

THESIS OF DOCTORAL (PhD) DISSERTATION

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**HUMAN RESOURCE MANAGEMENT AND JOB
SATISFACTION IN PIG PRODUCTION**

BY:
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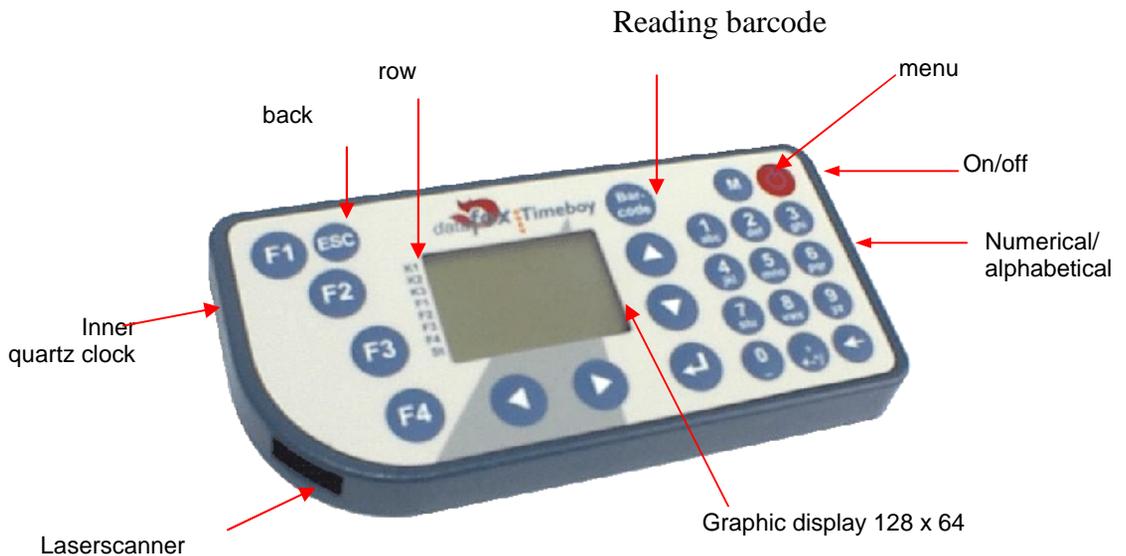
1. PRELIMINARIES AND OBJECTIVES OF STUDY

Reforms taking place along with the change of economic regime, the restructuring of ownership and changes in agricultural policy made difficult for Hungarian agriculture to adapt to changing international environment. Economic establishments operating under new proprietary and organisational structures need to consider the aspects of market-economy and need to produce effectively. Therefore, such evidences as job bating, redundancy, and unemployment have become everyday reality. In most agricultural production units new aspects of production management and incentives of performance are witnessed.

In the course of my PhD researches a dual objective was set. On one hand, to examine the most important issues of management from the aspect of the employers' view – in order to identify the labour efficiency of represented employees, the working time structure and to create a database for a following rationalisation process. On the other hand, to reveal the significant questions of labour management from the aspect of the employee and the relations of work satisfaction.

2. Material and method

In the course of individual working day registration on pig farms, the methodology been spread internationally was used, which provides a method applied widely for revealing time-loss. The time periods of work elements was recorded with Datafox-Timeboy tool (Figure 1).



Firstly a code-39 format was prepared in order to use Datafox - Timeboy device. Therefore, barcodes were created for each activity to make data recording easy for each activity; the device reads the codes.



e.g. *ironing*

Barcode is read by scanner and it creates electronic sign to be transferred into a mobile data collector together with the exact time of

reading. At the end of data recording, the data are transferred to pc in ASCII format and are analysed with Ms Excel.

Mainly full days were examined in the course of working day registering. For periodically repeated activities, samples were taken in certain cases. It was reasonable to register the work activities at the level of work elements. This level means a suitable depth to classify the activities into any of the following groups: main time, by-time and time-loss, or basic time, productive time, norm time.

The registration period was focused on the morning and afternoon shifts because of the number of employees and the complexity of work activities. Due to the safety of personal data, nothing personal was recorded on the workers except for their Christian names, these were however not used later on in the processing phase. The widely used Hajós type time coding was applied in the analysis.

The work satisfaction of employees was analysed with questionnaire. Before starting the survey, I contacted the Association for Hungarian Pure Breed Hog Producers who provided a list of pure breed pig producers (address, name, contact person), then all producers were contacted. The questionnaire-based survey was carried out between 1st March 2009 and 15th October 2009. (36 producers, 344 employees – out of them 340 were evaluable). Altogether 22 questions analysed the work satisfaction (from aspects of motivation on job choice, relation system at workplace, satisfaction, attitudes on management). The open and closed questions were tested and necessary corrections were made prior to survey. The data were analysed with SPSS 16.0. The coding of data was done according to the following:

- For background variables: female: 1; male: 2

- Education level was coded according to the order in the questionnaire.

Positions:

1. managers: farm manager, executive director, head of division, head of unit, work group leader, inseminator
2. technicians: locksmith, welder, repairer, machinist
3. herdsmen
4. miscellaneous staff: tractor driver, driver, guard, receptionist, unskilled labour, administrator, book-keeper, payroll calculator, leech, storekeeper

Mathematical-statistical tools used in the analysis:

- Frequencies, distribution analysis,
- Weighted arithmetical average, variation, coefficient of variation,
- Cross-tables, likelihood,
- Statistical tests to reduce uncertainty of correlation,
- Risk of estimations in case of cross tables.

For the qualification related analysis, the qualification index developed by Zalainé Piros M (2002) was used and modified – thus a new indicator was developed named as labour force value. This indicator shows the calculated value for given organisation based on the overall education level of its employees.

The differences applied in the new method compared to the qualification index:

Education levels:

- Primary school or lower,
- Vocational school,
- Other vocational school,
- Professional vocational school,

- High school graduation,
- Upper level high school
- Higher education,
- PhD.

The education levels were coded from (-3) to 4 points, where point 1 meant high school graduation (maturation exam). On the basis of the previous, labour force values for different age groups were calculated (years 18-29, 30-39, 40-59, 60+). The scheme for classification based on labour force value:

- (-3) - (-2,51) Primary school or lower
- (-2,50) - (-1,51) Vocational school
- (-1,50) - (-0,50) Other vocational school
- (-0, 49) 0,50 Professional vocational school
- 0, 51 - 1,50 High school graduation
- 1,51 - 2,5 Upper level high school
- 2,51 - 3,5 Higher education
- 3,51 - 4 PhD

The new indicator is a weighted arithmetical average; providing the overall labour force value for the organisation.

3. RESULTS AND DISCUSSION

3.1 INTRODUCTION OF THE ANALYSED PIG FARM

The Mez gazdasági Zrt was founded in 1970 it is still one of the determining actor of the agriculture in county Somogy. It produces and trade it own produced crops and animals. The main sector is pig production with 340 sows. It operates in KAHYB system, with installation of pavilions, main profile is end product production. Artificial and natural inseminations are parallel applied. The cross-breeding process in criss-cross breeding is:

KAHYB large white X Danish and Norwegian landrace

Mating of individuals from two different breeds most importantly results in the so called hybrid vigour, heterosis. In the alternate generations, the genome of parents can be found in one third: two third ratio.

3.2 PRODUCTION PERFORMANCE

The most important indicators of production performance are summarised in Table 1.

Table 1: Main indicators of pig production, 2005-2008

Denomination	2005	2006	2007	2008
Number of sows (db)	320	320	320	330
Number of sows per worker (db)	17.77	17.77	17.77	18.33
Feed per kg weight growth (kg)	3.71	3.84	4.14	4.14
Alive piglet per litter (db)	9.00	10.00	10.00	10.00
Average number of fattening pigs (db)	1760	1690	1830	1650
Average market price of fattened pig (Ft/kg)	310	315	275	264

Source: own data-collection

Table 2: Main indicators of breeding performance, 2005-2008

Denomination	2005	2006	2007	2008
Conception rate %	70-75	75-80	78-85	75
Average litter size at birth per sow	9-11	9-12	10-12	12
Average number of weaned pig per sow	9.5-10	9.5-11	10-11	10
Number of farrowing per year	2.2	2.2	2.2	2.2
Mortality rate up to weaning %	5-6	3-5	3-5	4
Sow culling rate %	25	25	35	10

Source: own data-collection

The conception rate varied between 65 and 75%, which is much lower than that of previous years. It can be explained by the exactness and expertise of the inseminator; therefore the artificial insemination is being introduced, which is a risk factor. The average number of farrowing per year at herd level was 2.2, although it can be even 2.3-2.4 for certain sows if they got pregnant at first insemination. Average size of litter (12 piglets per sow) and the average number of weaned pigs per sow (10) are moderate figures. The mortality rate was around 4% up to weaning, which data refers to only piglets older than 24 hours. If these piglets were also considered, the mortality rate would be 8 to 10%. The reasons can be genetic and human, as well. The previous can be easily avoided with the application of suitable technology. Environmental risks although depend on the workers. According to the managers, this percentage can be improved if they were able to employ workers who have better skills in animal care giving and like animals, as well.

Table 3: Indicators of breeding performance, 2005-2007

Denomination	2005	2006	2007
Average number of sows	320	320	320
Number of litters per year	5 litters in 2 years	5 litters in 2 years	5 litters in 2 years
Average rearing proportion, %	85-95	85-95	85-90
Litter at age 28 days:			
Average size (number)	8.8	9.2	9.2
Litter weight (kg)	52-53	55-56	55-58
Average piglet weight (kg) tö	6-7	6-7.2	6-7.2

Source: own data-collection

The level of concentrated feed used to gain one kilogram live weight was between 3.71-4.14 kg/kg. The reasons why this figure is higher than that of countries with developed pig production are partly the feed wastage and other human factors. The old sows are need to be culled, because these fat sows give birth only to smaller number of piglets or face hard farrowing. These piglets are week and die; if the sows got pregnant at all. In order to assess the effectiveness it is necessary to analyse labour productivity. These kinds of analyses are timely due to the fact that wages, as well as contributions increased. Table 4 shows the labour demand of the pig farm. According to the above data, the analysed farm has significant labour reserves compared to a similar sized farm; hence at the moment of the survey three managers supervised the work of six people. In my opinion, the rationalisation of labour use will be one of the most important tasks of the farm for the future.

Table 4: Labour need of farm

	Nomination of jobs	Number of workers employed in 24 hours of the working day (person)	Number of working hours per day (hour per day)
1	Herdsmen	8 persons/2 shifts	8
2	Repairer	1	8
3	Tractor driver	2	8
4	Feed mixer	1	8
5	Driver	3	8
6	Guard	2	8

Source: own data-collection

3.3 RESULTS OF LABOUR MANAGEMENT ANALYSES

3.3.1 FARROWING STABLE

Table 5 shows the proportional structure of work elements of working days. Looking at the overall data it can be seen that basic time represents (T_1+T_2) 61.35 % of the total time. Compared to references for agricultural works this figure is rather fair (higher than 60%). Though it is important to mention that sustained or improved performance can be achieved by management or logistical models at a moderate level of extra costs. Further review is necessary on the service time T_{31} with 6.11% at local level. Practically, this means 17.05 minutes that decreases basic time. Service time can be reduced by a continuous maintenance or replacement of self-feeders and self-drinkers. T_{33} time (0.72%) – time used for daily task allocation and order-giving along working is hypothetically similar to expectations. At first glance t_5 time – for rest and private needs – may seem high (8.23%), but considering the quarter-hours at the beginning and at the end of the working day, the remaining 23 minutes suites to both the local and the legal requirements. T_{62} time is used for movements among buildings.

The 6.03% share registered here is not unreasonably high but this time could be reduced if a bicycle would be disposed for travelling on the farm.

Table 5: Structure of working day by work elements in farrowing stable

<i>T</i>	2009.08.11	2009.08.20	2009.08.21	<i>mean</i>		%
1	2:06:57	2:27:28	3:07:19	2:33:39		
21	0:00:00	0:00:00	0:00:00	0:00:00		
22	0:05:15	0:12:01	0:12:20	0:09:18	Basic time	
23	0:19:25	0:02:30	0:07:56	0:09:23	2:53:43	61,35
3	0:00:00	0:00:00	0:00:00	0:00:00		
31	0:15:23	0:25:15	0:11:58	0:17:45		
32	0:10:10	0:10:20	0:30:45	0:17:05		
33	0:01:28	0:00:00	0:04:55	0:02:07		
41	0:00:00	0:00:00	0:00:00	0:00:00		
42	0:00:00	0:00:00	0:00:00	0:00:00	Productive time	
43	0:00:00	0:00:00	0:00:00	0:00:00	3:30:28	74,20
5	0:17:19	0:09:27	0:44:12	0:23:52		
61	0:00:00	0:00:00	0:00:00	0:00:00	Norm time	
62	0:07:21	0:21:11	0:25:17	0:17:23	4:11:30	88,07
71	0:00:00	0:00:00	0:00:00	0:00:00		
72	0:00:00	0:00:00	0:00:00	0:00:00		
73	0:00:00	0:00:00	0:00:00	0:00:00		
8	0:37:45	0:23:12	0:38:52	0:33:16	0:33:03	11,93
Total	4:01:46	4:11:16	6:03:34	4:45:48		

Source: own data-collection

3.3.2 Fattening stable

The proportional structure of work elements per working day is seen in Table 6. The above data call our attention at the low level of basic time (T_1+T_2), with an average of 51.43%. I believe that it can be explained by the applied work-time system at the farm. Years ago working shifts were introduced by the management although with much higher number of animals. At the beginning this system seemed to work well, but by today the

number of animals have decreased at such an extent that the use of shifts is not reasonable any more. I want to emphasise that the use of shifts is reasonable at larger farms (around 600 sows). On the working day examined, the workers finished their work around one hour before the end of the workday; and only quasi-activities were seen after then.

Table 6: Structure of working day by work elements in fattening stable

<i>T</i>	2009.08.13	2009.08.18	2009.08.14	Mean		%
1	3:23:57	3:05:21	2:34:43	3:01:33		
21	0:00:00	0:00:00	0:00:00	0:00:00		
22	0:11:15	0:00:00	0:19:18	0:10:11	Basic time	
23	0:00:00	0:00:00	0:00:00	0:00:00	3:11:44	51,43
3	0:00:00	0:00:00	0:00:00	0:00:00		
31	0:04:30	0:18.00	0:14:41	0:12:37		
32	0:17:00	0:26:33	0:34:07	0:25.20		
33	0:04:26	0:06:32	0:05:32	0:05:43		
41	0:19:21	0:17:31	0:21:31	0:19:41		
42	0:00:00	0:00:00	0:00:00	0:00:00	Productive time	
43	0:00:00	0:00:00	0:00:00	0:00:00	4:14:12	68,44
5	0:19:53	0:35:54	0:30:10	0:28:52		
61	0:00:00	0:00:00	0:00:00	0:00:00	Norm time	
62	0:13:13	0:11:47	0:08:24	0:11:08	4:54:12	79,02
71	0:00:00	0:00:00	0:12:23	0:04:07		
72	0:00:00	0:00:00	0:00:00	0:00:00		
73	0:00:00	0:00:00	0:00:00	0:00:00		
8	1:27:16	1:04:49	1:01:49	1:11:18	1:11:18	21,98
Total	6:20:51	6:15:05	6:02:38	6:12:18		

Source: own data collection

Also further consideration of t_{41} with 19.41 minutes is necessary, which was in relation to the fact that the manure remover continuously went wrong. This high figure is also in connection with T_{32} , which calls the attention at the physical status of the building and the necessary and unavoidable reconstruction of the machinery and equipment.

3.3.3 SOW AND BOAR STABLE

The proportional structure of work elements in boar and sow stable per working day is seen in Table 7.

Table 7: Structure of working day by work elements in sow and boar stable

<i>T</i>	2009.08.17	2009.08.19	2009.08.26	Mean		%
1	3:16:56	2:42:02	3:46:59	2:55:19		
21	0:00:00	0:00:00	0:00:00	0:00:00		
22	0:06:44	0:10:54	0:11:03	0:19:47	Basic time	
23	0:46:26	0:26:15	0:02:57	0:35:12	3:46:45	59,40
3	0:00:00	0:00:00	0:00:00	0:00:00		
31	0:18:03	0:12:08	0:09:08	0:13:06		
32	0:20:25	0:18:46	0:24:58	0:19:23		
33	0:34:08	0:09:48	0:25:55	0:23:17		
41	0:00:00	0:00:00	0:00:00	0:00:00		
42	0:00:00	0:00:00	0:00:00	0:00:00	Productive time	
43	0:00:00	0:00:00	0:00:00	0:00:00	4:44:16	73,10
5	0:34:11	0:20:30	0:19:04	0:31:15		
61	0:00:00	0:00:00	0:00:00	0:00:00	Norm time	
62	0:15:51	0:35:20	0:17:26	0:19:45	5:31:20	87,02
71	0:11:13	0:00:00	0:00:00	0:02:04		
72	0:00:00	0:00:00	0:00:00	0:00:00		
73	0:00:00	0:00:00	0:00:00	0:00:00		
8	0:43:56	0:40:35	0:23:40	0:39:03	0:48:22	12,98
Total	7:11:24	5:36:18	6:01:10	6:16:17		

Source: own data collection

The proportion of basic time (59.40%) within working time is rather acceptable. This figure can be improved with only small effort taken in management. An example can be mentioned: the average time 19.32 minutes spent on preparation of tools and for tidying up. Similarly, times T_{32} and T_{33} can be mentioned, which can be easily reduced by more rationale

management. On the basis of a first examination, the 8.28% proportion of T₅-ös within working time is not really significant but considering that the workers have enough time to rest during mating, the aggregate sum of 31.15 minutes is rather significant time expenditure. It is important to point out to T₈ (time-loss), which originates in a poorly managed working time structure. The solution can be provided by the replacement of shifts for eight-hours working day here, as well.

3.4 COMPETITIVENESS OF ANALYSED PIG FARMS

From the aspect of efficiency of fattened pig production, it is reasonable to examine the performance of analysed farms in international context (Table 8). According to the data, the mortality rate is rather favourable both for pig rearing and fattening stage. It even proved to be better than in countries with developed pig production, in few cases. Contrary, the used feed per kilogram weight gain was rather bad. Extreme figures can be seen for feed use per kg weight-gain at certain farms compared to the international references (2.81-4.14 kg/kg). Though this figure of farm II was 5% better than the Hungarian average, it was still 10% behind that of countries with developed pig production. This can be explained by out-of-date technology, feeding practice and by the role of human resource (“disappearing feed”). It is also eye-catching that the daily weight gain was below the Hungarian average figure at the farms I and II. In case of the Somogysárd farm with best figures the daily weight-gain was 5% higher than the average of Spanish farms, but 21% lower than the Danish and 14% lower than that of Dutch farms. Knowing the Hungarian current situation, the improvement of efficiency is primarily dependant on the improvement of number of slaughtered pig per sow per year. The number of litter per sow per year is a strong efficiency indicator of breeding performance. It is around 2.2

and 2.4 for countries with developed pig production, which is similar to my findings at the analysed farms, which shows that the Hungarian pig farms are able to perform at same level. The number of reared piglets is however far behind at the analysed farms and in Hungary as well; improvement in this is one of the most important tasks of enhancing efficiency. In order to evaluate this figure, we need to consider that the annual feed consumption per sow is 1.4-1.5 tons (Magda, 2003), and additionally the other costs accompany. This cost per piglet will be smaller if the sow continuously produces. Human resource has an important role here, as well. The most urging problems of pig production in Hungary: the number of slaughtering pigs per sow, used feed kg per kg weight gain, the length of fattening period and the number of litter per year per sow.

Table 8: Productivity of fattened pig production

	S. sárd	I. farm	II. farm	HU	DK	NL	E
Fattened pig per sow per year	14.45	-	21.45	16.8	22.5	23.2	21.9
Mortality in farrowing stable %	4	5	5.71	9	14.0	12	11
Mortality in pig rearing stable %	4.5	2	3.82	5	5	2	4
Mortality in fattening phase %	7	5	6.44	7	4	3	7
Feed use in fattening phase kg/kg	4.14	3.3	2.81	3.7	2.69	2.65	2.71
Daily weight gain g/day	666	600	602	659	835	774	638
Live-weight at slaughtering kg	112.5	110	109.9	109.4	102	113	103.2

Source: own data collection and Danish bacon and Meat Council (2004)

From the aspect of efficiency, it is important to analyse labour productivity. Such analyses are especially important as during the last period

of time, but nowadays as well, the labour costs have increased. According to the literature on this, the taxes on labour represent 42.5% in case of the EU15 and OECD countries, while this is 54.5% in Hungary (Nyárs – Udovecz, 2009). The number of sows per worker is seen in Table 9. The data call the attention to that the Hungarian pig production has significant reserves in the improvement of labour productivity.

Table 9: Number of sows per worker at the analysed farms

Denomination	Number of sows per worker
Somogysárd	18
I. farm	33
II. farm	45
III. farm	12
Hungarian average	18
English farms	70
USA farms	88

Source: own data collection and, Fejes 1996

At the analysed farms the number of sows per worker exceeds the Hungarian average but even the best farm (II) is behind the English and USA farms. The labour force structure on farm III is worth mentioning (Annex 24), where three guards are employed for 184 sows. Considering that the guard costs represent 0.5% of the total annual revenues (Nyárs-Udovecz 2009), this seems to be rather a wasting labour management. It is also important to mention the number of managers at the farms. According to the analyses the number of workers per manager was between 6 and 8. Solutions can be provided by technological investments, but considering the low rate of profitability in the sector, it is hardly possible at entrepreneur level.

The comparative analyses of work management led to the conclusions that the productive time was most favourable in the boar and sow stable; it was followed by farrowing stable and in the end the fattening

stable. In the course of the data analysis more work management mistakes were revealed. On the Somogysárd farm using shifts causes high time-losses at all workplaces; while the high number of workers resulted in poor basic time and productive time and high time-losses at farm III.

3.5 WORK SATISFACTION

3.5.1 DEMOGRAPHY AND QUALIFICATION

The proportion of employees involved in survey by their age and sex is shown in Figure 2.

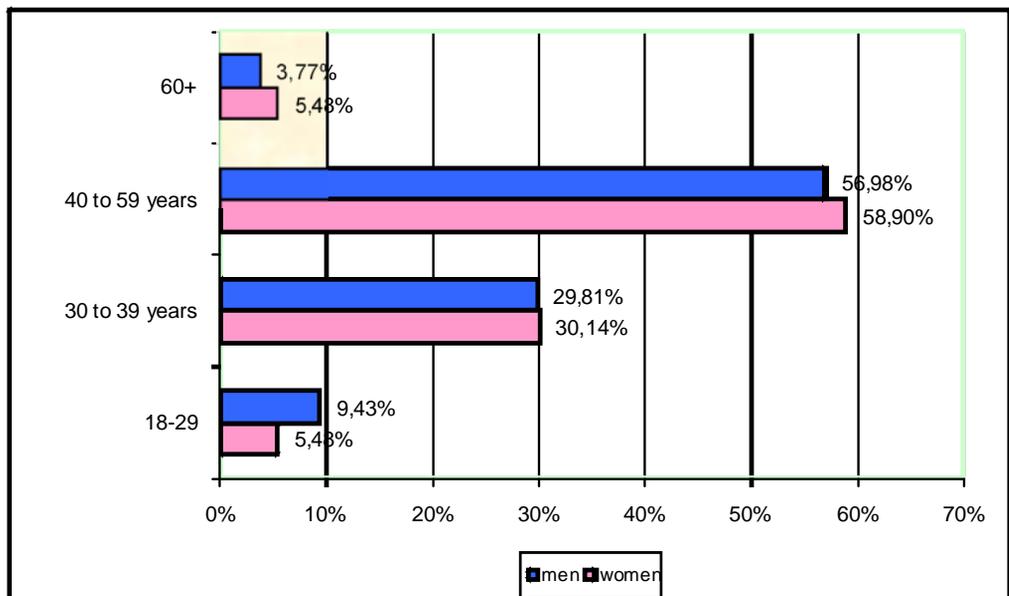


Figure 2: Proportion indices of employees by age and sex

Source: own data collection

From the above figure it can be stated that pig production is not an attractive option for the young – due to its low income and profit making capability. In my opinion, the demand and willingness for agricultural jobs are highly influenced by the little free time and gradually more unreliable future. My state is proven by that 14.91% of the respondents belong to the

age group between 18 and 30 years. It is important to emphasise that the findings are in line with international tendency such as that the age structure of agricultural employees is getting gradually worse (Hamza E. et al., 2001). This is also proven by a HCSO (2008) study underlining that the 54% share of employees younger than 40 years in 1990 decreased to 38% during 15 years. The study emphasises that the share of employees aged above 60 years increased by eight-times. Another significant issue is qualification. Qualification of human capital is inevitable for effective and competitive agricultural production; as to gain the modern market and technological knowledge necessary for production is easier for skilled workers. In case of the analysed farms, the labour value index varied from -0.80 and -1.21; which reflect that the qualification level of employees is very low.

Labour value indices were found for different age groups are as follows:

18-29 years:	(Kve ₁): -0,84
30-39 years:	(Kve ₂): -1,21
40-59 years :	(Kve ₃): -0,80
60 years:	(Kve ₄): -1,20

On the basis of the applied model, the least favourable situation is seen in case of age group between 30-39 years, while the best figures for 40-59 years. The findings are proven by Figure 3, as well, where the highest level of graduation of the employees is shown.

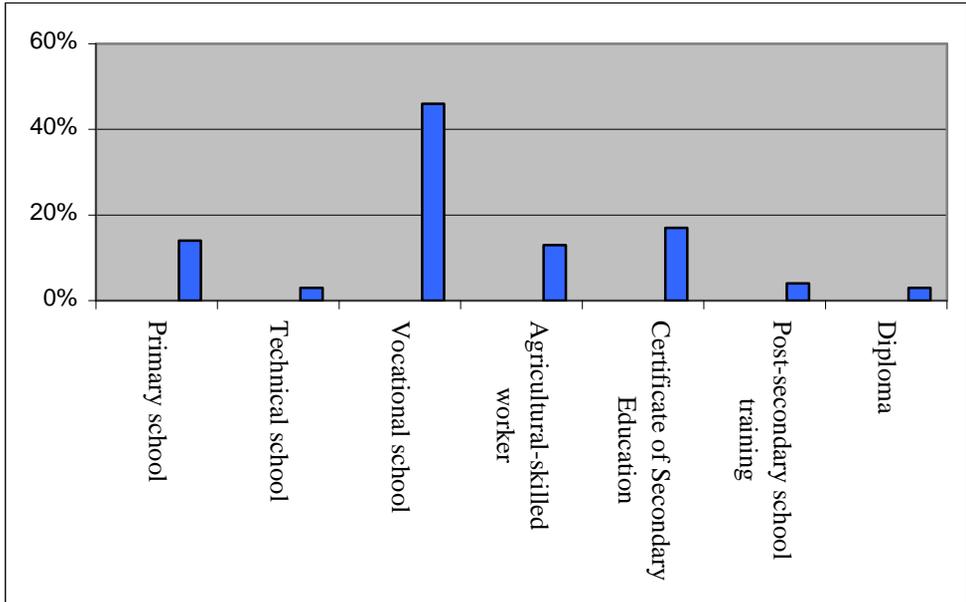


Figure 3: Proportion of employees by highest graduation level

Source: own data collection

Comparing the findings with the result of earlier survey will show more sophisticated results. Table 4 shows the findings of a study made in 2007 on the qualification of employees in pig production.

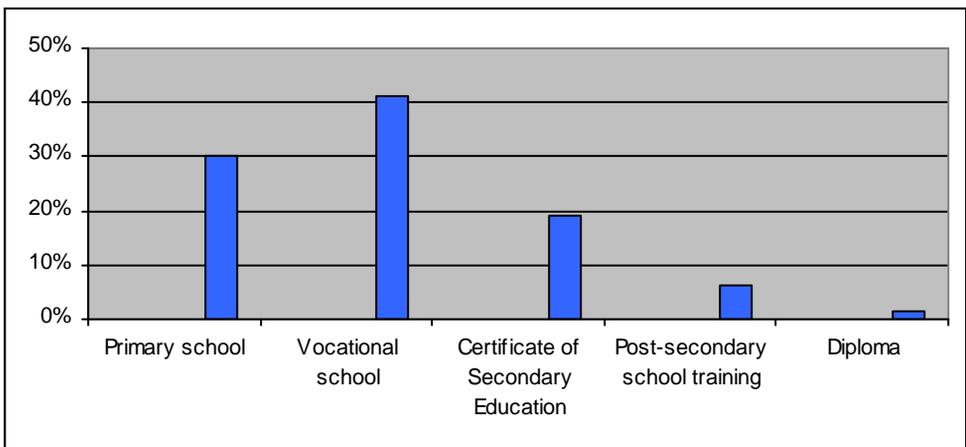


Figure 4: Proportion of employees by graduation level

Source: own data collection

The comparative analysis of the two survey results show that the earlier findings restructured, though the dominance of employees with vocational school graduation remained (from 41.27 to 60%), the share of people with less than 8 years of primary school dropped (from 30.06 to 16.66%), while the share of high school graduation decreased (from 25.37 to 20%). Significant change did not occur in case of people graduated from universities. While the share of employees with professional qualification was higher than 20% in 2007, it was only 13.33% by 2009. In my opinion, there will be a further improvement in the future of the qualification status of agricultural employees.

In next step I analysed the qualification of agricultural managers (Figure 5).

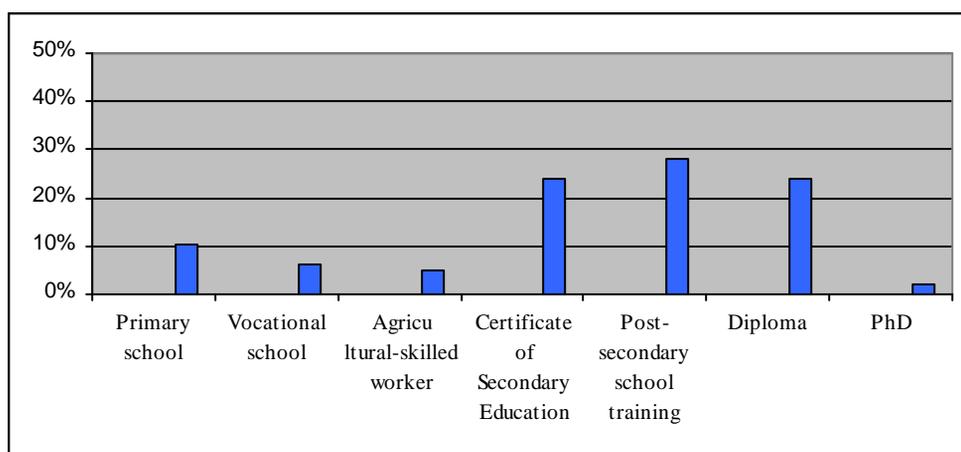


Figure 5: Proportion of managers by graduation level

Source: own data collection

Both the view point and qualification of the management improved (78% of them has at least high school graduation) in the last years due to that many young qualified but unemployed people wait for job. The elderly generation hand over their place to young colleagues. These managers of

large concentrated pig farms will have necessary theoretical and practical background, as well.

3.5.2 CONDITIONS OF JOB-SEEKING AND MOTIVATION FOR JOB CHOICE

The conditions and efficiency of production have worsened since the economic crisis experienced from September 2008. Large part of producers gave up production and others cut off labour force. At the analysed farms the reasons to become unemployed were explained in 59,02% by redundancy and job reduction, in 21.77% by irregular payments, in 14.39% by distance from living place and in 4.82% other reasons were named. Following questions revealed that half of people been become unemployed found new job within one month. It is important though that the cross-table analyses show that skilled people found new job; while unskilled ones spent an average of 5 months with job-seeking. Table 10 shows the ways of finding job.

Table 10: Job seeking channels

Denomination	Number of people
Labour centres	11
Friends	168
Themselves	141
Newspaper ads	10
other (internet, job-hunters)	10

Source: own data collection

It is seen that most importantly informal ways of job seeking are used. One of the most effective ways of gaining information is mobilising the personal information. According to the overall figures job-hunting is not really significant, only 3.23% of the people used this form to find job. In my

opinion, only those ask labour centres who had no success with the other ways.

In next step, the motivation for job choice was analysed. The reasons and shares are shown in Figure 6.

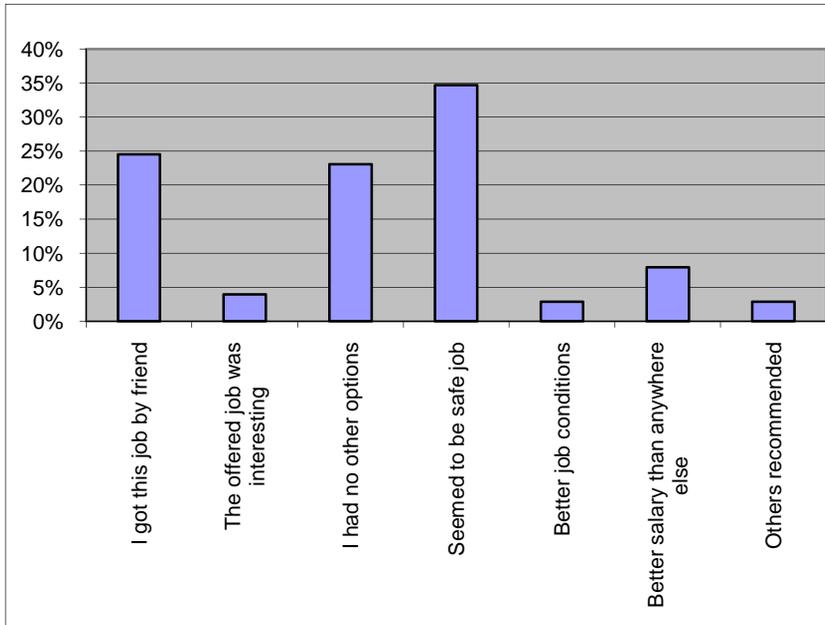


Figure 6: Motivation on job choice

Source: own data collection

It was found that 35% of the respondents chose their current job because it seemed reliable; other 25% because of friends and somewhat less than 20% of them had not got options.

It was also found that only 13.1% of the respondents plan to change their job. This is somewhat opposite to the cross table analysis when the relation of graduation level and job safety was examined. Though the obtained result is not significant, it calls the attention (Sommer's d value 0.008, $r=0.35$). Majority of the respondents (52.25%) feels their job not really safe in this year. Large share of respondents with higher level qualification (71%) think serious problems occur in their work place. Less

than one fourth of the respondents (11% of those with diploma) feels their work place entirely safe. In case of respondents with high school graduation the share of those seeing serious problems is lower, it is 48% in case of those with vocational school graduation and 46% in case of those with only primary school. In my opinion, in the course of social-economic changes it is important to examine the human values necessary for changes, the mobility of labour force and speed of professional changes are important. The factors influencing the overall feeling on workplace affect not only the loyalty, but individual performances and the overall profitability of the company, as well. Satisfaction can be related to the type of work and conditions of work. Spearman's correlation was used to define the degree of satisfaction with main factors influencing work. It was found that good work management and convenient environment are necessary but not motivating factors. Flexible working time was mentioned as motivation tool, but many emphasised the talks to employees and importance of social relations, participation in exhibitions, meetings. It is also important for the employees to get feedback from colleagues and managers on their work. The second place in the order was taken by the positive opinion of managers. The personality, experience and expertise of the manager are important. According to Börzseiné (2006) all these mean the management capital that confirms the employee in his functions. The strongest attitude relating to work is that the employee be able to finance his and his family's necessities; and for it he needs stable reliable job.

3.5.3 OPINIONS REGARDING PAST, PRESENT AND FUTURE

Concerning the provisions week but significant relationship was found with age groups with SPSS 16.0 (Cramer's $V=0.180$; $p=0.001$).

Demographic variables have important role in work satisfaction concerning the current life; a reverse proportion was found in case of answers of younger and older generations. The younger the respondent is, the more satisfied he is with life. The reason for it can be that young people generally clearly see their opportunities and barriers. Though they consider reliability important they know that finding a life-long job is impossible. They have better chance to find other job; this can be linked to the findings of Kopp et al (1999) such as depression is more frequent in older age groups, while it is the rarest in young age (up to 30).

Among socio-demographic parameters age and qualification level are in strong correlation with satisfaction. 80% of respondents with higher qualification said that they are satisfied with their life, while it was 44% for those with primary school.

The following questions asked information on past, present and future (Table 11). People consider their life average (median: 3) in a five-point scale. The importance of the questions was proven that the responding ratio was high.

Table 11: Opinions on past, present and future

	Considering present life, what is your position in a five-step scale?	In your opinion where you should be by now?	In your opinion where will you be in 5 years?
Number of respondents	343	340	342
Not responded	1	4	2
Mean	3.27	3.95	3.31
Median	3	4	3
Mode	3	4	4

Source: own data collection

Considering that in the past the Hungarian average people have better options than those living in surrounding countries. This explains that the respondents evaluated their past at a better rate than the present opportunities. It was a longer process to adapt to new legal-economic conditions after the change of regime; it led to a high dissatisfaction. The economic-financial crisis of the past year influenced the life standard, as well. Many of the people are afraid of losing their job, house, family (according to surveys); the opportunities have narrowed, people became pessimist, which in general is a Hungarian peculiarity, in my opinion. This can be the reason for seeing the future opportunities so pessimistically (median: 3).

The opinions of employees on current life and future are not only characterised by main social-demographic parameters, but are in a typical correlation with each other as well. The satisfaction with present life and future opportunities were found in strong linear correlation (Spearman's value 0.513). The more satisfied the employee is with his present life, the more satisfied they are with future expectations, as well.

On the question: In your opinion where you should be by now? the respondents give one mark better (mode, median: 4). A conclusion can be drawn that relatively cheap ways (e.g. extra payments, flexible working time, pig sale at lower price, cheap feed, higher level of attention) may easily increase the employees' work satisfaction.

4. CONCLUSIONS, RECOMMENDATIONS

1. Analysis of workplace organisation system can be achieved by only a system-based approach of enterprises as cybernetic systems. Therefore *I suggest* use it for the systematic analysis of other animal producing sectors. The use of the Datafox - Timeboy working time recording and analysing tool represents part of this method, which serve primarily the achievement of organisational management objectives and activities. Kalmár et al. (2005) report on using this tool in other sectors of agriculture, as well.

2. Selection of breeding animals with high genetic value and good keeping technology are equally important to profitable production. My findings revealed that the pig farms involved in the analyses have low technical and skilled labour level and do not fit to the requirements of high performing breeding and fattening animals. The genetically valuable livestock cannot be reared profitably in stables aged 20-25 years. *Solution can be given* firstly by antiseptic treatment of the fattening stables and both the external and internal reconstruction of buildings.

3. Following the change of regime the restructuring of the economic organisations went through parallel to significant redundancy of employees. Despite this, in case of many farms unreasonable high number of employees work, worsening the labour effectiveness. I suggest the rationalisation of labour use along with the optimal harmonisation of workplace-management.

4. Review and evaluation of activities may contribute to more effective work. The results obtained show that earlier used working hours need reconsideration. Therefore *I recommend* for managers the reduction of jobs, where possible. Thus, significant waste time can be reduced and the system becomes more effective.

5. Human resource quality determines the outcomes of organisation. The results show that large part of workers of pig farms is unskilled; animals are cared by workers who have vocational school qualification at best. Further problem is the gradually decreasing number of skilled herdmen. I recommend that the managers of farms try to train their employees in case of demand and possibility and support their visits to professional conferences, meetings; this in the end may lead to profit for the employer as well.

5. NEW SCIENTIFIC RESULTS AND FINDINGS

1. A new indicator (labour force value) was elaborated which is suitable to assess the human resource of given organisation by its education level, as well as to enable the comparison of human resources with different compositions. The overall qualification value is calculated on the bases of the following:

- (-3) - (-2,51) Primary school or lower
- (-2,50) - (-1,51) Vocational school
- (-1,50) - (-0,50) Other vocational school
- (-0, 49) 0,50 Professional vocational school
- 0, 51 - 1,50 High school graduation
- 1,51 - 2,5 Upper level high school
- 2,51 - 3,5 Higher education
- 3,51 - 4 PhD

2. In the course of qualification assessments it was found that the qualification of both the management and employees improved in the last three years. According to the results, the share of those with vocational school qualification strengthened compared to 2007 (60%), the share of those with only primary school graduation is still significant despite that their share decreased in the last two years, the share of those with high school graduation decreased to 20%; while the share of those with diploma did not change significantly. In 2007, the share of those with agricultural qualification was higher than 20%, it was only 13.33% in 2009. On the basis of registered data it was found that the age group between 30 and 39 years is

in the most unfavourable position, while the most favourable figures were found for the age group between 40-59 years. The qualification of the management improved also in the last three years; 78% of the managers bear with at least a maturation exam.

3. In the course of the analysis of competitiveness it was found that on those farms where reconstructions were already made and the technology was renewed and replaced, the breeding performance and efficiency figures were not behind but in some cases even were better than those of counties with developed pig production. Although on farms where neither investments nor technological development went through, serious competitive disadvantages can be seen on the Western European farms bearing modern technologies. They are extremely lag behind them in feed used for one kilogram live weight gain, in number of sows per worker and the number of reared pigs per sow.

4. Competitive production has come in front due to the change of the regime. One of its important segments is effectiveness. The research has revealed that it is still typical for Hungarian pig farms to employ over numbered labour force. An extreme example of this was seen in case of Somogysárd farm where 6 workers belonged to 3 managers, or the Farm No. 3 can be mentioned where 16 workers were employed for the tasks of the farm with 184 sows.

6. PUBLICATIONS IN THE FIELD OF THE PHD WORK

1. **K m ves Zs:** Munkaszervezési vizsgálat egy baromfitartó gazdaságban, In: Acta Scientiarum Socialium, 2003. 14 évf. 43-49p
2. **K m ves Zs:** Munkaerő vizsgálata, In: Acta Scientiarum Socialium, Kaposvár 2003. 14 évf. 37-43p
3. **K m ves Zs-Ocskai G-Csordás E:** Munkaerő helyzete a kökénypusztai sertéstelepen In: Acta Scientiarum Socialium, 2004/ XVI. 63-66p
4. **K m ves Zsolt-** Csordás Erika: Juhtenyésztés munkaszervezése, In: Acta Scientiarum Socialium, XIX / 2005. 71-79p Kaposvár
5. **K m ves Zs:** Munkaszervezési tartalékok feltárása a Dél-dunántúli Régió állattartó telepein, In: Acta Agraria Kaposváriensis, Kaposvár 2007. III. szám 97-108p
6. Piros M - **K m ves Zs-Olsovszky N. A:** Survey on work-satisfaction of handicapped people, In: Acta Scientiarum Socialium XXIX
7. **K m ves Zs-** Alpár Gy-Csordás E: Állattenyésztés munkaszervezése, Kaposvári Egyetem Állattudományi Kar nyomdája, 1-95 p, Kaposvár, 2006
8. **K m ves Zs:** Vezetés - Szervezés fogalomgyűjtemény, Kaposvári Egyetem nyomdája, 1-29p, Kaposvár, 2009

Presentations

1. **K m ves Zs:** Sertéstenyésztés munkaszervezése, II. Erdei Ferenc Tudományos Konferencia, Kecskemét, 2003.aug 28-29 310-314.p

2. **K m ves Zs:** Tojástermelés munkaszervezésének elemzése, XXVI. Országos Tudományos Diákköri Konferencia, Kaposvár, 2003.április 3-5, 16p
3. Csordás E-**K m ves Zs:** Az ár, a min ség és a színhústartalom közötti összefüggés vizsgálata a sertéságazatban, Dél-alföldi Tudományos Napok, Mez túr, 2004.október 23-24, CD. Formátum
4. **K m ves Zs-Laki I:** Tejtermelés munkaszervezése, IX. Nemzetközi Agrárökonómiai Tudományos Napok, Gyöngyös, 2004. március 25-26 CD. Formátum
5. **K m ves Zs-Piros M:** A stratégiai tervezést el segít munka-megelégedettségi vizsgálatok eredményei a Dél-Dunántúli Régióban IX. Nemzetközi Agrárökonómiai Tudományos Napok, Gyöngyös, 2004. március 25-26 CD. Formátum
6. **K m ves Zs-Csordás E:** Munka-megelégedettség vizsgálata a mez gazdaságban, XXX. Óvári Tudományos Napok, Mosonmagyaróvár, 2004.október 7. CD. Formátum
7. **K m ves Zs-Csordás E:** Képzés helyzete a Dél-Dunántúli régió gazdaságaiban, XI. Ifjúsági Tudományos Forum, Keszthely, 2005. március 24, CD-Rom formátum
8. Csordás E-**K m ves Zs:** A magyar sertés ágazat elmúlt 15 éve a számok tükrében, XI. Ifjúsági Tudományos Forum, Keszthely, 2005. március 24, CD-Rom formátum
9. Csordás E- **K m ves Zs:** A magyar sertéságazat helyzetét meghatározó tényez k változása, Nyugat Magyarországi Egyetem, Mez gazdasági és Élelmiszertudomány Kar és Európai Oktatási Központ Nemzetközi Konferencia, Mosonmagyaróvár , 2005 május 5-6, CD-Rom

10. Csordás E- **K m ves Zs**: Az árak szerepe a sertéságazatban, X. Nemzetközi Agrárökonómiai Tudományos Napok, Gyöngyös, 2006. március 30-31, Cd-rom
11. **K m ves Zs**: Munkaszervezési szempontok a mez gazdaságban, Pannon Gazdaságtudományi Konferencia, Veszprém 2007. június 7, 55-63p
12. **K m ves Zs**- Molnár Á: Munka-megelégedettségi vizsgálatok a sertéstenyésztésben, XI. Nemzetközi Tudományos Konferencia, Gyöngyös 2008.március 27-28, 176-181p