

## A Research for Measuring Administrative Effectiveness

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**ABSTRACT** The purpose of this research is to develop an instrument for the evaluation of administrative effectiveness, by discussing the aspects of organizational effectiveness and organizational levels in a university. The sample of the research consisted of 203 academic personnel as the study group of the research. The results of the study indicated that university organizations can be evaluated through administrative effectiveness criteria that are developed by synthesizing four levels into organizational structure of the universities. The results of the study also showed that there is a fifth level at policy-strategy level and a study which is conducted without considering this aspect will be insufficient. The results also revealed that evaluation tool for administrative effectiveness which is developed to that end and be used in administrative effectiveness research and studies in universities.

### INTRODUCTION

Although many studies have been conducted, only some of them have focused on administrative actions and behaviors. This kind of researches have introduced intuitions and ideas about formal and informal elements of the administrative duties, allocation of time among these duties, interpersonal interaction network, basic subjects of characteristics of administrative duties (Steward 1989). This relationship was noticed by a rarely applied research trend and examined delicately. This trend dealt with the actions and behaviors of managers to measure the effectiveness (Cammock et al. 1995).

The concept of administrative effectiveness has been defined differently by different authors due to its complex nature (Bao 2009). Some researchers defined it as "administrative effectiveness is the positive response to administrative efforts and actions with the intention to accomplish stated goal (Akomolafe 2012; Ademilua 2012). Although, administrative effectiveness is defined as the product of a series of complex

nested relations and an interaction pattern (Cammock et al. 1995).

An administration's capacity to forecast problems beforehand shows itself as a result of the characteristics and behaviors in his personal relationships and consulting criteria. In leading a group, the concept of leadership is regarded as effectiveness (Adeniyi and Omoteso 2014). Effective administration requires a balance of skills among many dimensions (Cammock et al. 1995) and these dimensions and parameters are influenced to a different degree by personal, organizational, and environmental contextual factors (Analoui 2007). This balance includes not only a series of quality behaviors but also many personality traits as an administrator.

Organizational size is another contingency variable which is thought to affect the effectiveness of different organizational forms (Hofler 2010). Small organizations can behave informally while larger organizations tend to become more formalized. The owner of a small organization may directly control most of the organizational processes, but large organizations require more complex and indirect control mechanisms. Large organizations can have more specialized staff, units, and jobs (Amah et al. 2013).

Organizational development is regarded as improving the organizational effectiveness and defined as the process of preparing and managing the change in an organization (Gibson et al. 1994). Based on this definition, organizational development is considered as an administrative technique or tool to complete main changes in

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an organization. Organizational development as an administrative technique fulfills real administrative values without regard to the values of means of change. Thus, organizational development is evaluated in an ethical frame and regarded as an ethical concept (Garza 1991). Administrators can perform organizational development in a number of ways. This is because managing the change includes very important and non-ignorable ethical matters. Additionally, administrators can use various approaches to manage the planned change (Lovelady 1994).

In an organization, the knowledge worker is the production factor that makes highly developed societies and economies, such as the United States of America, Western Europe, Japan and some other countries. These countries keep up their competitive edge maintaining their status simultaneously. The real fortune of the US that gives the country a competitive advantage is education. Education itself is something that offers tremendous advantage. Thus, knowledge workers become productive. For a knowledge worker, productivity is the ability to have the right things carried out. This is the administrative effectiveness itself (Drucker 1994).

Every knowledge worker employed in a modern organization is an administrator because s/he displays actions that affect their organization positively or negatively. Someone in this kind of a position must make his/her own decisions. He or she cannot be the person who is following the orders only. Such person must take responsibility for his/her own contribution. This person can be deactivated, relieved of his/her powers or dismissed. However, as soon as s/he has a job, his/her goals, standards and contribution are under his/her own supervision.

Whether a knowledge worker is an administrator, does not depend on whether s/he administers people. The knowledge work cannot be defined in terms of figures, money and cost. It can only be defined with its results. Furthermore, the structure of the group and size of administrative staff are not that determinative. This is because the authority of knowledge is effective as much as the authority of position (Drucker 1994).

Universities are the organizations with the highest number of knowledge workers and these organizations are actually complex systems. Complex systems are divided into power levels hierarchically (Miller 1978). In organizations, these

levels are defined as individual, group, inter-group and organizational levels (Rousseau 1985; Staw 1984). This kind of typology of organizational levels is common in works and studies on organizational behavior and organizational development.

A model developed by Rashford and Coglans (1987) regarding the organizational levels is recommended to harmonize four different behavior levels in a systematic manner and to cover them together. In this model, organizational levels are determined as individual, face-to-face team, group-divisional and policy-strategy.

The study by Rashford and Coglans suggests that effectiveness of university administration can be maintained by using four levels of organizational behavior (individual, team, group-division, policy and strategy) or organizational behavior levels in a university, because these levels are important and critical for effective administration.

Effectiveness within the scope of organizational behavior is defined as the optimal relationship among productivity, quality, effectiveness, flexibility, satisfaction, competitiveness and development (Gibson et al. 1994). The field of organizational behavior defines three levels of analysis. These are individual, group and organization (Gibson et al. 1994, Rashford and Coglans 1992). Accordingly, these analysis levels determine three levels of administrative responsibility. These are effectiveness of individuals, effectiveness of groups and effectiveness of organizations (Gibson et al. 1994).

Determination of administrative effectiveness criteria may be useful in the evaluation of university administration by combining four aspects of organizational effectiveness (adaptation, goal attainment, integration, and creating and sustaining original values) and four organizational levels of the university (individual, team, group-divisional and policy-strategy).

### **Aim**

The purpose of this research is to develop an instrument for the evaluation of administrative effectiveness, by discussing the aspects of organizational effectiveness and organizational levels in a university.

To achieve this purpose, the following research questions guided the study:

1. What are the anticipated effectiveness criteria for each organizational level in a university?
2. To what extent are the criteria determined for each organizational level associated with the aspects of organizational effectiveness?

### Importance of the Research

The evaluation of effectiveness depends on its purpose and the area of effectiveness (Miles 1979). This research will contribute to existing knowledge by defining the areas of administrative effectiveness in a university in line with administrative objectives.

In modern society, the focus of attraction has shifted towards the knowledge workers in these organizations. Those who know how to use knowledge, theory and conceptual thinking can become effective as much as they contribute to the organization. What makes the knowledge work effective is to focus on achieving the set goals of an organization. It is impossible to supervise knowledge workers directly or thoroughly. They can only be assisted. They must guide themselves to increase their performance and achieve efficiency (Drucker 1994). With this research, it is expected to offer useful insight and guidance to universities where knowledge workers are densely populated.

Apparent organizational characteristics of higher education institutions pose special problems for researchers in selecting the criteria of organizational effectiveness and evaluating such criteria. By this reason, just like the problems related to the concept of organizational effectiveness, the characteristics of institutions operate as obstacles in evaluating the effectiveness of universities and higher education institutions in an empirical manner. The researchers could not be reached any research directly related with this context in the literature for measuring administrative effectiveness in higher education institutions directly. Although there are implications and theories about the administrative effectiveness of universities or higher education institutions, there is no research encountered directly on administrative effectiveness. Thus, the results of this research will be a guild for future researches.

## MATERIAL AND METHODS

This is a descriptive research with a survey prepared for literature review and evaluation of effectiveness criteria in order to develop an instrument for measuring administrative effectiveness.

### Population and Sample

Population of the research consists of all academic staff working at faculties and vocational high schools of Abant Izzet Baysal University.

The research is conducted on the entire population, without sampling. However, not all population has been reached because some of them were on sick leave or abroad. Only 203 of 315 academic personnel could be reached (see Table 1). Thus, they are the study group of the research.

**Table 1: Breakdown of the population and study group**

<i>Academic title</i>	<i>Total</i>	<i>Contacted</i>
Professor	23	16
Associate Professor	7	6
Assistant Professor	38	28
Research Associate	105	62
Instructor	100	55
Lecturer	34	29
Expert	8	7
<b>Total</b>	<b>315</b>	<b>203</b>

### Data Collection

The data was gathered in four stages. In the first stage, researches on organizational and administrative effectiveness in the literature were reviewed, and then effectiveness criteria used in these researches were determined and listed.

In the second stage, all determined criteria were arranged in the form of judgment and an inventory with 200 items was created. This inventory was given to experts in the fields of educational administration and measurement and evaluation in education to determine the content validity, and necessary adjustments were made based on the opinions and recommendations of these experts.

In the third stage, the reliability of prepared inventory was tested in 50-person pilot group every 15 days by using test-retest method (see Table 2).

In the final stage, 32 draft items which are inoperative according to the test-retest results were excluded, and 168-item inventory was administered personally by the researcher to the sample group between the dates December 10, 2012 and January 20, 2013, and data collection was completed on February 30, 2013. After that, reliability coefficient of the data collection tool was calculated as ( $\alpha = .8910$ ).

### Analysis of Data

The data were analyzed in three stages.

In the first stage, inventories were numbered, the answers of subjects were grouped and coded and made ready for processing.

In the second stage, the coded data were entered in "SPSS (Statistical Package for Social Sciences) for Windows", and refined and made ready for analysis.

Finally, the data were analyzed using SPSS. In the analysis of data, factor analysis was used. The following actions were made in sequence in the analysis of data.

The items were subjected to factor analysis and their distribution to suitable factors was determined.

## FINDINGS AND DISCUSSION

Research findings and comments about them are given in two sub-headings, namely the findings about the demographic characteristics of subjects and the findings about the sub-problem. Findings related to demographic characteristics are given in Table 1. The results of analysis that determine the distribution of items by factors and their relations are given and discussed (Table 2).

**Table 2: Test-retest correlation**

Variable	N	Arithmetic mean	Standard deviation
Pretest	50	165.8700	41.5213
Posttest	50	165.3200	41.6014
Correlation	50	$r = .8680$	

The results of factor analysis which shows to what extent the effectiveness criteria deter-

**Table 3: Factor analysis on the aspects of organizational effectiveness at individual level**

Aspects	Items	Factors			
		Factor 1	Factor 2	Factor 3	Factor 4
Creating and sustaining the values system	6	.73793	.24633	.16852	-.07962
	4	.72888	.30507	.05499	.10835
	1	.72290	.22768	.21166	-.12072
	15	.71233	.14417	-.00197	.15348
	5	.69766	.20909	.16349	.15903
	2	.67897	.38338	.19671	-.01380
	8	.64852	.31533	.00492	.09612
	7	.64394	.15370	.29199	.01213
	14	.59635	.16772	.31486	.18541
	17	.56846	.40173	.44414	.02420
	9	.55781	.34205	.39538	.04991
	16	.52675	.43157	.34520	-.01992
	3	.45699	.43442	.32236	-.19114
	Goal attainment	27	.38847	.77425	.09359
20		.12155	.73963	.01857	.13015
18		.29694	.67362	.36245	.05605
26		.52027	.54557	.09648	.09499
28		.45429	.53770	.25676	-.13985
Integration	13	.07775	-.13061	.79187	.03132
	12	.05931	.15842	.68919	.01441
	10	.18547	.08857	.68003	.06438
	9	.29820	.14888	.56407	.33407
	11	.45159	.25111	.51501	.11823
Adaptation	21	.45362	.27508	.49258	.13767
	22	.12091	.18176	-.11688	.80513
	24	.25302	.14034	.15754	.73088
	30	-.03766	.00412	.14549	.69578
	23	.27159	.02230	.31103	.66022
	25	.34749	.02916	.10664	.63752
	19	.05628	.12397	.25665	.42695
	Variance (%)	40.4	7.4	5.9	4.3
	Eigen values	12.1	2.2	1.7	1.3

mined for “individual level”, the first organizational level in an university, are associated with the aspects of organizational effectiveness, and the distribution of items by aspects are given in Tables 3 and 4.

**Table 4: Factor transformation matrix at individual level**

	<i>Factor 1</i>	<i>Factor 2</i>	<i>Factor 3</i>	<i>Factor 4</i>
Factor 1	.71545	.56630	.39096	.12073
Factor 2	-.05051	-.52080	.85202	-.01691
Factor 3	-.41166	.23903	.13894	.86839
Factor 4	.56224	-.59239	-.31924	.48067

As it is seen in the tables, effectiveness criteria determined at individual level are grouped in four factors. This result supports previous researches about the four aspects of organizational effectiveness (see, for instance, Hoy and Miskel 1987). The result also sustained recent studies on the positive behavioral statements of managerial effectiveness (Wang 2011).

In the factor analysis on effectiveness criteria at individual level, the items above .45 are taken into account. Although loading of item 19 is .42, it is included there, because individual level is the most concentrated level among other factors.

According to Factor Analysis on the Aspects of Organizational Effectiveness at Individual Level, items about fourth aspect (creating and sustaining the values system), second aspect (goal attainment), third aspect (integration) and first aspect (adaptation) of organizational effectiveness are covered under the first factor, second factor, third factor and fourth factor, respectively. Percentage of variance of these items are calculated as follows; 40, .04 in the first factor, 7, .04 in the second factor, 5, .09 in the third factor, and 4; .03 in the fourth factor. Eigen values are found as follows; 12.1 in the first factor, 2.2 in the second factor, 1.7 in the third factor and 1.3 in the fourth factor.

According to the Correlation of the factors, the first factor is correlated positively with itself and second factor with the third factor, while the third factor is correlated positively and most densely with the fourth factor that is negatively correlated with the second factor. The result that the factors are correlated with each other in this way can be interpreted as another expression of proper distribution of items to factors.

The results of factor analysis which shows the extent to which the effectiveness criteria de-

termined for “team level”, the second organizational level in an university, are associated with the aspects of organizational effectiveness, and the distribution of items by aspects are given.

As it can be seen in the Tables 5 and 6, effectiveness criteria determined at team level are grouped in four factors. These results are similar with the results of previous researches about the team level which is one of the levels in a university (Cameron 1978).

In the factor analysis on effectiveness criteria at team level, the items above .53 are taken into account. The fact that the results are considerably high degree is regarded significant in terms of internal consistency of items. As displayed in tables, items about the second aspect (goal attainment), the fourth aspect (creating and sustaining the values system), third aspect (integration) and first aspect (adaptation) of organizational effectiveness are covered under the first factor, second factor, third factor and fourth factor, respectively. Percentage of variance of these items are calculated as follows; 68.5% in the first factor, 4.4% in the second factor, 3.8% in the third factor, and 2.6% in the fourth factor. Eigen values are found as follows; 18.4 in the first factor, 1.1 in the second factor, 1.0 in the third factor and .6 in the fourth factor.

According to correlation of factors at the team level, the first factor is correlated positively with itself and second factor with the fourth factor, while the fourth factor is correlated positively and most densely with the with the third factor, and the third factor is negatively correlated with the second factor. The result that the factors are correlated with each other in this way can be interpreted as another expression of proper distribution of items to factors.

The results of factor analysis implied the extent to which the effectiveness criteria determined for “group-divisional level of university”, the third organizational level at a university in Turkey, are associated with the aspects of organizational effectiveness, and the distribution of items by aspects are given.

As it can be seen in the Tables 7 and 8, effectiveness criteria determined at group-divisional level of university are grouped in four factors. This supports the results of previous researches about the university group-divisional level which is one of the levels in a university (Rashford and Coglan 1992).

**Table 5: Factor analysis on the aspects of organizational effectiveness at team level**

<i>Aspects</i>	<i>Items</i>	<i>Factors</i>			
		<i>Factor 1</i>	<i>Factor 2</i>	<i>Factor 3</i>	<i>Factor 4</i>
Goal attainment	24	<b>.84879</b>	.35967	.15829	.12567
	26	<b>.81949</b>	.39248	.10379	.15745
	25	<b>.81653</b>	.37590	.11990	.20664
	23	<b>.80319</b>	.38521	.19550	.15322
	22	<b>.78352</b>	.46293	.14609	.20662
	27	<b>.73729</b>	.31607	.31569	.12497
	19	<b>.70702</b>	.47253	.29412	.02802
	20	<b>.66590</b>	.49748	.26779	.08624
	18	<b>.64985</b>	.51878	.31690	.08091
	10	<b>.60425</b>	.55405	.17479	.21935
Creating and sustaining the values system	4	.29913	<b>.81287</b>	.02413	.24097
	7	.32520	<b>.79942</b>	.08044	.16990
	2	.41989	<b>.70574</b>	.18625	-.04435
	8	.34805	<b>.69925</b>	.40859	.08497
	6	.47424	<b>.69035</b>	.07112	.27228
	5	.51235	<b>.68087</b>	.19772	.13439
	13	.42846	<b>.65770</b>	.29687	.17755
	3	.45626	<b>.64460</b>	.25068	.22365
	17	.52233	<b>.63815</b>	.32713	.12111
	11	.55171	<b>.63760</b>	.14302	.14018
	16	.55152	<b>.59743</b>	.34263	.07144
Integration	9	.22172	.14127	<b>.70370</b>	.56789
	12	.42136	.22922	<b>.69918</b>	.15386
	15	.47614	.37881	<b>.55525</b>	-.09127
Adaptation	14	.32764	.03847	<b>.53915</b>	.53645
	1	.15519	.23224	.06605	<b>.89070</b>
	21	.22732	.07081	.55087	<b>.68565</b>
	Variance (%)	68.5	4.4	3.8	2.6
	Eigen values	18.4	1.1	1.0	.6

**Table 6: Factor transformation matrix at team level**

	<i>Factor 1</i>	<i>Factor 2</i>	<i>Factor 3</i>	<i>Factor 4</i>
Factor 1	.67815	.65215	.28444	.18415
Factor 2	-.53940	.30274	.08626	.78100
Factor 3	.41358	-.69439	.26585	.52545
Factor 4	-.27950	-.02945	.91705	-.28290

In the factor analysis on effectiveness criteria at university group-divisional level, the items above .50 are taken into account. Although the loadings of the items 13 and 18 are lower than this level, they are included in the first factor. According to tables, items about the third aspect (integration), the second aspect (goal attainment), fourth aspect (creating and sustaining the values system) and first aspect (adaptation) of organizational effectiveness are covered under the first factor, second factor, third factor and fourth factor, respectively. Percentage of

variance of these items are calculated as follows; 52.4% in the first factor, 4.9% in the second factor, and 4.0% in the third and fourth factors. Eigen values are found as follows; 19.9 in the first factor, 1.8 in the second factor, and 1.0 in the third and fourth factors. According to the Correlation of the factors, the first factor is correlated positively with itself and third factor is correlated positively and most densely with the fourth factor, while the second factor is correlated negatively with the third factor, and the third factor is also negatively correlated with the third factor. The result that the factors are correlated with each other in this way can be interpreted that a judgment can be made about other two factors based on their results.

The results of factor analysis which shows to what extend the effectiveness criteria determined for "policy-strategy level", the fourth organizational level in an university, are associated with the aspects of organizational effective-

**Table 7: Factor analysis on the aspects of organizational effectiveness at university group-divisional level**

<i>Aspects</i>	<i>Items</i>	<i>Factors</i>				
		<i>Factor 1</i>	<i>Factor 2</i>	<i>Factor 3</i>	<i>Factor 4</i>	
Integration	20	.84879	.35967	.15829	.12567	
	19	.81949	.39248	.10379	.15745	
	25	.81653	.37590	.11990	.20664	
	34	.80319	.38521	.19550	.15322	
	26	.78352	.46293	.14609	.20662	
	12	.73729	.31607	.31569	.12497	
	27	.70702	.47253	.29412	.02802	
	35	.66590	.49748	.26779	.08624	
	32	.64985	.51878	.31690	.08091	
	14	.60425	.55405	.17479	.21935	
	29	.54990	.39551	.42850	.18300	
	16	.54366	.52772	.32824	.10919	
	15	.53069	.46807	.30666	.21862	
	24	.51472	.38095	.08513	.48428	
	13	.46979	.29859	.27203	.36973	
	18	.44676	.39736	.37641	.14012	
	Goal attainment	8	.14478	.83771	.26439	.16226
		22	.39184	.77485	.14144	.13656
21		.32124	.74492	.28280	-.05104	
33		.29303	.73893	.31061	.11400	
9		.25062	.67821	.44692	.13015	
11		.37836	.58961	.29500	.05095	
31		.50720	.56280	.30357	.13491	
Creating and sustaining the values system	10	.42329	.54476	.38694	.21929	
	6	.34544	.24759	.76210	.00436	
	3	.30533	.13512	.73849	.18027	
	1	.31512	.10200	.71864	.19367	
	7	.38075	.25846	.71640	.07187	
	4	.32004	.38202	.70309	.07865	
	2	.13055	.24350	.69449	.21657	
	5	.22676	.47370	.61556	.13378	
	17	.29280	.41358	.53239	.13807	
	28	-.00953	.20736	.08797	.76926	
Adaptation	37	.13675	-.02569	.19120	.67719	
	36	-.10671	.30377	.22323	.63268	
	30	.41596	.34536	.12284	.60820	
	23	.40688	.26031	.03913	.51466	
	38	.16555	.33716	.43632	.50039	
	Variance (%)		42.4	4.9	4.0	4.0
Eigen values		19.9	1.8	1.5	1.5	

**Table 8: Factor transformation matrix at university group-divisional level**

	<i>Factor 1</i>	<i>Factor 2</i>	<i>Factor 3</i>	<i>Factor 4</i>
Factor 1	.66402	.50665	.48289	.26307
Factor 2	.38517	.03455	-.80802	.44447
Factor 3	-.51070	.03216	.21543	.83171
Factor 4	.38718	-.86086	.25982	.20373

ness, and the distribution of items by aspects are given in Table 9 and Table 10.

As it can be seen in the table, effectiveness criteria determined at university policy-strategy

level are grouped in five factors. This result differs from the results of previous researches about the policy-strategy level which is one of the levels in a university (Cammock et al. 1995; Hardy 1991; Hitt 1988). In said researches, policy-strategy level has four aspects just like other levels. However, in this research, a fifth aspect has been determined. This finding supports the views that there could be other aspects and criteria of effectiveness at policy-strategy level in universities (Grasso 1994; Chapman 1993; Cameron and Tschirhart 1992). This fifth aspect is called as “fundraising strategies” because it includes items

**Table 9: Factor analysis on the aspects of organizational effectiveness at policy-strategy level**

<i>Aspects</i>	<i>Items</i>	<i>Factors</i>					
		<i>Factor 1</i>	<i>Factor 2</i>	<i>Factor 3</i>	<i>Factor 4</i>	<i>Factor 5</i>	
Adaptation	17	<b>.78033</b>	.22606	.13933	.15037	.12476	
	25	<b>.75728</b>	.35363	.25514	.05639	.01142	
	19	<b>.73472</b>	.43140	.11277	.12813	.13502	
	69	<b>.73431</b>	.12301	.15579	.18489	-.01778	
	11	<b>.72999</b>	.25500	.05538	.16294	.34035	
	34	<b>.72719</b>	.30094	.12708	.22442	.00930	
	29	<b>.72437</b>	.32859	.20281	.10698	.06917	
	30	<b>.72097</b>	.24894	.20326	-.07015	.06212	
	24	<b>.71529</b>	.31578	.20023	.09737	-.05285	
	9	<b>.70606</b>	.35613	.00406	.15494	.24001	
	33	<b>.70600</b>	.43306	.12044	.16154	.00338	
	21	<b>.70391</b>	.27275	.22717	.12286	.01898	
	32	<b>.69879</b>	.46085	.21821	.16910	.07079	
	31	<b>.69225</b>	.27333	.09097	.39078	.19731	
	8	<b>.68580</b>	.29747	.02557	.31273	.24638	
	20	<b>.67925</b>	.40118	.24511	.07062	-.03752	
	14	<b>.67765</b>	.22119	.19607	.12630	.24252	
	18	<b>.67314</b>	.28594	.10880	.36691	.25547	
	13	<b>.66525</b>	.25847	.26248	.00006	.05051	
	28	<b>.65936</b>	.17417	.32494	.24833	-.13257	
	16	<b>.64082</b>	.13419	.29504	.23581	.12299	
	26	<b>.63260</b>	.14531	.25110	.15516	.19748	
	6	<b>.62985</b>	.37110	.03050	-.00207	.24530	
	3	<b>.58900</b>	.42784	.17813	.07346	.19808	
	27	<b>.58552</b>	.41001	.34250	-.11384	.07045	
	15	<b>.56988</b>	.23830	.41077	.24236	.16726	
	1	<b>.55732</b>	.25920	.24705	-.13576	.40956	
	5	<b>.54733</b>	.25570	-.00645	.09335	.43229	
	2	<b>.52285</b>	.36709	.08300	.06591	.39725	
	Goal attainment	55	.31546	<b>.69739</b>	.31067	.16777	.10868
		67	.39079	<b>.69309</b>	.16333	.30842	.10974
		49	.38527	<b>.68948</b>	.27416	.26633	.17445
		22	.48878	<b>.67017</b>	.12484	.23915	.09687
48		.38293	<b>.66510</b>	.22445	.32797	.16697	
47		.38809	<b>.65176</b>	.13183	.33661	.24418	
56		.44636	<b>.63483</b>	.43135	.11502	.04571	
46		.41209	<b>.63475</b>	.26518	.18306	.13075	
60		.38786	<b>.62124</b>	.25141	.03576	.27874	
42		.33373	<b>.62045</b>	.35060	.08656	.07969	
64		.36087	<b>.60182</b>	.43855	.30090	.08839	
45		.40857	<b>.59268</b>	.43960	.18615	-.03057	
36		.40657	<b>.58830</b>	.36776	.36585	.12569	
43		.45265	<b>.58827</b>	.25608	.19979	.09056	
35		.38169	<b>.56879</b>	.22421	.38169	.29081	
54		.31606	<b>.56563</b>	.21234	.41025	.13848	
51		.33469	<b>.56370</b>	.43970	-.08911	.22157	
68		.45315	<b>.55505</b>	.42792	.17448	.01516	
72		.43514	<b>.54775</b>	.41536	.14796	.10271	
58		.33086	<b>.54577</b>	.43971	.16055	.09883	
57	.39194	<b>.53798</b>	.40041	.02184	.21426		
40	.43124	<b>.51448</b>	.41569	-.02645	.19323		
Integration	73	.43303	<b>.50386</b>	.44781	.20573	.22951	
	70	.14993	.24272	<b>.75453</b>	.13823	.04423	
	38	.12516	.25165	<b>.75446</b>	.04881	.19619	
	10	.17091	.33364	<b>.75265</b>	.09810	.14364	
	37	.05457	.21776	<b>.72685</b>	.06860	.09916	
	59	.35413	.31525	<b>.72624</b>	.00478	.19560	
	23	.09390	.38768	<b>.72072</b>	.11248	.15984	
41	-.00506	.22876	<b>.68536</b>	-.08350	-.07658		



**Table 9: Contd....**

<i>Aspects</i>	<i>Items</i>	<i>Factors</i>				
		<i>Factor 1</i>	<i>Factor 2</i>	<i>Factor 3</i>	<i>Factor 4</i>	<i>Factor 5</i>
	50	.40765	.33010	<b>.66198</b>	.23139	.08046
	71	.20918	.33565	<b>.62153</b>	.37758	-.01529
	65	.15289	.28492	<b>.52297</b>	.49951	.18593
	63	.35109	.46046	<b>.50106</b>	.07747	.27165
	39	.25333	.36657	<b>.49399</b>	.18526	.24647
	62	.21862	.35525	<b>.44531</b>	.32227	.40879
Creating and sustaining the values system	52	.40260	.03911	.25774	<b>.70067</b>	.18335
	66	.11496	.34843	.30767	<b>.68841</b>	-.01386
	7	.52350	.12536	-.09211	<b>.54756</b>	.30209
	12	.41959	.11845	.26058	<b>.44612</b>	.03269
Fundraising strategies	53	.36475	.11699	.23779	.13888	<b>.76141</b>
	61	.16350	.24891	.36626	.16443	<b>.65302</b>
	4	.51548	.20136	-.03377	.08193	<b>.54315</b>
	44	.36115	.38635	.00291	.24195	<b>.41334</b>
	Variance (%)	54.2	6.6	2.6	2.6	2.1
	Eigen values	39.5	4.8	1.9	1.8	1.5

such as the university’s attitude towards strategic planning, economic self-sufficiency, offering online facilities, and clarity of accommodation and nutrition policies (Dong 2000).

In the factor analysis on effectiveness criteria at university policy-strategy level, the items above .41 are taken into account. According to Tables 10 and 11, items about the first aspect (adaptation), the second aspect (goal attainment), third aspect (integration) and fourth aspect (creating and sustaining the values system) of organizational effectiveness are covered under the first factor, second factor, third factor and fourth factor, respectively. Percentage of variance of these items are calculated as follows; 52.4% in the first factor, 4.9% in the second factor, and 4.0% in the third and fourth factors. Eigen values are found as follows; 19.9 in the first factor, 1.8 in the second factor, and 1.0 in the third and fourth factors. Under the fifth factor, the factors about a fifth aspect (fundraising strategies) which are determined as a result of research are covered. Percentage of variance of these items are calculated as follows; 54.2% in the first factor,

6.6% in the second factor, 2.6% in the third factor and 2,1% in the fourth factor. Eigenvalues are found as follows; 39.5 in the first factor, 4.8 in the second factor, and 1.9 in the third factor, 1.8 in the fourth factor, and 1.5 in the fifth factor.

Factor analyses of this research indicated five factors of administrative effectiveness. This result encouraged previous studies about the eight parameters of administrative effectiveness (Analoui 2007).

According to Correlation of the factors, the first factor is correlated positively with itself, second factor is correlated positively with the third factor, and third factor is correlated positively with fourth factor, and the fourth factor is correlated positively with the third factor, while the fifth factor is correlated positively and most densely with itself.

Measuring the effectiveness of relational efforts is imperative for determining future administrative performance (Padmavathy et al. 2012) but limited research has been conducted to evaluate its effectiveness (Mithas et al. 2005; Chen et al. 2009). In addition, most of the controver-

**Table 10: Factor transformation matrix at policy-strategy level**

	<i>Factor 1</i>	<i>Factor 2</i>	<i>Factor 3</i>	<i>Factor 4</i>	<i>Factor 5</i>
Factor 1	.66020	.57009	.37687	.23795	.20119
Factor 2	-.63981	.28676	.70334	.05954	-.10093
Factor 3	.04423	-.51722	.17974	.83558	-.00449
Factor 4	.37542	-.52054	.55678	-.46320	-.25207
Factor 5	-.10898	-.23300	.14484	-.16455	.94116

sies around organizational effectiveness research is due to the fact that a lot of the research assumes that organizational effectiveness is a single variable. More recent approaches have seen an increasing use of multi-dimensional conceptions (Jacob and Shari 2012; Farahbakhsh 2007). The results of this research support these approaches.

### CONCLUSION

The clear organizational characteristics of higher education institutions pose special problems for researchers in selecting the criteria of organizational effectiveness and evaluating such criteria. By having this, just like the problems related to the concept of organizational effectiveness, the characteristics of institutions operate as obstacles in evaluating the effectiveness of universities and higher education institutions in an empirical manner. In fact, no research has been made in the literature to measure the administrative effectiveness in higher education institutions directly.

Administrative effectiveness cannot be measured by a single aspect in order to be useful and operational. The results indicated that administrative effectiveness can be increased through organizational levels. The results also revealed that it is inevitable to associate these levels with the aspects of organizational effectiveness.

Therefore, it is possible to determine and evaluate administrative effectiveness in university organizations through administrative effectiveness criteria that are developed by synthesizing four levels in universities and aspects of organizational effectiveness. It is believed that evaluation tool for administrative effectiveness which is developed to that end and recommended below can be used in administrative effectiveness researches and studies at universities.

### RECOMMENDATIONS

1. The efforts to evaluate administrative effectiveness in a university must be conducted with some certain criteria. The recommended questionnaire (see appendix 1) as a data collection tool could be useful and utilized for this kind of research.
2. This research could be repeated on a more extensive or different sample to improve the effectiveness criteria.
3. By using this tool, a research can be conducted on the evaluation of administrative effectiveness in universities.
4. These tools can also be used to determine the administrative effectiveness of other educational levels.
5. This tool can be useful to make research on the administrative effectiveness of organizations other than educational institutions.

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