Information System Model as a Mobbing Prevention: A Case Study

Dr. Ersin Karaman[1], Dr. Kursat Timuroglu[2], Dr. Mustafa Keskinkılıc[3]

ARTICLE INFO

Available Online June 2014
Key words:
Mobbing Prevention;
Information System;
Task Allocation;
Linear Programming.

ABSTRACT

In this study, it is aimed to detect mobbing issues in Atatürk University, Economics and Administrative Sciences Facultyand provide an information system model to prevent mobbing and reduce the mobbing risk. The study consists of two parts;i) detect mobbing situation via questionnaire and ii) design an information system based on the findings of the first part. The questionnaire was applied to research assistants in the faculty. Five factors were analyzed and it is concluded that research assistants have not been exposed to mobbing except the fact that they have mobbing perception about task assignment process. Results show that task operational difficulty,task time and task period are the common mobbing perception issues. In order to develop an information system to cope with these issues, assignment of exam proctor process is addressed. Exam *time*, i*nstructor location*, c*lassroom location* and *exam duration* are considered as decision variables to developed a linear programming (LP) model. Coefficients of these variables and constraints about the LP model are specified in accordance with the findings. It is recommended that research assistants entrusting process should be conducted by this method to prevent and reduce the risk of mobbing perception in the organization.

Introduction

Nowadays, many organizations struggle constantly to prevent psycho-violence (mobbing) in order to increase workplace peace and motivation level. Even though mobbing is a controversial term and there is no certain consensus on its definition, many studies have been conducted to investigate mobbing situation in organizations. As a term "Mobbing" was coined by Lorenz in his 1960s animal behavior studies. In 1980, Heinz Leymann used the term to refer psycho-violence at work and broughtthe term into the management field (Leymann, 1996).

Since mobbing is a relatively new term, there are various definitions. Leymann (1996) defines mobbing as "*psychological terror in working life thatinvolves hostile and unethical communication which is directed in a systematic manner by one or more individuals*". According to Einarsen and Skogstad (1996), mobbing is "*subjecting tohumiliating, intimidating or hostile behavior frequently and over a longer period of time"*.Likewise, Vandekerckhove and Commers, (2003) specify the term as *"characterized by more sophisticated behaviors, and consists of harmful treatment of or putting harmful pressure on an employee"*.Groeblinghoff and Becker (1996), in addition to psychological context, expand the definition of mobbing with physical manner and redefine the term as *"an unethical disorder of communication and extreme psychosocial stressor, the effects of which frequently cause severe symptoms of combined psychological and physical illness*". Mobbing definition is not limited with these definitions. Many researchers and studies like; Peyton (2003), Zapf (1999), Hecker (2007), Einarsen, (2000), Zucker (1996), Einarsen andRaknes(1997), Keashly(1998), Einarsenand Skogstad(1996), Rogers and Chappel (2003), Tehrani (2004) mentioned mobbing with various nuances.

There are many studies conducted to investigate effects of mobbing. Ozturk, Sokmen, Yılmaz and Cilingir (2008) mentioned about the long time effects of mobbing which may cause loss of mutual trust, respect and motivation in addition to maladaptiveness and low productivity. Tigrel and Kokalan (2009) likened

[1] Assistant Professor, Department of Management Information System, Faculty of Economics and Administrative Science, Ataturk University, Turkey, Email: ersinkaraman@atauni.edu.tr, Phone :+9 0442 231 2165
[2] Assistant Professor, Department of Labor Economics and Industrial Relations, Faculty of Economics and Administrative Science, Ataturk University, Turkey, Email: timuroglu @atauni.edu.tr, Phone :+90 442 231 2101
[3] Assistant Professor, Department of Management Information System, Faculty of Economics and Administrative Science Faculty, Ataturk University, Turkey, Email :muskes@atauni.edu.tr, Phone :+9 0442 231 5750

mobbing to a virus due to its characteristics which may affect all staff by spreading out in an organization. This emulation shows the significance of preventing mobbing in organizations. In the literature, there are also studies addressing mobbing prevention methods. For example, Duffy and Sperry (2012) suggested a life cycle including awareness, assessment, development of anti-mobbing policies and other steps to prevent mobbing.Westhues (2006) recommended ten administrative measures to solve mobbing issues.Kırel (2007) proposed risk reducing and supportive recommendations for mobbing management and preventions. Such studies proposed some solutions and preventative factors such as training, rehabilitation, improvement of communication, ethical issues, law, correct leadership behavior, avoiding stress, redesign work process, and conflict management.

In addition to assigning tasks inappropriate to qualifications and work overload (Tomić, 2012), gossip, ignoring, information hiding, despising, idea theft, spy out, taunt and assignment of unimportant duties are the most common mobbing perception reasons in higher education organizations (Tigrel&Kokalan 2009).This study focuses on the issues related to work assignment based on preliminary findings mentioned in findings part.

In the literature, mobbing treatment methods have been exsessively studied. For example, if an individual exposed to mobbing, she/he should share the issue with her/his executive manager. In addition, the mobbing victim is suggested to communicate others exposing to the same situation and get physiological support (Cassitto, 2003). Moreover, victim should make a decision about escaping the situation and renew friendships. Afterwards, managers should redesign works in organization (Zapf & Gross, 2001). Another mobbing prevention method suggested by Groeblinghoff and Becker (1996) focus on clinical treatment. This study focus on mobbing prevention rather than treatment after mobbing occurs.

Although there are various studies for preventing and managing mobbing they have not noticed the information technology as a tool for employing anti-mobbing policies. Information technology can be a critical tool to detect the problem or to prevent mobbing perception reasons. As mentioned above some of the reasons of mobbing are emerged because of task assignment issues. Moreover, information technology may also provide early alarm systems for mobbingresulting from task and work assignment. This may decrease mobbing cost and prevent lack of motivation. In order to develop software to cope with the addressed problem, requirement analysis should be conducted as a first step. On the other hand, as mentioned in Westhues (2006), in order to solve mobbing case, one need to "f*ocus on the* situation*,* issue*, or* behavior*, not the person".* From this point of view, it can be inferred that, detection of mobbing issues and development of information systems intended to eliminate or reduce the effect of the mobbing should be carried out successively.

The aim of this study is to propose an information system model to prevent and solve mobbing issues which are determined by descriptive methods. In order to achieve this, a case study is conducted in Atatürk University, Economics and Administrative Sciences Faculty to examine mobbing issues and propose an information system model to prevent or reduce the risk to the issue.

Method

This study consists of two parts, in the first part, the descriptive research method was used to investigate mobbing situation in Atatürk University, Economics and Administrative Sciences Faculty, Erzurum, Turkey. In the second part of the study an information system model using linear programming is proposed based on the findings of the first part.

The data were collected via questionnaire. The questionnaires were sent to 37 research assistants (total number of research assistants in the faculty) and 33 assistant responded the questionnaires. The questionnaire (LIPT -Leymann Inventory of Psychological terror questionnaire) is developed by Leyman (1996) and adapted by researchers to apply to the current participants. The questionnaire was also used in the literature (Niedl,1995;Knorz and Zapf, 1996; Cogenli and Asunakutlu,2014) and, validity and reliability of the questionnaire were tested. The questionnaire composed of two parts. Demographic information including age, sexuality, work experience, education level, and marriage status were collected with the first part. Second part of the questionnaire includes twenty eight five-point Likert type items (1:Never, 2:once a year, 3: once a month, 4:once a week and 5: once a day) identifyingfrequency of mobbing situations.

Findings

Descriptive Statistics

In order to checkinstrument validity, exploratory factor analysis (EFA) is conducted. Even though there is some consideration about factor analysis in terms of sample size, this questionnaire is applied in (Niedl,1995; Knorz and Zapf,1996)and factors have been defined. Nevertheless, since some items are adapted and added to questionnaire, EFA is conducted and results show that there are five factors about mobbing situation. These mobbing situation are due to i) unfair task assignment, ii) effects on personal reputation, iii) physical harassment, iv) effects on occupational position and v) effects on social interaction. 79.40 % of variation explained by these five factors. Factor loadings of items greater than 0.40 are considered. The Cronbach Alpha indicating the validity of the questionnaire is 0.93 (Table 1). Factor loadings of each item are shown in Table 3.

Table 1 Factor Analysis

Factors	Initial Eigenvalues	% of Variance	Cumulative %	Cronbach Alpha
Unfair task assignment	11.860	45.613	45.613	0.93
Effects on personal reputation	3.173	12.202	57.816	0.91
Physical harassment	2.315	8.903	66.719	0.86
Effects on occupational position	1.887	7.259	73.977	0.84
Effects on social interaction	1.141	5.429	79.406	0.66

As shown in the Table 2, a total of 33 research assistants, 13 female and 20 male, have participated in the study. All participants are active research assistants at Ataturk University, Economics and Administrative Sciences Faculty. Thirty-three participants aged 23 to 34 years old participated in the study. Average and median age were 28.274 and 28 years respectively (SD=2.72). Meanwhile, of those participants 13 are master and 20 are PhD students at Ataturk University, Social Sciences Institute. While 14 research assistants were married, 19 participants were single. In terms of working time, 30 participants have been studying at the faculty lower than six years and average age is3.7 years (SD=2.16).

Table 2: Demographic Information of Participants

Variable		f	%
Gender	Male	20	60.6
	Female	13	39.4
Education Level	Master	13	39.4
	Doctorate	20	60.6
Marriage Status	Married	14	42.4
	Single	19	57.6
Working Time	1 Years	9	27.3
	2 Years	5	15.2
	3 Years	6	18.2
	4 Years	5	15.2
	5 Years	3	9.1
	6 Years	2	6.1
	> 6Years	3	9.1

According to descriptive analysis results as shown in Table 3, in total 71.21% of responses indicate that research assistants are not exposed to mobbing in the organization, while only 22% responses express research assistant are subjected to mobbing once a year. The first factor that indicates mobbing situation related to task assignment is quite different from the overall result. That is, 43.3% of participants thought that they are subjected to mobbing related to task allocation. They mostly complained about task time. *"I am mostly assigned to tasks that are early in the morning", "I am mostly assigned to tasks that are late evening" and "I am assigned to tasks that are at weekends"* are the items that are mostly complained. Such issues about task time and period will be analyzed in detail.

Table 3 Descriptive analysis

Unfair task assignment (Factor 1)	Never	Once a year	Once a month	Once a week	Once a day	Mean	SD	Factor Loading
I am mostly assigned to tasks that are early in the morning	30.30	54.55	12.12	0.00	3.03	1.91	0.84	0.88
I am mostly assigned to tasks that are late evening	33.33	54.55	9.09	0.00	3.03	1.85	0.83	0.88
I am assigned to tasks that are at weekends	30.30	57.58	9.09	0.00	3.03	1.88	0.82	0.81
I am assigned to tasks that are more difficult to operate (communicate instructors from other faculties, etc.).	69.70	24.24	3.03	0.00	3.03	1.42	0.83	0.77
I am assigned to tasks that are longer than others'.	60.61	27.27	6.06	0.00	6.06	1.64	1.06	0.76
Important tasks that are assigned to me are taken back and I am deprived from significant activities.	72.73	24.24	0.00	3.03	0.00	1.33	0.65	0.72
I am assigned to tasks that are far away from my office	51.52	36.36	9.09	0.00	3.03	1.67	0.89	0.69
I am exposed to verbal threats.	84.85	9.09	6.06	0.00	0.00	1.21	0.55	0.65
There is sexual discrimination.	60.61	24.24	12.12	3.03	0.00	1.58	0.83	0.53
Tasks are assigned to me are constantly changed.	72.73	24.24	3.03	0.00	0.00	1.30	0.53	0.51
Factor 1 Overall	**56.67**	**33.64**	**6.97**	**0.61**	**2.12**	**1.58**	**0.78**	
Effects on personal reputation (Factor 2)								
I am forced to take psychological evaluation/examination.	96.97	0.00	3.03	0.00	0.00	1.06	0.35	0.97
I am given tasks that are dangerous.	90.91	3.03	3.03	0.00	3.03	1.21	0.78	0.91
I am assigned tasks that may harness my reputation and are unsuitable to my qualification.	78.79	18.18	0.00	0.00	3.03	1.30	0.77	0.89
I am assigned to tasks that affect my self-confidence negatively.	72.73	21.21	0.00	6.06	0.00	1.39	0.79	0.69
Factor 2 Overall	**84.85**	**10.61**	**1.52**	**1.52**	**1.52**	**1.24**	**0.67**	
Physical harassment (Factor 4)								
I am exposed to physical violence threatening.	96.97	3.03	0.00	0.00	0.00	1.03	0.17	0.91
Others call me obscene and humiliating name, and insult me.	93.94	6.06	0.00	0.00	0.00	1.06	0.24	0.85
Others commit mild violence to me for intimidation.	93.94	6.06	0.00	0.00	0.00	1.06	0.24	0.85
I am shouted in my face and reprehended.	84.85	12.12	3.03	0.00	0.00	1.18	0.46	0.59
Factor 3 Overall	**92.42**	**6.82**	**0.76**	**0.00**	**0.00**	**1.08**	**0.28**	
Effects on occupational position (Factor 4)								
Opportunity to show myself is limited.	48.48	30.30	21.21	0.00	0.00	1.73	0.80	0.81
I am not assigned tasks that are suitable to show my talents.	54.55	33.33	12.12	0.00	0.00	1.58	0.71	0.64
My decisions are constantly questioned.	72.73	18.18	9.09	0.00	0.00	1.36	0.65	0.63

I am constantly interrupted when speaking.	63.64	30.30	3.03	3.03	0.00	1.45	0.71	0.62
I am constantly criticized about my work.	66.67	27.27	3.03	3.03	0.00	1.42	0.71	0.54
Factor 4 Overall	**61.21**	**27.88**	**9.70**	**1.21**	**0.00**	**1.51**	**0.72**	
Effects on social interaction (Factor 5)								
Others make fun of my nationality.	93.94	6.06	0.00	0.00	0.00	1.06	0.24	0.81
Nobody wants to speak with me.	90.91	9.09	0.00	0.00	0.00	1.09	0.29	0.70
Others make fun of my religious and political opinions.	84.85	15.15	0.00	0.00	0.00	1.15	0.36	0.63
Factor 5 Overall	**89.90**	**10.10**	**0.00**	**0.00**	**0.00**	**1.10**	**0.30**	
Overall	71.21	22.14	4.90	0.70	1.05	1.38	0.62	

Model Development

In the second part of the research, it is aimed to develop an information system for mobbing prevention based on the findings obtained from the first stage of the study. In the organization research assistants are assigned as anexam observer for midterm, final and make-up exams. In this study this assignment process is addressed. In this process, the faculty member who is responsible to this assignment task for research assistants allocates the tasks fairly based on the quantity of tasks. In other words, with this process all research assistantsare assigned to same number of tasks. However, as previously mentioned, research assistantsthought that the allocation is not fair since their tasks are longer and more difficult than others'. In addition, they thought that they areassigned the task conducted out of working time such as late evenings or at weekends. In order to prevent this, in addition to the exam lists (number of exam), instructors location, classroom distance to the faculty, and examination period should be taken into account according to the questionnaire results presented in the previous section of the study. Moreover, whether exam schedule isduring working should also be considered.

In order to cope with these problemsan information system is developed by Linear Programming (LP). LP is a mathematical model including decision variables and objective function, objective function coefficient, constraints, capacities, input/outputcoefficients (Turban, Aronson, Liang, and Sharda (2007, p.154). In this part of the study, after all exam schedule is determined, research assistants are assigned to the exams by using LP model. Variables for this model are given below.

Decision Variables

Decision variables are extracted from the statistical analysis. As mentioned before, research assistantshave mobbing perceptionbecause of task assignment. In Table 4, items in this factor,i.e. representing *unfair task assignment,* are grouped according to their context. Accordingly, time of the task, period of the task, location of the task and location of the instructor related to task are considered. *Task changing* and *sexual discrimination* are the factors that are aimed to be preventing by model. In other words, equalizing the task will prevent these mobbing situations. On the other hand, *verbal threats* cannot be included to the current LP model since it is related to organizational culture. As a result the decision variables are; X1(Task time), X2(Instructor Location), X3(Classroom Location) and X4 (Period of Time).

Table 4 Analysis of Factor 1

	Never	Once a year	Once a month	Once a week	Once a day	**Total Mobbing**	**Explanation**
Unfair task assignment (Factor 1)							
I am mostly assigned to tasks that are early in the morning	30.30	54.55	12.12	0.00	3.03	69.70	Time
I am mostly assigned to tasks that are late evening	33.33	54.55	9.09	0.00	3.03	66.67	Time
I am assigned to tasks that are at weekends	30.30	57.58	9.09	0.00	3.03	69.70	Time
I am assigned to tasks that are more difficult to operate (communicate instructors from other faculties, etc.).	69.70	24.24	3.03	0.00	3.03	30.30	Instructor Location
I am assigned to tasks that are longer than others'.	60.61	27.27	6.06	0.00	6.06	39.39	Period of the task
Important tasks that are assigned to me are taken back and I am deprived from significant activities.	72.73	24.24	0.00	3.03	0.00	27.27	Changing Tasks
I am assigned to tasks that are far away from my office	51.52	36.36	9.09	0.00	3.03	48.48	Classroom Location
I am exposed to verbal threats.	84.85	9.09	6.06	0.00	0.00	15.15	Verbal threats
There is sexual discrimination.	60.61	24.24	12.12	3.03	0.00	39.39	Sexual Discrimination
Tasks are assigned to me are constantly changed.	72.73	24.24	3.03	0.00	0.00	27.27	Changing Tasks

Coefficients of the decision variables

In order to determine objective function, coefficient of decision variables should be determined. To do so, average values of related decision variables are calculated as shown in Table 5. Firstly, item scores are calculated by subtraction total mobbing score from the percentage of response belongs to *never* response. Then, items are grouped by explanation sated above. For each group, mean value is calculated. Lastly, to compute coefficients, mean scores are divided to total mobbing score.

Table 5 Coefficient of the Variables

	Total Mobbing Score	Factor	Average	Coefficients
I am mostly assigned to tasks that are early in the morning	69.70	Time	68.69	**0.37**
I am mostly assigned to tasks that are late evening	66.67			
I am assigned to tasks that are at weekends	69.70			
I am assigned to tasks that are more difficult to operate (communicate instructors from other faculties, etc.).	30.30	Instructor Location-Operational Difficulty	30.30	**0.16**
I am assigned to tasks that are longer than others'.	39.39	Period of the task	39.39	**0.21**
I am assigned to tasks that are far away from my office	48.48	Classroom Location	48.48	**0.26**
Total	**324.24**		**186.87**	**1.00**

As a result, task difficulty score function is set as follows;
Task Difficulty Score (TDS) = 0.37*X1+0.16*X2+0.26*X3+0.21*X4
Where X1, X2,X3 and X4 indicate *task time*, i*nstructor location*, c*lassroom location* and *period of time* respectively. For a given task list, TDS for each task is calculated by this function and total task difficulty score (TTDS) is obtained.
Result Variable
For this LP model, result variable is the total task difficulty for each research assistants (TDRS) which is computed as

$$TDRS = \sum_{n=1}^{y} (TDS_n)$$

Constraints
In order to minimize the TDRS for each assistant some constraints should be integrated to this LP model. That is, each research assistant should also be assigned as equitably as possible. In order to tolerate the number of tasks, the inequality is defined as;
i) TDRS ≤ (TTDS/Number of assistants (NA))+ k_{TDRS}, where $1 \leq k_{TDRS}$
Since research assistants complained about task day, time and period, allocation of tasks should be as equitably as possible by considering these values. Accordingly, number of exam days (ND), number of exams conducting early morning (NEM), number of exam conducting late evening (NEL) and number of exam conducting at weekends (NEW) should be considered. Exams may be assigned more than one research assistants and these values equal to number of research assistant needed. Hence;
ii)$ND \geq ND_R \geq ND - k_{ND}$
iii)$\frac{NEM}{NA} + 1 \leq NEM_R \leq \frac{NEM}{NA} - k_{NEM}$
iv)$\frac{NEL}{NA} + 1 \leq NEL_R \leq \frac{NEL}{NA} - k_{NEL}$
v) $\frac{NEW}{NA} + 1 \leq NEW_R \leq \frac{NEW}{NA} - k_{NEW}$
where $1 \leq k_{ND}, k_{NEM}, k_{NEL}, k_{NEW}$

The abbreviation R represents the related number of work assigned to each research assistants. The constant values represented by k are used to tolerate the model. For the following constraints this abbreviation is also used.
Exams which are under-observed by research assistants may have different period of time such as 30min, 60 min, 90 min and 120 min. The number of exam duration type (NET) is also tried to be equalized in this model. Thereby, the following constraint is also included into the LP model.
vi)$\frac{NET_i}{NA} + 1 \leq NET_{iR} \leq \frac{NET_i}{NA} - k_{NET}$, where $1 \leq k_{NET}$
The exams may be conducted in different classroom which may be placed in the faculty or other buildings.Since this is also considered as mobbing perception reason according to findings,the number of classroom type (NEC) should be apportioned equally.
vii) $\frac{NEC_i}{NA} + 1 \leq NEC_{iR} \leq \frac{NEC_i}{NA} - k_{\mathrm{NEC}}$ where $1 \leq k_{\mathrm{NEC}}$
During the exam procedure, research assistant may be faced to get exam booklet from the instructor. If the instructor resides in different faculty, research assistants have extra-effort to handle the exam. In order to equalized this situation, number of exam supervised by the instructor from different faculty (NEI) is considered as a constraint as follows:
viii) $\frac{NEI}{NA} + 1 \leq NEI_R \leq \frac{NEI}{NA} - k_{NEI}$, where $1 \leq k_{NEI}$

Discussion

In order to prevent or reduce mobbing risks, not only individual but also organizational precautions should be taken. These complementary preventions shouldbe planned and applied by executive managers. In the organizational interventions, it is aimed to improve organizational factors and end up mobbing issues. To do so; some enhancements and applications such as conflict resolution, reinforcement, stress management, fair resource and work task allocation should be applied. Information systems can be used as a weapon to apply these improvements.

Organizational structure, organizational culture, lack of communication (Davenport, Schwartz, Elliott, 2003), lack of business control and plan (Zapf, 1996) are the common mobbing reasons. Accordigly, many prevention methods are employed that address these reasons. In the study of Madero and Schanowitz (2004), stress management, redesign business process, education of managers and employees in terms of mobbing, security control, development of mobbing prevention policy, psychological consultancy are mentioned as mobbing prevention approaches. However, these precautions should be fair to avoid lack of motivation (Sandvik, Namie and Namie, 2009). Information systems have not been addressed to be a part of solution in above-mentioned studies.

In this study, a mobbing detection questionnaire is applied to the faculty and results show that mobbing perception occurs mostly due to unfair task assignment. It is important to note that, in the faculty mobbing feelings emerged because of unfair task assignment in general. However, many studies show that academic employees have exposed to mobbing for different reasons in addition to unfair task assignment(Tigrel and Kokalan, 2009; Cogenli and Asunakutlu, 2014; Westhues, 1999; Ozturk et al. 2006; Ozturk, Yilmaz &Hindistan, 2006). Nevertheless these studies also reported the task allocation as a reason of mobbing in academic environment. Tomić (2012) focuses on mobbing situations caused by work task allocation process and concluded that avoiding insufficient task assignment, inappropriate task assignment to employees, and balancing the work overload are the important factors for preventing mobbing. Although these studies suggested some solution including organizational and managerial recommendations, they did not mention about the information system as a tool for mobbing prevention from technological perspective.

Conclusion

Mobbing is a controversial trouble for the organizations since it causes low productivity and motivation. Researchers seek for mobbing prevention methods. Even though there are lots of suggested preventing methods, information systems are not considered as a prevention method adequately. On the other hand, developed IT systems are limited to business process management and work task tracking. In this study it is aimed to detect mobbing situation in an organization via questionnaire and develop an information system model to prevent and reduce the effect of mobbing. For this purpose, Atatürk University, Economics and Administrative Sciences Faculty isanalyzed. Mobbing measurement scale developed by Leyman is adapted and applied to research assistants. As a first step, mobbing issues is determined via questionnaire and factors effecting the mobbing were determined. Although results show that research assistants have not been exposed to mobbing in general, detailed analysis indicates that research assistant have doubts and thought that they are subjected to mobbing with regards to work task assignment process. That is; analysis of the data obtained from the research eventuated that they felt mobbing in terms of unfair task assignment. In the faculty, exams are conducted under research assistant's observation and research assistants are assigned with the observation task which is addressed in this study. This process includes several basic steps i.e. identify exam list, schedule the exams, specify required number of assistants for each exam and assign research assistants to the exams randomly. This procedure provides equalizing the number of tasks assigned to each research assistant. Nevertheless, research assistants get inconvenience about task allocation. This may be because of lack of attention to the quality or difficulty of the tasks. In order to handle this problem, a linear programming model is developed. Decision variables, coefficient and constraints are specified according to the data analysis result. Four decision variables are determined e.g. *task time*, *Instructor Location*, c*lassroom location* and *period of time.* LP model is used to minimize the total task difficulty for research assistants and equalize the number of tasks according to these variables. To do so, LP model was included some constraints.

The main contribution of this study is to provide insight to use information system for mobbing prevention. That is to say, this study suggests a method for organization to detect mobbing issues and apply information system to handle these issues that can be solved by IT.

Some of the limitations of this study and proposed method are due to the limited number research assistants and work tasks in the faculty. Even though exams conducted under-observation is considered in this study, other task assignments like teaching assistant tasks and resource allocation processes has not been included in this study. On the other hand, this model has not been implemented in the faculty to investigate the model contribution quantitatively. Including other task and resource allocation process can also contribute the proposed method.

References

Cassitto, M. G. (2003). Raising awareness of psychological harassment at work. World Health Organization.

Cogenli, M. Z. &Asunakutlu, T. (2014).Validity and Reliability Study of Academicians Mobbing Scale. *Uşak University Journal of Social Sciences*, 7(2), pp. 92-105.

Duffy, M., & Sperry, L. (2012). *Mobbing: Causes, consequences, and solutions.* Oxford University Press.

Einarsen, S. (2000). Harassment and Bullying at Work: A Review of The Scandinavian Approach. *Aggression and Violent Behavior*, 5(4), pp. 379-401.

Einarsen, S., &Raknes, B.I. (1997).Harassment at Work and the Victimization of Men. *Violence and Victims,* 12(3), pp. 247-263.

Einarsen, S., &Skogstad, A. (1996).Bullying at work: epidemiological findings in public and private organizations. *European Journal of Work and Organizational Psychology*, Vol. 5, pp. 185-202.

Einarsen, S., &Skogstad, A. (1996). Bullying; Epidemiological Findings in Public and Private Organization. *European Journal of Work on Organizational Psychology*, 5(2), p. 186.

Einarsen, S., &Skogstad, A. (1996).Prevalence and Risk Groups of Bullying and Harassment at Work. *European Journal of Work and Organizational Psychology,* 5, p. 186.

Groeblinghoff, D., & Becker, M. (1996).A Case Study of Mobbing and the Clinical Treatment of Mobbing Victims. *European Journal of Work and Organizational Psychology*, 5(2), pp. 277-294.

Hecker, T. E. (2007). Workplace Mobbing: A Discussion for Librarians. *The Journal of Academic Librarianship*, 33(4), pp. 439-445.

Keashly, L. (1998). Emotional Abuse in the Workplace: Conceptual and Empirical Issues. *Journal of Emotional Abuse*, 1(1), pp. 85-86.

Kırel, C. (2007). Risk reducing and supportive suggestions for mobbing management in organizations. *Anadolu University Journal of Social Sciences*, *7*(2), pp.317-334.

Knorz, C., & Zapf, D. (1996). Mobbing - eine extreme Form sozialer Stressoren am Arbeitsplatz [Mobbing—an extreme form of social stressors at work]. *ZeitschriftfürArbeits und Organisationspsychologie,* 40 (1), pp. 12-21.

Leymann, H. (1996). The Content and Development of Mobbing at Work. *European Journal of Work and Organizational Psychology*, 5(2), pp. 165-184.

Madero, J. N., &Schanowitz, J. (2004).An Overview of Workplace and School Violence Prevention. *Journal of Emotional Abuse*, 4(3), pp. 13-22.

Niedl, K. (1995). Niedl, K. (1995) - Mobbing/Bullying am Arbeitsplatz. Eine empirische Analyse zum Phänomen sowie zu personalwirtschaftlich relevanten Effekten von systematischen Feindseligkeiten. München, Mering: Hampp.

Ozturk, H., Sokmen, S., Yılmaz, F., &Cilingir, D. (2008). Measuring mobbing experiences of academic nurses: Development of a mobbing scale. *Journal of the American Academy of Nurse Practitioners*, 20(9), pp. 435-442.

Ozturk, H., Yilmaz, F., &Hindistan, S. (2006).Mobbing scale for nurses and emotional constraint the nurses experienced (Mobbing), III.International Nursing Management Conference Abstract Book. Ankara, Turkey: HacettepeUniversitesiHemsirelikYuksekokulu.

Peyton, P. R. (2003). *Dignity at Work*.2.E, London: Routledge Publisher.

Rogers, K. A. &Chappel, D. (2003).*Preventing and Responding to Violence at Work*. International Labor Office, Geneva.

Sandvik, P. L., Namie, G., &Namie, R. (2009).*Destructive Organizational Communication.* Routledge Press., New York.

Tehrani, N. (2004). Bullying at Work: Beyond Policies to a Culture of Respect. *British Journal of Guidance & Counselling*, 32(3), August, p. 357.

Tigrel, E. Y., &Kokalan, O. (2009).Academic mobbing in Turkey. *International Journal of Behavioral, Cognitive, Educational and Psychological Sciences*, *1*(2), pp. 91-99.

Tomić, M. (2012).Mobbing: the incidence of mobbing activities and differences regarding workplace and gender. *Megatrend review: the international review of applied economics*, *9*(1), pp. 243-252.

Topa, G., &Moriano, J. A. (2013). Stress and nurses' horizontal mobbing: Moderating effects of group identity and group support. *Nursing outlook*, *61*(3), e25-e31.

Turban, E., Sharda, R., Delen, D., &Efraim, T. (2007).Decision support and business intelligence systems.Pearson Education India.

Vandekerckhove, W., &Commers, R. (2003). Downward Workplace Mobbing: A Sign of the Times.*Journal of Business Ethics*, 45, pp. 41-50.

Westhues, K. (1999). *Eliminating professors: A guide to the dismissal process.* New York: Edwin Mellen Press.

Westhues, K. (Ed.). (2006). *The remedy and prevention of mobbing in higher education: Two case studies.* Lewiston, NY: The Edwin Mellen Press.

Zapf, D. (1999). Organizational, Work Group Related and Personal Causes of Mobbing / Bullying at Work. *International Journal of Manpower,* 20(1/2), 70.

Zapf, D., & Gross, C. (2001). Conflict escalation and coping with workplace bullying: A replication and extension. European journal of work and organizational psychology, 10(4), 497-522.