Journal of Positive School Psychology http://journalppw.com
2022, Vol. 6, No. 4, 3370 – 3377

INFLUENCE OF MENAGERS ON PROBLEMS DEFINITION AND ALTERNATIVE SOLUTION (Decision Tree)

[1]Aziz Rrexhepi, [*2]Besarta Rexhepi Sahatqija, [3]Bashkim Mustafa, [4]Arbresha Meha

[1]A University of Applied Sciences Ferizaj_ Ferizaj, aziz.rexhepi@ushaf.net
[2]St. Kliment Oridski Bitol University Faculty of Hotleris and Tourism in Ohrid, besartarexhepi5@gmail.com
[3]University of Applied Sciences Ferizaj_ Ferizaj, bashkim.mustafa@ushaf.net
[4]University of Applied Sciences Ferizaj_ Ferizaj, arbresha.meha@ushaf.net

Abstract

A good agribusiness manager is a business manager, owner, or employee who knows when to shake a tree to reap as much fruit as possible. good, implementation of the solution and its control. In many situations, the decision-maker has information on future phenomena, therefore for the benefit of the decision-making process they can use probability to make decisions. But, what is worth noting is the fact that although probability can be used, some criteria help the decision-maker, but we have focused on two of them, the expected monetary value and the loss of the expected (expected) opportunity.

Agribusinesses are under the influence of the external environment and face internal problems, opportunities, and risks when using resources. From all these approaches we can say that decision making is the process of defining the problem, formulating alternatives for solving the problem, choosing the best alternative, implementing the solution, and controlling it]

In this context, the placement tree is one of the placement techniques, which is very useful in making managerial decisions. This is a photographic model, which represents the whole structure of the decision. For managers to successfully face these opportunities and threats, they must make decisions by finding the solution sought from the many possible alternatives. decisions are encountered in the planning part. This does not mean that managers do not make decisions while performing other functions, such as organization, teaming, leadership and control.

Keywords: manager, decision making, probability, agribusiness, model.

INTRODUCTION

Every manager who takes on the role of leading and governing the organization must make decisions. Because through this, managers try not only to improve the situation which serves them for the best achievement of goals and to successfully cope with internal and external influences. This process is an integral part of the overall management of the organization. The decision-making process is also important for managers during their engagement in planning, organization, motivation, and control as they permanently decide and make decisions.

Management is a way of organizing, finding the best way to put into function all the resources such as human, technological, equipment, buildings, inputs, and necessary materials of any agribusiness, enterprise, association, etc., to achieve the best possible results. good performance of relevant tasks. In today's context of modern management knowledge, importance is placed on cooperation between organizations, sharing of responsibility is encouraged, and employees are involved in decision-making processes Costa, Roe, & Taillieu, (2001. A popular saying goes: `` A manager The best agribusiness is the manager, owner or employee

of the business who knows when to shake the tree to get as much fruit as possible? The manager of agriculture must be able to lead, implement, motivate other members of the family, to decide in the most efficient way to be able to produce as productively as possible The quality of human and intellectual capital owned by institutions is generally treated as a key factor for their differentiation from rivals and for achieving high-quality results. Armstrong and Brown, (2001)

Humanity has always brought and made decisions because decision-making is an integral part of people's daily lives. The ability to make decisions is a skill, which is perfected with long experience. Man every day makes several different decisions. In an attempt to explain the decision-making process Von Neumann and Morgenstern used the normative model, which he called the expected utility model. Under this model, the individual will make the decision that maximizes an expected benefit. The expected benefit of an alternative Making the right decisions is the key to a successful direction in agribusiness enterprises, in our case of a good farmer. Having fully evaluated the decision-making process, we can consider that decision-making can be described as an action. of "choosing between alternatives", which at first glance seems like a very simple procedure. In a way, decision-making can be considered simply an active process of choosing between alternatives. What is emphasized in the article has to do with the fact that the decision-maker does not always have sufficient information about the economic consequences that may occur in the future hosted (1984). In these conditions, it is intended to explain that there are opportunities for the decision-maker to have information on future phenomena, so and for the benefit of the decision-making process he can use probability to make decisions. But, what is worth noting is the fact that although probability can be used, several criteria help the decision-maker, among which, two of them are highlighted, the expected monetary value and the loss of the expected opportunity.

Values can also give advice or suggestion describing how to do something but without getting involved in decision making. "Think twice before you decide." In intercultural psychology, the dimension of the most widespread and discussed values is collectivism and individualism ARexhepiISSN: 2065-0175 Œconmic(2021). Individualist cultures are defined as detached from ties and community. Individualists themselves see themselves as independent of the community in which they live as well as of what should have been their immediate circle (family and society). In the spontaneous style, sudden and immediate decisions, without much thought, are more prominent, while in the avoidant style, decision evasion or constant procrastination is discussed Scott S & Bruce, (1995). Kuzgun, (1992), on the other hand, defines decision-making styles as intuitive, logical the sum of their probability of success and usefulness. For some, it is very easy to decide, but they are routine, intuitive decisions, decisions can be rational, strategic, and operational uncertain, we need to know what where, when, who, and to what extent decisions are made using the concept of expected value, it is necessary from the outset for decision-makers to calculate approximately the possibility of realizing each of the economic consequences. Once these calculations have been made, the expected value for each decision alternative is calculated by multiplying each conclusion (by the decision) by the probability of the occurrence of these events and then collecting the corresponding results. The best decision we can make is the one that results in a higher expected value., The other criterion is the loss of opportunity. The decision-making process is very important for managers during their engagement in planning, organizing, controlling, and coordinating. According to R.L. Daft-setting is the process of problem identification and problem-solving process. According to Dunham and Persie, a setting defines as a set of activities, which begin with the definition of the problem and end with the solution of the alternative. John R. Schermerhorn is good from the whole of the alternatives. From all these approaches we can say that decision making is the process of defining the problem, formulating alternatives for solving the problem, choosing the best alternative, implementing the solution, and controlling it] In this context, tree placement is one of the placement techniques, which is very useful in m achieving managerial decisions. This is a photographic model, which represents the whole structure of the setting

Methodology

To enable the use of the concept of expected value, it is necessary from the outset for decision-makers to calculate approximately the possibility of realizing each of the economic consequences. Once these calculations have been made, the expected value for each decision alternative is calculated by multiplying each conclusion (by decision) by the probability of the occurrence of these events and then collecting the corresponding results.

Planning like any other activity is the basic function since all other actions implement the decisions taken at the time of planning, in our case the farmer sets the objectives of what he will cultivate, plant, and operate on his farm.

Decisions to be taken by the farmer will present in 6 steps:

1 .Review of main goals and specific objectives

2 .Inventory and evaluation of ready resources

3 .Identification of potential products and technical coefficients

4 .Pre-calculation of gross profit

5 .Choosing a combination of products

6 . Preparation of a budget for the whole farm

Chronology

These indicators are important when determining the maximum size and combination of production. To concretize this idea, let us refer to the problems related to the need to choose investment alternatives. Let's assume that based on the forecast, the farmer, the enterprise will expand its business activities, therefore and should invest in them, having in mind three alternatives.

Of course, investments need to consider certain probabilities of the possibility of good or bad economic conditions occurring. Let's assume that these probabilities are 0.06 and 0.04, respectively.

Table 1. Table of payments with the probabilities of economic phenomena.

No. The alternative decision for planting corn, economic consequences, good economic conditions, poor economic conditions

Alternative decision

for planting corn p = 60% p = 40% Loss of expected opportunity €

1 Alternative I € 5000 € 0 € 3000

2 Alternative II € 0 € 6000 € 2400

3 Alternative III € 7000 € 3000 € 5400

3 Alternative III € 7000 € 3000 € 5400

Expected Opportunity Loss (LEP) Euro 5000 * (0.60) + (0.40) * 0 = eur3000 and so on

As can be easily understood, the best decision we can make is the one that results in a higher expected value and that in our case turns out to be alternative two, with an expected value. But is this the decision we have to make? We should not rush, as the differences in costs are very high when compared to the other two alternatives, good and bad economic conditions,

Another decision criterion related to the expected value is the loss of the expected opportunity, (repentance). In this case, we multiply the probabilities by repentance for each outcome and on the other hand, we multiply the outcome of the decision by the probabilities of occurrence, as we did and by the expected monetary value Let's consider that the investor decided to milk corn. But he learns that in the future economic conditions will be better. This leaves him disappointed because he could have gained more from option two and thus, the rate of remorse would be € 6000 the difference between the investor's decision and the best decision. In these conditions, the decision-maker tries to avoid repentance by choosing the decision that minimizes maximum repentance. Referring to the criterion of repentance, the maximum profit for each economic consequence is chosen first.

The maximum profit when the economic conditions are good is € 100.00 and the maximum profit when we have bad economic conditions is € 30.00. All other profits if any economic consequence is deducted from these maximum profits as follows:

-Good economic conditions, 10000-5000 = 5000 second alternative 10000 € -10000 € alt, third10000-4000 = 6000

- Bad economic conditions, First Alternative 3000 € -3000 € = 0 € .alt second3000 € - (- 4000 €) = 7000 €, third alt .10000 € -30000 €.

As can be seen, the best decision will result in minimizing remorse, in this case minimizing the expected remorse or loss of opportunity. Given the fact that the minimum repentance is 24 00, € then the best decision that would have to be made would be option two. As can be seen, the recommended decision based on the calculation of the expected value, as well as the one calculated based on the loss of opportunity were the same, so alternative two

From the above, we can conclude that the decision made based on both the calculation of the expected value and the loss of the expected opportunity are dependent on the level of objective assessment of probabilities by the decision-maker, which means that, if inaccurate probabilities are used we will have wrong decision results, so it is important that the decision-maker is as accurate as possible in determining the probabilities for each economic consequence.

Decision-making tree

Another technique used to analyze a decision-making situation is a technique known in the literature as the decision tree technique. The decision tree is nothing in addition to a graphic diagram containing the decision node (root), possible events (branches),

and possible outcomes for each event. In this technique, in a decision tree, calculate the expected value of each result, and the decision is made based on these expected values. The primary profit obtained from the use of the decision tree is the illustration of a forecast, in other words, providing a general the landscape of the decision-making process

An example of decision making using the decision tree:

The different decisions, probabilities, and initial results of the previous example are illustrated in the following decision tree .

In practice, many management decisions are the result of a series of successive decisions. the decision tree and the study of the value of additional information enable the presentation of one-on-one decisions and the evaluation of influence. The tree represents the chronological order of a series of possible decisions of a manager and the results deriving from these decisions.

A technique used to analyze a decision-making situation is also known in the literature as the decision-tree technique. A decision tree is nothing more than a graphic diagram containing the decision node (root), possible events (branches and twigs), and possible outcomes for each event. A decision tree provides a quick systematic presentation of processes Decision points, Event points, probabilities

According to this technique, the expected value of each result is calculated in the decision tree and exactly, the decision is made based on these expected values. The primary benefit derived from using a decision tree is that of illustrating a prediction, i.e., providing an overview of the decision-making proces. Example of decision making through the decision tree:

The various decisions, probabilities, and initial results of the above example are illustrated in the relevant decision tree

Figure 1.

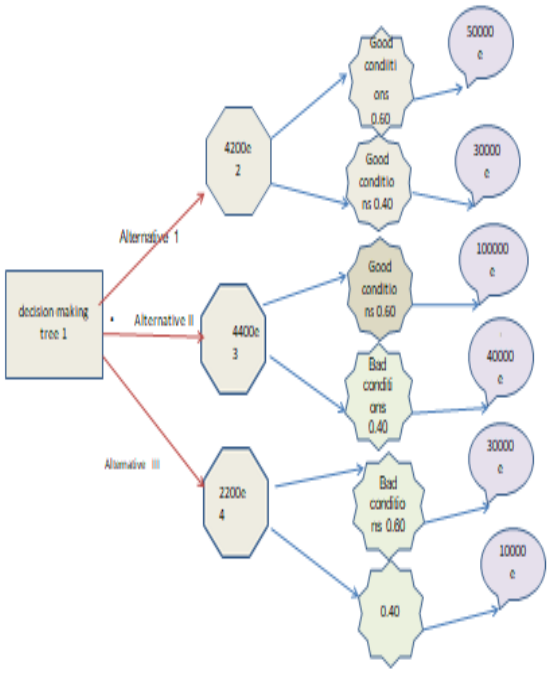

FIGURA 1. DECISION TREE FOR DECISION MAKING WITH THE DATA OF THE TABLE IN 10 HECTARES PLANTED WITH CORN

The process of determining the best decision we need to make, through the use of the decision tree, consists in calculating the expected values for each probability node, which turn out to be as follows:

VP (node 2) = 0.60 (€ 5000) + 0.40 (€ 3000) = € 4200

VP (node 3) = 0.60 (€ 10000) + 0.40 (€ -4000) = € 4400

VP (node 4) = 0.60 (€ 3000) + 0.40 (€ 1000) = € 2200

These values are now seen as expected payments from each of the three branches derived from node 1 in the scheme above. Each of these three expected values in nodes 2, 3, and 4 are possible decision outcomes that may result in node 1. Moving towards node 1 the selected branch will result from that probability node that provides the most expected payment high and that in our case is alternative 2 with a benefit of 44 00 €. The decision for this alternative, with a payment of € 44 00, is the same result we achieved earlier using the expected value criterion. In conclusion, it can be said that, if only one decision is made, then the result obtained through the decision tree will result in the same decision and the expected payment will result as in the case of the expected value criterion.

Analysis of decisions with additional information

Above we discussed the concept of expected value in terms of perfect information. We stressed that, if perfect information could be provided about what economic consequences we would face in the future, then, without a doubt, the decision-maker would make better decisions. But, since perfect information about the future is difficult to provide, it is necessary to provide additional information, to enable qualitative improvement of decision making. Using the expected value criterion, we found the best decision, which was alternative two with an expected value of € 44 00 We also managed to calculate the expected value of perfect information of € 28 00. This means that the company will be willing to pay $ 28,000 for information about the economic consequences, in favor of improving the quality of the decision-making process.

Let's assume that the enterprise has decided to hire an economics expert who will provide additional information about future economic conditions. The expert studies the economic situation on an ongoing basis and the investor's decisions will be based on the results of his research. Based on its obligations, the expert will have to provide the managers of the company with a report, which will contain in detail the economic situation for the future. The ratio can be positive, proving that good economic conditions are likely to prevail in the future, or negative, proving that in the future we may face bad economic conditions.

Based on the expert data on his forecasts for the future economic conditions, the managers of the enterprise should determine the conditional probabilities of the results that respond to the different situations provided through the report.

To express these conditional probabilities we will use the symbols:

g = good economic conditions. p = bad economic conditions. P = positive economic report

N = negative economic report

Let us assume that the conditional probabilities of each result of the report given the coincidence of each economic consequence are:

P (P / g) = 0.8. P (N / g) = 0.2. P (P / p) = 0.1. P (N / p) = 0.9

The preliminary probability that good economic conditions will be encountered in the future is 0.6. However, by providing additional information presented by the expert thanks to a positive report, the enterprise can reprocess the preliminary probability of the possibility of the occurrence of good economic conditions. Calculations show that the preliminary probability of the occurrence of good economic conditions is 0.923. Meanwhile, the remaining rear probabilities are:

P (g / N) = 0.250, P (p / P) = 0.077, P (p / N) = 0.750.

Now that the enterprise has the processed probabilities of future economic conditions, the question arises how will the probable

information be used in the decision-making process? The answer can be better defined within the framework of the decision tree.

Rear probability decision tree,

Using this decision tree, we determined that the most appropriate decision was alternative two with an expected value of € 4400 But, as noted above, the data provided by the expert provided us with other levels of potential probability. This is of course an additional stage in the decision-making process, which is posed in the decision-making tree, according to the following scheme.

Scheme 2. A decision tree with rear probabilities, in 1o hectare of harvested corn

Figure 2

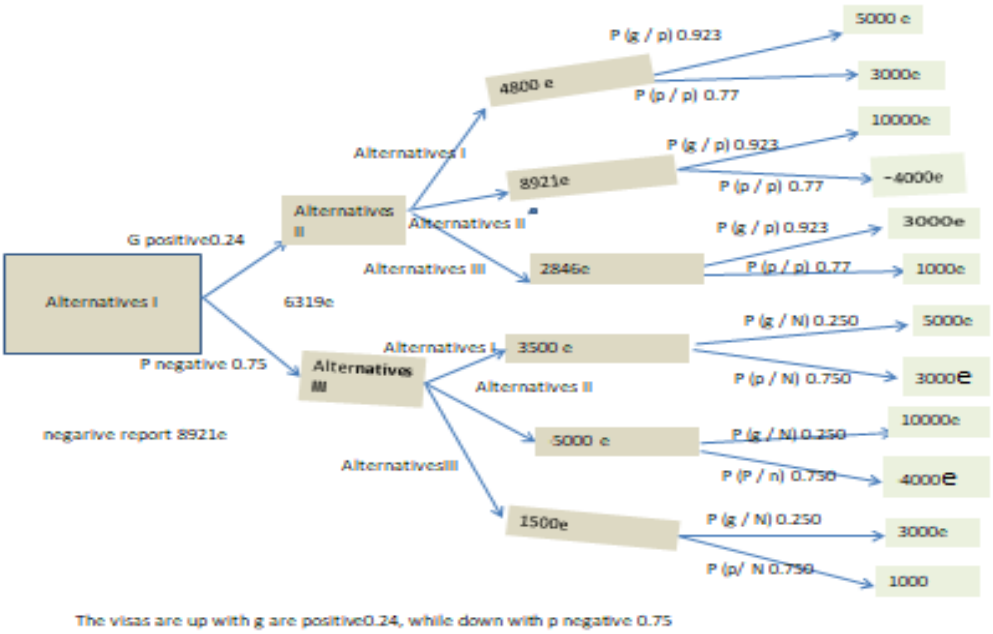

FIGURE 2. THE SECOND DIFFERENCE IS THAT THE PROBABILITIES OF THE OCCURRENCE OF ECONOMIC CONSEQUENCES ARE NO LONGER THE PRELIMINARY PROBABILITIES GIVEN IN SCHEME 1.

In their place are the revised rear probabilities. For example, if a ratio turns out to be positive, then in the above scheme a higher branch will be achieved, (from node one to node two.). If alternative 1 is applied (a branch from node 2 to node 4), the probability of good economic conditions is 0.923, while the probability of bad conditions is 0.077. These are the revised probabilities of economic conditions, based on a possible positive ratio. However, before we perform the expected value analysis using the decision tree, another piece of probabilistic information must be determined, - the initial

branches of a positive or negative economic report. Now we have all the information needed to perform an analysis of a decision tree. The analysis of the decision tree for our example is shown in the diagram below.

Decision tree analysis

To show how a decision tree is realized, let's start with node four. (Alternative 1)

(Ev Alternative 1) = € 500 * (0.923) + 30,00 * (0.077) = € 4846 and that is the expected value of alternative 1 having data both economic consequences. In this way, the expected values of nodes 5,6,7,8, and 9. are calculated. It is assumed that the investor will make the best decision, regarding the fact which investment he will make, relying on nodes two and three. The decision in node two will be alternative two with an expected value of € 8921, while the decision in node three will be alternative 3 with an expected value of € 35.00. These two results of nodes two and three refer to precisely the decision strategy. These represent a plan of

decisions to be taken having given both the positive and the negative reports by the economic agribusiness expert . The report could be positive, testifying that good economic conditions will dominate the future, or negative, inferring that in future we will face bad

economic conditions.

Based on the expert and his predictions regarding future economic condition, the

leaders of the enterprise should determine the conditioned probabilities of results

suitable to different situations provided in the report.

g = good economic conditions

p = bad economic conditions

P = positive economic report

N = negative economic report

Let us suppose that the conditioned probabilities of each result from the report given the chance are:

P (P/g) = 0.8

P (N/g) = 0.2

P (P/p) = 0.1

P (N/p) = 0.9

Previous probability which in future will face good economic conditions is 0.6.

However, ensuring additional information presented by the expert based on a positive report, the organization could reprocess the previous probability of the possibility of occurrence of good economic condition.

Calculations show that previous probability of the possibility of occurrence of good economic conditions is 0.923. Meanwhile, other (subsequent) probabilities are: P (g/N) = 0.250, P(p/P)

= 0.077, P(p/N) = 0.750.. Now that the company has processed probabilities of future economic conditions, the issue at hand is how to use that probable information in decision-making Using this decision-making tree, we determined that the suitable decision is alternative 2 with the expected value of 4400E. But, as we discussed above, the data obtained from the expert offered new possible probabilities. . This constitutes, obviously, another additional phase in the decision-making process presented in the decision-making tree in fig.2. These represent a plan of decisions that should be made having the positive and negative report from the economic expert as a source of data

Conclusions

Using the concept of expected value, it is necessary from the outset for decision-makers to calculate approximately the possibility of realizing each of the economic consequences

. Once these calculations have been made, the expected value for each decision alternative is calculated by multiplying each conclusion (by decision) by the probability of the occurrence of these events and then adding the corresponding results.

The best decision we can make is the one that results in a higher expected value.

Another decision criterion related to the expected value is the loss of the expected opportunity, (repentance). In this case, we multiply the probabilities by repentance for each outcome and on the other hand, we multiply the outcome of the decision by the probabilities of occurrence, as we did, and by the expected monetary value.

To analyze a decision-making situation, a technique known in the literature as the decision-tree technique is used.

According to this technique, the expected value of each result is calculated in the decision tree and exactly, the decision is made based on these expected values. The primary benefit derived from using a decision tree is that of illustrating a prediction, i.e., providing an overview of the decision-making process.

Reference

[1] `` Managerial decision making `` Prof. Dr. Vasilika Kume, Tirana 2002

[2] "Introduction to Management Science", Bernard W. Taylor III, Second edition, 1986

[3] “Agribusiness Management”. Steven P. Erikson, Jay T. Akridge, Freddie L.

Barnard, W. David Downey, Third Edition, 2002
[4] "Agribusiness Marketing. The Management Perspective ". James G. Beierlein, Michael W. Woolverton, 1991.
[5] 'Business'. Fred Luthans, Richard M. Hodgetts, Second Edition, 1992
[6] 'Human Resource Management Practice' Michael Armstrong London 200
[7] Paul Banfield_Rebecca Kay Introduction to Human Injury Management UET Press 2011
[8] Business Management, Shyqeri Laci Tirana 2010
[9] Peng M.W. (2009), 'Institutions, resources, and entry strategies in emerging economies. Strategic Management Journal
[10] Influence of motivating factors on the decision-making process in Kosovo SMEs Prof. Dr. Aziz Rexhepi Prishtina 2021.
[11] Journal of Statistics and Management Systems, (2022)