

# Internal environment of an agricultural farm

## *Vnitřní prostředí zemědělského podniku*

D. KUDOVÁ

*Mendel University of Agriculture and Forestry, Brno, Czech Republic*

**Abstract:** Zemspol, Dešná, Ltd is a large corporation engaged in various aspects of agriculture in the Czech Republic, including agricultural production, the assembly, maintenance and repair of agricultural machinery, the production of feed stuffs and feed mixtures, special agricultural services demanding special entitlement, business related matters and accounting. This paper focuses on agricultural production. The farm manages 2 100 hectares of agricultural land suitable for growing potatoes, although the largest area is used for growing wheat. The range of produce remains constant. Regarding livestock, the corporation specializes in cattle with the steady head count 250 for the past 15 years. These are predominantly red and white cattle, optimized for both milk and meat production. The average annual production is 1 350 000 litres of milk and 250 tons of beef. The agricultural farm can be described as being a strong performer with a very stable base, good reputation and very attractive products, both of crops and livestock. In order to keep this enviable status, frequent internal and external environmental analyses are undertaken.

**Key words:** analysis, internal environment, value chain, strengths, weaknesses, plant production, livestock production

**Abstrakt:** Společnost Zemspol, Dešná, s. r. o. podniká v odvětví zemědělství v ČR. Předmětem jejího podnikání je zemědělská produkce, výroba, montáž a opravy strojů pro zemědělskou výrobu, výroba krmiv a krmných směsí, služby pro zemědělství vyžadující zvláštní oprávnění, obchodní činnost a vedení účetnictví a evidence. Vzhledem k rozsahu příspěvku byla pozornost soustředěna na zemědělskou produkci. Společnost obhospodařuje 2 100 hektarů zemědělské půdy v bramborářském výrobním typu, na kterých je produkován stále stejný sortiment komodit, na největší pěstitelské ploše je pěstovaná pšenice ozimá. V živočišné výrobě se společnost specializuje na chov skotu, velikost základního stáda se během posledních 15 let pohybuje kolem 250 kusů, převážně červenostrakatého skotu s kombinovanou maso-mléčnou užitkovostí. Průměrná produkce společnosti je 1 350 000 l mléka a 250 t hovězího masa ročně. Společnost lze charakterizovat jako silný podnik s velice stabilní základnou, dobrým jménem a velice kvalitní nabídkou v rostlinné a živočišné produkci. Aby si tuto pozici udržel, je třeba provádět průběžně analýzy vnitřního a vnějšího prostředí.

**Klíčová slova:** analýza vnitřní prostředí, hodnotový řetězec, silné stránky, slabé stránky, rostlinná výroba, živočišná výroba

Zemspol, Dešná, Ltd. is a large corporation engaged in various aspects of agriculture in the Czech Republic, including agricultural production, assembly, maintenance and repair of agricultural machinery, the production of feedstuffs and feed mixtures, special agricultural services, business related matters and accounting. This paper focuses on the agricultural production.

Zemspol, Dešná, Ltd. was founded on May 1, 1993 by four partners. All of them were top managers at the Statek Dešná, a.s. and from the inception, the

company leased an eastern part of the area of Dešná s.p. In 1995, the leased property was privatized by direct sale and Zemspol put its share to ZE-PO Dešná, Ltd. and established along with Kostecké uzeniny, a.s. the company Velkochov prasat, Dešná, a.s. After 2000, there were further changes and now there is a single owner. The company obtained shares in the Zemědělské družstvo Petřín and business shares of the Uherčice AGRO, Ltd.

Zemspol, Dešná, Ltd. is predominantly a plant and animal producer. Zemspol, Dešná, Ltd. is not only

---

Supported by the Mendel University of Agriculture and Forestry in Brno, Czech Republic (Grant No. VZ 62156 48904).

an economic contributor to the Southern Moravian Region, but therein it also supports cultural, social and sports- related activities.

The long-term goals entail strategic development of the company as well as ensuring development in both human and financial resources. With this goal in mind, short term plans also include: ensuring troublefree running of the company, providing adequate financial resources for its continuance, developing the working environment and improving the qualification of its workforce.

Descriptions and analyses of the internal operations of other Czech companies have been conducted by Hron (2004), Chládková (2006), Chládková, Kudová (2005) and Kudová (2006a, b).

The aim of this contribution is to classify and analyse the internal environmental factors of Zemspol, Dešná, ltd., with the use of value chains. This technique enables us to define and distinguish the activities by which the individual organizations differ and which affect their profits, identify weak areas and subsequently make proposals for the future.

The paper is a part of the solution of the research plan of the FBE MUAF in Brno (No. MSM 6215648904).

## MATERIALS AND METHODS

The principle of value chain belongs to the newest approaches, which allow for classification of the individual aspects of internal environment. The value chain defines and distinguishes activities which business is involved in and which have an effect on profits. It presents a model which takes into account the creation of a product and its elements.

The analysis of value chain in recent years has been widely used as a means of describing internal activities of an organization and their relationship to compe-

tition, its strength or its ability to provide valuable products or services. Value chain distinguishes between primary and secondary activities, nevertheless, the dominant activities are the primary ones – they finalize the process (Porter 1996) – Figure 1.

The internal analyses of the business were based on internal documents of the firm, advertising promotional materials and the internet. The evaluated seasons were 2003–2005.

## RESULTS AND DISCUSSION

Zemspol Dešná, ltd. is a modern agricultural concern utilizing the most progressive technology in its production. With 2100 hectares under production, the soil under cultivation is that of the potato production type (sub-type potato-corn) and in the area of 450 to 510 meters above the sea level on heavy argillaceous earth.

The company owns modern production lines. Its agricultural machinery, given its outstanding efficiency, is in service in other agricultural companies. The annual average production of milk is 1 350 000 litres and 250 tons of beef.

The company's production has been focused on the particular production process, and thus any production changes take a long time to implement. This is given by virtue of the internal CR and the EU policies, as well as agricultural structures. Each year, the company produces the same variety of commodities, with minor exceptions based on the way the management perceives profitability of the given commodities. These exceptions, however, relate to low yield commodities such as poppy seeds, caraway and clover seeds. This, of course, is dependent on market demands.

The crucial decision to change the soil cultivation technology was made shortly after the company

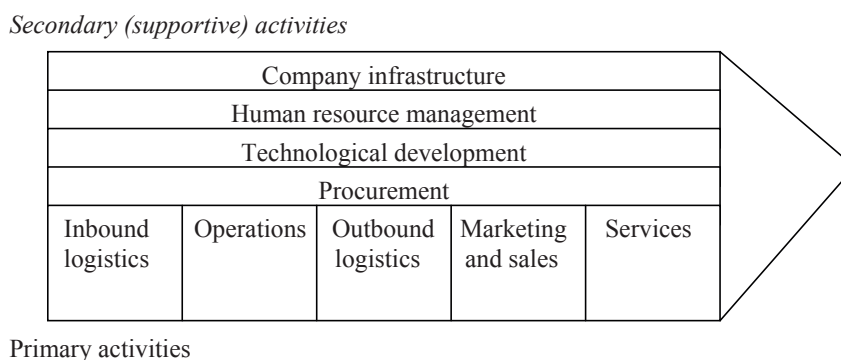


Figure 1. Value chain according to Porter

Source: Porter (1996)

foundation. The company backed off the traditional ploughing which was replaced by soil-protecting technology so the main technological process used in vegetable production is minimization process. The technology is used for over 70% of soil preparation and establishment of stands, furthermore, there are application lines for both farm manures and industrial fertilizers, heavy-duty machinery and for plant chemical protection which meet the strict requirements of the State Phytosanitary Administration, harvesting lines for cole-seed, grain, corn and ensilage maize, transport technologies, etc.

In the area of livestock production, an automatic tandem milking is used in a cow-shed with free stabling, a new feeding line and a new line for manure removal and bedding.

The changes occurred also as a result of the unstable situation in the market with plant commodities the production of which is connected to livestock production as well.

Agricultural areas showed economic deficits in providing feed supplies and therefore Zemspol decided to replace feed with grain, mainly winter rape-seed. The current acreage of the individual crops has settled on the values shown in Table 1.

Harvest areas of the individual crops fluctuate in the period under consideration. The reason are changes in marketability of the products.

The individual crops costs in the three monitored years have a downtrend, the only increase occurred in winter rape-seed and lucern. The exercise prices of nearly all commodities increased in the three years (Table 2).

Comparison of the exercise prices and costs reveals that the company makes profit in plant production. Comparison of costs and revenues of winter wheat as a crop grown at the largest area between 2003 and 2005 shows that the costs dropped by 31% while the exercised price increased by 16%.

In the livestock production, the company specializes in beef-raising and milk production. The basic herd size has stabilized at around 250 heads in the last 15 years. It consists mainly of red and white cattle used for combined meat and milk production.

As a part of the animal welfare advancement the stanchion housing has been rebuilt to places with free bedding stabling which was made possible due to the financial support from the SAPARD fund and the SZIF-OP contribution. At free stabling, the animals' comfort is at far higher level than in case of stanchion housing. The experience suggests that this way of breeding consequently improves the company's economic performance both in milk production and beef quality.

Evaluating the economic performance of "beef" commodity, we must admit that beef shows a loss

Table 1. Acreage and yields of individual crops in ha and t in 2003–2005

		Winter rape-seed	Winter wheat	Spring barley	Ensilage maize	Field peas	Lucern	Permanent grassland	Total
2003	ha	340	700	460	140	100	120	100	1 960
	t	425	2 312	1881	3 840	222	960	1 900	11 540
2004	ha	360	650	450	130	100	120	100	1 910
	t	905	4 300	2 100	5 400	230	2 520	145	15 600
2005	ha	380	750	560	110	100	100	100	2 100
	t	420	3 500	2 500	1 680	387	1 104	1 400	10 991

Source: Zemspol (2006), Company's intradepartmental material

Table 2. Costs and exercise prices of individual crops in CZK/t

Year	Winter rape-seed		Winter wheat		Spring barley		Ensilage maize		Field peas		Lucern	Permanent grassland
	costs	exercise prices	costs	exercise prices	costs	exercise prices	costs	exercise prices	costs	exercise prices	costs	costs
2003	5 351	6 400	2 560	2 500	1 904	3 000	571	2 900	2 403	3 000	451	595
2004	3 920	6 500	1 762	2 800	1 716	3 100	494	2 900	2 082	3 000	440	692
2005	5 414	6 000	1 755	2 900	1 786	3 150	466	2 700	1 953	3 000	467	542

Source: Zemspol (2006), Company's intradepartmental material

although the exercised price increase between 2003 and 2004 was historically the highest: 14.4%. The fact reflects a strong influence of meat and substitution commodities import. The loss is partially compensated by the EU subsidies. Milk production showed a loss just in 2003, the following years were profitable (Table 3).

The analysis carried out through the use of value chain is useful for the company in specifying its individual activities needed to support the company's objectives. Nine strategic company's activities consist of five basic and four supporting ones.

*Source operation management* – The company utilizes minimisation technology for soil preparation and establishments of stands. Livestock is fed with quality feedstuff.

*Production management* – The company utilizes harvesting lines for rape-seed, grain, and ensilage maize. The crop gathering is provided by modern transport technologies. In livestock production, the automatic tandem milking is mainly used in the cow-shed with free stabling, a new feeding line for manure removal and bedding. The company also has its own high-quality machinery for detection of dead poultry.

*Outgoing operation management* – Storage of commodities is a matter of high importance for the company engaged in livestock and plant production and therefore accentuating highly this area. All the production is transferred from storage directly into the distribution network.

*Marketing and sale* – As the company uses only indirect distribution and sells its commodities through the distribution network, it has its long-standing consumers and does not need to be deeply involved in promotion of its products.

*Services* – The company provides to its employees various types of training, field trips to agricultural exhibitions or to their suppliers' production plants, consulting service and programmes for employees.

The basic activities are connected with supporting or secondary activities which can be divided into four areas as follows:

*Company infrastructure* – The company ranks among large companies, the organizational structure is based on divisions by products and management is the line type.

*Human resource management* – Remuneration system supports the staff's motivation on the basis of timely and quality work. The selection of new employees is provided on the basis of job interviews.

*Technological development* – This area of secondary activities is of a very high importance for the company. It owns modern technologies, its mechanization is utilized by other companies as well.

*Securing resources* – The company covers a part of its feed provisions from its own sources (own crop). A high stress is laid on the internal road infrastructure needed for machinery transportation and internal supplies.

Development of the basic financial indicators according to profit and loss statements is shown in Table 4. The data suggest that the company's operating results are positive, its level fluctuates within the years in consideration. Calculation of the selected financial analysis indicators showed that the company's property is not utilized optimally. At the solidity analysis, the indicators of common solidity ranged above the optimum level during the monitored years.

The analysis of the company based on the value chain identified its strong and weak points as follows:

#### **Selection of company's strong points listed in descending order of priority:**

1. *Strong position in the Czech market* – The Zemspol company has earned a very good position in the market of agricultural commodities, its products are supplied into the distribution network consisting of strong companies.
2. *Modern technologies* – Zemspol, Dešná, ltd. is the owner of state-of-the-art technology for all steps of the production process.
3. *Sole proprietor* – This company's strong point allows for smooth running in the company's decision-making processes.

Table 3. Costs, yields and exercised prices of milk and beef

Year	Milk (CZK/l)		Milk yields (CZK)	Milk production cost (CZK)	Beef (CZK/kg)		Beef yields (CZK)	Beef production cost (CZK)
	costs	exercised price			costs	exercised price		
2003	8.03	7.60	10 260 000	10 840 500	40.92	36.00	9 000 000	10 230 000
2004	7.14	7.75	10 462 500	9 639 000	43.24	41.20	10 300 000	10 810 000
2005	7.62	8.25	11 137 500	10 287 000	47.48	43.15	10 787 000	11 870 000

Source: Zemspol (2006); Company's intradepartmental material

Table 4. Main items of the profit and loss statement (in thousand CZK)

Profit and loss statement item	2001	2002	2003	2004	2005
Revenues from sales total	49 245	81 786	43 985	58 723	46 578
Revenues from sales of goods	1 368	10 447	1 562	8 787	0
Revenues from sales of own products and services	47 877	71 339	42 423	49 936	46 578
Intangible and tangible assets depreciations	5 712	67 363	4 777	3 743	4 950
Accounting for reserves	0	0	0	0	0
Costs interests	1 643	-3 313	1 033	810	553
Pre-tax operating results	15 586	3 585	2 124	99	710
Taxed operating results	11 813	3 525	2 124*	99*	710*

\* The company has made use of the possibility to make regular deductions from the tax base in accordance with Act No. 586/1992 Coll. on Income Tax, as subsequently amended.

Source: Němečková (2007), Zemspol (2006), Company's intradepartmental material

4. *Stable range of commodities* – It consists of livestock and plant production. In the area of livestock the company focused on beef-raising and milk production. The vegetable production concentrates on winter rape-seed, winter wheat, spring barley, ensilage maize, lucern and permanent grassland.
5. *Customers' loyalty* – The company not only has a prominent market position due to its size but also to the quality of its products. The company's customers are longterm customers and partners.
6. *Staff satisfaction* – Very good remuneration at all posts, motivation system of bonuses and other employee's amenities.
7. *Work organization* – Work organization and utilization of all available capacities at certain time allows the company to utilize its human and technical resources very efficiently.
8. *Promotion* in the form of sponsorship of various social, cultural and sports activities. This form provides the company a suitable presentation and the expected publicity.
9. *Grants* – The company monitors, applies for and takes use of any possible subsidies provided by the government or the EU.

#### **Selection of company's weak points listed in descending order of priority:**

1. *Slightly higher company's available liquidity* – The company shows higher values than 1.7 between 2002 and 2005 while the recommended values are 1–1.5, which is more favourable from the creditors' point of view, not so much for the owners.
2. *Loss in beef production* – The loss is most probably caused by strong imports of meat and substitution commodities.

3. *Low profitability in milk production* – Milk production showed loss only in 2003, the following years were profitable (837 000 CZK/year).
4. *Company's Websites* – Contain out-of-date information.

#### **CONCLUSION**

An internal audit of Zemspol Dešná Ltd. is essential for the company's reception not only by the market but by the general public as a whole. The company is in a strong position with an extremely stable base, enjoys a good reputation and produces very high-quality plant and livestock products. Due to the links with other companies where the owner has shares, the company can share agriculture machinery with a considerable financial advantage.

In evaluating the primary activities of Zemspol Dešná, Ltd., we can conclude that all of them are presented. To achieve competitive advantage, it is essential to manage operations on the input side by minimizing ploughing to reduce costs, and to use modern technology in production operations, distribution and marketing.

As far as secondary activities are concerned, it is essential for them to provide their own feed, to create fodder reserves, to maintain technological development by constant modernization of operations and the use of new machinery. Most of the agricultural machinery is supplied by Vaderstat, and the tractors by Fent and Claas. In the area of human resource management, the majority of the workers are in the age category 26–35, which is rather unusual for a farming business.



The favourable initial conditions enabled the company to cope with the changes connected with accession of the Czech Republic to the European Union and allowed it to focus its immediate attention on the new laws and standards which came into force at the time.

The internal audit has confirmed that the company's strong points outnumber its weak ones. This conclusion means that Zemspol Dešná, Ltd. is a troublefree company with a stable basis. However, it should control its available liquidity and update its web pages.

## REFERENCES

- Hron J. (2004): Diagnosis of business health. *Agricultural Economics – Czech*, 50 (12): 545–551.
- Chládková H. (2006): Internal environment of a bakery and its analysis. *Agricultural Economics – Czech*, 52 (2): 83–89.
- Chládková H., Kudová D. (2005): Charakteristika vnitřního prostředí firmy Patria Kobyli (Characterization of the internal environment of the Patria Kobyli Company). In: *Factors of company success in the conditions of European agrarian market*, (1) 86–90, Slovak Agricultural University, Nitra.
- Kudová D. (2006a): Charakteristika vnitřního prostředí vinařského podniku Templářských sklepů Čejkovice (Characterization of the internal environment of the Templářské Sklepy Čejkovice). In: *International Scientific Days 2006 “Competitive advantage in EU – challenge for countries V4”*. Slovak Agricultural University, Nitra, pp. 857–864.
- Kudová D. (2006b): Situační analýza vnitřního prostředí PENAM, a.s. (Situation analysis of the internal environment of the PENAM, a.s.). In: *Czech economy in the process of globalization*. Masaryk University Brno, pp. 92–96.
- Němečková L. (2007): Internal environment of an agricultural farm. [Bachelor thesis at MUAF in Brno at the Department of Management. Thesis supervisor Kudová D.] MUAF, Brno.
- Porter M.E. (1996): *Competitive Advantage*. Viktoria Publishing, Praha.
- Zemspol, Dešná, Ltd. [on-line]. [Quoted 2006-11-25]. Available at <http://zemspol.com>
- Company's intradepartmental material.

Arrived on 17<sup>th</sup> September 2007

---

### Contact address:

Dagmar Kudová, Department of Management, FBE MUAF in Brno, Zemědělská 1, 613 00 Brno, Czech Republic  
e-mail: [kudova@mendelu.cz](mailto:kudova@mendelu.cz)

---