

# ASSESSING CRITERIA THAT MATTER TO STUDENTS' SATISFACTION IN PRIVATE HIGHER EDUCATION

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## **ABSTRACT**

*Egypt is one of the major countries in the region, especially with its high population. The large number of students per class and the shrinking budgets has highlighted the role of private sector universities; as it can serve a great number of students while maintaining the low number of students per class due. Although literature is rich with studies regarding higher education (HE) universities, key criteria to students' satisfaction in the Egyptian context; especially in private HE still need to be investigated in order to assess their impact on students' overall satisfaction.*

*Accordingly, the research inquires on the main criteria that affect students' overall satisfaction with regards to the staff value, educational e-services and knowledge at a college in a private university in Egypt; as it offers a variety of e-educational services, which makes it a suitable vehicle for the study at hand. The surveyed college, has 1701 enrolled students, where 200 structured questionnaires were randomly distributed over students, with 103 questionnaires returned and considered valid. Data was statistically analysed and hypotheses were tested using chi-square, correlation, and regression tests.*

*Finally, the research findings confirm a positive relation between staff, educational e-services, and knowledge values together with students' satisfaction. Hence conclusions were drawn and, recommendations were made to decision makers highlighting the importance of these criteria in particular, and the need to be given more attention.*

## **KEYWORD**

*Educational e-services; students' satisfaction, private universities, higher education*

## **1. INTRODUCTION**

The ways services are delivered to customers have changed, and automated applications were noticeable due to the penetration of technology and computers in many different sectors including education [1]. The environment of HE is developing due to a number of criteria such as rising costs, crowded classrooms and shrinking budgets has highlighted the need for providing satisfactory educational services to HE students [2].

Egypt in particular has a great potential to expand in e-learning activities due to its high population, which exceeds 84 million [3]. The Egyptian HE sector includes 17 public universities

with 14, 31,469 enrolled students and 19 private universities, with 71,715 enrolled students located in major cities [4]. It was noticed that parents choose private higher education in an attempt to avoid HE problems associated with the public sector [2].

Therefore, the main subject of the research paper is to assess the impact of staff, educational e-services, and knowledge values on students' satisfaction. This calls for the following research question:

- What are the main criteria that affect students' satisfaction with regards to the values provided in Egyptian private universities?

## **2. LITERATURE REVIEW**

The level of satisfaction had got considerable attentions in public as well as in private sector [5]. Learning institutions in Egypt have recognised the significance of investing in technology in order to address criteria such as controlling costs, attracting students and fulfilling customers' needs like most service providers worldwide [6].

Therefore, in order to promote e-learning in Egypt, it is required to understand the main criteria that affect students' overall satisfaction [2]. Literature has investigated the main criteria required for customer satisfaction in terms of various emotions, behaviors, and features of the service experience related to satisfaction. However, the majority of studies were conducted in the West, with few conducted in developing countries [7] [8].

In 2017, a study conducted in Ethiopia [9] revealed that although the majority of undergraduate students are satisfied with the service offered by the university, yet the number of dissatisfied students were not insignificant. The key factors to satisfaction was found to be the gender, student-staff interaction, student support, and facility supervision. In the same year, an investigation was conducted to measure students' satisfaction with educational services delivered by the two countries' universities. The study recommended that Iraqi universities should give more role to students' satisfaction in order to improve students' satisfaction level [10]. Students' satisfaction has also been proven as an important aspect in the research conducted in Croatia, where the relationship between satisfaction and behavioural intentions of students was examined. A significant direct and positive relationship was proven making it useful for decision makers to attract, educate, and retain STEM (science, technology, engineering, and mathematics) and IC (information-communication) students.

A study in USA found that faculty, academic staff, and classes are the main criteria that affect students' satisfaction [11]. Another study also conducted in USA revealed that there are significant relationships between service performance and student satisfaction that will aid institutions to predict and measure student satisfaction and retention [12]. In Pakistan, a study revealed that teachers' expertise, courses offered, learning environment and classroom facilities are the main criteria that affect the student satisfaction with the quality of education offered by different private and public sector universities [13]. A study conducted in Athens, Greece identified five different criteria as the criteria for students' satisfaction; namely program study, academic staff, equipment, administrative services, and image [14].

A master thesis conducted in Sweden found that students were satisfied with the university, despite a negative service quality-gap. It also found that service quality only affected customer satisfaction to a small degree, but found a positive relation between the impact of positive news and the level of satisfaction amongst the students [15]. In Indonesia, a study proved that some factors must be prioritized such as the ability to respond effectively to solve the problems, fairness in providing assistance and attention of the government to higher education [16]. On the other hand, an investigation conducted in India, showed that only four of factors (collective learning, satisfaction, collaborative communication, and time) are considered important to students [17].

### **3. RESEARCH METHODOLOGY**

Based on the literature review that proves that private universities have a potential to satisfy students [18]; especially in countries with high population such as Egypt [1] [19] [20], this paper tests whether students are satisfied with the current educational services provided at one of the major private universities in Egypt [4].

The population of interest for this study is the private higher education students studying Business Administration, regardless of their major, in Alexandria, Egypt. Alexandria is the second-largest city and is the country's largest seaport in Egypt, in terms of importance and population size [19]. The surveyed college, namely the College of Management and Technology, has 1701 enrolled students. The sampling technique used is simple random sampling. Based on confidence level 95% and confidence interval  $\pm 10$ , the sample size calculated is 91 students [20].

A structured questionnaire was designed and distributed over 200 student respondents. Data collected was statistically analysed using SPSS, chi-square, correlation, and regression tests were conducted. In order to investigate the research framework, a set of hypotheses have been devised as shown below:

**H1** There is no significant difference between staff value and students' overall satisfaction.

**H2** There is no significant difference between educational e-services value and students' overall satisfaction.

**H3** There is no significant difference between knowledge and skills value and students' overall satisfaction.

### **4. DATA COLLECTION**

Questionnaires were designed in English and translated into Arabic. The translation of the questionnaire form was conducted by a certified translation office in Egypt in order to ensure the validity of the translated version of the instrument used. Questionnaire forms were distributed in both languages, according to respondents' preferences. The questionnaire included four variables distributed among 15 Likert scale questions, where a response of 1 means 'totally agree', a response of 2 means 'agree', 3 means 'neutral', 4 means 'disagree', and a response of 5 means 'totally disagree'. 200 questionnaire forms were randomly distributed over HE students at the surveyed university. A total of 103 valid questionnaires were returned. A summary of the questionnaire form and variables relationships presented in Table 1.

Table 1 Questionnaire and variables relationships summary

Variable No	Statement	Staff value	Educational e-services value	knowledge and skills	Students' overall Satisfaction
1	The service at my department is satisfactory				√
2	The service is convenient compared to my expectations				√
3	I have gained knowledge and skills throughout the course of study			√	
4	The senior staff members are generally helpful	√			
5	The junior staff members are generally helpful	√			
6	Staff members are knowledgeable and skillful	√			
7	Studying at my program is exciting and enjoyable			√	
8	The educational e-services received are useful		√		
9	The educational e-services received are easy to use		√		
10	The educational e-services received are responsive		√		
11	The educational e-services received are satisfactory		√		
12	I have made the right choice by joining this department				√
13	I would encourage potential students to join the academy				
14	I would encourage potential students to join my department			√	
15	My department has prepared me to the job market			√	

## 5. DATA ANALYSIS

As illustrated in Table 1, the questionnaire contained 15 statements investigating students' view of staff value, educational e-services value, knowledge and skills value, and students' overall satisfaction. In order to analyze the questionnaire data, statistical analysis was done using the Statistical Package for Social Science (SPSS) software. Frequencies were used to describe the results. Reliability Analysis – Cronbach Alpha was conducted in order to ensure the reliability of the study variables. Chi-square, correlation, and regression tests were used to illustrate the existence of association between variables.

### 5.1 DESCRIPTIVE ANALYSIS – FREQUENCIES

- Most of the surveyed students (79.6%) are satisfied with 13.6 % neutral and only 6.8% dissatisfied.
- 63% of investigated feel that the received service is convenient to their expectations. 26.2 % are not able to decide, while 10.7% feel that the received service is not convenient.
- The gained knowledge and skills is satisfying for 68.9% of the surveyed students. The neutral view students reached 23% of the investigated students. The not satisfied students are 7.8 % of the investigated students.
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- Staff members are knowledgeable and skilled based on 70.6% of the investigated students. 21.6% of the investigated students have a neutral view toward the same issue. Based on 7.9% of the investigated students' staff are not knowledgeable and skilled.
- Program is exciting and enjoyable: 61.8% of the investigated students agreed that the program is exciting and enjoyable. The students with a neutral view perform 25.5%. The program is not exciting and not enjoyable based on 12.8% of the investigated students.
- E-services are (useful, easy to use, and responsive): 65%, 66%, and 62.7% of the investigated students decided that e-services are useful, easy to use, and responsive with respect to the order. The students with contradicting view reached 7.8%, 8.7%, and 7.8%, respectively. Neutral view students' perform 27.2%, 25.2%, and 29.4% in sequence.
- 71.8% of the surveyed students would encourage potential students to join the academy. The neutral view extended to 15.5%, and 12.7% would not encourage potential students to join the academy.
- 60.2% of the surveyed students would encourage potential students to join the same department, 24.3% are neutral, and 15.5% would not. 50.5% of the investigated student agreed that their departments prepared them to the job market, 33% have a neutral view, while 16.5% decided that their departments have not prepared them to the job market.
- 73% of the investigated students believe that senior staff is helpful, 72.8% believe the same regarding junior staff. On contrast, senior staff are regarded as not helpful based on 9.7% of the investigated students, and junior staff are seen not helpful according to 7.7%. The students who have a neutral view toward senior and junior staffs were 16.5% and 19.4% respectively.
- 69.3% believe that e-services are satisfactory, while 6.9% do not, leaving 23.8% neutral. 35% think that they have made the right choice by joining this department, 24% are neutral and only 11.7% think that they not taken the right choice by joining this department.
- 68.9% agree that they gained knowledge and skills, 23.3% are neutral, and only 7.8% disagree.
- 61.8% believe that the program is exciting and enjoyable, 12.7% believe it is not, and 25.5% has a neutral view toward their studying program
- Over half of the investigated students (50.5%) agree that their department has prepared them to the job market, 33% has a neutral view of point, and 16.5% disagree.

## 5.2 HYPOTHESIS TESTING

The Cronbach's alpha is computed for testing reliability, where the value is 0.925, which exceeds 0.8; which is an acceptable level for reliability and illustrates a highly consistent and uniform study measures. In order to understand and determine the main criteria that affect the students' satisfaction, a number of hypotheses were devised and tested as shown below:

### **H1 There is no significant difference between staff value and students' overall satisfaction.**

- A significant relation between staff value and students' overall satisfaction is illustrated as shown from the chi-square values below in Table 2 and as illustrated in Table 3, variables 1, 2, and 12 have a strong positive correlation with variables 4, 5, and 6.
- This enables rejecting the null hypothesis, and amplifies the importance of understanding the impact of staff value on the students' overall satisfaction.

Table 2 Chi-Square – Staff value and Students’ satisfaction

	Statement	N of Valid Cases	Pearson Chi-Square Value	df	Asymp. Sig. (2-sided)
The service at my department is satisfactory	The senior staff members are generally helpful	103	59.236a	16	.000
	The junior staff members are generally helpful	101	33.636a	16	.006
	Staff members are knowledgeable and skillful	103	40.967a	16	.001
The service is convenient compared to my expectations	The senior staff members are generally helpful	103	1.142E2a	16	.000
	The junior staff members are generally helpful	101	49.529a	16	.000
	Staff members are knowledgeable and skillful	103	38.083a	16	.001
I have made the right choice by joining this department	The senior staff members are generally helpful	102	34.332a	16	.005
	The junior staff members are generally helpful	101	33.797a	16	.006
	Staff members are knowledgeable and skillful	102	70.802a	16	.000

Table 3 Correlations – Staff value and Students’ satisfaction

Correlations							
variable No		1	2	12	4	5	6
1	Pearson Correlation	1					
	Sig. (2-tailed)						
2	Pearson Correlation	.511**	1				
	Sig. (2-tailed)	.000					
12	Pearson Correlation	.484**	.574**	1			
	Sig. (2-tailed)	.000	.000				
4	Pearson Correlation	.572**	.546**	.540**	1		
	Sig. (2-tailed)	.000	.000	.000			
5	Pearson Correlation	.451**	.485**	.406**	.538**	1	
	Sig. (2-tailed)	.000	.000	.000	.000		
6	Pearson Correlation	.398**	.465**	.346**	.319**	.471**	1
	Sig. (2-tailed)	.000	.000	.000	.001	.000	

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Table 4 Model Summary<sup>b</sup> – Staff value and Students’ satisfaction

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.670 <sup>a</sup>	.449	.432	.60328	1.869

a. Predictors: (Constant), Variable 6, Variable 5, Variable 4

b. Dependent Variable: Students’ overall Satisfaction

Table 5 ANOVA<sup>b</sup> – Staff value and Students’ satisfaction

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	28.775	3	9.592	26.355	.000 <sup>a</sup>
Residual	35.302	97	.364		
Total	64.077	100			

a. Predictors: (Constant), Variable 6, Variable 5, Variable 4

b. Dependent Variable: Students’ overall Satisfaction

Table 6 Coefficients<sup>a</sup> – Staff value and Students’ satisfaction

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.645	.179		3.598	.001
Variable 4	.254	.087	.286	2.938	.004
Variable 5	.194	.074	.241	2.624	.010
Variable 6	.242	.069	.306	3.528	.001

a. Dependent Variable: Students’ overall Satisfaction

Tables 4, 5, and 6 show the regression analysis results for the research model, where it was found that there is a significant positive impact of variables 4, 5 and 6; their P-values are 0.004, 0.010, and 0.001 respectively, which are less than 0.05. Also, the standardized estimates show that the research variables could be ranked according to their importance to students’ satisfaction as variable 4, variable 5, and variable 6, as standardized coefficients are 0.286, 0.241, and 0.306 respectively. Therefore, this hypothesis is fully supported, suggesting a significant difference in variable 4, variable 5, and variable 6 with regards to students’ satisfaction. In addition, it could be noticed that R-Squared is 0.449, which means the model explains 45% of the variation in students’ satisfaction through the staff value.

**H2 There is no significant difference between educational e-services value and students' overall satisfaction.**

The relation between educational e-services value and students' overall satisfaction is significant as shown from the chi-square values below in Table 7 and as illustrated in Table 8, variables1, 2, and 12 have a strong positive correlation with variables8, 9, 10, and 14. These results allow us to reject the null hypothesis, which highlights the impact of educational e-services value on the students' overall satisfaction.

Table 7 Chi-Square –educational e-services value and students' satisfaction

	Statement	N of Valid Cases	Pearson Chi-Square Value	df	Asymp. Sig. (2-sided)
The service at my department is satisfactory	The educational e-services received are useful	103	52.036 <sup>a</sup>	16	.000
	The educational e-services received are easy to use	103	65.828 <sup>a</sup>	16	.000
	The educational e-services received are responsive	103	65.971 <sup>a</sup>	16	.000
	I would encourage potential students to join my department	103	31.810 <sup>a</sup>	16	.011
The service is convenient compared to my expectations	The educational e-services received are useful	103	87.785 <sup>a</sup>	16	.000
	The educational e-services received are easy to use	103	72.523 <sup>a</sup>	16	.000
	The educational e-services received are responsive	103	51.223 <sup>a</sup>	16	.000
	I would encourage potential students to join my department	103	65.076 <sup>a</sup>	16	.000
I have made the right choice by joining this department	The educational e-services received are useful	102	64.936 <sup>a</sup>	16	.000
	The educational e-services received are easy to use	102	41.563 <sup>a</sup>	16	.000
	The educational e-services received are responsive	102	54.516 <sup>a</sup>	16	.000
	I would encourage potential students to join my department	102	60.824 <sup>a</sup>	16	.000

Table 8 Correlations –educational e-services value and students’ satisfaction

Variable No		1	2	12	8	9	10	14
1	Pearson Correlation	1						
	Sig. (2-tailed)		.000					
2	Pearson Correlation	.511**	1					
	Sig. (2-tailed)	.000						
12	Pearson Correlation	.484**	.574**	1				
	Sig. (2-tailed)	.000	.000		.001			
8	Pearson Correlation	.357**	.368**	.321**	1			
	Sig. (2-tailed)	.000	.000	.001		.000		
9	Pearson Correlation	.310**	.420**	.332**	.641**	1		
	Sig. (2-tailed)	.001	.000	.001	.000		.000	
10	Pearson Correlation	.414**	.361**	.403**	.582**	.697**	1	.326**
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.001
14	Pearson Correlation	.421**	.564**	.702**	.306**	.385**	.326**	1
	Sig. (2-tailed)	.000	.000	.000	.002	.000	.001	

\*\* . Correlation is significant at the 0.01 level (2-tailed)

Table 9 Model Summary<sup>b</sup> – Educational e-services value and Students’ satisfaction

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.776 <sup>a</sup>	.603	.586	.51316	2.083

a. Predictors: (Constant), Variable 11, Variable.9, Variable 10, Variable 8

b. Dependent Variable: Students’ overall Satisfaction

Table 10 ANOVA<sup>b</sup> – Educational e-services value and Students’ satisfaction

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	38.737	4	9.684	36.776	.000 <sup>a</sup>
	Residual	25.543	97	.263		
	Total	64.280	101			

a. Predictors: (Constant), Variable 11, Variable.9, Variable 10, Variable 8

b. Dependent Variable: Students’ overall Satisfaction

Table 11 Coefficients — Educational E-services value and students satisfaction

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.508	.146		3.482	.001
Variable 8	.215	.070	.252	3.072	.003
Variable 9	.199	.064	.268	3.117	.002
Variable 10	.206	.065	.258	3.162	.002
Variable 11	.183	.060	.232	3.036	.003

a. Dependent Variable: Students' overall Satisfaction

Tables 9,10, 11 show the regression analysis results for the research model, where it was found that there is a significant positive impact of variables 8, 9, 10 and 11; their P-values are 0.003, 0.002, 0.002, and 0.003 respectively, which are less than 0.05. Also, the standardized estimates show that the research variables could be ranked according to their importance to students' satisfaction as variables 8, 9, 10, and 11, as standardized coefficients are 0.252, 0.268, 0.258, and 0.232 respectively. Therefore, this hypothesis is fully supported, suggesting a significant difference in variables 8, 9, 10, and 11 with regards to students' satisfaction. Additionally, it could be noticed that R-Squared is 0.603, which means the model explains 60% of the variation in students' satisfaction through educational e-services value.

**H3 There is no significant difference between knowledge and skills value and students' overall satisfaction.**

The relation between educational e-services value and students' overall satisfaction is significant as shown from the chi-square values below in Table 12 and as illustrated in Table 13. Variables 1, 2, and 12 are positively correlated to variable 3, variable 7, and variable 15. As a consequence the null hypothesis is rejected. This highlights the importance of the knowledge value as a major factor that affects students' overall satisfaction.

Table 12 Chi-Square knowledge and skills value and students' overall satisfaction

	Statement	N of Valid Cases	Pearson Chi-Square Value	df	Asymp. Sig. (2-sided)
The service at my department is satisfactory	I have gained knowledge and skills throughout the course of study	102	52.729 <sup>a</sup>	16	.000
	Studying at my program is exciting and enjoyable	102	32.109 <sup>a</sup>	16	.010
	My department has prepared me to the job market	102	34.814 <sup>a</sup>	12	.001
The service is convenient compared to my expectations	I have gained knowledge and skills throughout the course of study	102	91.507 <sup>a</sup>	16	.000
	Studying at my program is exciting and enjoyable	102	56.566 <sup>a</sup>	16	.000
	My department has prepared me to the job market	102	45.955 <sup>a</sup>	12	.000
I have made the right choice by joining this department	I have gained knowledge and skills throughout the course of study	101	88.657 <sup>a</sup>	16	.000
	Studying at my program is exciting and enjoyable	101	28.010 <sup>a</sup>	16	.032
	My department has prepared me to the job market	101	39.075 <sup>a</sup>	12	.000

Table 13 Correlations : knowledge and skills value and students' overall satisfaction

variable No		1	2	12	3	7	15
1	Pearson Correlation	1					
	Sig. (2-tailed)						
2	Pearson Correlation	.511**	1				
	Sig. (2-tailed)	.000					
12	Pearson Correlation	.484**	.574**	1			
	Sig. (2-tailed)	.000	.000				
3	Pearson Correlation	.452**	.627**	.437**	1		
	Sig. (2-tailed)	.000	.000	.000			
7	Pearson Correlation	.379**	.458**	.549**	.362**	1	
	Sig. (2-tailed)	.000	.000	.000	.000		
15	Pearson Correlation	.465**	.498**	.509**	.486**	.386**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Table 14 Model Summary<sup>b</sup> – knowledge and skills value and Students' satisfaction

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.733 <sup>a</sup>	.537	.517	.55694	2.347

a. Predictors: (Constant), Variable 15, Variable.7, Variable 3, Variable 14

b. Dependent Variable: Students' overall Satisfaction

Table 15 ANOVA<sup>b</sup> – knowledge and skills value and Students' satisfaction

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	34.129	4	8.532	27.507	.000 <sup>a</sup>
Residual	29.467	95	.310		
Total	63.596	99			

a. Predictors: (Constant), Variables15, Variables7, Variables 3, Variables 14

b. Dependent Variable: Students' overall Satisfaction

Table 16 Coefficients knowledge and skilla value and students satisfaction

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.413	.179		2.309	.023
Variables 3	.434	.076	.462	5.745	.000
Variables 7	.148	.061	.189	2.424	.017
Variables 14	.128	.081	.160	1.572	.119
Variables 15	.120	.090	.134	1.337	.184

a. Dependent Variable: Students' overall Satisfaction

Tables 14,15, and 16 show the regression analysis results for the research model. P-values for variables 3, 7, 14, and 15 are 0.000, 0.017, 0.119, and 0.184 respectively, with variables 3 and 7 being less than 0.05, and thus are proven to have a significant positive impact. The standardized estimates show the research variables (3, 7, 14, and 15) ranking according to their importance to students' satisfaction; where their standardized coefficients are 0.462, 0.189, 0.160, and 0.134 respectively. Therefore, this hypothesis is partially supported, suggesting a significant difference in variable 3, and 7 with regards to students' satisfaction. Moreover, it could be noticed that R-Squared is 0.537, which means the model explains 54% of the variation in students' satisfaction through the knowledge and skillsvalue.

## 6. CONCLUSION

The paper at hand seeks to identify key criteria to students' satisfaction in the digital era; especially in private higher education in order to assess their impact on students' overall satisfaction. Thus, this research is concerned with the assessment of the educational e-services at a representative private university in Egypt. The study outcomes of the research analysis conducted and hypotheses tested using chi-square, correlations, and regression analysis prove significant differences which confirms the positive relation between staff, educational e-services, and knowledge values together with students' satisfaction.

This in turn supports previous literature [5][6] [7] [8] [9] [10] [11] [12] [13] [14] [15] [16] [17], and shows that these criteria need to be given more attention. Any investment or planned improvement in staff value, educational e-services, and knowledge and skills value is expected to have a positive impact on the overall students' satisfaction level. This does not only apply to the three main variables that were tested; but rather to all subset variables (questionnaire items/statements).

Finally, the research investigation provides decision makers in higher education in general, and private universities in particular with a clear guide that enables them to enhance students' overall satisfaction by realizing and paying more attention to criteria that have the highest influence from students' perspective.

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