

## Original Article

# Challenges and Success Factors in University Mergers and Academic Integrations

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## Abstract

**Background:** There are different reasons for mergers among higher education institutes. In October 2010 the Iran University of Medical Sciences (IUMS) merged with two other medical universities in Tehran. In this study, we aim to review the literature on academic integrations and university mergers to call the attention to challenges and reasons for the success or failure of university mergers.

**Methods:** We searched for studies that pertained to university or college mergers, amalgamation, dissolution, or acquisition in the following databases: PubMed, Emerald, Web of Science, Scopus, and Ovid, without any limitations on country, language, or publication date. Two reviewers selected the search results in a joint meeting. We used content analysis methodology and held three sessions for consensus building on incompatibilities.

**Results:** We reviewed a total of 32 documents. The “merger” phenomenon attracted considerable attention worldwide from the 1970s until the 1990s. The most important reasons for merging were to boost efficiency and effectiveness, deal with organizational fragmentation, broaden student access and implement equity strategies, increase government control on higher education systems, decentralization, and to establish larger organizations. Cultural incompatibility, different academic standards, and geographical distance may prevent a merger. In some countries, geographical distance has caused an increase in existing cultural, social, and academic tensions.

**Discussion:** The decision and process of a merger is a broad, multi-dimensional change for an academic organization. Managers who are unaware of the fact that mergers are an evolutionary process with different stages may cause challenges and problems during organizational changes. Socio-cultural integration acts as an important stage in the post-merger process. It is possible for newly-formed schools, departments, and research centers to be evaluated as case studies in future research.

**Keywords:** Health Facility Merger, Health Facility Acquisition, Multi Institutional Systems, Systems Integration, Academic Medical Centers

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## Introduction

In higher education, combining organizations in the form of a merger has occurred with both general and specific definitions.<sup>1</sup> In the broad sense, a merger is defined as “any form of organizational combination” and more specifically, it is “a distinguishing type of inter-institutional cooperation, characterized by irreparable entirety”.<sup>2-4</sup>

In the specific definition, one or both entities will formally fade away and re-emerge as a new body. The transfer of ownership occurs with general and common possession of the properties of the former organizations. Goedegebuure and Yuzhuo describe the merger as follows: “the 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>5,6</sup>

As a policy option, merging received plenty of attention in the 1970's primarily because it was one of the popular means by which governments initiated systematic restructuring of higher

education. One could readily track the movement from smaller, single-site, and specialized campuses towards larger, multi-site, more comprehensive organizations.<sup>7</sup>

A merger is still a viable policy option in Iran, as the merger of two universities (K. N. Toosi University of Technology and Abbaspour University of Technology) has recently been proposed by the Ministry of Science, Research, and Technology.<sup>8</sup>

In Iran, one recent experience of a university merger happened in October 2010 in which the Iran University of Medical Sciences (IUMS) was merged into two other major medical universities based in Tehran, Tehran University of Medical Sciences (TUMS) and Shahid Beheshti Medical University (SBMU).<sup>9</sup> This merger raised numerous questions in the minds of decision-makers, high- and middle-level managers, academic staff, and the general public. Has this type of merger occurred in other parts of the world? If yes, what were the managerial experiences of those mergers?

In this paper we attempt to answer as many of these questions as possible by reviewing the pertinent literature on academic integrations and university mergers. We sought to determine answers to the following questions. What were the experiences with university mergers in other countries? What were the reasons for these mergers? What types of university and academic mergers have been described? How many phases have been considered in the merger process? What are the elements of success in university mergers? Which methods and/or tools have been used to evaluate the effects on organizational outcomes?

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## Materials and Methods

Due to the more general nature of this recent merger, for this study we considered a broad research scope with an exploratory perspective on reviewing the merger process.

We sought to contain our research to university or college mergers, amalgamation, dissolutions, or acquisitions. The following keywords were selected separately and in combination: (university OR college OR academic staff) AND (merger OR amalgamation OR acquisition OR integration OR dissolution). We searched for studies in these databases: PubMed, Emerald, Web of Science, Scopus, and Ovid, without limitations on country, language, and publication date.

After the preliminary search we included a wide range of study designs (e.g., case studies, descriptive studies, or literature reviews). We attempted to include as many organizational reports, books, theses, dissertations, and other related grey literature as possible, by sensitive searching in both Google and Google Scholar. This research also included supplementary studies from exploratory examination of the bibliographies of the latest studies.

Two reviewers in a joint meeting chose search results based on title, abstract, and the overall quality of the published evidence. We used content analysis methodology to develop our questions, extract answers, and then refine these questions. This was followed by a narrative answer of the questions. We held three sessions for consensus building on incompatibilities.

## Results

A total of 38 documents were selected for appraisal, of which we chose 32 for the extraction and synthesis phase, relied for the most part on original researches. Questions and related answers follow.

What were the experiences of university mergers in other countries? What were the reasons for these mergers?

Published literature on university mergers date from 1968. Two articles by Jessop<sup>10</sup> and O'Malley<sup>11</sup> in the former *Journal of Irish Medical Association* explored the relation of a university merger with medical education and services. However, there was a lack of original publications on university mergers from 1968 until 1996. In 1996, Draper described the prospects, problems, and promises in the merger of the United Kingdom colleges of nursing with departments of nursing in universities to support the formation of a unified educational system.<sup>12</sup>

In 2002, Harman et al. debated that the merger phenomenon had attracted considerable worldwide attention from the 1970s to the 1990s, and has since reappeared on the policy agenda.<sup>7</sup> Hundreds of universities and colleges in different countries have recently undergone merger processes. We specifically located merger experiences in China,<sup>6</sup> the United States of America,<sup>13</sup> Norway,<sup>14</sup> South Africa,<sup>15</sup> Germany,<sup>16</sup> and Hong Kong.<sup>17</sup>

As a model and mechanism of restructuring and increasing levels of institutional collaboration in higher education systems, many drivers and pressures in different countries have been proposed to be the reasons behind the merger of academic organizations. The most important is a boost of efficiency and effectiveness with regards to substantial growth in student admissions, solving the problems of organizational fragmentation, broaden student access and implement equity strategies, to increase government control of the overall direction of higher education systems, decentraliza-

tion,<sup>7</sup> and the establishment of larger organizations.<sup>13</sup>

In an analysis by Bates et al., an increase in actual tuition rates and faculty salaries in addition to lower numbers of students were factors that increased the private four-year college merger rates.<sup>18</sup> However, financial profits have not been the primary incentive for mergers in many countries. Because of their “non-profit status” perspective, university leaders, administrators, and boards of trustees may not seek merger partners<sup>19</sup> contrary to the fact that other businesses usually merge to gain additional profits through increased market power and economies of scale or scope.<sup>20</sup>

What types of university and academic mergers have been described?

The most frequent types of mergers are twin-partner vs. multi-partner; horizontal vs. vertical (e.g., organizations with similar or different academic profiles); voluntary vs. involuntary; single-sector vs. cross-sectoral; and consolidation vs. take-over.<sup>7</sup> In many cases, it is not possible to clearly categorize the merger as belonging to just one type of merger process.

What are the challenges, elements of success and causes of failure in university mergers?

We divided the answer to this question into three parts: cultural aspects of the merger, geographical distance, and successes and failures.

### *Cultural aspects of the merger*

When studying challenges in “historically and symbolically un-complimentary” organizations, the human aspect of mergers and the resultant culture conflicts that have been encountered by leaders and upper management are the topics of research.<sup>21</sup> Cultural incompatibility may cause institutions to become reluctant to merge. A dissimilarity in academic missions or cultures may block an otherwise valuable merger.<sup>18</sup>

Examples of cultural conflict, both organizational and academic, and the subsequent forces that act as a barrier to a merger, should caution high-level decision-makers to employ expert leadership to keep these damaging conflicts to a minimum. Decision-makers should attempt to develop new relationships and establish high morale within the newly formed academic organization.<sup>7,21</sup>

Cultural differences are frequently seen as the cause of and reasons for organizational problems after mergers. By using a sense-making perspective and evaluating ethnographic data from eight Finnish-Swedish mergers, Vaara has specified three concomitant cultural sensemaking processes: “search for rational understanding of cultural characteristics and differences”, “suppressed emotional identification with either of the merging sides”, and “purposeful manipulation of the cultural conceptions for more or less legitimate purposes”. It has been stated that leaders and high-level managers involved in post-merger procedures should understand and implement cultural conceptions through these three processes. These processes emphasize concerns such as the underlying structures behind cultural differences that cause them to maintain “acculturation/acculturative” processes that play a central role in a post-merger, in addition to the incompatibility of values and beliefs amongst individuals.<sup>22</sup>

### *Geographical distance in merger*

It is believed that mergers are often associated with problems, stress, and concern among managers and staff. Norwegian Tele-

mark College, a multi-campus institution of five campuses located at large distances apart was integrated in 1994. This merger was expected to result in academic and administrative economies of scale. One challenge, both during and after this merger, was the relatively large distance between the campuses that ranged from 20 to 180 kilometers. This distance was a major obstacle to attaining their goals. To eliminate this barrier, this institution developed technological infrastructures such as internet, email, telephone, and videoconferencing. The results of their study have revealed that even if information technology overcomes some shortcomings, other important aspects remain that should not be overlooked. For example, the fact that good technology can not directly, nor satisfactorily replace personal contact. Geographical distances have impacted the expectations of this merger such as lowering administrative costs or academic gains in the form of cross-disciplinary courses and programs, and increased co-operation in teaching and research. Possibly, geographical distance increased the existing cultural, social, and academic tensions.<sup>14,23</sup>

### *Successes and failures*

In the United States, Cohen et al. reviewed the initial failures and analyzed factors responsible for the relative success of a merger between two large tertiary academic hospital systems in 1997. They explained the tactics in developing a set of principles for appropriate continued guidance of the merger and discussed the future strategy for the merged organization. In 2000, three years after this merger they surveyed the two merged centers to determine the integration of their 19 clinical departments across five broad areas: 1) conferences, 2) residency programs, 3) common faculty and support staff, 4) finances, and 5) research. The researchers noted that the overall clinical integration was 42%, which was most frequent with regards to conferences (50%) and least frequent with finances (25%), with a range of 20%–72%. There were six departments that had more than 50% clinical integration after three years. Surprisingly, they discovered that the single-chairperson model for department leadership was the most successful in achieving major clinical integration of the previously detached departments. According to Cohen et al., the skills of leaders to act as a team and lead the change process was the most vital factor for the attainment of a sensible level of clinical integration.<sup>24</sup>

Successful staff integration of pre-merger organizations with the intent to achieve synergy was a common, major challenge not only for the management of individual institutions, but also for entire higher education systems.<sup>6</sup>

However, Cohen et al. did not address the operational non-clinical aspects of the merger in departments such as finance, quality assurance, human resources, legal affairs, and purchasing. They argued that merger of specified system departments was easier and quicker than the integration of the clinical departments and provided “economies of scale without loss of market share”.<sup>24</sup>

How many phases and levels have been considered in the merger process?

Royston, Hinings, and Brown have defined three phases for a merger: 1) courtship in which the need for organizational combination is recognized; 2) consummation which consists of planning the merger and its implementation; and 3) post-merger during which the institutionalization occurs. The courtship phase corresponds to a planning phase in which organizational fitting or compatibility is neglected and strategic fitting is the primary focus.

Later, in the consummation phase, the two merging organizations join, speeding up the process of combining the organizations. In this phase of the merger, the new organization gains a more unified operational identity. In the consummation phase, ignoring issues on organizational compatibility is more difficult. The new organization’s full integration and realization of the benefits of its merger does not occur until the post-merger phase. According to some authors, it may take four to five years for a merger to attain its full potential.<sup>25</sup>

Shrivastava defines three levels for integration following a merger: procedural, physical and socio-cultural, all of which lead to the defining of procedures and policies, sharing of office space and a common ideology in terms of regulations and culture.<sup>26</sup> In the context of higher education in China, three categories have been described in terms of levels of integration by Wang: superficial, deep and kernel.<sup>27</sup> Superficial integration happens early in the initial stages of the merger process and is focused on combining administrations. Institutions and their leadership, financial, regulatory, and planning arrangements become more united with the intent to assist in building a departure point for a merger of deeper levels. However, the restructuring and specialization of different disciplines that involves the integration of departments and institutes sustains a new organization through its deep merger. When the concepts and cultures within the organization go through re-definition and integration, the kernel phase or cultural aspect is completed, of which this phase is considered to be the most vital component of integration for academic staff.<sup>21,23</sup>

Which methods and/or tools can be used to evaluate the effects of a merger on organizational outcomes?

We have attempted to locate a set of standardized tools for evaluating effects of a merger on academic organizational outcomes. However since evaluation methodology is more common for businesses and economic organizations,<sup>28</sup> it is difficult to adapt these tools to academic organizations.

## Discussion

This review of the literature revealed that the decision and process of a merger is a broad, multi-dimensional change for an academic organization that consists of an extensive range from the actual physical joining to deep socio-cultural mission-focused mergers.

We have located numerous reports and case studies of established university mergers throughout different regions of the world that have occurred in diverse educational and managerial contexts. Mergers are not an uncommon phenomenon among the higher education setting.<sup>29</sup>

It is out of the scope of this article to discuss the pros and cons of mergers, but rather this paper illustrates other countries’ experiences and how mergers can be managed in order to obtain the best results. Managers should be aware that a merger is an evolutionary process with different stages and levels and challenges and problems may occur at some time during organizational changes. Different experiences worldwide have shown that a merger is one of the most noteworthy dealings an organization may engage in.

We found tacit (not explicit) evidence stating that solving the problems of organizational fragmentation and increasing control from the Ministry of Health and Medical Education on the overall direction of health system performance in Tehran were the pri-



many reasons for the TUMS, SBMU and IUMS merger. Future research may show other reasons for this event or may determine if the objectives of this merger have been met.

An academic institution may cease to exist after a merger or at least may lose its pre-merger identity. In this regard the merger can be painful with many wounds that need to be healed. Harman claims that the more widespread practice is “taking-over” another institution rather than a merger and that there are few true, factual mergers that occur in educational and commercial enterprises.<sup>7</sup> Although we have been unable to assign an unambiguous typology of merger to this specific experience in Iran, however in appearance, patterns of horizontal, twin-partner, involuntary, and single-sector mergers could be found in the departments within each university.

It is a general observation to anticipate that it takes a long time (perhaps over ten years) for the new institution formed by a merger to function as a unified and integrated identity. This considerably challenges the intent of efficiency as a purpose and reason to merge. There is no one best way to bring about a merger.<sup>30</sup>

Socio-cultural integration acts as an important stage in the post-merger process, particularly in the institutional setting and academic staff integration. Successful mergers need to identify and adjust the cultures of pre-merger organizations in an attempt for integration of the cultures with the goal of reaching a common culture in terms of its values, beliefs and norms over a short or long duration and at different levels within the organization (Box 1).<sup>13</sup> This is more difficult in academic compared to non-academic organizations. This stage of integration needs more time and effort when compared with physical or procedural integration. Cultural integration begins with a superficial integration such as administrative rules and evolves to deeper levels which necessitate new definitions of the new organizational culture. Internalization of the merger needs to pay attention to all these levels. According to the Greenwood categorization,<sup>25</sup> this merger experience has rapidly entered the “post-merger” phase and has not evolved inclusively through previous phases of “courtship” for need assessment and “consummation” for planning. This may cause a specific gap to be developed which delays evolution of the most important phase of the merger, the “socio-cultural” or “kernel” phase according to Shrivastava<sup>26</sup> and Wang.<sup>27</sup>

Factors associated with the relative success of the clinical merger were as follows: “constant communication among the leadership and staff”; “flexibility in developing the leadership models”; “patience and lack of complaint in having activities advance over time” which caused trust to develop among senior leaders and superior managers; “presence of a senior executive arrangement whose decision-making power and authority is accepted”; and the principle that “no clinical service should be integrated just for the

sake of merging, but that integration should be encouraged to a certain extent where and when it makes sense to attain particular program goals”.<sup>24</sup>

As no formal assessment of achievements from the TUMS, SBMU, and IUMS merger has been published at the time of this article, we cannot explicitly discuss the elements of success in this merger or effects of this merger on organizational outcomes. However, according to recommendations, the greatest lesson to be learned is that large geographical distance will prolong the time period of the merger process at all levels of integration and it is crucial to take this challenge into account during and after the integration process.<sup>14,23</sup> In addition, attention to cultures and more importantly, sub-cultures should not be neglected, incorporating the involvement of all academic staff from leaders to managers, among others. A successful merger process also depends on attentive interactions with the external environment and the provision of an internal dynamic environment which fosters satisfaction and productivity of the entire staff.<sup>31</sup>

Because the experiences of managerial changes in universities are not well documented or published in most developing countries (including Iran), we did not have access to all relevant literature on mergers in countries such as ours. We have presumed that in some cases it might be the condition that a merger was the consequence of an external policy and not directly related to the outcome of the interests mentioned in our study; however, we extracted those sections that were in accordance with our exploratory perspective of the merger process.

As the three universities based in Tehran were (and the two new organizations still are) involved in health care and service provision to their specific catchment areas in addition to human resource functions (specifically, education and research functions), it was not our intent to assess how to deal with the merger with regards to health care provision and the financial aspects of these organizations. These specific functions should be studied in future research activities.

Not all case studies followed formal protocols, but relied chiefly on qualitative evaluation. However as a result of the lack of comprehensive case studies on university mergers, we included semi-structured case studies in our review process. Some of the presented information in published articles was based on experts and/or key-informant interviews, their expertise and judgment.<sup>32</sup>

We located a few studies that were similar to our situation. However, the generalization of results pertaining to organizations with different settings and culture needs additional consideration.

We anticipate the production of additional research projects by scholars to evaluate organizational change and practical policy-making processes as well as institutional and system transformations. TUMS is the largest medical university in Iran, which con-

#### Box 1: Case study of a successful merger.

During and just after the merger of two medical schools which led to the establishment of the Allegheny University of Health Sciences, faculty and staff encountered major changes, all with frustrations and fears because they were somewhat uncertain about the new direction of the established university. However, in the early phases of the merger process which was the most critical stage, faculties of the two merged academic organizations were brought together to plan the Generalist Physician Initiative (GPI) and apply for a grant from The Robert Wood Johnson Foundation. Although the new merged school was awarded the GPI grant in the middle of its complex merger, the GPI application action had a deep impact not only on the merger of those two schools, but also on the consequently evolved educational enterprise. Ross et al. explained that the GPI provided a center of attention with an apparent set of goals and this single, pervasive attempt had a significant effect on the formation of a unified faculty in a recently-united school of medicine.<sup>13</sup>

sists of more than 10 schools, approximately 70 research centers, with more than 2000 academicians and 19000 students at different levels. There are over 80 different disciplines for post-graduate education at TUMS. Thus it is readily possible for newly-formed schools, departments and research centers to be evaluated as case studies in both qualitative and quantitative research.

#### Conflicts of interest

The authors of this study are studying and/or working for Tehran University of Medical Sciences, one of the universities engaged in this recent merger experience.

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#### References

1. Vaara E. On the Discursive Construction of Success/Failure in Narratives of Post-Merger Integration. *Organiz Stud.* 2002; **23**: 211 – 248.
2. Harman G. The Dawkins Reconstruction of Australian higher education. *High Educ Pol.* 1989; **2**: 1 – 14.
3. Lang D. A lexicon of inter-institutional cooperation. *High Educ.* 2002; **44**: 153 – 183.
4. Mulvey TM. *An Analysis of the Mergers of American Institutions of Higher Education* [dissertation]. Amherst: University of Massachusetts Amherst; 1993.
5. Goedegebuure L. *Mergers in Higher Education: A Comparative Perspective*. Utrecht: Lemma; 1992.
6. Yuzhuo C. *Academic Staff Integration in Post-Merger Chinese Higher Education Institutions*. Finland: Tampere University; 2007.
7. Harman K, Meek VL. Introduction to special issue: "Merger revisited: international perspectives on mergers in higher education". *High Educ.* 2002; **44**: 1 – 4.
8. 2011. Available from: URL: <http://www.mehrnews.com/FA/newsdetail.aspx?NewsID=1396192> [Accessed October 26, 2012]
9. 2010. Available from: URL: <http://publicrelations.tums.ac.ir/news-detail.asp?newsID=19786> [Accessed October 26, 2012]
10. Jessop WJ. Medical education and the University merger. *J Ir Med Assoc.* 1968; **61**: 45 – 48.
11. O'Malley E. The University merger and the medical services. *J Ir Med Assoc.* 1968; **61**: 60 – 61.
12. Draper P. The merger of United Kingdom colleges of nursing with university departments of nursing: prospects, problems and promises. *J Adv Nurs.* 1996; **23**: 215 – 216.
13. Ross LL, Appel MH, Kelliher GJ. The role of the generalist physician initiative in the merger of Hahnemann University and Medical College of Pennsylvania. *Acad Med.* 1999; **74**: S16 – S23.
14. Kyvik S. The merger of non-university colleges in Norway. *High Educ.* 2002; **44**: 53 – 72.
15. Hall M, Symes A, Luescher T. *The Governance of Merger in South African Higher Education*. Research Report prepared for the Council on Higher Education: Council on Higher Education; 2004.
16. Maisch B. A paradigm change in German academic medicine. Merger and privatization as exemplified with the university hospitals in Marburg and Giessen. *Herz.* 2005; **30**: 153 – 158.
17. Normile D, Hong Kong. Science university fears merger could weaken research program. *Science.* 2003; **301**: 1316 – 1317.
18. Bates LJ, Santerre RE. A time series analysis of private college closures and mergers. *Rev Indust Organiz.* 2000; **17**: 267 – 276.
19. Hansmann H. *The Ownership of Enterprise*. Cambridge, MA: Harvard University Press; 1996.
20. Scherer FM, Ross D. *Industrial Market Structure and Economic Performance*. Boston: Houghton Mifflin Company; 1990.
21. Harman K. Merging divergent campus cultures into coherent educational communities: Challenges for higher education leaders. *High Educ.* 2002; **44**: 91 – 114.
22. Vaara E. Constructions of cultural differences in post-merger change processes: a sensemaking perspective on Finnish-Swedish Cases. *Management.* 2000; **3**: 81 – 110.
23. Norgard JD, Skod OJ. The importance of geography and culture in mergers: a Norwegian institutional case study. *High Educ.* 2002; **44**: 73 – 90.
24. Cohen JR, Dowling M, Gallagher JS. The trials, tribulations, and relative success of the ongoing clinical merger of two large academic hospital systems. *Acad Med.* 2001; **76**: 675 – 683.
25. Royston G, Hinings CR, Brown J. Merging Professional Service Firms. *Organiz Sci.* 1994; **5**: 239 – 257.
26. Shrivastava P. Postmerger Integration. *J Bus Strategy.* 1986; **7**: 65 – 76.
27. Wang W. Merger and development: strategic thinking of post-merger university reform. *Chin High Educ Reform.* 1998; **12**: 18 – 20.
28. Krug JA, Shill W. The big exit: executive churn in the wake of M&As. *J Bus Strategy.* 2008; **29**: 15 – 21.
29. Dobbins M, Knill C, Vogtle EM. An analytical framework for the cross-country comparison of higher education governance. *High Educ.* 2011; DOI 10.1007/s10734-011-9412-4.
30. Makgoba MW. Merger Report 2007. KwaZulu-Natal: University of KwaZulu-Natal; 2007. Available from: [http://www.ukzn.ac.za/publications/merger%20report\\_low%20res\\_web1.PDF](http://www.ukzn.ac.za/publications/merger%20report_low%20res_web1.PDF) [Accessed October 26, 2012]
31. McGinnis RA, McMillen W, Gold JP. Merging two universities: the Medical University of Ohio and the University of Toledo. *Acad Med.* 2007; **82**: 1187 – 1195.
32. Welsh JF. The role of governing boards in college and University Mergers. In: Martin IJ, Samels J, editors. *Merging Colleges for Mutual Growth*. Baltimore: The Johns Hopkins University Press; 1994.