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EMPLOYEES SELECTION WITH USE OF AHP

WYBÓR PRACOWNIKÓW Z WYKORZYSTANIEM AHP

Słowa kluczowe: dział zasobów ludzkich, wybór pracowników, AHP
Key words: human resource department, employee's selection, AHP

Abstract. For good performance and successful activity the organizations need to have a special approach for creating its staff. AHP method isn't used a lot in human resource department. There is very limited literature available on the application or utility of AHP in selecting employee's process. In this article it is proposed to use AHP method in decision making process that relates to employee's selection.

Introduction

Company's human resources decisions which include board members and key employee selection could be made throw AHP. For this propose we need to create our goal, criteria's and have choices. Of course the criteria's depend on the department which is going to hire new workers. Using this method companies will have opportunity to hire the best and the most suitable people they need. Sometimes tests and interviews are not giving proper estimation of skills and others characteristics of student for example. Students are rated on grades, letters of recommendation and standardized test scores. A student's final rating is the weighted sum of the ratings on the various criteria.

Not all companies need workers with the same skills and knowledge. International firms need people with very good foreign language skills. The banks that specialized on crediting of agriculture or industry need people with knowledge about these branches. Because if bank gives a credit for some project which relate to agriculture for example the evaluation of future risks has to be made based on real understanding of all aspects of agriculture activity.

It is very interesting that Fan and Cheng in 2009 utilized AHP along with TOPSIS (Technique for Order preference by Similarity to Ideal Situation) to evaluate curriculum in Department of Risk Management and Insurance at Universities. The study [Fan, Cheng 2009] triggered with the financial liberalization and deregulation process in Taiwan since 2000, needing more competitive graduates in banks and financial institutions. The study recommended a decision model which will help human resources managers in bank and insurance companies in hiring more qualified graduates for their companies [Bhatterai, Yadav 2009]. Observing literature we can find that there are not a lot AHP applications for decision making process in employee selection. For this purpose in this article we will try to show the possibility of using AHP method in company's human resource department.

Human resource department and employee selection

The Human Resource Department deals with management of people within the organization. There are a number of responsibilities that come with this title. First of all, the Department is responsible for hiring members of staff; this will involve attracting employees, keeping them in their positions and ensuring that they perform to expectation. Besides, the Human Resource Department also clarifies and sets day to day goals for the organization. It is responsible for organization of people in the entire Company and plans for future ventures and objectives involving people in the Company [Handy 1999].

Recruitment of Employees is one of the most fundamental roles of the HR department. This is because this function ensures that the Company under consideration selects the most skilful and competent person from a sea of applicants at that time. This function involves evaluation of ability and competency of potential employees in relation to what the Company needs. This role falls under the Staffing role of management. If this function is performed well, then the organization will increase value consequently being on the right pathway to achieve its organizational and departmental goals and objectives [Hyde 2004].

AHP (Analytical Hierarchy Process)

AHP method is useful in solving problems connected with choose of the best solution, especially when the choice of certain solution is based on subjective preferences of examined group. Defining the magnificent criteria for the certain group of users is the first step of the analysis. It is followed by identification of their weight. Usage of the AHP method leads to ranking of importance of certain criteria. That allows choosing the solution, which fulfils the most important criteria on the highest level. For employee selecting there following criteria are important [www.chookbrowse.com]:
– dependability (outstanding, very good, good, below average, unsatisfactory),
– education (doctorate, masters, bachelor etc., high school),
– experience (>15 years, 6-12 years, 3-5 years, 1-2 years),
– quality (excellent, very good, good, poor),
– attitude (enthused, above average, average, negative),
– leadership (outstanding, above average, average, below average, unsatisfactory).

After this we need some scale for evaluating our criteria. According to Saaty research proposal this scale will be from 1 to 9. According to these we will estimate all employees according to their personal characteristics that we got from CV and interviews. Everybody will get a score for each criteria. After that AHP will calculate the points that person get for each characteristics. Than AHP will make weighting and rating of appliers.

Example. Let's assume that 5 persons wants to be hired to the finance department of agriculture company. All of them had working experience before in other firms. In the Table 1 there are characteristics of each candidate. For AHP calculations we use Excel.

Table 1. Characteristics of employees
Tabela 1. Charakterystyka pracowników

Name/ Nazwisko	Dependability/ Niezawodność	Education/ Wykształcenie	Experience/ Doświadczenie	Quality/ Jakość	Attitude/ Postawa	Leadershp/ Przywództwo
Panchenko	outstand/ *wyróżniająca*	doctorate/ *doktorat*	>15 years/ *>15 lat*	excellent/ *wyśmienity*	enthused/ *zaangażowana*	outstand/ *wyróżniająca*
Shwec	outstand/ *wyróżniająca*	masters/ *magister*	6-15	v.good/ *bardzo dobry*	abv.avr/ *powyżej przeciętnej*	average/ *przeciętna*
Koroliuk	good/ *dobry*	bachelor/ *licencjat*	1-2	excellent/ *wyśmienity*	average/ *przeciętna*	abv.avr/ *powyżej przeciętnej*
Zajec	v.good/ *bardzo dobry*	high school/ *szkoła średnia*	3-5	v.good/ *bardzo dobry*	enthused/ *zaangażowana*	average/ *przeciętna*
Labenko	blw.avr/ *poniżej średniej*	masters/ *magister*	>15	good/ *dobry*	average/ *przeciętna*	abv.avr/ *powyżej przeciętnej*

Source: own study
Źródło: opracowanie własne

The rules of setting the importance of criteria [Parlińska 2008]:
– sum of values of preferences in each column is calculated,
– each value in the column of the matrix of importance of criteria is dived by the total value,
– the average of the row as the weight of particular criteria is calculated.

If the rules mentioned above are used, for given example, the matrix with following normalised values will be received (Tab. 2). The average values in particular rows of normalised matrix give the approximate characteristic vector of weights' values for particular criteria: w = (0.07, 0.21, 0.05, 0.35, 0.08, 0.24).

Table 2. Weights of criteria importance
Tabela 2. Wartości wag

Criterion of importance/ Kryterium	Weights/ Waga
Dependability/*Niezawodność*	0.07
Education/*Wykształcenie*	0.21
Experience/*Doświadczenie*	0.05
Quality/*Jakość*	0.35
Attitude/*Postawa*	0.08
Leadership/*Przywództwo*	0.24

Source: own study
Źródło: opracowanie własne

For sure each human resource management can create some special criteria's that are more important exactly for some company. It depends on type of firm's activity.

Now AHP is going to calculate the weights for each criteria of importance. It is also an individual decision of bank's human resource management. The results of this calculation presented in the Table 3. According to our calculation the finance department has to hire the employee Panchenko because her characteristics are the most suitable for organization's requirements and priorities. After creating such kind of model selecting of employees become more quick and easy. As we are saving our time we win a lot because the time is money. Another advantage it is that selection become more objective, without individual attitude to person and more specific (accurate, exact) estimation of personal skills.

Table 3. Weighting of criteria getting final results
Tabela 3. Otrzymane wagi kryteriów, wyniki końcowe

Name/ Nazwisko	Dependability/ Niezawodność	Education/ Wykształcenie	Experience/ Doświadczenie	Quality/ Jakość	Attitude/ Postawa	Leadershp/ Przywództwo	Total/ Ogółem
Panchenko	0.019737	0.061538	0.013714	0.0900	0.021867	0.061842	0.268698
Shwec	0.019737	0.046154	0.010286	0.0675	0.016400	0.037105	0.197182
Koroliuk	0.011842	0.030769	0.003429	0.0900	0.010933	0.049474	0.196447
Zajec	0.015789	0.015385	0.006857	0.0675	0.021867	0.037105	0.164503
Labenko	0.007895	0.046154	0.013714	0.0000	0.010933	0.049474	0.173170

Source: own study
Źródło: opracowanie własne

Conclusions

Still, AHP based decision support is quite new to real life human resource managers. Following the global financial crisis, there is growing need of AHP based decision support systems in this sector. Process of selecting employees for some department can be easier and more effective if AHP based decision making support will be used. This method gives possibility to evaluate people's skills and knowledge in scores and choose the best applicant. It is very important for a company because success depends on the company's personnel which have to be very qualified. The utilities which could offer AHP are appreciated by the agricultural professionals.

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Streszczenie

W celu osiągnięcia dobrych wyników w działalności instytucji należy mieć specjalne podejście do tworzenia zespołu jej pracowników. Metoda AHP nie jest często używana w sektorze działu zasobów ludzkich. Literatura na temat stosowania lub użyteczności AHP przy wyborze pracowników jest ograniczona do kilku pozycji. W artykule zaproponowano wykorzystanie metody AHP w procesie podejmowania decyzji, który odnosi się do wyboru pracownika.

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