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Üniversitelerin Uluslararası İlişkiler Ofisinde Yönetim Bilişim Sistemlerinin Rolü Üzerine Bir Araştırma
&
A Research Study on the Role of the Information Systems in the Management of the International Relations Offices of the Universities

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Üniversitelerin Uluslararası İlişkiler Ofisinde Yönetim Bilişim Sistemlerinin Rolü Üzerine Bir Araştırma

Öz

Bu çalışma, Türk yükseköğretim sistemi içerisinde uluslararası ilişkiler ofisleri yönetiminde bilişim sistemlerinin etkisine yöneliktir. Araştırmanın amacı, ofis yöneticilerinin artan bilgi gereksinimlerini etkin biçimde karşılamada, bilişim sistemleri desteğinin rolünü belirlemektir. Bu amaçla üniversitelerin uluslararası ilişkiler ofisi yöneticileri ve çalışanları üzerinde anket yöntemiyle elde edilen veriler One Simple T testi ile analiz edilmiştir.

Analiz sonuçları sistem üreticisinin sunduğu hizmetler boyutuna yönelik olarak, danışmanlık hizmetlerinin yeterli olduğunu göstermektedir. Ürün kullanımı boyutuna yönelik değerlendirmeler ise hibeler hesaplanırken ödeme planının çıkarılması ve kalış sürelerine göre gönderilecek kişi sayısının hesaplanabilmesi konularında sistemin destek sağladığını göstermektedir. Buna göre; söz konusu sistemin yönetici gereksinimlerini karşılamada kısmen yetersiz kaldığı söylenebilir. Sistemin yönetici gereksinimlerine göre geliştirilerek etkili kullanılabilmesi sağlanabilir.

Anahtar Kelimeler: Yönetim, Bilişim, Sistem, Bilişim Sistemleri

A Research Study on the Role of the Information Systems in the Management of the International Relations Offices of the Universities

Abstract

This study focuses on the effect of information systems in the management of international relations offices within the Turkish Higher Education System. The aim of the study is to determine the role of information systems support in meeting the increasing information needs of office managers. For this purpose, the data obtained by the survey method on the managers and employees of the international relations office of the universities were analysed by One Simple T test.

The results of the analysis indicate that the consultancy services are sufficient for the size of the services provided by the system manufacturer. Evaluations regarding the size of the product use indicate that the system provides support in calculating grants and calculating the number of people to be sent according to the length of stay and the payment plan. According to this; it can be said that the system in question is partially inadequate in meeting the administrative requirements. The system can be developed according to the administrator requirements and can be used effectively.

Key Words: Management, Informatics, System, Information Systems.

1.Conceptual Framework

Management, in order to achieve a predetermined set of goals; It is the sum of the processes of decision making, implementing and controlling processes that can primarily use people ,the financial resources, technical equipment, fixtures, raw materials, auxiliary materials, time and information in harmony and efficiently. The concept of management includes effective and efficient

use of primarily people and factors of production according to management by objectives (Eren, 2003,s. 3).

The main purpose of management is to increase productivity and efficiency in the organization. Management concept in terms of business and organizations is a new concept in today's world. Business management, which developed with the industrial revolution and following process especially in western countries, increased its importance as a concept with the effect of thinkers such as Taylor, Fayol and Weber (Mucuk, 2011, s. 127).

Informatics is the science of regular and reasonable processing of information that human beings use in the communication of technical, economic and social fields, especially through electronic machines (www.tdk.gov.tr). In other words, informatics is the presentation of processed data produced by processing the data obtained from internal and external sources and which contributes to the management to make decisions about the operation and related systems. The transmission of information through technology and computer software and hardware is widely used in every field thanks to the widespread use of the Internet.

System, in order to achieve a variety of predetermined purposes, is combination of a whole, operating in a given environment affecting parts of each other in relation to the environment (Senn, 1989:16).The structure and operation of the system varies according to the purpose, the environment in which it operates and the systems it interacts with. In this sense, the system encompasses the lower, upper and super systems in which the enterprise interacts with itself for various reasons. For this reason, it is very important for the systems to reach their objectives through the use of rational resources, and to manage the complex interactions between the internal and external environment.
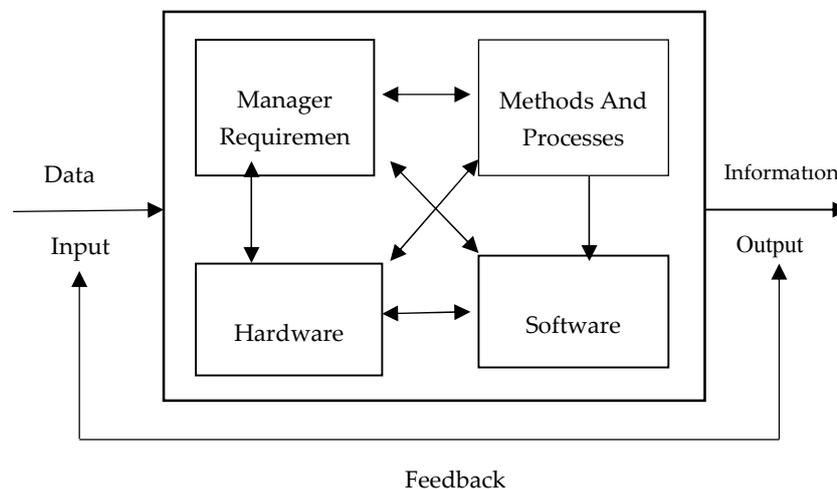
The concept of management information systems is an interdisciplinary field, which has attracted the attention of a large number of researchers since the first day of its introduction, as well as discussions about the field of study, variables and outputs (Seker, S. E. ve Varıcı M., 2015, s. 2). Management Information / Information System (MIS) when we form the words together; we define the concept. Accordingly, MIS; is the system that provides the production and transmission of information used in the management of an organization. In other words; management information that can directly affect decision making; that is, systems that provide information to assist the manager in performing the functions of planning, organizing, executing, coordinating and controlling. System consists of three levels as operational, tactical and strategic parallel to the levels of management (Furduescu, A, 2017, s. 62).

Management information system; it can be defined as an interrelated system, such as gathering, processing, storing and distributing information to support decision making and control in enterprises. In addition, management information systems can help managers and employees create new processes, visualize complex issues, and analyse / synthesize administrative issues (Naralan, s.5). System performance is important in the successful development and adoption of information systems in enterprises (Furneaux, B. and Wade, M. 2011, s.581).

Information systems contain data and information for internal and external environment. Data is a series of raw realities prior to processing in the enterprise environment. Information is; the data obtained from the environment of the organization is processed and transformed into a meaningful and useful form for the administrator (Laudon & Laudon, 2014, s. 46-4). Information technologies have undergone significant changes with the rapid advancement of internet technologies. Thanks to these changes, companies can both implement the system more easily and increase the level of competitiveness. So the use of information technologies has become a necessity. Superior IT system capability has begun to be interpreted as superior business performance (Chae, Koh ve Prybutok, 2014: 307).

The purpose, structure and operation of MIS can be seen as in Figure 1.
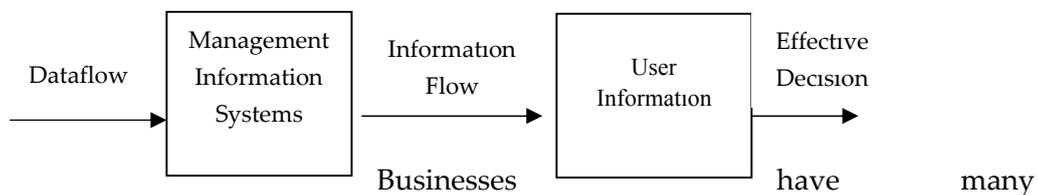
Figure 1. Management Information Systems

It is the necessity of rationality and scientificity that businesses operating to meet human needs work in such a way as to achieve the optimum access to these objectives with scarce resources allocated to them. Rationality in

reaching goals is one of the current problems faced by managers at macro and micro level. The main factor determining the solution of this problem is; executives' decisions (Kurtuluş, 2004, s. 7). All managers' decisions directly affect social welfare. Therefore, ensuring efficiency in management decisions has a vital importance. Determining the factors for ensuring efficiency in decision making is necessary to ensure that administrative decisions are timely and accurate.

It is possible to show the necessity of the management information system in effective decision making in Figure 2.

Figure 2. Management Information System in Decision Making

Businesses have many different business processes. Therefore, it will be wrong to talk about the existence of a single information system for the operation of all processes. For each different business process a different information system can be mentioned.

2.Fıeld Research

2.1. Introduction Of The Research

The research includes universities using the ISO 9001: 2015 TR quality award winning Kion Erasmus software. This software is an example of a corporate software application used by 31 universities in our country in international relations offices within the scope of Erasmus Exchange Program.

2.2. Objective of the research

The aim of the study is to measure the perceptions of managers and employees to determine the role of information systems support in meeting the increasing information needs of office managers in today's conditions.

2.3. Hypothesis and model of research

The hypotheses of the study are as follows:

H1- Software provides the support I want

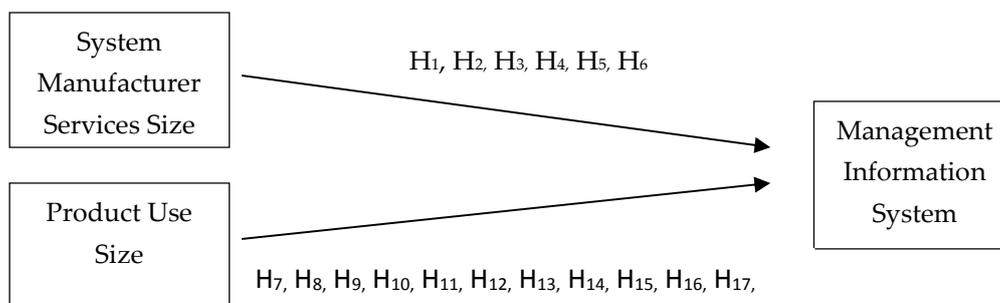H2- Consulting services are sufficient.

H3- Timely and effective solution is provided to problems.

H4-Software meets your needs.

H5- Communication with the authorities is possible.

H6- The quality of the service provided is sufficient.

H7- Product ease of use is sufficient.

H8- Student and Personnel Information Systems are easy to use.

H9- Update of the software is sufficient.

H10- Software can control your office processes

H11- It can make budget according to office needs.

H12- Office operations can be grouped according to needs.

H13- Student mobility is followed in detail.

H14- Account movements are classified according to need.

H15- Payment plan is calculated when calculating grants.

H16- It contributes to the planning of student mobility.

H17- Calculates the number of people to be sent according to their duration of stay.

H18- Sends bulk e-mail to all stakeholders.

The research model according to hypotheses is shown in Figure 3.

Figure 3. Research Model

2.4.Research Method

In the research, descriptive research model which refers to present state of object or phenomenon is used (Altunışık vd. 2012, s. 71). The purpose of the descriptive research model is to define the current problem, the conditions related to this problem, variables and the relationships between variables.

Such research usually involves determining the degree of relevancy between two or more variables (Kurtuluş, 2004, s. 252). In the analysis of data on demographic characteristics, the number and percentage method; in the reliability analysis, Cronbach's Alpha method and for the analysis of values related to functional variable One Simple T test were used.

Population and sample

The research population is the international relations office staff of the universities that use the Kion software system. There are 31 universities using this software. The managers and employees working in the international relations offices of the mentioned universities are included in the research with full counting method.

The universities included in the study are presented in Table 1.

Table 1. Universities using Kion Erasmus Program in Turkey

Afyon Kocatepe University	İstanbul Bilgi University
Akdeniz University	İstanbul Teknik University
Arel University	İstanbul Ticaret University
Avrasya University	Maltepe University
Bahcesehir University	Mimar Sinan Güzel Sanatlar University
Batman University	Okan University
Canakkale Onsekiz Mart University	Ozyegin University
Erciyes University	Piri Reis University
Erzincan University	Sabahattin Zaim University
Fırat University	Selcuk University
Karabuk University	Süleyman Demirel University
Karamanoglu Mehmet Bey University	Trakya University
Koc University	Usak University
Hitit University	Yeditepe University
Isık University	Yıldız Teknik University
Istanbul 29 Mayıs University	

Econder|

ECONDER
International Academic Journal
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Cilt / Vol : 2,
Sayı/Issue: 2,
2018

[157]

Data Collection

The survey data were collected with the Google form prepared in the form of demographic characteristics and a five-point Likert scale. Questions were finalized with pilot survey application and questionnaire was applied to 50 people using the system.

2.5. Findings

The findings of the research and the results of the statistical analysis are examined below. Within the scope of the 5-point Likert-type grading scale, 'Strongly Disagree' (1), 'Disagree ' (2), 'Undecided' (3), ' Agree' (4), ' Totally Agree '(5) grading items options are available. Cronbach's Alpha value of the scale provided by the system manufacturer is 0.89; product usage size is calculated as 0.91. It is generally accepted that Cronbach's Alpha value should be at least 70 and above in scale studies (Seçer, 2017, s. 219). Since the alpha values of the scales used in the study are 0.89> 0.70 and 0.91> 0.70, the scales are safe.

2.5.1. Descriptive Statistics

Table 2 provides information on the age, gender, education and experience of the participants

Table 2. Descriptive information

Demographic Variables		Number	Percent
AGE GROUP	18 age -21 age	5	10
	22 age -25 age	8	16
	26 age -35 age	19	38
	36 age -50 age	16	32
	51 and above	2	4
GENDER	Erkek	27	54
	Male	23	46
EDUCATION	High school graduate	6	12
	Associate Degree	5	10
	Bachelor's Degree	31	62
	Graduate Degree	2	4

	Doctorate Degree	6	12
DURATION OF USE	1 mounts-5 mounts	2	4
	6 mounts-10 mounts	14	28
	11 mounts-15 mounts	14	28
	16 mounts-20 mounts	11	22
	21 mounts-25 mounts	9	18

38% of the respondents are in the 26-35 age category, 54% are male and 62% are undergraduate. It is observed that the highest share of system usage experience is between 5-10 months and 11-15 months among the participants using the system.

2.5.2. Findings Regarding Participation Levels to the expressions

A total of 18 questions were asked to the participants about the Kion system. These 18 expressions were divided into two dimensions. Six of these statements consist of statements about the services provided; the other 12 expressions are for the use of the product. These two dimensions were analysed by comparing with demographic characteristics. No significant results were found related to age, gender and educational status. The findings related to the duration of software use were examined because they had significant results. The results of the services provided by the system manufacturer are presented in Table 3.

Table 3. Findings related to the size of services provided by the system manufacturer

Expressions	p value	Result
1- The software provides the support I want.	,896	$p > 0,05^{ns}$
2- Consultancy services are sufficient.	**,003**	**$p < 0,05^{*}$**
3- Timely and effective solution is provided to problems.	,261	$p > 0,05^{ns}$
4- Software meets your needs	,521	$p > 0,05^{ns}$
5-Communication with the authorities is possible.	,391	$p > 0,05^{ns}$
6- The quality of the service provided is sufficient.	,348	$p > 0,05^{ns}$

Econder|

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[159]

As can be seen from Table 3, it is seen that the expression 'consultancy services are sufficient ' is significant (p <0.05). The others were found to be statistically insignificant (p> 0.05).

The findings related to the product use size are presented in Table 4.

Table 4. Findings related to product use size expressions

Expresions	p value	Sonuç
1- Product ease of use is sufficient.	,010	**p<0,05***
2- Student and Personnel Information Systems are easy to use.	,000	**p<0,05***
3- Update of the software is sufficient.	,444	p>0,05ns
4- Software can control your office processes	,485	p>0,05ns
5- It can make budget according to office needs.	,042	**p<0,05***
6- Office operations can be grouped according to needs.	,001	**p<0,05***
7- Student mobility is followed in detail.	,002	**p<0,05***
8- Account movements are classified according to need.	,023	**p<0,05***
9- Payment plan is calculated when calculating grants.	,013	**p<0,05***
10- It contributes to the planning of student mobility.	,024	**p<0,05***
11- It can calculate the number of people to be sent according to their duration of stay	,875	p>0,05ns
12- Sends bulk e-mail to all stakeholders.	,000	**p<0,05***

As seen in Table 4; ease of use of the product is sufficient, student and staff Information Systems are easy to use, office operations can be grouped according to needs, student mobility is monitored in detail, account mobility are classified according to need, payment plans are calculated when calculating grants, contributes to the planning of student mobility and can send mass e-mail to all stakeholders expressions were statistically significant (p<0, 05). Other statements in the table were not significant (p>0, 05).

Conclusion

The importance of information systems aiming to provide distilled information to managers is increasing day by day. The purpose of Kion

Software, which is used in the management of the universities' international relations office, is to meet the increasing information needs of managers effectively.

In this study which was conducted to determine the support of information systems, it was seen that the effect on managers was important. The opinions of the respondents about the effectiveness of the Kion Erasmus system on the office work were measured in two dimensions: the size of the services provided by the system manufacturer and the usage size of the product.

According to the size of the services provided by the system manufacturer, the expression 'consulting services are sufficient' is found significant ($p < 0, 05$). The software provides the support I want. A timely and effective solution is provided to the problems. The software meets the needs. Communication with the authorities is possible. The quality of the service is sufficient. These expressions are not statistically significant ($p > 0, 05$).

According to the size of the product use; ease of use of the product is sufficient, student and staff Information Systems are easy to use, office operations can be grouped according to needs, student mobility is monitored in detail, account mobility are classified according to need, payment plans are calculated when calculating grants, it contributes to the planning of student mobility and can send mass e-mail to all stakeholders ,all these expressions appear to be statistically significant ($p < 0,05$). Update of the software is sufficient. The software can control your office processes. It can calculate the number of people to be sent according to their duration of stay. These expressions are not significant ($p > 0, 05$).

 It can be said that the size of the product use of Kion software in the management of international relations offices of universities is more effective than the size of the services provided by the system manufacturer. It is understood that this software provides significant support to the problems of office management in order to produce rational solutions. By updating and maintaining the support provided by the software in accordance with the conditions of the day, it will provide more rational contributions to managerial processes.

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Econder

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[161]

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