Through the Looking Glass: Analysis of Factors Influencing Iranian Student's Study Abroad Motivations and Destination Choice

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Abstract

This study seeks to investigate and understand why and how Iranian higher education students choose to study overseas. After critically analyzing the international student mobility literature, the important factors are distilled. Then, by using Fuzzy-Delphi Method (FDM), 15 factors are selected from the 21 factors initially selected by reviewing the literature. This study utilizes a novel Multicriteria Decision Making (MCDM) approach, based on Best-Worst Method (BWM), to prioritize the factors influencing the choice of Iranian students regarding international higher education. Therefore, by using BWM, the most and the least important factors and subfactors were identified and prioritized based on the experts' opinions. The findings of this quantitative research reveal that Iranian students identify "Aids and Scholarships," "Cost Issues," and "Environment of the Home Country" as the most important factors, respectively. Finally, a discussion is generated regarding the results and their implications.

Keywords

international higher education, Iranian students, MCDM, Best-Worst Method, Fuzzy Delphi

Introduction

The international education industry has been growing rapidly, earning a remarkable size with regard to the number of international students and export earnings (C. H. Chen & Zimitat, 2006; Yang, 2007). International student mobility has significantly escalated more than the total international migration during the same period (King, Findlay, & Ahrens, 2010), and this reflects the globalization of higher education (Sidhu, 2002). This rapid growth is due to a number of factors, namely, rising levels of prosperity in sending countries, rising demand for tertiary education, expected economic and social value of studying abroad, and commercialization of higher education within host countries (Hughes, 1988; Mazzarol & Soutar, 2002). The growing competition to attract and retain international students has increased competition among host countries and has expanded and diversified the students' map of destinations (Labi, 2006; Organisation for Economic Co-Operation and Development [OECD], 2016).

As competition within domestic markets has increased due to declining or stagnating local demand, universities are seeking to compete on international markets more than ever (Mazzarol & Soutar, 2012). The globalization of higher education industry has created a whole new market place for educational institutions and has placed increasing pressure on universities to compete and make the transition from local to global players (Mazzarol, Norman Soutar, & Sim Yaw Seng, 2003; Wood, Tapsall, & Soutar, 2005). The success of universities in this globalized market depends on how well they make this transition given their resource constraints (Wood et al., 2005). Higher education managers are expected to think and act strategically so that they can secure competitive advantage for their institutions (Mazzarol & Soutar, 2008). The evident growth in international higher education signalizes the need to enrich our understanding of this globalized market. It is through this understanding that a quality and relevant higher education is served to international students and their needs are appropriately addressed (Maringe & Carter, 2007). The growing awareness of students and the fact that they have become more discriminating and demanding in their choice of destination country and institution sheds light on the importance of understanding what the

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prospective international student's desires and expectations are (Petruzzellis & Romanazzi, 2010).

Although there exists a comprehensive literature on international higher education and the international students' motivations for choosing to study abroad, not much research has been done concerning why and how Iranian students choose to study abroad. Therefore, to gain a better understanding of the international education market in Iran, it is imperative that international higher education providers be cognizant of why and how a growing number of Iranian students are choosing to study outside of their home country and what factors influence their choices. The identification of key determinants of Iranian international student mobility is necessary and constructive in developing and implementing higher education policies aimed at attracting and retaining these students, in both Iran and host countries around the world (Beine, Noël, & Ragot, 2014). The purpose of this study is to provide insight into the decision-making process of Iranian international students. This study attempts to identify the key choice factors considered by Iranian students and prioritize them according to their relative importance. Moreover, the results of this study provide implications for education managers, marketers, and policy makers inside and outside Iran. This article fills two gaps in the literature, first by shifting the focus to Iranian students as a growing segment of international higher education student flow, and second, by using a novel research methodology which utilizes Multicriteria Decision Making (MCDM) method based on Best-Worst Method (BWM) in identifying and prioritizing the factors.

The current study seeks to identify the factors influencing Iranian international students' decision-making process regarding the choice of study abroad, and host country and host institution selection. The article begins with exploration of trends in higher education and presents data regarding host and home countries, international students, and their economic impact in the host country. It then turns to the broad literature of international student decision making and the commonly used push–pull model to identify choice factors. The next section presents the novel research methodology and the results of the study. Ultimately, the article concludes with a discussion regarding the results, their implications, and suggestions for further research.

Literature Review

The Landscape of International Education

The mobility of international students not only affects the careers and lifestyles of the students, it is instrumental in the internationalization of institutions as well (Li & Bray, 2007). International education is viewed by many students as a "ticket to migration" (Rizvi, 2005). It is also perceived as a way of gaining advantage over the students who have a degree from domestic institutions. This is defined as mobility in pursuit of what is considered a better form of education, what Rivza and Teichler (2007) called "vertical mobility" (Brooks & Waters, 2009). The rising global demand for tertiary education, the internationalization of labor markets, recognition of study abroad as a differentiating factor in the recruitment process, and the importance of expanding one's knowledge of other societies and languages are only some of the factors strengthening students' motivations to study abroad (Movassaghi, Unsal, & Göçer, 2014; OECD, 2016).

Many countries have become interested in international students in the past decades due to a number of reasons. Developed countries are cognizant of the reality that to be capable of competing in the global economy, their students must have a global perspective and awareness, which can be achieved through international higher education (Altbach, 2004). Moreover, Western countries, the main destination of international students, gain both short-term benefits as in the economic contribution of students by spending money on tuition, living expenses, and other costs, and long-term benefits of adding the best potential students from developing countries to their human capital by retaining them once their studies are done, which is a form of migration called skilled migration (Baruch, Budhwar, & Khatri, 2007; Tremblay, 2005). Host institutions view international students from various perspectives. They are viewed as a source of revenue (J. J. Lee, Maldonado-Maldonado, & Rhoades, 2006; Marginson, 2002), as a means to increase cultural diversity and as teaching and research contributors (Altbach & Knight, 2007; Bolsmann & Miller, 2008; Wilkins & Huisman, 2011). International students are not just seat-fillers, their potential contribution to the host nation's economic development, global competitiveness, and the success of its domestic organizations, given that they stay and work in the host nation after their studies, can be of considerable significance (Altbach, 2004; Wei, 2013).

The global demand for international higher education services experienced a threefold increase from 1.3 million in 1990 to nearly 4.3 million in 2011 (OECD, 2013) and is forecast to reach 7.2 million in 2025 (Bohm, Daris, Meares, & Pearce, 2002). The official reports indicate that the number of international higher education students has experienced a 50% increase from 2005 to 2012 (OECD, 2015). The demand from Asia will dominate the international higher education market, constituting 70% of the total global demand by 2025 which represents a 27% increase from 2000 (Bohm et al., 2002). It is estimated that the number of international students was nearly 5 million in 2014. The United States hosted 19.4% of all international tertiary students worldwide in 2013, continuing its dominance as the host country with the largest population of international tertiary students; following the United States were the United Kingdom (10.3%), Australia (6.2%), France (5.7%), Germany (4.9%), and Canada (3.4%), hosting more than half of all the international tertiary students in the world all together. Asian students were the largest group, forming 53% of all students, which reflects the significance of Asian

students in the global market of higher education (Australian Education International [AEI], 2016b).

The revenues generated by international students and their economic contributions are substantial (Consterdine & Everton, 2012). The Association of International Educators (National Association of Foreign Student Advisers [NAFSA]) estimated that the economic contribution of international students studying in the United States was US$32.8 billion during the 2015-2016 academic year, creating or supporting more than 400,000 jobs (NAFSA, 2016). International students studying in the United Kingdom are of significant importance both to the U.K. higher education sector and to the country on a wider scale. During the 2012-2013 academic year, international students contributed more than £7 billion to the U.K. economy (Universities, 2014). International student expenditure (i.e., tuition, accommodation, and living expenses) in Canada contributed more than Can$8 billion to its economy in 2010, which was greater than the total exports of unwrought aluminum or helicopters, airplanes and spacecraft (Canada, 2012). Furthermore, international students studying and living in Australia contributed Aus$18.8 billion to its economy in 2015. The revenues generated by international students is Australia's third largest export after iron ore and coal, and it is the largest services export constituting 28% of the total services exports (AEI, 2016a).

Iran is recognized predominantly as a sending country in the international market of higher education. Iran was the top sender of students to the United States from 1974 to 1983. The 1979-1980 academic year was the peak year, during which 51,310 Iranian students were studying in the United States; however, after the Iranian revolution in 1979, the number of Iranian students in the United States significantly dropped throughout the 1980s and 1990s, reaching its lowest number of 1,700 students in 1998. However, this figure has risen significantly since 1998, rising to 12,269 students in 2015-2016 academic year which is the highest number in the past three decades. This significant growth can be accentuated by considering that the total number of Iranian students in the United States has quadrupled since 2005-2006 academic year (Open Doors, 2016).

According to The United Nations Educational, Scientific and Cultural Organization's (UNESCO) estimations, Iran's total number of international mobile students in 2015 was 50,053, and this number has been steadily rising since the beginning of the 21st century. These estimations indicate a significant growth from 21,701 students in 2000 to 50,053 students in 2013 recording a 130% increase. Top five destinations for Iranian students are the United States, Canada, Italy, Germany, and Australia, respectively (UNESCO, 2016). According to Open Doors report, the economic contribution of Iranian international students to the U.S. economy has been significant. The total contribution during the 2014-2016 period amounts to US$971 million in total, recording a 47% growth from US$262 million in 2014 to US$386 million in 2016 (Open Doors, 2016).

International Student Decision Making

In the highly competitive environment of higher education, students are faced with a wide range of options and have to undertake complex decisions to make the correct choice. They have become more critical, demanding, and analytical when choosing their destination (Binsardi & Ekwulugo, 2003). However, they try to be realistic and match their qualifications and ambitions to the characteristics of the destination (Hemsley-Brown, 2012). The study abroad decision is considered as one of the most significant and costly measures students will ever undertake (Mazzarol, 1998). This choice is time-consuming, expensive, includes a variety of alternatives and possibilities, and has high personal relevance (Pimpa, 2005). Despite spending significant time probing all the information and evidence, students find the decision-making process risky and complicated (Moogan, Baron, & Harris, 1999; Pimpa, 2005). The decision-making process places students in contradictory situations. The possibility of making a free choice regarding host country, university, and course makes them feel empowered. On the contrary, they feel their weakness, as they understand that they are involved in a highly competitive selection process (Hemsley-Brown, 2012).

The international higher education decision making and choice is an area of growing research interest and many studies have attempted to describe its constituting processes, choices, and factors (Petruzzellis & Romanazzi, 2010; Pimpa, 2005; Wilkins, Shams, & Huisman, 2013). These choices are recognized as multicriteria, unstructured, and complex which incorporate many determinants (Pimpa, 2005). The study abroad decision process contains a series of stages. A number of researchers have suggested that this process commences with the commitment to study abroad and ends with the selection of a host institution (Roberts, Chou, & Ching, 2010). Mazzarol and Soutar (2002) not only view the student decision-making process as a series of distinct stages but also consider the role of push and pull factors in this process. They maintain that this process comprises at least three distinct stages. The first stage entails the decision whether or not to study abroad. Factors within the student's home country can act as influencing factors during this stage. The second stage entails the selection of a host country. Here, the factors within a host country can make it more attractive than other alternatives, and finally, the third stage involves selecting an institution. In another study, in an attempt to provide a model for the decision-making process of international graduate students in undertaking overseas graduate studies, L. H. Chen (2007) proposed a three-step process. The first step is "predisposition," during which the student assesses personal needs, gathers information on study abroad, and decides whether or not to study abroad. "Search, selection, and application" is the next step during which the student acquires information on countries, universities, programs, costs, and location. Then, after comparing and

analyzing the obtained information, the student arrives at a decision regarding where to study and which and how many schools to apply to. The third step is "choice," during which the student assesses the factors that were considered in the previous step; examines what each city, university, program, and country has to offer; and eventually makes the final enrollment decision.

Push–Pull Factors in Study Abroad Decision Making

There exists a considerable literature which tries to explore and identify key factors in the choice of higher education by international students (Agarwal & Winkler, 1985; Ahmad & Hussain, 2017; Beine et al., 2014; Binsardi & Ekwulugo, 2003; L. H. Chen, 2007; Eder, Smith, & Pitts, 2010; Kim, 2011; María Cubillo, Sánchez, & Cerviño, 2006; Maringe & Carter, 2007; Mazzarol & Soutar, 2002; McMahon, 1992; Wadhwa, 2016). However, almost none has had Iranian international students and key determinants of their choice and mobility as its primary focus. Virtually all the studies in the extant literature attempt to explain the global flow of international students and the influencing factors on their decisions to study abroad through a commonly used theoretical framework called push–pull model, which involves the interplay of a conglomerate of "push" and "pull" factors (Mazzarol & Soutar, 2002; Wilkins & Huisman, 2011; Wilkins et al., 2013). The "push–pull" model is relevant to cross border movement, especially for the global mobility of international students. The factors constituting this model function along the international student's decision-making process (Baruch et al., 2007; Mazzarol & Soutar, 2002).

"Push" factors operate within the student's home country such as the home country's cultural, economic, political, and academic aspects. These factors engender the student's interest and initiate the decision to undertake international study. On the contrary, "Pull" factors operate within a host country. These factors are a host nation's attributes which make it relatively more attractive and influence the international student's decisions (Mazzarol & Soutar, 2002). In addition to various aspects of host and home countries, push and pull factors also comprise the effect of significant others and students themselves as well (Kim, 2011). The push–pull model has been commended for utilizing the process of identifying and defining key factors that influence the patterns of international student flow. However, this model makes the suggestion that international students can be perceived as a homogenized group rather than a cluster of individuals with significant differences between and within their nationalities (Roberts et al., 2010). Therefore, this research attempts to address this existing limitation.

The review of the previous studies involved different domains of the literature covering undergraduate, graduate, and international students. Moreover, studies on student mobility and migration and college choice factors were reviewed as well. In this study, the existing models in the literature were identified and the most important push and pull factors were recognized. The following paragraphs shed some light on the extant literature regarding factors influencing international student choice of study abroad. A comprehensive division of the factors in the literature is demonstrated in Table 1.

Mazzarol and Soutar (2002) studied 2,485 students from four different Asian countries who were studying in postsecondary education in Australia. The study resulted in a conglomerate of push and pull factors influencing the student's decision in choosing to study abroad and selecting a study destination. The most important factors motivating students to study abroad were the perception that overseas study is better than a local one and their desire to gain a better understanding of Western culture. The study introduced awareness and knowledge of the host country as one of the critical pull factors. Moreover, recommendations from family, friends, and relatives; financial issues; geographic proximity between home and host nations; host country's environment; and social links as in family or friends living or studying there were identified as other factors influencing destination choice.

María Cubillo et al. (2006) attempted to study the decision-making process of prospective international students from an integrated point of view. Therefore, the study proposed a theoretical model that aimed to amalgamate the factors recognized by the extant literature. The proposed model considered purchase intention as an independent variable. The main five factors put forth by the study were personal reasons, country image effect, city image effect, institution image, and program evaluation. The final choice is determined through conscious or unconscious consideration of different elements that constitute these five factors.

The study conducted by L. H. Chen (2007) focused on the decision-making process and influencing factors regarding East Asian international graduate students' enrollment in Canadian graduate schools. The study develops a synthesis model to explain their decision-making process. The strongest factors were institutional academic pulling factors (e.g., professors, program reputation, quality, and ranking), administrative and economic pulling factors (e.g., tuition, net costs, and scholarships), the Canadian environment (e.g., diversity and multiculturalism), visa/immigration, proximity to the United States, marketing of Canadian education, and information on studying in Canada, respectively. The most important factors which influenced the student's enrollment decision were tuition fees and scholarships, academic reputation or quality of Canadian graduate education, and the visa process, respectively.

The study conducted by Eder et al. (2010) applied a contemporary qualitative approach in identifying the motivational and constraining factors that affect international student choice. The proposed model comprises nine themes

Table 1. Factors and Subfactors in the Study Abroad Decision-Making Process.

Factors	Subfactors	Descriptions	References
Cost Issues	Education costs	Tuition and other compulsory fees	Kemp, Madden, and Simpson (1998); Mazzarol and Soutar (2002); Binsardi and Ekwulugo (2003); María Cubillo, Sánchez, and Cerviño (2006); Shanka, Quintal, and Taylor (2006); Drewes and Michael (2006); L. H. Chen (2007); Maringe and Carter (2007); Yang (2007); Eder, Smith, and Pitts (2010); Wilkins and Huisman (2011); Wilkins, Shams, and Huisman (2013); Beine, Noël, and Ragot (2014); Ahmad and Hussain (2017); Wadhwa (2016)
	Migration and living costs	Living, accommodation, migration, and traveling costs	
Job and career issues (host country)	Career advancement	Greater opportunity for further advancement in profession, greater job availability in area of specialization, higher odds of enhancing career and employment prospects, ease of finding employment after study	Kemp et al. (1998); Mazzarol and Soutar (2002); Binsardi and Ekwulugo (2003); Tansel and Demet Güngör (2003); María Cubillo et al. (2006); Hazen and Alberts (2006); Maringe and Carter (2007); L. H. Chen (2007); Li and Bray (2007); Yang (2007); Eder et al. (2010); Kim (2011); Wilkins, Balakrishnan, and Huisman (2012); Wilkins and Huisman (2011); Wilkins et al. (2013); Beine, Noël, and Ragot (2014); Wadhwa (2016)
	Wage	Expected earnings and high occupational income prospects	
	Value of degree in the job market	Recognition of qualifications, suitability and relevance of course in the labor market	
	Opportunity of working while studying	Ease and opportunities of finding employment during study	
	Better work environment	Flexible work hours, relaxed setting	
Job and career issues (home country)	Career advancement	Little or no opportunity for occupational advancement	Kemp et al. (1998); Tansel and Demet Güngör (2003); Mazzarol and Soutar (2002); Wilkins and Huisman (2011) Wadhwa (2016)
	Wage	Low income prospects	
	Job market	An increased demand for higher education, recognition of qualifications in the job market, limited job opportunities in one's professional field of expertise, lack of employment opportunities when study is done	
Knowledge and awareness	Knowledge and awareness of the host country and Institution	Knowledge and awareness of the institution and general knowledge of the destination country, overall availability of information on host country and institution	Mazzarol and Soutar (2002); Chien (2013)
Academic ranking and reputation (institution)	Ranking and recognition	Ranking and international recognition	Mazzarol and Soutar (2002); L. H. Chen (2007); Li and Bray (2007); Wilkins et al. (2012); Wilkins and Huisman (2011); Wilkins et al. (2013); Beine et al. (2014); Ahmad and Hussain (2017); Wadhwa (2016)
	Reputation and prestige	Institution's prestige; brand, academic, research, quality and institutional reputation	
Application and admission	Acceptance rate	Entering average, number of enrolled international students	Kemp et al. (1998); Mazzarol and Soutar (2002); Binsardi and Ekwulugo (2003); Drewes and Michael (2006); Maringe and Carter (2007); Li and Bray (2007); L. H. Chen (2007); Park (2009); Wilkins and Huisman (2011); Chien (2013); Ahmad and Hussain (2017); Wadhwa (2016)
	Admission feasibility and requirements	Relatively easier, less, or more flexible admission requirements; recognition of previous qualifications	
	Application process	Straightforward and more flexible application process and schedule	
Aids and scholarships	Scholarships and financial support	Providing scholarships and accessibility of financial aid	Binsardi and Ekwulugo (2003); María Cubillo et al. (2006); Drewes and Michael (2006); Hazen and Alberts (2006); Li and Bray (2007); L. H. Chen (2007); Chien (2013); Wilkins et al. (2013); Wadhwa (2016)
	Work placements	University organized work placements	

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Table 1. (continued)

Factors	Subfactors	Descriptions	References
Quality of institution	Quality of services	Academic superiority in terms of excellent teaching and learning environment, providing better services	Mazzarol and Soutar (2002); Binsardi and Ekwulugo (2003); Tansel and Demet Güngör (2003); María Cubillo et al. (2006); Shanka et al. (2006); Maringe and Carter (2007); L. H. Chen (2007); Li and Bray (2007); Park (2009); Eder et al. (2010); Wilkins and Huisman (2011); Mazzarol and Soutar (2012); Wilkins et al. (2013); Wadhwa (2016)
	Faculty and staff	Expertise and quality of teaching staff, educational and research achievements of the faculty	
	University environment	Campus atmosphere, safety and security, social life at university, study and learning environment	
	Facilities	Availability of quiet areas and areas for self-study, use of information technology, large campus and various excellent facilities	
Programs and courses	Program's features	Courses availability, range of courses, program features and quality of program, international acceptability and recognition of degree	Mazzarol and Soutar (2002); María Cubillo et al. (2006); Maringe and Carter (2007); Eder et al. (2010); Wilkins and Huisman (2011); Wilkins et al. (2013); Chien (2013); Ahmad and Hussain (2017)
	Time to get the degree	Length of the program	
Host country's education	Academic reputation and quality	Reputation and quality of country for system of higher education; Recognized qualifications worldwide	Kemp et al. (1998); Mazzarol and Soutar (2002); Binsardi and Ekwulugo (2003); María Cubillo et al. (2006); Hazen and Alberts (2006); L. H. Chen (2007); Yang (2007); Wilkins et al. (2012); Wilkins and Huisman (2011); Wilkins et al. (2013); Wadhwa (2016)
	Infrastructure	Better educational opportunities, more academic freedom, educational standards, country's attitude toward supporting international education	
Institution's marketing efforts	University's marketing and promotion	Promotion and marketing efforts	Mazzarol (1998); Eder et al. (2010); Chien (2013)
	Access to information	Availability of information about the institution	
Home country's education	Quality and satisfaction	Poor quality, dissatisfaction with domestic higher education	K. H. Lee and Tan (1984); Tansel and Demet Güngör (2003); Park (2009); Bodycott (2009); Kim (2011); Wilkins et al. (2012); Wadhwa (2016)
	Infrastructure	Lack of facilities to carry out research, inadequate higher education infrastructure, course not available at home, insufficient capacity in higher education, tough competition in domestic education	
Couldn't get admission in desired institution	Couldn't get into desired institution	Couldn't gain entry to desired institution at home	Mazzarol and Soutar (2002); Wadhwa (2016)
Geographic proximity	Convenience of traveling home	Ease of traveling back and forth	Kemp et al. (1998); Mazzarol and Soutar (2002); Shanka et al. (2006); Li and Bray (2007); L. H. Chen (2007); Bodycott (2009); Wilkins and Huisman (2011); Ahmad and Hussain (2017)
	Geographic proximity	Location (country and institution)	
Environment of the host country	Social and cultural	A more organized and ordered environment in general, social facilities, international environment, diverse and exciting social life, social reputation, cultural distance, religious homogeneity, lifestyle, established population of overseas students	Kemp et al. (1998); Mazzarol and Soutar (2002); Binsardi and Ekwulugo (2003); María Cubillo et al. (2006); L. H. Chen (2007); Yang (2007); Park (2009); Bodycott (2009); Eder et al. (2010); Wilkins and Huisman (2011); Chien (2013); Ahmad and Hussain (2017)
	Climate	Comfortable climate	
	Economic and political	Development level, political ties, economic and political stability	
	Safety and security	Crime, safety and racial discrimination	

(continued)

Table 1. (continued)

Factors	Subfactors	Descriptions	References
Environment of the home country	Economic and political	Political pressures and discord, economic instability and uncertainty, economic stagnation or decline, lack of financial resources and opportunities to start a business	Mazzarol and Soutar (2002); Tansel and Demet Güngör (2003); Maringe and Carter (2007); Wilkins et al. (2012); Chien (2013)
	Social and cultural	Less than satisfying social and cultural life, lack of social security, other social forces	
	Lack of opportunities	Limited opportunities and lack of choice, corruption and favoritism	
Language	Linguistic proximity	Commonality of language, linguistic proximity or distance	Mazzarol and Soutar (2002); María Cubillo et al. (2006); L. H. Chen (2007); Yang (2007); Eder et al. (2010); Wilkins et al. (2012); Wilkins and Huisman (2011); Wilkins et al. (2013)
	Language learning	Learn a new language, improve language skills	
Personal	Personal reasons	Personal improvement, wanting a new and different cultural experience, student-type of life, building an international social network, understanding Western culture, experiencing a good education, perception that overseas education or course is better than local, intention to migrate and settle abroad	Kemp et al. (1998); Mazzarol and Soutar (2002); María Cubillo et al. (2006); Shanka et al. (2006); Hazen and Alberts (2006); L. H. Chen (2007); Yang (2007); Park (2009); Bodycott (2009); Eder et al. (2010); Kim (2011); Wilkins and Huisman (2011); Wadhwa (2016)
	Influence of others	Influence of family, relatives, significant others, friends, professors, alumni or agents; encouragement from others; family members or relatives currently living in host country; friends who go to the same university	
Visa and migration	Visa process	Visa procedure, convenient process for student visa	Mazzarol and Soutar (2002); Binsardi and Ekwulugo (2003); María Cubillo et al. (2006); Yang (2007); L. H. Chen (2007); Bodycott (2009); Eder et al. (2010); Chien (2013); Wadhwa (2016)
	Migration	Immigration procedure, host country's immigration policies, immigration prospects	
Parental support	Family financial support	Being financially supported by family in case of choosing to study abroad	Sojkin, Bartkowiak, and Skuza (2012); Wadhwa (2016)
Value and prestige of study abroad	Value of overseas study	Expecting advantages from an overseas education, seeing study abroad as a popular trend, ability to raise the economic status of the graduate	Bourke (2000); Mazzarol and Soutar (2002); Tansel and Demet Güngör (2003); María Cubillo et al. (2006); Kim (2011); Chien (2013); Wadhwa (2016)
	Prestige and status of overseas study	Prestige of studying abroad or having a foreign degree; its ability to raise the social status of the graduate	

and their respective subsumed categories. The study introduced a series of push, pull, and structural factors, all of which influence the student's destination choice. The most important pull factors were personal growth, language, and career, respectively. Furthermore, three pull factors were identified as the most important which were, respectively, college issues (e.g., availability of courses and departments), physical geography, and culture. The structural factors included visa and monetary issues and opportunities for improvement by the host nation, with visa being the most important one.

The factors determining international student choice of location were assessed by Beine et al. (2014), based on a multiorigin and multidestination framework. This study used the available data on international students from more than 180 origin countries who were studying in a set of 13 OECD countries. The study found that the presence of country nationals at destination country acts as a strong pull factor for international students. Furthermore, other destination-specific factors attracting international students were wage and quality of higher education at destination, host's higher education capacity, and living costs. The role of education fees (e.g., tuition) were found to be ambiguous and not significant, which could be explained by the fact that most universities are covered by grants that benefit international students.

Ahmad and Hussain (2017) studied the choice and underlying reasons and motivations of African students in choosing United Arab Emirates (UAE) as a study destination for tertiary education. The factors which influenced the choices made by these students were identified through development of a push–pull model. The study indicated that five factors influencing the choice of African students were learning environment (e.g., safe and multicultural environment), cost issues (e.g., living and tuition costs), institution's reputation, key influencers (e.g., family, friends, agents, etc.), and geographic proximity. Furthermore, the analytical hierarchy process (AHP) was used to determine the relative importance of these factors. The study identified learning environment, geographic proximity, and key influencers as the top three factors influencing African student's choice of UAE as a study destination.

In the review of the literature, the study identified factors that followed similar threads and had common themes. For the purposes of this study, the identified similar factors were grouped and titled as "subfactors." Next, the "subfactors" which had similar broader themes were gathered under one incorporating "factor." These "factors" act as an umbrella, encompassing the subfactors and their respective descriptions. This classification is demonstrated in Table 1.

Research Methodology

In this section, an innovative MCDM model based on BWM is presented to address the problem of identification
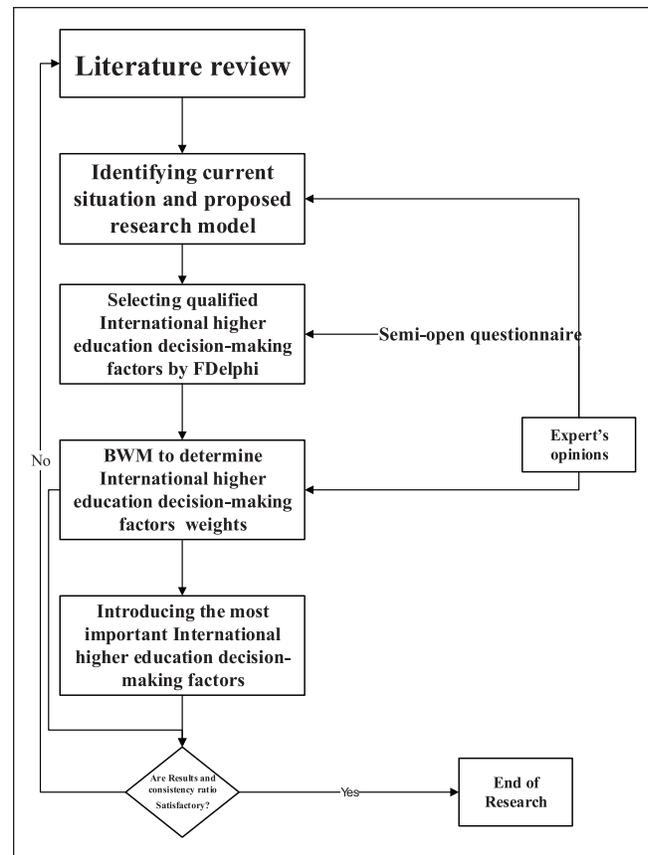

Figure 1. Flowchart of the proposed approach.

and prioritization of international higher education decision-making factors. The flowchart of the proposed hybrid model is shown in Figure 1.

Fuzzy Delphi

The Delphi method was developed by Dalkey and Helmer (1963) at the Rand Corporation in the 1950s (C. C. Hsu & Sandford, 2007). This method is an expert opinion survey method with three basic characteristics: anonymous response, iteration and controlled feedback, and statistical group response (Y. L. Hsu, Lee, & Kreng, 2010). Delphi method is a technique for structuring an effective group communication process by providing feedback of contributions of information and assessment of group judgments to enable individuals to reevaluate their judgments (Mikaeil, Ozcelik, Yousefi, Ataei, & Hosseini, 2013). In many real situations, experts' judgment cannot be precisely interpreted into quantitative values (Y. L. Hsu et al., 2010) and crisp data are insufficient to model real systems due to the vagueness, imprecision, and the subjective nature of human thinking, judgment, and preferences (Kannan, de Sousa Jabbour, & Jabbour, 2014). Therefore, fuzzy set theory, proposed by Zadeh (1965), is the best tool to overcome the mentioned problem (Bouzon, Govindan, Rodriguez, & Campos, 2016).

Fuzzy-Delphi method (FDM), first proposed by Ishikawa et al. (1993), is a combination of fuzzy set theory and Delphi method. The steps of FDM are as follows:

Step 1: Identifying the research criteria.

In this step, based on detailed literature review, the factors and subfactors are identified, which are demonstrated in Table 1.

Step 2: Collect experts' opinions using decision group.

After identifying the factors, *n* number of experts related to the research are invited to determine the importance of identified factors through a questionnaire using linguistic variables presented in Table 2. This study uses fuzzy triangular numbers and geometric mean model for evaluating the barriers and determining the experts' group decision.

Step 3: Identification of important factors

The final step in the FDM is identifying the important factors which is done by comparing the weight of each factor with the threshold $\tilde{S}$. The value of $\tilde{S}$ is calculated by the average of all factors' weight. In this regard, we should set up the triangular fuzzy numbers (TFNs) τ for each factor as defined in (1).

$$\tilde{a}_{ij} = \left(a_{ij}, b_{ij}, c_{ij} \right) \text{ for } i = 1, \ldots, n \text{ and } j = 1, \ldots, m. \quad (1)$$

$$\tilde{\tau}_j = \left(a_j, b_j, c_j \right). \quad (2)$$

$$a_j = min\left\{ a_{ij} \right\}. \quad (3)$$

$$b_j = \left(\prod_{i=1}^{n} b_{ij} \right)^{\frac{1}{n}}. \quad (4)$$

$$c_j = max\left\{ c_{ij} \right\}. \quad (5)$$

In these equations, index "I" refers to the "expert" and index *j* refers to the factor. $\tilde{a}_{ij}$ refers to the fuzzy value of each factor that is obtained from each expert and $\tilde{\tau}_j$ refers to the fuzzy average value of each factor. Also, the fuzzy average value of each factor is defuzzified by the following formula:

$$Crisp = \frac{a + 2b + c}{4}. \quad (6)$$

After calculating the mentioned values, if the crisp value of $\tilde{\tau}_j \geq \tilde{S}$, then factor *j* is selected and if the crisp value of $\tilde{\tau}_j < \tilde{S}$, then factor *j* is rejected.

Table 2. Linguistic Scales (Wang, Chin, Poon, & Yang, 2009).

Linguistic term	Fuzzy number
VL	(0, 0, 0.25)
L	(0, 0.25, 0.5)
M	(0.25, 0.5, 0.75)
H	(0.5, 0.75, 1)
VH	(0.75, 1, 1)

Note. VL = very low; L = low; M = medium; H = high; VH = very high.

Table 3. Summary of Previous Research With Respect to BWM.

Method(s) used	Application area	Authors (year)
BWM	Investigation and evaluation of key success factors in technological innovation development	Ghaffari, Arab, Nafari, and Manteghi (2017)
BWM	Measuring efficiency of university-industry PhD projects	Salimi and Rezaei (2016)
BWM	Identifying enablers of technological innovation for Indian MSMEs	Gupta and Barua (2016)
BWM	A supplier selection life cycle approach integrating traditional and environmental criteria	Rezaei, Nispeling, Sarkis, and Tavasszy (2016)
Mathematical programming–BWM	Complex bundling configurations in surface transportation of air freight	Rezaei, Hemmes, and Tavasszy (2017)
PLS–BWM	Identifying and prioritizing contributing factors in supply chain competitiveness	Sadeghi, Rasouli, and Jandaghi (2016)
BWM	Linking supplier development to supplier segmentation	Rezaei, Wang, and Tavasszy (2015)
BWM	Evaluation of external forces affecting supply chain sustainability in oil and gas industry	Sadaghiani, Ahmad, Rezaei, and Tavasszy (2015)

Note. BWM = Best-Worst Method; MSME = micro-small and medium enterprises; PLS = partial least squares.

The BWM

BWM is a comparison-oriented MCDM method that compares the best factor to the other factors and all the other factors to the worst factor. The goal is to find the optimal weights and consistency ratio through a simple linear optimization model constructed by the comparison system (Rezaei, Nispeling, Sarkis, & Tavasszy, 2016). In the literature, some papers have utilized this novel MCDM approach. Table 3 shows the summary of previous research with respect to BWM.

Below is a description of the steps of BWM to calculate the weight of the factors (Rezaei, 2015; Rezaei, Wang, & Tavasszy, 2015):

1. Determination of the set of decision factors $\{c_1, c_2, \ldots, c_n\}$ by decision makers.
2. Determination of the best and the worst factors to be used for the decision environment:

In this step, decision makers choose the best and the worst factors among the set of criteria identified in Step 1 from their perspective. The best factor represents the most important factor and the worst factor is the least important factor for the decision.

3. Determination of the preference of the best factor over all the other factors:

   A number between 1 and 9 (1: equally important, 9: extremely more important) is used to indicate this value. The resulting Best-to-Others (BO) vector would be as $\mathbf{A}_B = (a_{B1}, a_{B2}, ..., a_{Bn})$, Where, a_{Bj} indicates the preference of factor B (the best factor) over factor j and $a_{BB} = 1$.

4. Determination of the preference of each of the other factors over the worst factor:

A number between 1 and 9 is assigned to this case as well. The Others-to-Worst (OW) vector would be $\mathbf{A}_W = (a_{1W}, a_{2W}, ..., a_{nW})^T$ where a_{jW} indicates the preference of the factor j over the worst factor W and $a_{WW} = 1$.

5. Find the optimal weights ($w_1^*, w_2^*, ..., w_n^*$):

   Solving problem (1) will result in the optimal weights for the factors. To determine the optimal weights of the factors, the maximum absolute differences $\left\{ \left| w_B - a_{Bj}w_j \right|, \left| w_j - a_{jw}w_w \right| \right\}$ for all j should be minimized.

$$\min \max_j \left\{ \left| \frac{w_B}{w_j} - a_{Bj} \right|, \left| \frac{w_j}{w_w} - a_{jw} \right| \right\}$$

$$\text{s.t.}$$
$$\sum_j w_j = 1 \tag{7}$$
$$w_j \geq 0, \text{for all } j.$$

This model can be solved by transferring it to the linear programming formulation (8) (Rezaei, 2016):

$$\min \xi$$
$$\text{s.t.}$$
$$\left| w_B - a_{Bj}w_j \right| \leq \xi, \text{for all } j$$
$$\left| w_j - a_{jw}w_w \right| \leq \xi, \text{for all } j \tag{8}$$
$$\sum_j w_j = 1$$
$$w_j \geq 0, \text{for all } j.$$

By solving this problem, the optimal weights ($w_1^*, w_2^*, ..., w_n^*$) and the optimal value of ξ^* are obtained. ξ^* is defined as the consistency ratio of the comparison system. It means that the closer ξ^* is to a zero value, the more consistent the comparison system provided by the decision makers. Formula 9 is used to check the consistency of the comparisons (Rezaei, Hemmes, & Tavasszy, 2017)

Table 4. Consistency Index Table (Rezaei, 2015).

a_{BW}	1	2	3	4	5	6	7	8	9
Consistency index	0.00	0.44	1.00	1.63	2.30	3.00	3.73	4.47	5.23

$$Consistency\ Ratio = \frac{\xi^*}{Consistency\ Index}. \tag{9}$$

The consistency index can be retrieved from Table 4. The lower the consistency ratio, the higher the reliability of the comparisons.

Empirical Example

In this step, FDM and BWM which were explained in the "Research Methodology" section are utilized to obtain importance weights of international higher education decision-making factors of Iranian students. The 45 research respondents in the FDM phase comprised 40% prospective international tertiary-level students, 29% professors and members of faculty, 7% Deputy Deans of Management Departments of the top universities in Iran, and 24% Iranian international tertiary students studying outside Iran. The respondent students' fields of study ranged from engineering and medicine to arts and humanities. The prospective international students were undergraduate, graduate, or doctoral students who had demonstrated a firm commitment to study abroad by taking part in predeparture programs such as language training courses (e.g., Test of English as a Foreign Language [TOEFL] or International English Language Testing System [IELTS]) and others like the Graduate Record Examination (GRE) or the Graduate Management Admission Test (GMAT), or had already applied to international universities and were waiting for the results of their application. The international students were graduate and doctorate students currently studying in Europe, North America, and Australia. All the professors, faculty members, and Deputy Deans taking part in this phase had previously attended at least one level of tertiary education outside Iran and were specialized in human resources management (HRM) or organizational behavior (OB).

The 10 respondents in the BWM phase were (a) Deputy Dean for Education at University of Tehran's Department of Management; (b) a professor of HRM at University of Tehran; (c) Dean of Sharif University of Technology's Department of Management; (d) a professor of management at Sharif University of Technology; (e) Deputy Dean for Education at Amirkabir University of Technology's Department of Management, Science, and Technology; (f) an assistant professor of HRM and OB at Amirkabir University of Technology's Department of Management, Science, and Technology; (g) Deputy Director at Iran's Vice-Presidency for Science and Technology; (h) Head of the Statistical

Table 5. FDM Results.

Factor	Fuzzy weights	Crisp weights	Selected/rejected
Cost issues	(0, 0.727, 1)	0.613	Selected
Job and career issues (host country)	(0, 0.75, 0)	0.625	Selected
Job and career issues (home country)	(0, 0.718, 1)	0.609	Selected
Knowledge and awareness	(0, 0.584, 1)	0.542	Rejected
Academic ranking and reputation (institution)	(0, 0.597, 1)	0.549	Selected
Application and admission	(0, 0.658, 1)	0.579	Selected
Aids and scholarships	(0.25, 0.862, 1)	0.743	Selected
Quality of institution	(0, 0.618, 1)	0.559	Selected
Programs and courses	(0, 0.509, 1)	0.505	Rejected
Host country's education	(0, 0.646, 1)	0.573	Selected
Institution's marketing efforts	(0, 0.392, 1)	0.446	Rejected
Home country's education	(0, 0.554, 1)	0.527	Rejected
Couldn't get admission in desired institution	(0, 0, 1)	0.25	Rejected
Geographic proximity	(0, 0, 1)	0.25	Rejected
Environment of the host country	(0, 0.622, 1)	0.561	Selected
Environment of the home country	(0.25, 0.76, 1)	0.693	Selected
Language	(0, 0.593, 1)	0.547	Selected
Personal	(0, 0.619, 1)	0.559	Selected
Visa and migration	(0, 0.688, 1)	0.594	Selected
Parental support	(0, 0.551, 1)	0.526	Rejected
Value and prestige of study abroad	(0, 0.596, 1)	0.548	Selected
Threshold	(0.024, 0.573, 1)	0.543	Selected

Note. FDM = Fuzzy-Delphi Method.

Center of Iran; (i) a Deputy in Ministry of Science, Research, and Technology of Iran; and (j) the CEO of a study abroad recruitment institute in Iran. These respondents either had had the experience of studying abroad or were working in organizations and departments which directly dealt with prospective international students or the students who were already studying abroad.

FDM Results

Based on extensive literature review and discussions with experts, Fuzzy-Delphi questionnaires were designed for data gathering. In the first stage, the 21 recognized factors from the literature were sent to 45 respondents in Iran to identify the important factors. This sample size is suitable for FDM, considering that the minimum acceptable number introduced in the previous studies are nine (Y. L. Hsu et al., 2010) and 10 experts (Bueno & Salmeron, 2008). Therefore, this study using more than 10 respondents gives the results of this phase added validity. The FDM results are presented in Table 5. From the 21 factors identified from the literature, 15 factors were accepted in this research. The list of the accepted factors and their subfactors are provided in Table 6.

BWM Results

At this stage, BWM which was explained in the section "The BWM" is utilized to obtain importance weights of

international higher education decision-making factors and subfactors of Iranian students.

Determination of the set of factors. The criteria set is determined on the basis of the FDM results as shown in Table 6.

Determination of the best and the worst factors and subfactors. The second step in the BWM is the determination of the best and the worst factors and subfactors. The best factor/subfactor is the one selected by each respondent as the most important factor or subfactor, while the worst factor/subfactor is the one which is the least important based on the opinion of each expert. The respondents selected "Aids and Scholarships (C6)" as the best factor and "Language (C12)" as the worst factor. Moreover, based on the respondents' opinions, the best and worst subfactors in each of the 15 factors were identified, as shown in Tables 8 through 29.

Determination of the preference of the best factor/subfactor over all other factors/subfactors. This step consists of identifying the preferences of the best factor over all other criteria. These data are obtained by using BWM special questionnaire. The experts are asked to compare their selected best factor and subfactor to each of the other factors and subfactors and state their preference by using a value between 1 and 9. A score of 1 implies an equal importance over the other factors. A score of 9 implies the most important factor is extremely more preferred to the other factors. Finally, by calculating the arithmetic mean of the

Table 6. List of Accepted Factors.

Factor	Subfactor
Cost issues (C1)	Education costs (C1-1)
	Migration and living costs (C1-2)
Job and career issues (host country) (C2)	Career advancement (C2-1)
	Wage (C2-2)
	Value of degree in the job market (C2-3)
	Opportunity of working while studying (C2-4)
	Better work environment (C2-5)
Job and career issues (home country) (C3)	Career advancement (C3-1)
	Wage (C3-2)
	Job market (C3-3)
Academic ranking and reputation (institution) (C4)	Ranking and recognition (C4-1)
	Reputation and prestige (C4-2)
Application and admission (C5)	Acceptance rate (C5-1)
	Admission feasibility and requirements (C5-2)
	Application process (C5-3)
Aids and scholarships (C6)	Scholarships and financial support (C6-1)
	Work placements (C6-2)
Quality of institution(C7)	Quality of services (C7-1)
	Faculty and staff (C7-2)
	University environment (C7-3)
	Facilities (C7-4)
Host country's education (C8)	Academic reputation and quality (C8-1)
	Infrastructure (C8-2)
Home country's education (C9)	Quality and satisfaction (C9-1)
	Infrastructure (C9-2)
Environment of the host country (C10)	Social and cultural (C10-1)
	Climate (C10-2)
	Economic and political (C10-3)
	Safety and security (C10-4)
Environment of the home country (C11)	Economic and political (C11-1)
	Social and cultural (C11-2)
	Lack of opportunities (C11-3)
Language (C12)	Linguistic proximity (C12-1)
	Language learning (C12-2)
Personal (C13)	Personal reasons (C13-1)
	Influence of others (C13-2)
Visa and migration (C14)	Visa process (C14-1)
	Migration (C14-2)
Value and prestige of study abroad (C15)	Value of overseas study (C15-1)
	Prestige and status of overseas study (C15-2)

Table 7. Factors BO Vector.

Best factor	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15
C6	1.12	1.73	3.56	1.89	3.22	1	2.21	1.98	1.42	2.97	1.31	5.32	1.85	1.96	4.28

Note. BO = Best-to-Others.

Table 8. Cost Issues Subfactors BO Vector.

Best factor	C1-1	C1-2
C1-2	1.42	1

Note. BO = Best-to-Others.

Table 9. Job and Career Issues (Host Country) Subfactors BO Vector.

Best factor	C2-1	C2-2	C2-3	C2-4	C2-5
C2-1	1	5.63	4.27	2.8	6.81

Note. BO = Best-to-Others.

Table 10. Job and Career Issues (Home Country) Subfactors BO Vector.

Best factor	C3-1	C3-2	C3-3
C3-2	1.42	1	1.86

Note. BO = Best-to-Others.

Table 11. Academic Ranking and Reputation (Institution) Subfactors BO Vector.

Best factor	C4-1	C4-2
C4-1	1	1.21

Note. BO = Best-to-Others.

Table 12. Application and Admission Subfactors BO Vector.

Best factor	C5-1	C5-2	C5-3
C5-2	2.98	1	2.72

Note. BO = Best-to-Others.

10 experts' questionnaires, aggregated BO vector was constructed for factors, which are provided in Table 7. Also, subfactors' aggregated BO vectors are shown in Tables 8 to 22.

Determination of the preference of all factors/subfactors over the worst factor/subfactor. This step is similar to the previous step,

but here, the experts are asked to state their preferences of all other factors and subfactors over the least important factor and subfactor and state their preference by using a value between 1 and 9. A score of 1 implies an equal importance with the least important factor. A score of 9 implies that the other factors are extremely more preferred to the least important factor. Then by calculating the arithmetic mean of the 10 experts' questionnaires, aggregated OW vector was constructed for factors,

Table 13. Aids and Scholarships Subfactors BO Vector.

Best factor	C6-1	C6-2
C6-1	1	4.42

Note. BO = Best-to-Others.

Table 14. Quality of Institution Subfactors BO Vector.

Best factor	C7-1	C7-2	C7-3	C7-4
C7-1	1	1.86	2.89	1.93

Note. BO = Best-to-Others.

Table 15. Host Country's Education Subfactors BO Vector.

Best factor	C8-1	C8-2
C8-1	1	2.09

Note. BO = Best-to-Others.

Table 16. Home Country's Education Subfactors BO Vector.

Best factor	C9-1	C9-2
C9-1	1	3.24

Note. BO = Best-to-Others.

Table 17. Environment of the Host Country Subfactors BO Vector.

Best factor	C10-1	C10-2	C10-3	C10-4
C10-1	1	2.95	3.17	1.74

Note. BO = Best-to-Others.

Table 18. Environment of the Home Country Subfactors BO Vector.

Best factor	C11-1	C11-2	C11-3
C11-1	1	2.76	3.89

Note. BO = Best-to-Others.

Table 19. Language Subfactors BO Vector.

Best factor	C12-1	C12-2
C12-1	1	1.56

Note. BO = Best-to-Others.

Table 20. Personal Subfactors BO Vector.

Best factor	C13-1	C13-2
C13-1	1	1.71

Note. BO = Best-to-Others.

Table 21. Visa and Migration Subfactors BO Vector.

Best factor	C14-1	C14-2
C14-1	1	1.35

Note. BO = Best-to-Others.

Table 22. Value and Prestige of Study Abroad Subfactors BO Vector.

Best factor	C15-1	C15-2
C15-1	1	1.47

Note. BO = Best-to-Others.

Table 23. Factors OW Vector.

Worst factor	C12
C1	5.21
C2	4.14
C3	2.48
C4	3.82
C5	2.48
C6	5.32
C7	3.15
C8	3.33
C9	4.95
C10	2.74
C11	5.11
C12	1
C13	3.85
C14	3.36
C15	1.69

Note. OW = Others-to-Worst.

which are provided in Table 23. Also subfactors' aggregated OW vectors are presented in Tables 24 to 29.

Determination of international higher education decision-making factors and subfactors' weights. The weights of international higher education decision-making factors and subfactors are calculated with a linear model (8) of BWM. By solving this linear model, optimized values of international HE decision-making factors and subfactors' weights and ξ^* can be calculated. The results are displayed in Table 30.

As can be seen from the results, in this case, "aids and scholarships (C6)," "cost issues (C1)" and "environment of the home country (C11)" are the most important, and "language (C12)," "value and prestige of study abroad (C15)," and "job and career issues (home country) (C3)" are the least

Table 24. Job and Career Issues (Host Country) Subfactors OW Vector.

Worst subfactor	C2-5
C2-1	6.81
C2-2	2.85
C2-3	3.74
C2-4	5.96
C2-5	1

Note. OW = Others-to-Worst.

Table 25. Job and Career Issues (Home Country) Subfactors OW Vector.

Worst subfactor	C3-3
C3-1	1.54
C3-2	1.86
C3-3	1

Note. OW = Others-to-Worst.

Table 26. Application and Admission Subfactors OW Vector.

Worst subfactor	C5-1
C5-1	1
C5-2	2.98
C5-3	1.11

Note. OW = Others-to-Worst.

Table 27. Quality of Institution Subfactors OW Vector.

Worst subfactor	C7-3
C7-1	2.98
C7-2	2.36
C7-3	1
C7-4	1.95

Note. OW = Others-to-Worst.

Table 28. Environment of the Host Country Subfactors OW Vector.

Worst subfactor	C10-3
C10-1	3.17
C10-2	1.15
C10-3	1
C10-4	2.98

Note. OW = Others-to-Worst.

important international higher education decision-making factors, respectively. Also "scholarships and financial support

Table 29. Environment of the Home Country Subfactors OW Vector.

Worst subfactor	C11-3
C11-1	3.89
C11-2	2.75
C11-3	1

Note. In this section (Determination of the preference of all factors/subfactors over the worst factor/subfactor), the vectors that were exactly the same as the BO vectors (the vectors that contained two subfactors) were not presented. OW = Others-to-Worst; BO = Best-to-Others.

Table 30. Higher Education Decision-Making Factors and Subfactors' Weights.

Factor	Weight	Subfactor	Local weight	Global weight	Rank
C1	0.11506	C1-1	0.5867769	0.06751455	3
		C1-2	0.4132231	0.04754545	5
C2	0.07495	C2-1	0.4853976	0.03638055	10
		C2-2	0.1062239	0.00796148	34
		C2-3	0.1400563	0.01049722	31
		C2-4	0.2135859	0.01600826	23
		C2-5	0.05473637	0.00410249	40
C3	0.03642	C3-1	0.3282828	0.01195606	30
		C3-2	0.4444444	0.01618667	22
		C3-3	0.2272727	0.00827727	33
C4	0.06860	C4-1	0.5475113	0.03755928	9
		C4-2	0.4524887	0.03104072	11
C5	0.04026	C5-1	0.1964637	0.00790963	35
		C5-2	0.5870933	0.02363638	16
		C5-3	0.2164430	0.008714	32
C6	0.11723	C6-1	0.8154982	0.09560085	1
		C6-2	0.1845018	0.02162915	17
C7	0.06174	C7-1	0.4022698	0.02483614	15
		C7-2	0.2419022	0.01493504	24
		C7-3	0.1226994	0.00757546	37
		C7-4	0.2331286	0.01439336	25
C8	0.06548	C8-1	0.6763754	0.04428906	6
		C8-2	0.3236246	0.02119094	19
C9	0.09131	C9-1	0.7641509	0.06977462	2
		C9-2	0.2358491	0.02153538	18
C10	0.04365	C10-1	0.4317666	0.01884661	20
		C10-2	0.1676252	0.00731684	38
		C10-3	0.1164161	0.00508156	39
		C10-4	0.2841921	0.01240499	27
C11	0.09898	C11-1	0.6109046	0.06046734	4
		C11-2	0.2582054	0.02555717	14
		C11-3	0.1308901	0.0129555	26
C12	0.01970	C12-1	0.6093750	0.01200469	29
		C12-2	0.3906250	0.00769531	36
C13	0.07009	C13-1	0.6309963	0.04422653	7
		C13-2	0.3690037	0.02586347	13
C14	0.06615	C14-1	0.5744681	0.03800106	8
		C14-2	0.4255319	0.02814894	12
C15	0.03029	C15-1	0.5951417	0.01802684	21
		C15-2	0.4048583	0.01226316	28
ξ^*	0.01243				
Consistency ratio	0.0049				

(C6-1)," "quality and satisfaction (C9-1)," and "education costs (C1-1)" are the most important, and "better work environment (C2-5)," "economic and political (environment of the host country) (C10-3)," and "climate (C10-2)" are the least important international higher education decision-making subfactors, respectively. As shown in Table 30, the comparisons indicate a very high consistency as the value of consistency ratio of factors and subfactors is close to zero (the consistency ratio for factors and subfactors comparisons obtained are 0.0049, 0, 0.03141, 0.05909, 0, 0.00165, 0, 0.051, 0, 0, 0.0569, 0.065378, 0, 0, 0, and 0, respectively).

Discussion and Conclusion

The international mobility of Iranian higher education students has experienced a constant growth since the beginning of the 21st century and these students are seeking to study overseas more than ever. This international mobility, the students' reasons and motivations for studying overseas, and the factors influencing their choice have not been fully explored. This study sought to investigate and understand why and how Iranian higher education students choose to study overseas.

In the first step, 49 general recurrent subfactors, alongside their respective descriptions, were identified through a comprehensive literature review. The subfactors with common origins and themes were gathered under 21 encompassing factors. In the next step, Fuzzy Delphi questionnaires were assigned to experts and based on their opinions, six factors with the least importance were eliminated. Then, two sets of questionnaires were designed based on BWM to prioritize the factors influencing the international higher education choice of Iranian students. The results of the first set of questionnaires determined that the most important factors were "aids and scholarships," "cost issues," and "environment of the home country," respectively. On the other hand, "language," "value and prestige of study abroad," and "job and career issues (home country)" were identified as the least important factors, respectively. Furthermore, the best and worst subfactors were distilled from the second set of questionnaires. The five most important subfactors were, respectively, "scholarships and financial support," "quality and satisfaction (home country's education)," "education costs," "economic and political (environment of the home country)," and "migration and living costs." The results of this study are consistent with and well supported by previous studies (Beine et al., 2014; Binsardi & Ekwulugo, 2003; Kim, 2011; María Cubillo et al., 2006; Maringe & Carter, 2007; Mazzarol & Soutar, 2002; Park, 2009; Wadhwa, 2016; Yang, 2007). Moreover, the findings expands upon the frameworks introduced in the literature (e.g., Mazzarol & Soutar, 2002) and María Cubillo et al. (2006) by utilizing the miscellany of factors presented through articles concerning students from all around the world. However, the results are based on respondents from Iran and the order of importance

in factors and subfactors may vary among international students from other countries.

During the past decade, due to the imposition of sanctions against Iran and its subsequent inflation, economic restrictions has increased for the general public, especially for university students (Chamlou, 2016; Farzanegan, Khabbazan, & Sadeghi, 2016). Iranian public universities, which are under the government's control, are not sufficiently funded due to the government's financial and budgetary constraints. These institutions have tried to obtain sufficient funds through increasing tuition fees and restricting student loans. They provide next to nothing financial aid and scholarships to students striving to study graduate and doctorate programs. This lack of support forces underprivileged students to look for employment during their studies. Considering the structure of the domestic labor market, these students find jobs which are unrelated to their studies and, as they have no bargaining power, they become overworked and underpaid. Therefore, these students are faced with two choices: they can either work hard and allocate much less time to their studies or focus on their studies and face financial hardships in paying for living and education costs (e.g., books, workshops and conference fees, etc.). It seems that, either way, their education is going to be negatively affected (Hamdhaidari, Agahi, & Papzan, 2008). This supports the main finding of this research which indicates that, the availability of "aids and scholarships" attracts students to study overseas, as with the financial support provided by the host country or institution, they can afford their living and tuition costs.

The fourth best factor identified in this study was "home country's education" alongside its subfactor "quality and satisfaction" which was the second best subfactor overall. This has important implications for Iran's higher education system. The number of domestic tertiary-level institutions has significantly increased during the past 20 years with slight consideration for quality. These universities are struggling with the lack of necessary financial resources and qualified teaching and research staff. A significant number of students enter these universities every year, but their respective universities lack the teaching and research staff to ensure them the quality education that they had been promised. Furthermore, Iranian institutions are not considered international. They do not provide courses in English or have international accreditations and their educational infrastructure and curriculum is not desirable for international students. Furthermore, the dissatisfaction with domestic institutions could have also emerged from the lack of university and industry collaborations and partnerships. This can adversely affect the students' education and preparation for their future occupations, as they cannot gain a perspective and awareness regarding their respective industries before entering the labor market (Hamdhaidari et al., 2008).

The economic and political environment of Iran has been unstable for the past decade, resulting in a general dissatisfaction among university students regarding their own and

their country's economic and political future (Chamlou, 2016; Farzanegan et al., 2016). Iran's economic instability directly and indirectly affects a number of the factors and subfactors mentioned in Table 1. This instability affects wage and employment prospects of the students who graduate from their universities hoping to find employment related to their area of expertise with great opportunity for further advancement. But that is not the case for a number of these graduates. Moreover, the politicized environment of major public universities in Iran has acted as a stimulus for students to study in an environment free of these political and social forces.

The mandatory military service for males in Iran is an area in need of more exploration. After turning 18, Iranian males are eligible for the mandatory military service which lasts 21 months. This service is an issue for the Iranian male youth and could be considered as an interruption, as they are obliged to serve in the military after finishing their studies and before entering the labor market. The mandatory military service could diminish the person's motivation and productivity especially in pursuing career or educational goals. This is one of the legal forces in Iran which may motivate male students to pursue international higher education as a means to evade or postpone this mandatory service. However, it is worth mentioning that it is now possible to postpone this service for a number of reasons, such as being accepted at a university inside or outside of Iran. This aspect could be considered and further explored in the future research.

Considering all the above arguments, it seems that by utilizing the results of this study, the gap between perceived and actual quality of institutions could be tightened to utilize Iran's existing human capital and decrease the rate of outward student mobility and brain drain.

The top factors and subfactors identified in this study indicate that, in developing strategies and policies aimed at attracting Iranian students, host nations and institutions could benefit from providing more financial aids and scholarships, lowering the costs of living and education, highlighting their academic quality and reputation, moderating the student visa process, and accentuating the career prospects in the host country.

Limitations and Suggestions for Further Research

The current research was not without limitations. Considering our research methodology, the current data were collected from a handful of universities located in the North of Iran, specifically Tehran. Therefore, conducting a research with a more comprehensive sample of Iranian students from around the country could be an extension of the current research. The authors also suggest that other MCDM methods be used in identifying and prioritizing the factors influencing Iranian students. Moreover, further research could attempt to propose a push–pull model for Iranian students in choosing

international higher education. Finally, employing qualitative methods to conduct interviews with prospective international Iranian students and comparing the results with the current study could be another possible dimension for the extension of this study.

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