

(8) $\underline{\mathbf{s}}$ = **[S(A1),...,S(Ai),...,S(Am)]**

S(Ai) can be measured on the ordinal scale **[1, 0, -2]**. This means that **S(Ai)** = **1** if **Ai** is good regarding the stakeholders; **S(Ai)** = **0** if **Ai** is neutral regarding the stakeholders; and **S(Ai)** = **-2** if **Ai** is bad regarding the stakeholders.

Weighing of the stakeholders poses difficult questions. Any distribution of weights generates some form of justice or injustice among the stakeholders. We can agree with *Michael Walzer* that an adequate conception of justice is necessarily *plural*, that is, multidimensional. (Walzer, M. 1993)

Two variables can be considered as means by which stakeholders can be weighed against one another. One variable is their *stake* while the other is their *size.* The greater the stake and the size of a stakeholder, the greater the weight that should be attributed. Notice that there is no such thing as an absence of weighing if at least two parties are present. If one does not attribute weights to the parties then she or he considers them as being equal. Having no weights means having equal weights.

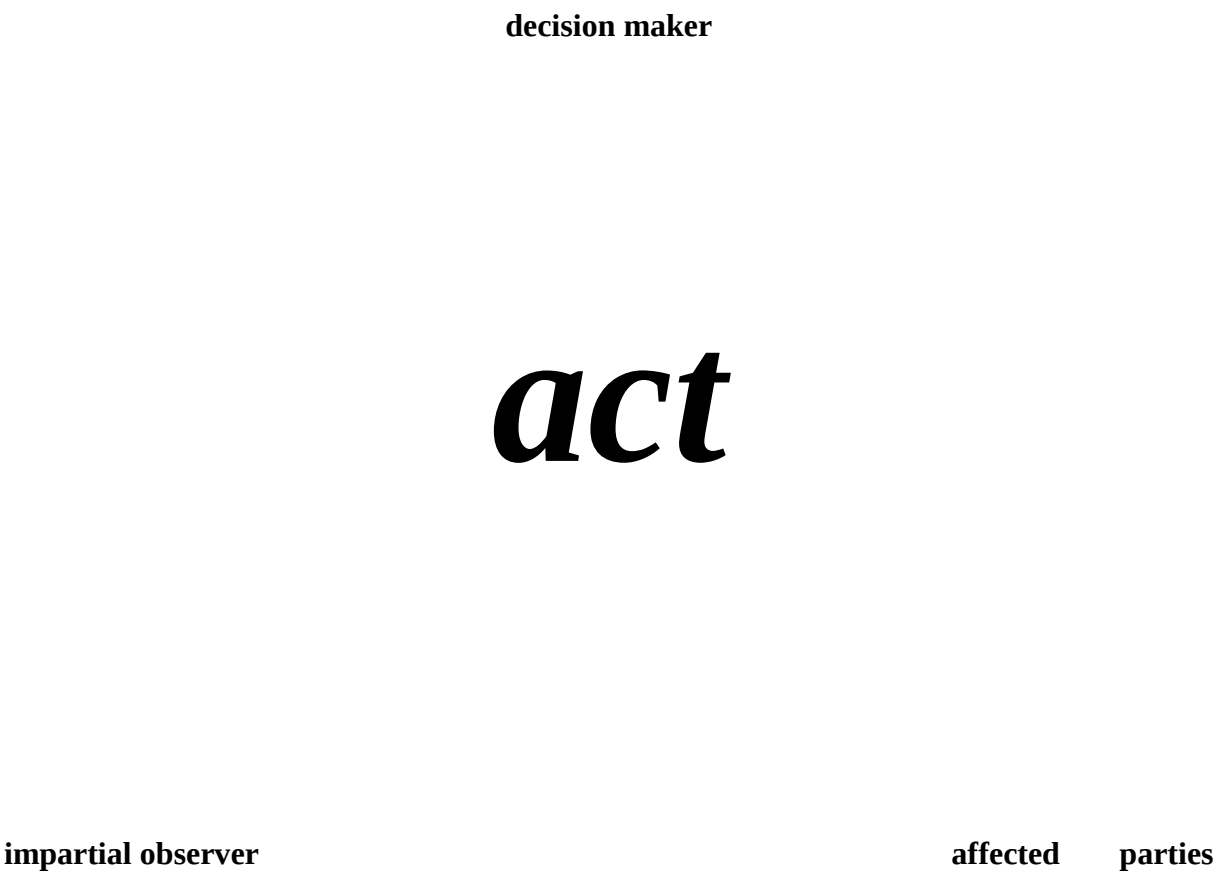
Holding (6), (7), and (8) together we can get a *multiple evaluation* of the decision alternative **Ai**.

(9) $\underline{\mathbf{v}}$ = **[D(Ai), G(Ai), S(Ai)]**

The first component of the vector is the deontological value of the decision alternative; the second component is the goal-achievement value of the decision alternative, while the third component is the stakeholder value of the decision alternative.

The vector $\underline{\mathbf{v}}$ represents a simultaneous evaluation of the same course of action from different perspectives. The deontological value is assessed from the perspective of an impartial observer; the goal-achievement value is assessed from the perspective of the agent; and the stakeholder value is assessed from the perspective of the affected parties. (*Figure 2*)

Figure 2 Multiple Perspectives in Evaluation of an Act



The ‘ethical calculus’ advanced here is very close to *Amartya Sen*’s ideas about the moral evaluation of acts. He wrote in his influential book *On Ethics & Economics*: “To get an overall assessment of the ethical standing of an activity it is necessary not only to look at its own intrinsic value (if any), but also its instrumental role and its consequences on other things. (...) The advantages of consequential reasoning involving interdependence and instrumental accounting, can then be combined not only with intrinsic valuation, but also with position relativity and agent sensitivity of moral assessment.” (Sen, A. 1987. p. 75. and p. 77.) Our moral accounting system tries to do exactly this job.

3.4 The Maximin Principle

A matrix that contains multiple evaluations of all the decision alternatives available for the decision-maker can provide an overall picture about the choice situation.

$$(10) \quad \underline{\mathbf{V}} = \begin{matrix} \mathbf{D(A1),.....,G(A1),....,S(A1)} \\ . \quad . \quad . \\ \mathbf{D(Ai),.....,G(Ai),.....,S(Ai)} \\ . \quad . \quad . \\ \mathbf{D(Am),....,G(Am),...,S(Am)} \end{matrix}$$

The matrix **V** may present *value conflict*. The best strategy is to maintain the complexity of the decision situation and try to find an *optimal compromise* among diverse value dimensions. Trying to balance different values against one another is an essential strategy in complex choice situations. The *maximin rule* can do the required job quite well. It implies the maximization of the minimum payoff of decision alternatives.

Austrian logician *Earnest Zermello* first described the maximin rule in 1912. In his groundbreaking *Theory of Games and Economic Behavior*, Hungarian-American mathematician *John Von Neumann* developed the rule further. (Von Neumann, J. & Morgenstein, O. 1944)

In complex decision situations the *rule* of *making ethical decisions* is stated as follows:

$$(11) \quad \mathbf{A^* = maximin\ [D(Ai),\ G(Ai),\ S(Ai)]}$$

Ethical decision-making demands the selection of the *least worst alternative* in the decision space of deontological, goal-achievement, and stakeholder values - in the sense that the minimum value of the selected alternative is greater than the minimum value of any other alternative available for the decision-maker in the given situation. The comparability of **D(Ai), G(Ai),** and **S(Ai)** is provided by the fact that they are measured on the same ordinal scale **[1, 0, -2]**.

If there are two decision alternatives **A1** and **A2**, then the responsible decision is **A1** if and only if:

(12) **min [D(A1), G(A1), S(A1)] > min [D(A2), G(A2), S(A2)]**

The underlying principle of responsible decision-making is that the decision-maker should find an optimal compromise among the applicable ethical norms, her or his own goals, and the interests of the stakeholders.

The ethical decision defined by (11) provides a *Pareto optimal result* in the multidimensional decision space. This means that given the set of decision alternatives it is not possible to increase their value in one value dimension without decreasing their value in at least one other value dimension. In this sense the alternative chosen by the maximin rule dominates all the other alternatives.

4 Analyzing the World Bank Case

A provocative case concerning the *World Bank environmental policy* is useful in demonstrating how the ethical decision-making model works.

In the early 1990s, some economic advisors of the World Bank were proposing that the organization should encourage increased migration of dirty industries to less-developed countries. The argument was as follows: “The measurement of the costs of health-impairing pollution depends on the foregone earnings from increased morbidity and mortality. From this point of view a given amount of health-impairing pollution should be done in the country with the lowest cost, which will be the country with the lowest wages. (...) The costs of pollution are likely to be non-linear as the initial increments of pollution probably have very low cost. (...) The demand for a clean environment for aesthetic and health reasons is likely to have very high income-elasticity. The concern over an agent that causes a one-in-a-million in the odds of the prostate cancer is obviously going to be much higher in a country where people

survive to get prostate cancer than in a country where under-5 mortality is 200 per thousand. Also, much of the concern over industrial atmospheric discharge is about visibility-impairing particulates. These discharges may have very little health impact. Clearly, trade in goods that embody aesthetic pollution concerns could be welfare enchanting." (The Economist, February 8, 1992, p. 66.)

In this case, there are wide variety of stakeholders because not only citizens of developed and less-developed countries are affected by the World Bank environmental policy, but also the natural environment and future generations. The *policy options* (alternatives) are as follows:

A1 = encouraging the migration of dirty industries to LDCs
A2 = not encouraging the migration of dirty industries to LDCs

The most relevant ethical norm that applies here is *fairness*. (**D**) It is formulated by *Hausman* and *McPherson* as the "pay-your-way" principle**,** which requires locating dirty industries so that those who derive the largest benefits from industries endure most of the pollution costs." (Hausman, D.M. & McPherson, M.S. 1996: p. 204.)

The declared goal of the World Bank is to *enhance global welfare*. (**G**)

The most important stakeholders can be identified as *citizens* of the *developed countries* (**S1**), dirty *industries* in the *developed countries* (**S2**), *citizens* of the *less-developed countries* (**S3**), the *natural environment* affected by dirty industries in the *developed countries* (**S4**), the targeted *natural environment* in the *less-developed countries* (**S5**), and *future generations* (**S6**).

From a deontological perspective alternative **A1** is certainly *wrong* while alternative **A2** is certainly *right* because the latter corresponds to the norm of fairness and the former violates it. Using the ordinal scale of **[1, 0, -2]** we can calculate the deontological values of **A1** and **A2** as follows:

D(A1) = **-2**
D(A2) = **1**

Alternative **A1** can be *useful* for the goal of enchanting global welfare with probability **p**. Alternative **A2** might be useless for the achievement of this goal with probability **q**. Using the ordinal scale of **[1, 0, -2]** we can calculate the goal-achievement values of **A1** and **A2** as follows:

G(A1) = 1(p) -2 (1-p) = 3p -2
G(A2) = 1(1-q) -2 (q) = 1 -3q

Migration of dirty industries to LDCs would be *good* for the citizens of developed countries (**S1**), for the industries themselves (**S2**), and for the natural environment affected by those industries in the developed countries (**S4**). However, it would be *bad* for the citizens of less-developed countries (**S3**), for the targeted natural environment in the less-developed countries (**S5**), and for future generations (**S6**) since environmental pollution is much more controllable in the developed countries than in the less-developed countries.

Using the ordinal scale **[1, 0, -2]** the stakeholder values of **A1** can be calculated as follows:

S1(A1) = 1
S2(A1) = 1
S3(A1) = -2
S4(A1) = 1
S5(A1) = -2
S6(A1) = -2

This policy option is *neutral* for stakeholders **S1**,...,**S5** since it does not change the present status quo. However, future generations (**S6**) could *benefit* from keeping dirty industries in the developed countries by forcing them to innovate and to become more environmental friendly.

For this reason the stakeholder values of alternative **A2** can be calculated as follows:

S1(A2) = 0
S2(A2) = 0
S3(A2) = 0
S4(A2) = 0
S5(A2) = 0

S6(A1) = 1

The question remaining is how to weight stakeholders **S1,...,S6**:

Let **v1,...,v6** be importance weights attributed to the stakeholders. On the basis of inter-species and inter-generational justice we can argue that equal weights should be attributed to nature, society, and future generations. This implies that **v1 + v2 + v3 = v4 + v5 = v6**. We do not discriminate between citizens of the developed countries and citizens of the less-developed countries, consequently **v1 = v3**. Similarly, we do not discriminate between the natural environment in the developed countries and the natural environment in the less-developed countries, consequently **v4 = v5**. Considering that almost everybody is served by dirty industries, they can get a weight similar to citizens of the developed countries: **v1** = **v2**.

It is required that

$\sum$ **vi = 1** (**i = 1,...,6**)

Hence we get

v1 = 1/9; v2 = 1/9; v3 = 1/9; v4 = **1/6; v5 = 1/6; v6 = 1/3**

Aggregate stakeholder values of the two alternatives are as follows:

S(A1) = - 5/6 ≈ - 0,83

S(A2) = 1/3 ≈ 0,33

Table 3 shows the different payoffs of the two policy options.

Table 3 Payoffs in the World Bank Case

	deontological value	**goal-achievement value**	**stakeholder value**
A1 alternative	**-2**	**3p –2**	**-0,83**
A2 alternative	**1**	**1 – 3q**	**0,33**

Multiple evaluations of the alternatives are provided by the following vectors:

V(A1) = [-2, 3p -2, - 0,83]

V(A2) = [1, 1 -3q, 0,33]

According to the maximin rule **A2** is better than **A1** since **min (V(A2) > min (V(A1)**. The worst component of **V(A1)** is **–2** while the worst component of **V(A2)** is **1-3q**, and the latter is greater than the former holding that **1 > q > 0**.

The World Bank should not encourage migration of dirty industries to less-developed countries. Encouraging migration of dirty industries to less-developed countries is unacceptable from the deontological perspective and also negative from the stakeholder perspective, so some questionable welfare improvement cannot compensate for the violation of ethical norms and vital stakeholder interests. The rejection of the policy option is also justifiable even if citizens of the less-developed countries get full monetary compensation from citizens of the developed countries.

3 Conclusions

The *procedural model* of ethical decision-making can be summarized as follows:

(I) Framing of the decision situation by
- (i) identifying the applicable ethical norms;
- (ii) mapping out the affected parties;
- (iii) defining goals and generating alternatives**.**

(II) Multiple evaluation of the available alternatives regarding
- (i) the ethical norms;
- (ii) the goals to be achieved;
- (iii) the affected parties.

(III) Finding the least worst alternative in the multidimensional space of deontological, goal-achievement, and stakeholder values.

The ethical decision-maker can be characterized as having the ability to take *multiple perspectives* and make *optimal balance* across diverse value dimensions. He or she is a properly socialized individual who has developed *reflexivity* regarding the *ethical norms* of her or his society and displays *empathy* toward *others*.

The components of the 3 R model of ethical decision-making, namely reverence for the ethical norms, rationality in goal-achievement, and respect for others can be considered as *virtues*. These are motivational dispositions that determine ways individuals tend to act in certain sorts of circumstances. The view of reverence, rationality, and respect as virtues is consistent with the *Aristotelian* notion that virtues are 'aretai', that is, *excellencies* that result from a person's self-cultivation. (PINCOFFS, E.L. 1992: p. 1286)

Perverse decisions of modern organizations can be avoided by employing ethical decision-making. The preservation of the natural environment and the provision of the good life for present and future generations require *critical sensitivity* to the *ethical norms* of society and *caring* for *human* and *non-human "beings"*.

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