

## Original Article

# Impact of Merger and Acquisition on University Performance

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## Abstract

**Purpose:** Merger and acquisitions (M&A) widen access to higher education, improve quality of teaching and research, and increase efficiency of higher education institutions. Three big medical universities in Iran merged in 2010. The purpose of this study was to highlight the impact of this acquisition on the performance of Tehran University of Medical Sciences.

**Methods:** This qualitative study was conducted using semi-structured in-depth interviews with 63 participants from April 2015 to November 2015. Purposeful sampling was used to recruit participants. Data analysis was performed using MAXQDA software (V. 10).

**Findings:** The reasons for acquisition of IUMS by TUMS were to enhance the position of TUMS worldwide, and to increase its efficiency. The acquisition improved the organization and management of the newly formed TUMS, enhanced its academic position and market recognition. However, the achieved benefits did not come without shortcomings and unintended consequences.

**Conclusion:** The merger and acquisition in higher education has some advantages and disadvantages. A well planned and carefully implemented M&A gives cutting edge to the higher education institutes.

**Keywords:** Challenges, change management, medical universities, Merger, successful implementation

**Cite this article as:** Mohamadi Bolbanabad A, Mosadeghrad AM, Arab M, Majdzadeh R. Impact of Merger and Acquisition on University Performance. *Arch Iran Med.* 2017; 20(8): 518 – 524.

## Introduction

Massification of higher education and widening of access to higher education has increased during the last three decades.<sup>1</sup> Organizations use a variety of strategies for growth, expansion and repositioning such as horizontal and vertical integration, merger and acquisitions (M&A), downsizing, product development, market development and diversification to gain an advantage over competitors.<sup>2</sup> Merger is a radical institutional reorganization. Goedegebuure (1992) defines a merger as “combination of two or more separate institutions into a single new organizational entity, in which control rests with a single governing body and a single chief executive body, and whereby all assets, liabilities, and responsibilities of the former institutions are transferred to the single new institution”.<sup>3</sup>

There are a variety of reasons for M&A in higher education. Mergers expand and strengthen educational programs, diversify academic profiles, widen access to higher education services, improve quality of teaching and research, enhance system integration, and increase efficiency of higher education institutions.<sup>4-7</sup> Accordingly, M&A has increased significantly globally and recently in emerging markets in the past three decades.<sup>8</sup> In some countries such as Sweden, Norway, Finland and China, the government even encourages merger as it results in

fewer but bigger universities on which the government can have better control.

Since 1985, the Ministry of Health and Medical Education (MOHME) in Iran is responsible for medical education and research as well as planning, directing and accreditation of healthcare services. Accordingly, public Universities of Medical Sciences (UMSs) are involved in education and training of medical and paramedical students under the supervision of MOHME.<sup>9</sup> Three large governmental UMSs responsible for healthcare delivery and medical education in Tehran, the capital, include Tehran University of Medical Sciences (TUMS), Iran University of Medical Sciences (IUMS) and Shahid Beheshti Medical University (SBMU). TUMS, SBMU and IUMS ranked 1<sup>st</sup>, 2<sup>nd</sup> and 4<sup>th</sup> among Iranian UMSs in 2010.<sup>10</sup>

In October 2010, MOHME mandated that IUMS must integrate with TUMS and SBMU. Consequently, education, research, treatment, and logistics departments of IUMS including all schools, research institutes and educational hospitals were integrated with TUMS. Other parts of IUMS such as health and treatment departments and their associated organizations including non-educational hospitals, health networks and health centers were integrated with SBMU. This study aims to discuss the main effects of the merger on the universities.

## Materials and Methods

In 2010, Tehran University of Medical Sciences, founded originally in 1934, consisted of 10 schools, 16 hospitals, 55 research centers, and 3 health networks. Iran University of Medical Sciences was founded in 1974. Some parts of IUMS split up in 2010 and Alborz University of Medical Sciences was established. Accordingly, IUMS had 6 schools, 17 hospitals, 26

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Accepted for publication: 20 July 2017

**Table 1.** Demographic information of the participants (p.1-p.63)

	Policy makers	Managers	Staff	Students	Total
Ministry of Health	7				7
Vice chancellor for Education		7	7	10	24
Vice chancellor for Research		4	3		7
Vice chancellor for Curative affairs		3	4		7
Vice chancellor for Health		4	4		8
Vice chancellor for Management and resources development		3	3		6
Vice chancellor for Student and cultural affairs		2	2		4
Total	7	23	23	10	63

research centers, and 7 health networks in 2010. Finally, in 2010, Shahid Beheshti University of Medical Sciences, founded in 1961, had 11 schools, 18 hospitals, 40 research centers, and 10 health networks.

An explorative qualitative research approach was employed for conducting this study to yield an in-depth, detailed, rich and holistic understanding of the research questions. A semi-structured interview was used for data collection as open questions encourage participants to describe and explain the purpose, process and consequences of the M&A and articulate the challenges that they faced during the process of merger. An initial questions schedule was designed based on the literature review, discussions with colleagues and pilot interviews.

Purposeful, snowball and maximum variation sampling methods were considered in recruiting interviewees. In-depth individual face-to-face interviews were conducted with key informants from those three universities including policy makers, managers, employees and students in a quiet location of the participants' choice. Overall, 63 individuals, including 31 men and 32 women, were interviewed in the study. Seven participants were from the Ministry of Health, 27 from TUMS, 22 from IUMS and 7 from SBMU. Data collection continued to the point of data saturation (Table 1).

Semi-structured, in-depth interviews were utilized to gather data. Interviews took place between April 2015 and November 2015. Interviews were tape-recorded with permission of the interviewees. The average interview length was  $40 \pm 10$  minutes. In addition, written related documents were also collected and analyzed. Using multiple sources of information (triangulation) enhanced the credibility of the data.

Content analysis was used for data analysis<sup>11</sup> using MAXQDA software (version 10). The recorded interviews were fully transcribed verbatim. Field notes and documents were added to each transcript. Categories and themes were developed utilizing the constant comparative approach.<sup>12</sup> Related codes were assigned through reading of the text. Then, the categories were obtained through systematic comparison.

The researcher prolonged the engagement with data and participants for 8 months. During the interview, each question was asked several times to make sure the participant understood the question. During the transcription, each tape was listened to carefully to confirm that each interview question was answered completely. The review allowed the researcher to contact the participants again for partially answered questions. Member checks and peer reviews were also used to enhance the trustworthiness of the data. A sample of the interviewees was asked to review their

interview transcripts for content accuracy, correcting any mistaken information and providing additional comments for clarity. Four colleagues agreed to do the peer review and examine the findings, codes, subthemes and themes. Peer reviews enhanced the logic of the coding process.

The study was approved by the Ethics Committee of Tehran University of Medical Sciences (TUMS). Written informed consent was obtained from the interviewees. All participants had the right to withdraw from the research at any time and their information was kept confidential.

## Results

The interviewees' opinions on the impact of the merger of IUMS with TUMS and SBMU were grouped in four themes and 10 subthemes as illustrated in Table 1.

### Structural impacts

Structure includes the physical facilities (e.g., structure, building, equipment) and personnel (quantity and quality) that create the capacity to provide services. The acquisition of IUMS enhanced the capacity of TUMS due to the pooling of infrastructure, human resources, and greater financial resources.

#### Extending physical resources

The merger expanded the capacity of TUMS. Interviewees mostly believed that the merger improved the educational facilities of the newly formed TUMS. A participant pointed out, "TUMS was itself the outcome of a split off from University of Tehran. Thus, we always had problems with insufficient space and facilities. IUMS had some capacity and facility that did not explore fully. TUMS had some potential but did not have the capacity to explore it further. The acquisition helped TUMS structure to be developed further." (p.11) The dean of a TUMS school also said, "We did not have enough facilities, equipment and academic staff in some departments such as Anesthesiology and Operating Room. IUMS had a better situation in these areas. After the merger, the numbers of faculty members, facilities, and laboratories have improved and we could improve our educational indicators such as the professor-student ratio." (p. 5). The deputy dean for education of school of medicine also added, "As we had physical space shortage, we transferred some of our departments to IUMS buildings." (P.11) A faculty member also mentioned, "Their (IUMS) laboratories were very large and well-equipped. We could use them. Our working condition has improved. We always had the space problem." (P.7)

**Table 2.** Organizational effects of IUMS merger with TUMS and SBMU.

<p><b>Structural</b></p> <ul style="list-style-type: none"> <li>Extending physical resources</li> <li>Developing human resources</li> <li>Expanding educational programs</li> </ul> <p><b>Procedural</b></p> <ul style="list-style-type: none"> <li>Extending the activities</li> <li>Integration of health services</li> </ul>	<p><b>Contextual</b></p> <ul style="list-style-type: none"> <li>Cultural interaction</li> <li>Organizational learning</li> </ul> <p><b>Performance</b></p> <ul style="list-style-type: none"> <li>Improving academic ranking</li> <li>Increasing efficiency</li> <li>Improving quality of teaching and research</li> </ul>
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#### Developing human resources

Participants believed that the acquisition had positive impacts on the quantity and quality of staff, particularly the academic staff of TUMS. A deputy dean stated, *"The acquisition diversified our faculty members. For instance, IUMS had a professor whose expertise was in Water Birth. We did not have such an expert. They had a professor who is an internationally recognized scholar. We had good professors in qualitative studies. Gathering all these people together enhanced our performance."* (p.3)

A manager in health vice chancellorcy said, *"The merger increased the number of staff. Previously, we had to ask a person to manage several health programs and it was difficult for him/her. Now, we assigned a health program to each person. It helped the personnel to be specialized in that area and manage it very well. It enhanced the creativity of the staff and organizational maturity"*.

Three school deans confirmed that the merger improved the academic pyramid of their schools and departments. A deputy dean of a school said, *"To be honest, IUMS had good administrative staff. Most of them were recruited based on their educational background and abilities. Most of my staff were old and near retirement. Their employees were mainly young, well-educated and trained."* (P.1)

However, some participants added some further comments and looked at the other side of the merger. A vice chancellor of TUMS stated, *"At TUMS, we have a robust system for recruiting academic staff. Once the acquisition occurred, we had to recruit all IUMS academic staff. Some of them had applied for TUMS before and we had rejected their request owing to their incompetencies. We had to recruit them after the acquisition and they got a job at IUMS."* (P.54)

People spend half of their time in the organization. The respondents mostly stated that the acquisition affected their family and work life. The merger resulted in employees' job stress, loss of organizational identity, low morale and motivation and high job turnover. An employee in the health department of IUMS mentioned, *"We were nine people working in this office. Some could not work after the acquisition and left the office. Some went to the ministry of health, and some retired"* (P.27). A senior manager in a school said, *"We had a faculty member who did not like to get involved in the school activities. He was very active in IUMS. He lost his motivation after the acquisition"* (P.3).

The acquisition had some negative effects on especially IUMS staff. A former IUMS employee explained, *"The merger happened so quickly and we were shocked. We were worried about our future job career. We did not know what was going to happen"* (P.27). Another said, *"I had to change my house and my child's school as TUMS was too far from my previous house. A few of my colleagues had to sell their houses and buy a new one close to TUMS"* (P.37). Another employee mentioned, *"The merger had psychological effects on me. I was always thinking that I turned to a simple staff while I was a manager before"* (P.29).

#### Expanding educational programs

The acquisition of IUMS enabled TUMS to expand its educational programs. Participants spoke positively about the role of acquisition on educational programs development. *"After the merger, the number of our hospitals increased. We [at TUMS] had 16 hospitals, and ten hospitals belonging to IUMS were transferred to TUMS. Thus, overall we had 26 hospitals. It enhanced our educational services. We did not have a hospital with Burns specialty, while IUMS had one. The Akbarabadi hospital, which, formerly belonged to IUMS is a gynecology center and helped our midwifery students a lot. In the past, we had to pay for our students to get training in other hospitals"* (P.1)

Another manager saw the future of the merger good. *"Both TUMS and IUMS had their own strengths. IUMS had better hospitals in some medical disciplines such as orthopedics and Burns. It gives TUMS more advantages. The merger could help the departments to use their potential and plan new degrees and courses. For instance, in our department, Epidemiology, we had 5 faculty members and after the merger, the number reached 11. Therefore, we planned to recruit PhD students in social epidemiology and health service research"* (P. 9).

#### Procedural impacts

Procedure consists of the activities needed to transform input into output and outcomes. The M&A extended the educational programs of TUMS and the quality of its academic and research processes. Pooling physical, financial and human resources facilitated quality improvement of university teaching and research activities and helped serve the customers better.

#### Extending the activities

Once TUMS took over IUMS, its physical and human resources increased. As a result, the activities of the newly formed university improved. One participant said, *"Once the two departments were merged, the faculty members have increased and they started to establish new courses and degrees. Once the number of academic members familiar with English language has increased, we started recruiting international students"* (P.1) The deputy dean of a school said, *"The school of advanced technologies in medicine was established."* (P.22)

#### Integration of health services

One of the main objectives of the merger was integration of healthcare services in Tehran city. A health manager at IUMS said, *"The merger improved the universality of delivered services. Tehran has three universities. For instance, the east of Ostad Moein street is under coverage of TUMS while its west side belonged to IUMS. These universities sometimes provided various health programs for their residents, which caused dissatisfaction among the residents. Merger reduced such variations in the delivery of services"* (P. 32).

An interview said, *"We have three universities in Tehran that were involved in health services. In some area, you may see that on one street, some parts are managed and evaluated based on the regulation of TUMS and in another part of the street, the regulations of another university has been applied"* (P.14) Another employee said, *"The merger was good. It helped us to integrate our services and deliver the same services to the people"* (P. 30).

Another manager who saw the merger negative for extending SBMU services said, *"It was good to have a universal management for some parts of Tehran, but once the coverage increased, we had problems in control and evaluation"* (P. 32).

### Contextual impacts

Organizational culture comprises the shared assumptions, beliefs, values, norms, and goals of an organization and influences the nature of organizational interaction between merging organizations. M&A also had significant impacts on the newly formed TUMS. The emerging themes are as follows:

#### Cultural interaction

Organizational culture defines the behavior of staff in an organization and influences the performance of the organization. Therefore, the integration and collaboration between staff in a post-merger organization are strongly dependent on the configuration of their internal values and cultures. Although all three universities involved in the merger were public and affiliated to the Ministry of Health, they had different organizational cultures in terms of values, policies, procedures and utilization of technologies.

Participants presented these differences in this way: *"The system of TUMS was more formal and based on tough rules and regulations. It was hard for us at the beginning to match up with it"* (P.4). A faculty member of IUMS said, *"TUMS has a very strong culture with about 80 years of history. The most influential people in the country work at this University and have developed further its system. When we work at this university, we learn from it"* (P.22) A senior manager at education vice chancellery of TUMS said, *"Our students were more practical and their students were more observers. When their professors taught our students, students used to be more observers rather than being more practical."* (P.53) A faculty member at the school of nursing of TUMS said, *"The structure is more physician-centered at TUMS hospitals. However, the power distance between doctors and nurses was low in IUMS hospitals. Whenever I went to IUMS hospitals, I felt that I was well accepted there. I saw more empathy in IUMS hospitals"* (P.45)

#### Organizational learning

Organizations can learn from each other. The merger enhanced the acquisition, development and sharing of new skills, knowledge, values and behavior among the two involved universities. A faculty member said, *"We had some new systems and programs and IUMS staff learned from some of our educational and research activities"* (P.15).

The TUMS chancellor deputy for research also mentioned, *"Some of our departments had excellent processes. The merger resulted in choosing the best processes. The merger enhanced organizational learning. TUMS was doing better in research activities. So, IUMS staff could learn from them. On the other hand, IUMS was good at administrative and finance activities. So, we learned from them and tried to use their processes."*

The dean of a school said, *"There was a sense of information*

*and knowledge sharing in those departments that merged together smoothly and completely. Knowledge creation and transfer were better there. There was cooperation in sharing the information"* (P.5).

### Performance

The implementation of merger at TUMS came with some tangible and intangible outputs and outcomes.

#### Improving academic ranking

The acquisition improved TUMS academic position among the world universities. The dean of a school stated, *"Our educational indicators were not good before the merger. After the merger, our resources and capabilities have improved and we aimed to apply for the national excellence center in paramedics. We sent our documents to the Ministry of Health"* (P.5). Most of the participants believe that the merger of these two universities could enhance the position of TUMS worldwide. An interviewee said, *"We could not achieve the educational and research goals that have been specified in the national vision of 1404 with just routine and ordinary activities. We had no choice but to use a revolutionary and fundamental strategy"* (P.9). Another participant said, *"After the merger, the research products of the university have increased and could enhance the position of the TUMS"* (P.23).

As shown in Figure 1, the research capabilities of the TUMS have increased significantly since 2010. While the average score of TUMS research activities rose 13% annually between 2008 and 2009, the figure increased to 34% between 2010 and 2011.

The rank of TUMS among world universities improved from 671 in 2009 to 432 in 2016 according to SCImago Institutions Ranking. The merger helped TUMS to improve its position by 239 steps. The figures were 163 and 230 for SBMU and University of Tehran (UT), respectively (Figure 2).<sup>13</sup>

#### Increasing Efficiency

The merger has increased the economy of scale in some areas of TUMS. Pooling resources can help organizations to achieve economies of scale and scope. The chancellor deputy for logistics said, *"After the merger, we transferred some employees to those [affiliated] organizations, departments and units that had staff shortage. We could manage all the activities [of the new TUMS] even with the previous number of staff."* (p. 25). The merger can reduce duplication. A faculty member who previously worked at IUMS said, *"We had the same structure as TUMS. The merger integrated them all and it had benefits for the University"* (P.23).

Participants believed that merger resulted in an increase in the personnel. Therefore, some employees were transferred to other organizations and some of them retired early or transferred to other universities. The policy of TUMS chancellor was to not fire the extra staff. Therefore, applying the rightsizing and downsizing could benefit TUMS more. However, in some academic departments, there was resistance against the merger. As a result, some similar departments did not merge together.

#### Improving the quality of services

The acquisition provided opportunities for enhancing interdisciplinary teaching and research in a variety of academic subject areas. Respondents believed that the acquisition improved the quality of both teaching and research activities of the newly formed TUMS.

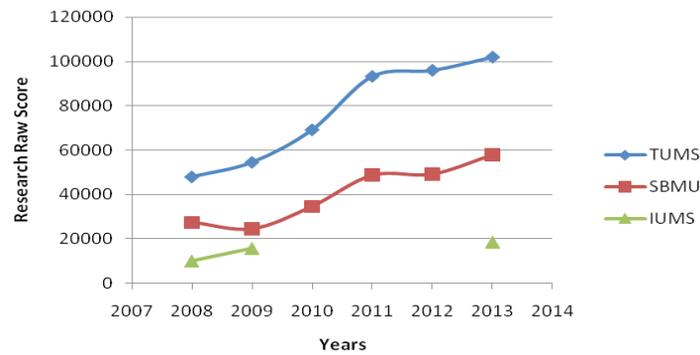


Figure 1. The score of TUMS, IUMS and SBMU.

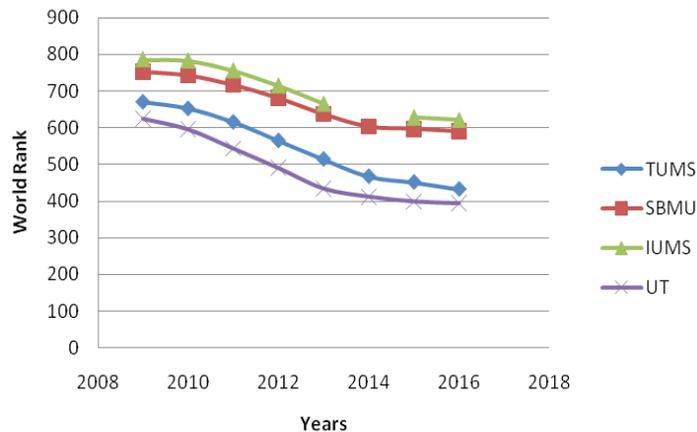


Figure 2. Trends World rank universities in TUMS, IUMS, SBMU and UT, 2009 - 2016 according to SCImago Institutions Rankings.

## Discussion

This study described the effects of the merger and acquisition of three large universities in Iran. The rationale for acquisition of IUMS by TUMS was to enhance the position of TUMS worldwide and to increase its efficiency. As a result, the acquisition happened in education and research areas rather than in healthcare services areas.

Tough competition, falling number of students and financial problems have been mentioned in the literature as key drivers of merger.<sup>14-17</sup> However, this was not the case for the M&A in this study. Both universities were public and governmental and were fortunate in both government support and students' demand. Therefore, M&A in public sector may be pursued as a political tool for pooling resources and branding.

The acquisition came with some positive effects such as extended expertise, developing new programs and courses, and cost savings. As a result, the volume of students and the efficiency of the University have increased. This finding is consistent with other similar studies.<sup>4-5,15,18</sup> For example, Gamage (1992) examined the effects of the merger of two Australian universities. The merger was successful in expanding academic programs and enhancing institutional profile. However, the economies of scale did not happen.<sup>19</sup>

Generally, the merger improved the organization and management of TUMS. The merger increased the diversity of

educational programs and courses and the synergies between merging universities improved the quality of teaching and research services of TUMS due to the pooling of infrastructure, human resources and greater budget. The integration and combination of the two universities and establishment of a larger institution resulted in administrative and academic economies of scale and reduced departments and units and better use of the available resources. The acquisition enhanced TUMS academic portfolio, gave more breadth and choice to their students and improved its academic position. The merger enhanced organizational learning. Salama (2010) believes that well-planned and careful merger leads to synergies between involved institutions and results in sustainable learning.<sup>20</sup>

Organizational culture is an important element of the success of any organizational change including the merger.<sup>21-23</sup> Integrating two organizational cultures influences the outcomes of the merger. The findings of this study highlighted the cultural differences among the three universities involved in the M&A and its impact on employees and universities.

Mergers are often associated with employees' stress, anxiety, anger, depression and fear caused by uncertainties, changes, relocations, layoffs and higher workloads. Previous studies show a positive relationship between M&A and employees' job dissatisfaction, low organizational commitment, and turnover intentions.<sup>24-25</sup> This case study indicated that some employees worried about their jobs, losing their identity, status and autonomy

and the future of their departments. Some employees were very committed to their previous institution and sought alternative employment. Some felt anxious to work with employees from the rival organization. Employees usually react unfavorably to mergers.<sup>26</sup> They may express their anger and hostility in post-merger integration that may result in a drop in productivity.<sup>27-28</sup> In addition, occupational stress causes physical, mental and social illness for employees.<sup>29-30</sup> Employees may object to the M&A through rejecting new policies, processes and protocols, regressing to older processes and procedures and failing to integrate into the newly formed departments and units.<sup>31</sup>

Employees' perception of the merger success is strongly related to their organizational commitment to the merged institutions.<sup>32</sup> Thus, top managers should manage employees' perceptions about the merger, highlight and celebrate merger successes, understand employees' reactions, get them involved in the process of integration and manage them properly so that they would not impede the integration process.

The literature suggests an improvement of the quality of teaching and research in merging higher education institutes,<sup>7,33</sup> there was sign of quality improvement in these areas in the case of TUMS acquisition.

To sum up, a merger has both positive and negative consequences for academic staff. It can provide better academic career prospects for them. Nevertheless, because of its high level of uncertainty and complexity, a merger has unfavorable impact on managers and staff involved. Reallocation of academic positions in merger may create tensions among academic staff.<sup>34</sup>

In conclusion, Tehran University of medical sciences acquired Iran University of medical sciences to increase market share and strengthen its position against competitors. The reviewed case suggests that TUMS improved its position through pooling the resources, extending academic programs and enhancing academic profile. However, M&A had some unintended effects on TUMS. A well planned and carefully implemented M&A gives cutting edge to the higher education institutes.

### Conflict of interest

The authors have no conflicts of interest associated with the material presented in this paper. AM B is a Ph.D. student at TUMS. AMM was a faculty member and the deputy dean for international affairs at a school which was belonged to IUMS before the acquisition. MA and RM were faculty members of School of public health affiliated to TUMS.

### Acknowledgments

*This study was part of a PhD thesis supported by Tehran University of Medical Sciences (TUMS); grant no. 9121532009.*

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