
Transformation in Higher Education: The Case of Kocaeli University

Osman Ferda Beytekin, Ege University, Turkey
Hasan Arslan, Çanakkale Onsekizmart University, Turkey

Abstract: *Since the beginning of the 1990s, there has been a rapid increase in the amount of the student numbers of the higher education institutions in Turkey. In other words, higher education institutions have grown considerably with regard to student numbers recently. Recent studies show that the trends are similar in developed and developing countries. For example, Rosado and David (2006) point out that in Britain over the last 25 years, there has been a massive increase in the numbers of students participating in higher education, from three quarters of a million students to well over two million. However, the growth of the higher education sector has not been linear in student and faculty numbers in Kocaeli University (KOU). The expansion process of KOU must deliberately be reviewed to the needs of the future of higher education, to increase the quality of education and, in addition, to cope with the problems of university caused by this fast change. We will move on to consider in the broad statistical patterns of change in KOU by comparing the statistics of the higher education institutions in Turkey. In this paper, we discuss the massive expansion of KOU through the statistical patterns. As a consequence, statistics show that there is lack of proportion in the rise of student and faculty numbers in KOU. We have distinguished that the changes in KOU have not been planned strategically in the process of being a massive university. Now that KOU has grown massively so far, from now on consideration should be given to quality of its products and activities.*

Keywords: change process; transformation; higher education

1. Introduction

In the last decades, the political, cultural and economical pressures drive universities to radical changes depending on information age and globalization (Batey, Brown, Corver, 1999; Kennedy, 2003; Milliken, 2004; Mora, 2001). These changes include large increases in student enrollment, growth in faculty, diversification of tasks, and bureaucratic expansion. For universities, it is mostly difficult to response

to the alterations in structure and management practices. Student mobility is influenced by a complex matrix cultural ties, demographics, economic factors, political climate, educational infrastructure in the country, available technology, popular perceptions, and the formal policies of institutions and governments. In addition to this, internal and external dynamics move the management trends into daily solutions in higher education. Nevertheless, strategic planning plays important role in the transformation process of the universities. In this presentation, we are inquiring the change process of KOU in the view of historical perspective.

The purpose of this study is to examine the drastic growth of KOU in the last 15 years. This paper gives some descriptive data, on the composition of student and academic staff, with an overview of the recent changes in the structure of KOU. Moreover, these data will form a framework for discussing how recent and current changes affect faculty members and students in KOU. This paper also draws on institutional data for KOU to determine whether university leaders are considering these patterns in their strategic management practices. Nevertheless, findings show that faculty members represent a declining proportion in contrast to the student numbers in KOU, especially in recent years. Besides that, this paper offers necessary data to inquire the problems and propose solutions for them in the light of rapid expansion in order to improve strategic management practices. We aim to show that the educational and social changes have had very complex and diverse influences on university management.

The number of students in KOU has drastically increased since its foundation; ie. From 3.566 students in 1992 to 51.249 students in 2006. However, the faculty numbers have reached from 200 to 1856 in this period. Simsek and Aytemiz (1998) found that the excessive growth of student population caused quality declines in Middle East Technical University (METU). They indicated that increase in the number of students has created problems with services such as transportation, health and housing since these services have not kept up with the growth in student population. The questions arise from the period of transformations are: "Have

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the facilities and institutional structure developed sufficiently as to this expansion?”, “Does this university have strategic planning and management policy?”. “What is the enrollment policy of Kocaeli University?”, “What is the manageable size for a university?”.

According to Scott (2005) today mass higher education has different meanings and it has to be interpreted in the context of ‘markets’ rather than of ‘planning’ – not necessarily ‘markets’ in a private-sector sense, but in the sense of much more flexible structures and open environments. This causes more difficult but also more exciting challenges than those faced by the builders of mass higher education systems thirty or forty years ago because we have to manage a complexity far greater.

First of all, it is inevitable to define the underlying assumptions about power if a basic assumption is that power and politics are explanations for change in higher education. Because of this, we search for the concepts to determine the change processes in higher education such as politics, power, conflict and consensus. The higher education sector is driven by demographics, social, cultural and economical changes in Turkey and the world. In addition to these, regional dynamics and local demands also trigger the change in higher education and universities. The demand for higher education is gradually increasing, significantly, existing higher education capacity is not sufficient in Turkey. This growing demand for higher education with rapidly expanding populations must be provided by universities and higher education institutions.

2. Historical Background

The higher education system in Turkish Republic was first shaped by 1933 Regulations. Afterwards, some reformation efforts took place with the acts in 1946 and 1973. The Turkish Higher Education system was lastly defined with the 1981 Reform Act in the 2547 bill. Baskan (2001) points out the certain negative political and economic conditions experienced from time to time and in spite of all these negative conditions in the administrative dimension of

the system, Turkish Higher Education system made an unprecedented improvement between the years 1982 and 2000. The higher education system in Turkey was regulated by the Council of Higher Education (YÖK). The Council was established in 1981 and it regulates the activities of the higher education with respect to research, governing, planning and organization.

Kocaeli University doesn't have a long history but it is a dynamic institution situated in an industrial city in Turkey. Kocaeli is a gateway to İstanbul from Anadolu Mainland or in other words, it is the hinterland of İstanbul in the crossroads. KOU continues its education and research activities in its new and modern campus. It has the facilities of growing selection of undergraduate, graduate and professional degree programs. Kocaeli University was first established in 1976 with the name of Kocaeli Engineering and Architecture State Academy, and then connected with Yıldız Technical University as the Kocaeli Faculty of Engineering in 1982. Finally, this higher education institution became autonomous in the name of Kocaeli University with the bill of 3837 in 3 July 1992. Kocaeli University offers education and research facilities with its ten faculties, three institutes, six colleges and eighteen vocational schools.

The mission of Kocaeli University (KOU Strategic Plan; 2006) is to serve the residents of Kocaeli as well as nation and people throughout the Turkey by expanding the basic knowledge and research to discover the world. The KOU aims to contribute to the development of the society by eradicating various technical and social problems. KOU defines its social responsibility as "to contribute to technological innovation and education in order to improve national potential for international competition. KOU intends to foster and continue to establish creative fields that will provide students with new knowledge as well as helping them improve their skills.

Besides that, the core purposes of Kocaeli University are; to bring in new activities for its alumnus for lifelong success, to help students in vocational schools transfer to

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undergraduate programs, to provide education in classes and distance learning through using various learning tools and technologies, to play a leading role in the economic and social development of the city of Kocaeli and its environment, to pursue the ways in contributing to the development of Turkish societies throughout the world. KOU's vision being among one of the 5 major universities of Turkey within 10 years, one of the leading universities in Middle East and Balkans within 20 years and keeping its position at the first places of the list within the third decade (KOU Strategic Plan; 2006). According to the strategic plan, to reach the goals, academic knowledge will be created through professional activities such as publications, seminars, conventions, conferences, and meetings; and will be shared by the scientists and science organizations via carrying out professional activities. Kocaeli University aspires to play a leading role in overcoming the various problems in different areas and by this way to promote the cultural and social development.

KOU describes (KOU Strategic Plan; 2006) its main vision as to be one of the leading universities not only within the country but also throughout the world by improving the quality in basic and applied sciences and in engineering based on incorporation along with the other universities, the public enterprises and the private initiatives, with the efforts of qualified academicians and excellent students groups educated in order to contribute to the prosperity of Kocaeli, Turkey and the world. Additionally, KOU also aims to enhance and enrich the quality of academic society by offering an interdisciplinary model depending on collaboration and providing an attractive physical environment to stimulate and facilitate creative works (KOU Strategic Plan; 2006).

2.1 The Expansion of KOU- The Transformation Process

Universities have been passing through major changes in the range of actions, forms, procedures and relationships since late in the 20th century. We aimed to examine the student and faculty increase dimension of the change

process of KOU. The environmental forces and political, economical pressures drive the universities to the rapid change processes without providing enough faculty and facilities. The universities have been involving in transformation period with these rapid changes in many aspects of university governance core activities, stakeholder relationships and academic work.

Wyk (2003) points out that the need for change in higher education is recognized in order to serve a rapidly changing world. It is clear that institutions need to acquire greater flexibility and capacity to change, and transform themselves to preserve their most fundamental traditions and values. The transformation of the higher education system and its institutions requires: “Increased and broadened participation”. “Responsiveness to societal interests and needs”. “The needs of an increasingly technologically-oriented economy must be met by providing research, highly trained people and the knowledge to equip a developing society”. “Co-operation and partnerships in governance”. This relates to a reconceptualisation of the relationship between higher education and the state, civil society, stakeholders, and among institutions.

Parker (2002) claims that organizations react to external disturbances or shocks by seeking to re-establish a new equilibrium point via one of two major pathways, typified as first or second-order change. These two change pathways are differentiated in terms of the route they exhibit through three dimensions of an organization—its interpretive schemes, its design archetypes and its subsystems (or systems). Its interpretive schemes represent the organization’s mission, core values and its accumulated views of its world, itself and its social relations—in other words, the organizational culture.

Its subsystems are the organization’s tangible elements, such as buildings, people, machines, finance and their interactions. Its design archetypes are the organization structures, decision processes, communication systems designed by the organization to ensure that the systems reflect and express the organization’s interpretive schemes.

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Sporn and Rhoades (2002) claims that the enrolments continued to grow, bringing greater numbers and new types of students into higher education. They believe that strategic management should incorporate at least two processes in assessing the effectiveness and productivity of nonacademic activities and units in quality assurance, entrepreneurialism and massification. First, there should be an 'annual review' process, in which activities and units are reviewed. Second, there should be a 'sunset review' at repeated time increments (e.g., five years), to determine whether units and/or activities should be continued. In these ways, strategic managers, nonacademic and academic alike, can more fully and systematically explore, assess and adjust the shifting modes and costs of production that are accompanying the new models and management. Kehm (2005) pointed to new types of problems posed by massive higher education like; "increased pressure for efficiency, quality and lack response", "lack of analysis of institutional strengths and weaknesses", "lack of technology induced changes in teaching and learning processes". However, these pitfalls can lead successes by overcoming with a strategic planning process.

KOU has taken place in the transformation process with considerable growth in the number of undergraduate student enrollments as governments drive for wider participation access to tertiary education and universities. KOU have reacted to these external pressures by increasing enrollment ratios. KOU increased student access ratios by giving the greater variety of degree and subject offerings, duplicated programs offered on-site in multiple geographic locations, larger classes. In order to cope with the difficulties resulting from this transformation, a careful strategic plan must be held for the next years.

From the beginning of KOU the student enrollments have increased gradually. In 1992-1993 educational year the total student number was 3566 and in 2006-2007 educational year the student number of KOU became 51174. The increase of student numbers in KOU is shown in Figure 1;

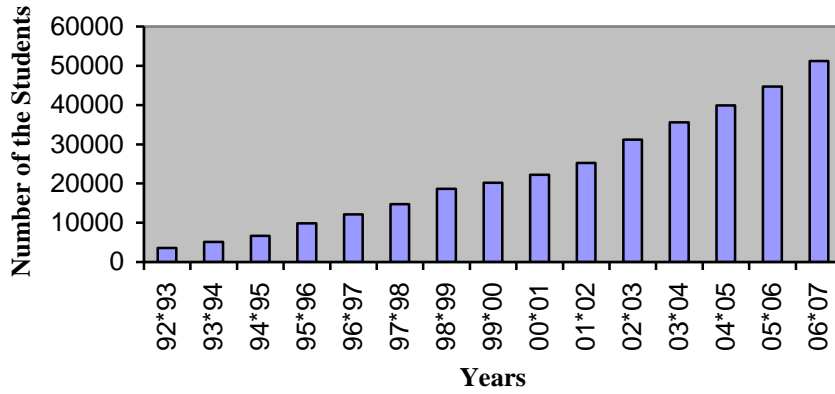


Fig. 1 Total Number of the Students in KOU, 1992-2007

Significantly 1999-2000 educational period was the least expansion of KOU because of the earthquake in 17 August 1999. After this disaster increase in student numbers continued steadily with the rate 10 %.

The increase rates of the students between the years of 1993-2007 is shown in Fig. 2;

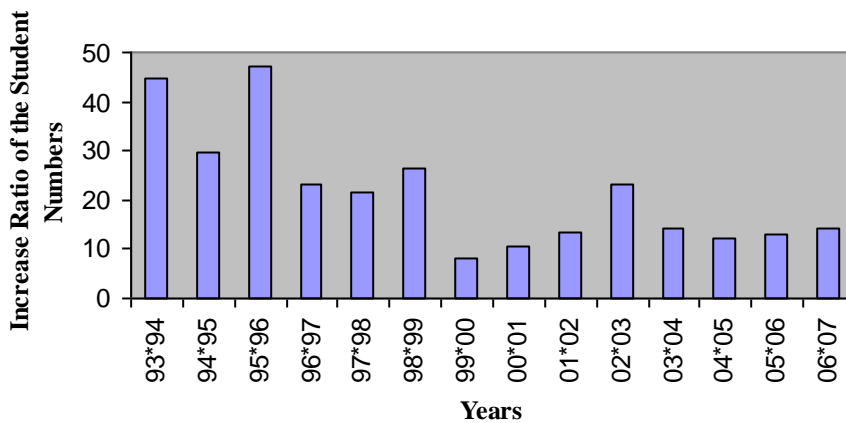


Fig. 2 Increase Ratio of The Students in KOU, 1993-2007

The increase ratios of the students in KOU show that in 1995-1996 educational year was the highest increase level with 47,31 %. The second highest increase became in 1993-

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1994 with the ratio of 44,59 %. Especially, the rapid increase in 1995 can be explained with the openings of school of medicine and three vocational schools.

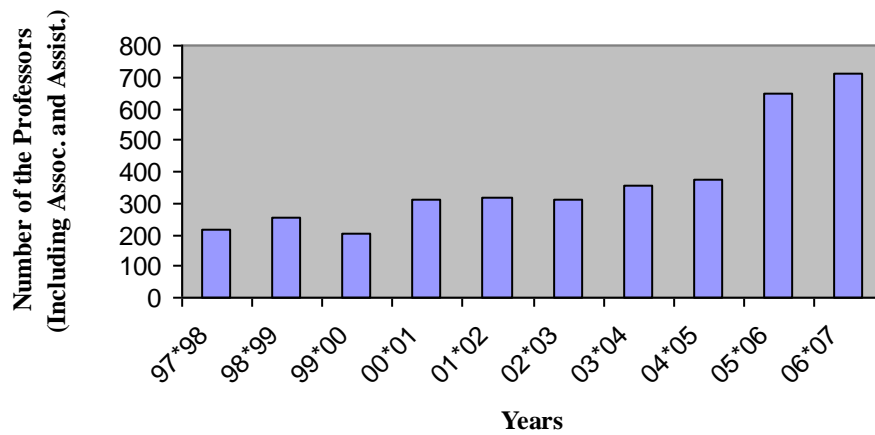


Fig. 3 Number of the Professors in KOU, 1993-2007

Despite the huge expansion of the student numbers, number of the faculties have not increased considerably in respect of student increase ratios. 2005-2006 Educational Year was the highest increase in the number of professors including associate and assistant professors from 300's to 600's. In 2006-2007 Educational Year the number of professors, associate professors and assistant professors became 708. Total teaching faculty including instructors and lecturers reached to 1164 in 2007.

Student ratio per faculty is shown in Figure 4 between the years of 1997 and 2007.

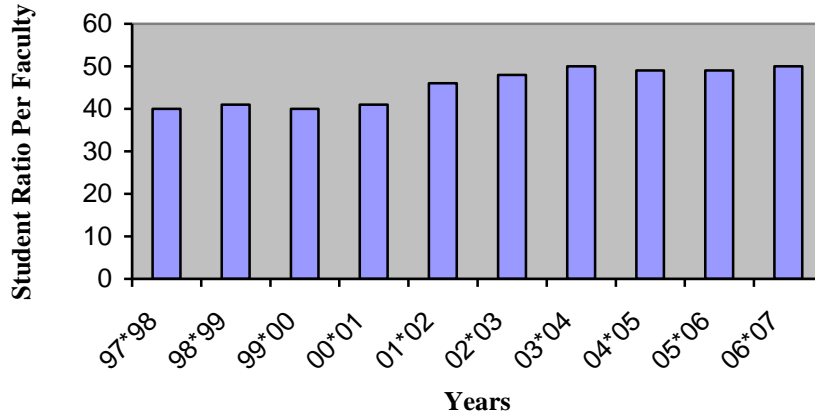


Fig. 4 Student Ratio Per Faculty in KOU, 1997-2007

As seen in Figure 4, student numbers have been very high in KOU in the last 10 years. 40 students was the ratio per faculty in 1997 and 1998 Educational Year. In 2007 this ratio increased to 50 students per faculty.

TABLE 1 Student Numbers Per Faculty in Higher Education in Turkey, 2001-2006

YEAR	Student Numbers (Per Prof., Associ. Prof., Asist. Prof.)		Student Numbers Per Faculty (Total Teaching Staff Including All Faculties)		
	State Universities	Private Universities	State Universities	KOU	Private Universities
2001-2002	44,3	39,4	25,6	46	18,1
2002-2003	44,9	40,4	16,9	48	13,1
2003-2004	44,6	42,8	17,0	50	13,7
2004-2005	45,2	41,3	17,7	49	13,2
2005-2006	46,7	39,3	19,0	49	12,5

Source: DPT

Table 1 shows student numbers per faculty in Turkey in the last five years and the student ratios are very high especially per professors, associ. professors, assist. professors. There is a significant difference in the student numbers per faculty between state universities rates in total and KOU. This shows that higher education system needs careful planning to bring up teaching staff in order to decrease these ratios.

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TABLE 2 Teaching staff, Enrollment, Graduate Numbers by Educational Year in Higher Education, 1994-2006.

Educational year	Teaching Staff			Enrollment			Graduate		
	A	B	C	A	B	C	A	B	C
1994/'95	44086	29629	14457	1 107 320	681 408	425 912	135 346	77 279	58 067
1995/'96	50259	33779	16480	1 160 688	706 400	454 288	149 130	84 702	64 428
1996/'97	53805	35977	17828	1 222 362	740 584	481 778	168 204	94 913	73 291
1997/'98	56401	37336	19065	1 330 241	800 619	529 622	190 321	106 414	83 907
1998/'99	60 129	39 303	20 826	1 382 149	830 374	551 775	200 582	113 782	86 800
1999/'00	65204	42105	23099	1 419 927	843 999	575 928	212 028	121 574	90 454
2000/'01	67880	43519	24361	1 508 205	886 945	621 260	234 181	133 781	100 400
2001/'02	71290	45136	26154	1 568 384	913 960	654 424	267 791	153 560	114 231
2002/'03	76090	47885	28205	1 798 623	1 052 739	745 884	289 579	162 951	126 623
2003/'04	78804	48946	29858	1 841 546	1 079 059	762 487	296 113	169 448	126 665
2004/'05	82096	50662	31434	1 969 086	1 145 161	823 925	346563	194943	151620
2005/'06	84785	51927	32858	2 342 898	1 350 663	992 235	-	-	-

Source: Students Selection and Placement Center, Higher Education Statistics, 1994-2005
Note: Enrollment in the vocational training school and under graduate students are included.
A. Total B. Male C. Female

Table 2 shows the student enrollments, teaching staff and graduate numbers between the years of 1994 and 2006. It is obvious from the statistics that there is no balance in the increase ratios of the students and faculties in higher education in Turkey.

Table 3. Probable Increase Ratios and Numbers of the Students of the Kocaeli University, 2011-2015

Year	Student Number	Increase Ratio
2003/2004	35566	14,16
2004/2005	39906	12,20
2005/2006	44679	11,96
2006/2007	51174	11,73
2007/2008	55659	11,50
2008/2009	61934	11,27
2009/2010	68780	11,05
2010/2011	76233	10,84
2011/2012	84332	10,62
2012/2013	93115	10,42
2013/2014	102624	10,21
2014/2015	112897	10,01

Table 3 is prepared by the probable increase ratios of Kocaeli University for the next 8 years till 2015. In 2010-2011 Educational Year, the number of the students reached to 76233 in Kocaeli University. In the last 10 years Kocaeli University increased with the rates of at least 10 %. If this expansion goes steadily, the total student number in Kocaeli University can be 112897 in 2015. The possible enrollment number after 4 years can cause decrease in quality if the faculty numbers and facilities don't increase in the same or higher ratio.

3. Conclusion

The expansion of Kocaeli University has caused multiple and different consequences, but these consequences have not been examined in details so far. One of the important outcome of this expansion can be seen as pitfalls in education process like the high student ratios per faculty. Nevertheless this expansion, as we have seen, has not occurred at the same intensity for all facilities in KOU. There is truly a dynamic and changing university in the process of last decade. This development made the Kocaeli University massive rather than to be in the service of the masses. In this paper we have concentrated largely on the increase ratios of the student enrollments on the contrary of faculty numbers. The recent changes in higher education policies in Turkey, especially the growth of student enrollments in KOU has not been sufficiently funded and strategically planned as to the facilities and faculty numbers in recent years. This occasion can be expressed both in the initial choices of KOU in its change process. This change, for example, may have lead to the unsatisfactory results for the quality of educational or research activities.

The campus is highly crowded both in terms, student body and academic program openings unlike of its faculty. KOU offers a diverse number of programs to its students, but the student ratio per faculty is in a very high rate. The Kocaeli University also tries to provide a variety of facilities to its undergraduate, graduate students and faculties but

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very rapid increase without an appropriate strategic plan causes some failures in the effectiveness. Currently, student ratio is going on in the same level and this huge expansion can cause bigger problems than ever in case of having no solution.

Mızıkacı (2006) claims that the future policies and planning of Turkish higher education are now defined by European integration programs and agreements. The Europeanization process has been causing considerable structural changes in the national system, as well as in policy and planning for the last five years. The main drives in the structural changes are stemming from the commitment to the Bologna Process objectives, and the recently recognized Lisbon Qualification Convention. In this regard, Turkish higher education has a commitment to building capacity at both governmental and institutional levels to achieve the goals of the Bologna Process. According to Mızıkacı, in order to become compatible with the European Higher Education Area, structural changes are required in every aspect of the higher education in Turkey. Gumpert (2000, p: 76) stated that organizations can and do adapt to changes, and organizational survival is dependent upon the ability of the organization to respond to its environment, which is characterized as dynamic and thus uncertain and potentially threatening. Thus, among other responsibilities, managers are expected to monitor the organization-environment interface, determine appropriate strategies, and develop effective bridging and buffering mechanisms.

According to Parker (2002) higher education has become increasingly homogenized, research has become increasingly difficult, academics and administrators have suffered from frustration and recruitment of new teachers and researchers has been stagnating, and despite pretences of longer term strategic planning, university, faculty, department and individual horizons and decisions have become short term and resource driven. No one is a winner, neither students, academics, universities, governments nor society. Despite the difficulties, barriers and opposition forces, academics must re-engage in the discourse and debate concerning the mission, shape and scope of universities. Rosado and David

(2006) emphasize that higher education has grown massively, consideration should now be given to quality of its products and activities.

Kocaeli University will also be able to increase its functions with the addition of an effective enrollment management. The probable change in the enrollment plan of KOU can provide effective and efficient education and research facilities. KOU can be a major player in Turkish Higher Education System by increasing its qualified faculties and facilities as stopping the rise in the student numbers enrollment. Kocaeli University needs a wide strategic planning effort to determine geographic, academic, and programmatic priorities for future development. This requires both constructive critique and proposals for reconstituting the university with new values that will preserve an inquiring and critical role for universities in society in future.

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Osman Ferda Beytekin, PhD, is a lecturer at the Faculty of Education, Ege University, İzmir, Turkey. E-mail 1: ferda.beytekin@ege.edu.tr E-mail 2: beytekin.ferda@gmail.com

Hasan Arslan, PhD, is an assistant professor at the Faculty of Education, Çanakkale 18 Mart University, Çanakkale, Turkey. E-mail: arslan.phd@gmail.com