

PREPARATIONS FOR A MANAGEMENT DECISION ON MODERNISING A COLD STORAGE

Brigitta ZSÓTÉR
Jozsef GÁL
Nora LAURINYEZ

***Abstract:** In the course of our research, we aimed to evaluate the economic feasibility of an investment planned by a fruit growing company in Békés County. The evaluated project is the extension and development of the Hunapfel Ltd. cold store in Csorvás. The company is part of the MediFrukt Producer Sales Ltd., so this investment is important for several other companies, too, because of the rent of cold stores in the area of Békés County. In addition, the continuous expansion of the company, which currently manages 160 hectares, justifies the development.*

The planned development will be financed from the company's own resources. However, it plans to raise a smaller amount of current assets later to deal with any liquidity problems that may arise and to finance its current assets.

In our research we carried out cash flow calculation, in addition, net present value (NPV), internal rate of return (IRR), payback time (PB), discounted payback time (DPP) and profitability index (PI) were used as indicators of economic feasibility.

Our pre-investment calculations and cost-effectiveness calculations help the company management make investment decisions.

***Keywords:** technical investment, modernization of a cold store, pre-calculation, economic feasibility, preparation for a decision, return*

INTRODUCTION

One of the biggest problems of the fruticulture – especially apple production - in our country is that we do not have appropriate cold stores, the structure of the plantations is also one-dimensional, everyone wants to sell the produced fruit at the same time. It means that the prices fall significantly in harvest-time, the high-quality goods are largely industrially processed and large quantities of goods are destroyed. Thus, it is an indispensable part of the infrastructure of fruticulture to have proper

warehouses and cold stores (Bartha, 2007). Warehousing logistics service providers, as in our case, operate facilities dedicated for that purpose, which maintain the quantity and quality of the goods.

Nowadays, cold stores are regarded as the basic facilities for fruticulture. They ensure that fruits can be available on store shelves for 8 to 10 months up to 12 months, depending on customer needs (Lakner, Sass, 1997).

Without cold stores with modern (controlled airspace) or state-of-the-art (ULO oxygenation) cooling systems, which provide year-round shelf life, productive orchards cannot be sustainable economically (Buzássy, Garics, 1995).

It is difficult to determine exactly what the benefits and income of storage, how and to what extent it improves the results of farming and how to interpret its profitability, which are issues that Turi, Mocan and Goncalves (2015) also consider important.

Of course, this development must be consistent with the strategy the company has undertaken (Miculescu, Miculescu, 2012). Many people in the area are engaged in agriculture, so in our immediate environment we can see and experience the importance of modern technology and continuous improvement, as well as continuous learning (Sava, Weisz, 2012).

We often tend to disregard the natural features of the countryside (Sava, 2012) together with the role of smaller farms and businesses operating there. However, as Krisztián Kis (2013) writes in one of his studies, rural economies play an important, decisive role in the lives of people living in the given and surrounding communities.

The company of our research has been operating in Csorvás, in Békés County since 1994.

It provides jobs for hundreds of students and casual workers every day during harvest time, and thus a living. So, its role is indeed very significant for the region (Illés, 2013).

The company strives to increase its impact on the region with continuous extensions and developments (Illés, 2007). As György Hampel (2011) also mentions in his study managers can put their businesses at a competitive edge in a rapidly changing environment by making well-founded decisions in time.

They are planning to expand the existing cold store in the near future, the expected gross cash requirement of which is HUF 97,040,000.

MATERIAL AND METHOD

In the course of the research, we examined the future profitability of the planned investment with various economic indicators (cash flow, net present value, profitability index, discounted payback period) taking into account current tax laws, as well (Lenghel, Miculescu, 2016). The annual returns expected by investors is of 7%.

RESULTS OF MY OWN RESEARCH

The Hunapfel Agricultural Ltd. was formed in Csorvás (Békés County) in 1994. It was established by the German TUPAG-Holding AG Group and two Hungarian private people. During the years it became a part of the MediFruct Ltd. which has 60 members, 38 of which are companies in Békés County. Each member of the MediFruct Ltd. are engaged in fruit growing, including sour cherries, apples and watermelons. The site of the TЭСZ is the Hunapfel Ltd. in Csorvás.

The company sells its fruit both in the national and international markets. Its biggest international trade partners are Serbia and Germany. The destination is primarily fresh market delivery, but they are also destined for the canning industry. The position of the company is outstanding in Békés County. They farm a continuous area of 160 hectares, 100 hectares of which are self-owned and 60 hectares are integrated. The area created ensures the cost minimization and continuous development. This is evidenced by the fact that during the ripening season the company is able to produce 2-3 lorries of fresh sour cherry a day, which is outstanding not only at county level but also at national level.

Besides producing sour cherry, the Hunapfel Ltd. is engaged in producing apples, plums and cherries.

Table 1: The fruit harvested by the Hunapfel Ltd, broken down into varieties

Product	The average harvested quantity (ton/year)
Fresh sour cherry	900
Sour cherry for canning	300
Apple	900-1000
Plum	300
Cherry	100

Source: Hunapfel Ltd.

As it can be seen from Table 1, the company produces more fruit varieties, but its main profile is the apple and the sour cherry. However, in the last few years areas producing cherries have been continuously expanding.

The success of the Hunapfel Ltd. lies not only in the size of its area. Most of the plantations can be irrigated and protected with safety nets. The trees are cultivated with intensive cultivation, state-of-the-art crown shapes, and environmentally friendly plant protection, and the workers strive for excellent quality.

In order to be able to serve the customers continuously, the company has a 7-chamber cold store of capacity of 800 tons equipped with one of the most advanced Ultra Low Oxygen technology. 4 of the 7 chambers have a fast-cooling function, thus ensuring smooth transport. The cold store is not only used by the company but also by other members of the MediFrukt Ltd. in the frame of custom cooling, so it is a supplementary income for the Hunapfel Ltd.

At harvest time at the beginning of the summer the Hunapfel Ltd. employs around 300 people. The pleasant environment, the work morale of the employees and the performance-based salary attract large numbers of students seeking pocket money and adults seeking to supplement their regular salary from all parts of the county. The company advertises itself in several places, still the words of mouth advertising seem to be the most effective since the number of harvesters is growing year by year, which proves the success and prosperity of the Hunapfel Ltd. The research showed what future results the company can expect from the investment by financing it from its own resources.

We summarised the results in a table (*Table 2*).

Table 2: The summary of results obtained from calculations

Denomination	Expected values	Result
Net present value (NPV)	NPV>0	NPV= HUF 51.156.949
Internal rate of return (IRR)	IRR>7%(r)	IRR=12%
Discounted payback time (DPB)	DPB>50 years (t)	DPB= 16 years
Profitability index (PI)	PI>1	PI= 1,53

Source: Edited by the authors based on their own calculations

In our calculations we have investigated the self-financing of the investment. For this purpose, net present value, internal rate of return, discounted rate of return and profitability index values were taken into account. The net present value is HUF 51.156.949, which is higher than 0, so the investment is expected to increase the company's value. The value of the internal rate of return is 12% which is higher than the expected profit, so the project can be regarded positive. The value of the discounted payback time is 16 years, thus that is the necessary time to recoup the investment costs. As it is less than the expected lifespan of the investment (50 years), this indicator also proves that the investment will pay back (Illés, 2009). Finally, we calculated the profitability index according to which 1,53 HUF income can be expected after each invested 1 HUF over the useful life of the investment. In this case all indicators are positive, so the success of self-financing has been supported.

SUMMARY

All in all, we concluded that the planned project is economically viable within the time period, financed from its own resources.

We are planning to continue our researches in the future with risk analysis. We provide detailed scenario analyses, financial breakthrough calculations and sensitivity analyses.

As we draw our final conclusions, we trust that the expansion of the cold store will be successful, and that the investment will contribute to further growth and development of the company.

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NOTES ON THE AUTHORS

Brigitta ZSÓTÉR (Dr. habil. PhD) economist, associate professor; University of Szeged, Faculty of Engineering Department of Economics and Rural Development, Mars ter 7. 6724 Szeged, Hungary; phone: +36 62 546 569; email: zsoterb@mk.u-szeged.hu.

Jozsef GÁL (Dr. habil. PhD): engineer, economist, MBA, associate professor; University of Szeged, Faculty of Engineering Department of Economics and Rural Development, Mars ter 7. 6724 Szeged, Hungary; phone: +36 62 546 000; email: galj@mk.u-szeged.hu.

Nora LAURINYECZ (Eng.) University of Szeged, Faculty of Engineering Department of Economics and Rural Development, Mars ter 7. 6724 Szeged, Hungary.