



Munich Personal RePEc Archive

A Strategic Impact Model for Latin American Business Schools

Olavarrieta, Sergio and Quinteros, María José and Villena, Mauricio

Universidad de Chile, Universidad Finis Terrae, Universidad Diego Portales

1 May 2021

Online at <https://mpra.ub.uni-muenchen.de/107813/>
MPRA Paper No. 107813, posted 18 May 2021 09:55 UTC

A Strategic Impact Model for Latin American Business Schools¹

Sergio Olavarrieta, Universidad de Chile, Chile

María José Quinteros, Universidad Finis Terrae, Chile

Mauricio G. Villena, Universidad Diego Portales, Chile

May 2021

ABSTRACT

The main aim of this paper is to contribute to the understanding of the evolution and different models of development of Latin American business schools. For this we analyze data from the AmericaEconomia MBA Rankings for the period 2015 to 2019 and build a panel with quantitative data and performance indicators. Using these data, we analyze the recent evolution of 26 business schools located in nine Latin American countries, which gives us a perspective of what is the current state of affairs in different countries of Latin America in terms of business education. We also perform a formal statistical procedure, applying a cluster analysis in order to group business schools in terms of a set of indicators. Using the results of our cluster analysis we propose a taxonomy for Latin American Business Schools. Finally, we put forward a business school strategic impact model, which includes three dimensions, namely: (i) BS Resources and Scope; (ii) BS Outputs and (iii) BS Value Perceptions. This strategic impact model is used as a benchmark to analyze the business school's types identified in our taxonomy and to propose policy recommendations for business schools, rankings, and accreditations.

Keywords: Business Schools, Cluster Analysis, Business Model Taxonomy, Strategic Impact Model, Latin America.

¹ Corresponding author: Mauricio G. Villena, Facultad de Economía y Empresa, Universidad Diego Portales, Chile.
Email: Mauricio.villena@udp.cl

Introduction

There are criticisms and skepticism regarding Universities' rankings in general (See, for instance: Mussard & James (2018), Paruolo et al (2013), Saisana & D'Hombres (2008), Saisana et al (2011), Soh (2015), Altbach (2004), Huisman (2008) and Deem et al (2008)). This is also the case for business schools' rankings (See Gioia and Corley (2002), Hopwood (2008), Navarro (2008) and Wedlin (2007)). Nevertheless, there also seems to be a consensus about their importance for business schools and their stakeholders (Espeland & Sauder (2007), Fee, Hadlock & Pierce (2005), Kogut (2008), Power (1997), and Sauder & Lancaster (2006)).

There are many academic works analyzing the impact of MBA rankings on business schools' operation, strategy and performance for the United States and Europe, studying trends and determinants of schools' success. See for instance Morgeson & Nahrgang (2008), Dichev (1999; 2001; 2008), Devinney, Dowling, & Perm-Ajcharyawong (2008), Bradshaw (2010), Byrne (2011), O'Brien et al. (2010) and Collet & Vives (2013). Nevertheless, to our knowledge, there are no works squarely analyzing the specific case of Latin America's business schools regarding the evolution and schools' performance in the region. An exception is the work by Quinteros, Sánchez and Villena (2020), who using the AmericaEconomia MBA Rankings for the period 2005–2014 econometrically determine which are the key quality variables this ranking is promoting for Latin America Business Schools.

The relevance and importance of business education in Latin America has increased over time. In fact, demand for MBA graduates have been growing in recent years among local companies, and this trend continues at a sustainable rate of growth (7% growth in 2014 and 10% growth in 2013). Employers in the region are using MBAs as a key piece of information when looking for talent to internationalize their companies across the region. Brazil, Argentina and Mexico are the drivers of MBA growth. According to the survey published by QS Top MBA (2014), there is a 14% increase in demand for MBA graduates in Mexico, 9% in Brazil, and a 13% increase in Colombia.² Despite the increasing importance of management education in Latin America, little is known about their evolution and relative performance and about the strategic choices the Schools have made in an ever-increasing competitive industry.

It is precisely in this context that we want to contribute to the literature by putting forward an analysis of Latin America business schools. In particular, the main aim of this paper is to contribute to the understanding of the evolution and different models of development of Latin American Business Schools.³ For this we analyze data from the AmericaEconomia MBA Rankings for the period 2015 to 2019 and build a panel with quantitative data and performance indicators. Using these data, we analyze the recent evolution of 26 business schools located in nine Latin American countries, which gives us a perspective of what is the current state of affairs in different countries of Latin America in terms of business education.

² For details see: http://www.global-workplace.com/wp-content/uploads/2014/10/2015topmba.com_jobs_salary_trends_report.pdf

³ An interesting note about this gap in the literature, regarding management education from Latin America, is that the "Master of Business Administration" entry in Wikipedia (https://en.wikipedia.org/wiki/Master_of_Business_Administration) includes information from the United States, Europe, Africa and the Asia-Pacific region, but no mention of Latin America as a region, or any Latin American country is made on that generic entry.

We also perform a formal statistical procedure, applying a cluster analysis in order to group business schools in terms of a set of indicators. Using the results of our cluster analysis we propose a taxonomy for Latin American Business Schools. This configuration builds on and integrates key strategic concepts in an attempt to stimulate further strategic thinking about the development of business schools in this part of the world. We also put forward a business school strategic impact model, which includes three dimensions, namely: (i) BS Resources and Scope; (ii) BS Outputs and (iii) BS Value Perceptions. This framework builds on and integrates key strategic concepts to stimulate further strategic thinking about the development of business schools in this part of the world.

Finally, the strategic impact model is used as a benchmark to analyze the dimensions identified in our taxonomy and to propose policy recommendations for business schools, rankings, and accreditations.

The paper is organized as follows. First, in sections 2 and 3 a brief account of business education in the world and in Latin America is presented. Second, in section 4 a description of the data and cluster analysis methodology is put forward. Third, section 5 presents the results with regards to the recent evolution of Latin American Business Schools and cluster analysis. Based on the results of our cluster study, we put forward a business model taxonomy for Latin American Business Schools. Fourth, section 6 presents a Business School Strategy Impact Model. Finally, section 7 puts forward the results and concluding remarks.

Business Education in the World

The MBA degree originated in the United States in the early twentieth century. By that time, the country became industrialized, and the factors of production started to shift from labor intensive to capital intensive. People needed to develop new skills to manage companies in this new, more modern environment. Companies started to search for more scientific management techniques and higher education began to include programs to train their students in business management.

The Harvard Graduate School of Business Administration established the first MBA program in 1908, with a rapid increase in the number of students, starting with 80 students in 1908 to more than 1,000 by 1930. By 1930, only U.S. universities offered an MBA degree.

It took decades to the rest of the world to start formal education in business management. It was not until 1950 that the first MBA outside the U.S. was offered by the Richard Ivey School of Business at The University of Western Ontario in Canada. By 1955 the first MBA was offered by an Asian school at the Institute of Business Administration Karachi, University of Karachi in Pakistan, in collaboration with The Wharton School of the University of Pennsylvania. In 1957, the first European business school was founded, the Institut Européen d'Administration des Affaires – INSEAD which offered its first MBA in 1959. In Latin America, the first MBA program was offered by Fundação Getúlio Vargas in Brazil in 1958.

Business Education in Latin America

MBA's and business schools have been part of the educational landscape in Latin America for many years now. They started almost at the same time than European business schools and gained widespread acceptance in the region, especially over the past twenty years. The first MBA's in Latin America were created in specific university departments with a certain level of autonomy or, more commonly, as business schools, some of them supported by business schools in the U.S. (Ramos, 2004). Several relevant institutions started their Business Schools in the first half of last century. Some schools were created autonomously, and some were supported by North American and European Schools. In most cases, it took some time until these schools offered postgraduate degrees in business administration.

In Brazil, for example, the Escola de Administração de Empresas de São Paulo – EAESP (Brazil) was founded in 1954 - that belongs to the Getulio Vargas Foundation (FGV), launched in 1958 a Postgraduate Course in Administration in São Paulo, Brazil, which can be considered, in terms of content and approach, the first MBA in the region (Ramos, 2004). The Instituto de Pós-Graduação e Pesquisa em Administração, Universidad e Federal do Rio de Janeiro – COPPEAD (Brazil) was founded in 1973 and the Institute of Management Foundation (FIA) was founded in 1980 by professors from the School of Economics, Business and Accounting of the University of São Paulo, Brazil (FEA-USP). In Argentina, business education in State Universities had a longstanding tradition in Accounting and Economics, and Management later on. In this sense, the emergence of private Business Schools helped the development of business education and MBA's. In 1978 is founded the IAE Business School in Argentina, with the launching of its first Management Program. By 1981 the school offered its first executive MBA program. Other relevant private schools in Argentina started to offer MBA programs like the Universidad Torcuato di Tella, Universidad San Andres, and the Catholic Universities in Buenos Aires and Córdoba. A similar pattern happened in Mexico. In addition to the presence of big state universities like UNAM, business education was boosted by private institutions like EGADE from the Monterrey Tech, or the Department of Administration at ITAM, in México City. EGADE the graduate school business of the Monterrey Institute of Technology and Higher Education (Mexico), was founded in 1995. Relevant players have emerged in Mexico in the last 25 years like Business Schools of IPADE, Universidad Anahuac and Universidad de Monterrey among others. Similarly, in Colombia, the Business School of Universidad de Los Andes (Colombia) was founded in 1972, being its first MBA program offered by 1974. Other relevant private schools include ICESI in Cali, EAFIT in Medellín, Uninorte in Barranquilla, and other schools located in Bogota like CESA, Externado, Javeriana, and Inalde, among others.

In Chile, there has a longstanding tradition of both state and private schools. Also, Chile's business education has differentiated itself from other parts of Latin America in terms of having a unique undergraduate Business program since the 50s. In Chile, Universities offer the Business Engineering degree, a 5-year undergraduate program with strong Management, Economics, Math/statistics and Business foundations. In a way it could be considered as an MBA at the undergraduate level, which is different from traditional accounting or general management degrees. From this foundation and the opening of the Chilean economy in the 80s, the need for postgraduate education expanded. The Catholic University of Santiago created its School of Administration and Economics in 1924 and launched its MBA in 1994, the University of Chile founded the School of Commerce and Economics Development in 1934,

and launched a Master in Finance and Administration in the 80s, and the proper MBA in 1992 and the Adolfo Ibáñez Business School (Chile) founded in 1954, was one of the first schools in the Region to offer the MBA degree (in 1979). Competition in Chile has risen since most public and private schools offer MBA programs, and several Chilean programs are included in the rank of AmericaEconomia (i.e. Universidad Diego Portales, Universidad de Santiago, Universidad de Talca, Universidad Federico Santa Maria, Universidad del Desarrollo and more).

It is important to notice that the growth of Business Education in Latin America has been also supported by global schools. When President John F. Kennedy's visit to Costa Rica in 1963. At that time, Kennedy spoke to Central American presidents about the importance of strengthening education in the region. He subsequently asked the dean of Harvard Business School of that time (George P. Baker), to evaluate the possibility of establishing a management program in the region. In 1964, the *Instituto Centroamericano de Administración de Empresas* – INCAE was founded as an initiative of six Central American countries: Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica and Panama with the technical supervision of Harvard Business School and the support of the local private sector. Its first MBA was launched in 1967.

In a similar way, in 1963, the *Escuela de Administración de Negocios para Graduados* – ESAN was created in Peru with the support of Stanford Business School. The appearance of ESAN and INCAE boosted business education in their countries and in the region and was an important catalyst for the development of the industry of Business Education. Relevant local schools like Universidad del Pacífico, Centrum from the Catholic University and new players like Universidad de Piura were mobilized by these actions and have established strong graduate business programs.

Another interesting force in the development of graduate business education in the Region is the network of Universities affiliated to the Opus Dei, a Catholic prelature of Spanish origin characterized by conservative values and high valuation of work. The schools belonging to this alliance have the strong influence of IESE Business School in Spain, where many professors got their doctoral training. Schools belonging to this network include IPADE (Mexico), IAE (Argentina), PAD (Peru), ESE (Chile), INALDE (Colombia), ISE (Brazil), IDE (Ecuador), IEEM (Uruguay) and UNIS (Guatemala).

Also, some U.S. Universities, such as Cornell University, Columbia Business School and University of Miami have executive MBA programs developed for the Americas, with formats designed to accommodate managers from U.S., Canada, and Latin America. However, the most common presence of U.S and European business schools is through alliances with schools from Latin America, such as ESADE, which has programs with *Fundação Getulio Vargas* (Brazil) and *Adolfo Ibáñez University* (Chile); Tulane University, with a dual degree MBA with University of Chile; Mc Combs School of Business, University of Texas with EGADE; among others. Today, the proliferation of business schools and MBA programs is widely spread through the region, being executive MBAs, the most common format. The region counts with more than 300 MBA programs from about 140 business schools. From these schools, more than 40 business schools have consistently appeared in the AmericaEconomia Latin America MBA ranking over the last 7 years.

Latin American Business Schools and International Accreditations

Progress in terms of quality of Latin American business schools can be seen in the effort of institutions to reach international standards by achieving international accreditations such as AACSB (The Association to Advance Collegiate Schools of Business), EQUIS (EFMD Quality Improvement System) and/or AMBA (The Association of MBA's), the three most important international accreditations. They are designed to mainly achieve quality, continuous improvement, and stakeholder engagement and management (Miles, M. P, et al, 2004 and Urgel, J., 2007).

AACSB develops quality management education worldwide. All accredited schools have demonstrated evidence of continuous quality improvement in the specific areas defined as core by each accreditation agency, showing continuous improvement, innovation and impact of their processes and activities. AMBA is the most widespread accreditation system in Latin America, it seeks to advance management education at postgraduate level. Unlike the other two business education accreditation bodies mentioned above, AMBA focuses on individual MBA programs rather than whole institutions by fostering innovation and challenges business schools to continuously perform at the highest level. In Latin America, there are a total of 31 institutions that hold AMBA accreditation.

In Latin America, there are 43 schools with at least one of the three international accreditations (AACSB, EQUIS or AMBA). From these schools, ten have the Triple Crown, which means that they hold the three accreditations, and other twelve have two of the three accreditations, as shown in **Table 1**. On average these schools have 2.5 MBA programs, being the largest EGADE Business School (Mexico) with 9 MBA programs, followed by Universidad de los Andes School of Management (Colombia) with 6 programs, both schools Triple Crowned.

TABLE 1

Accredited Schools in Latin America by 2021

Institution	Country	AACSB	EQUIS	AMBA
Universidad Torcuato Di Tella	Argentina			1
Universidad de San Andrés	Argentina			1
Universidad Del Cema	Argentina			1
UCA Pontificia Universidad Católica Argentina	Argentina			1
IAE Business School, Universidad Austral	Argentina	1	1	1
Insper, Instituto de Ensino e Pesquisa Sao Paulo	Brazil	1	1	1
Fundação Dom Cabral (FDC)	Brazil		1	1
Fundação Getulio Vargas (EAESP)	Brazil	1	1	1
Fundação Instituto de Administração (FIA)	Brazil			1
Escola de Gestão e Negócios, Universidade do Vale do Rio dos Sinos	Brazil	1		
Fundação Getulio Vargas (EBAPE)	Brazil	1	1	
Universidad Adolfo Ibañez (UAI)	Chile	1	1	1
Universidad del Desarrollo	Chile			1

Universidad Diego Portales - FEE - Facultad de Economía y Empresa	Chile			1
Graduate School of Economics and Business, Universidad de Chile	Chile	1		1
Escuela de Negocios, Universidad de los Andes (ESE)	Chile			1
Escuela de Administracion, Pontificia Universidad Catolica	Chile	1	1	
Universidad Técnica Federico Santa María (USM)	Chile			1
INALDE Business School, Universidad de la Sabana	Colombia	1		1
School of Business and Economic Studies, Universidad Icesi	Colombia	1		1
Universidad de Los Andes	Colombia	1	1	1
Universidad del Norte	Colombia			1
Universidad EAFIT	Colombia			1
Universidad Externado de Colombia	Colombia			1
Facultad de Ciencias Economicas y Administrativas, Pontificia Universidad Javeriana	Colombia	1		
INCAE	Costa Rica	1	1	1
USFQ Business School, Universidad San Francisco de Quito	Ecuador			1
IDE Business School Universidad de Los Hemisferios	Ecuador			1
ESPAE Graduate School of Management – ESPOL	Ecuador	1		1
Mona School of Business and Management (MSBM)	Jamaica			1
EGADE Business School	Mexico	1	1	1
UDEM Business School - Universidad de Monterrey	Mexico	1		1
IPADE Business School, Universidad Panamericana	Mexico	1		1
Instituto Tecnológico Autónomo de México (ITAM)	Mexico	1	1	1
Facultad de Economía y Negocios, Universidad Anahuac	Mexico	1		1
Universidad de las Americas, School of Business and Economics	Mexico	1		
Pacifico Business School	Peru	1		1
PAD Escuela de Dirección, Universidad de Piura	Peru			1
ESAN Graduate School of Business	Peru	1		1
CENTRUM Business School, Pontificia Universidad Catolica Del Peru	Peru	1	1	1
IEEM Escuela de Negocios, Universidad de Montevideo	Uruguay			1
Facultad de Administración y Ciencias Sociales, Universidad ORT	Uruguay			1
Instituto de Estudios Superiores de Administración (IESA)	Venezuela	1	1	1
Total		24	13	38

Data and Methodology

Data

The data was obtained from information reported by America Economia magazine for its Ranking of Latin MBAs.⁴ The ranking annually reports between 35 and 51 places for Latin American Business Schools. Out of all of them, the information used corresponds to those Universities/Business Schools that appear consistently in the ranking from 2015 to 2019, in other words, those that appear all five years reported in

⁴ For details see: <https://mba.americaeconomia.com/articulos/notas/mba-ranking-de-escuelas-de-negocios-latinoamericanas-2020-estos-son-los-resultados>

some position in the ranking. In total we selected 26 business schools located in nine Latin American countries, as shown in **Table 2**. For the full list of Business Schools, see appendix 1.

TABLE 2: Geography of selected Business Schools

Argentina	Brazil	Chile	Colombia	Ecuador	Mexico	Peru	Uruguay	Venezuela	Total
3	2	8	6	1	2	2	1	1	26

The data selected for the study is composed of the following attributes:

- i. Fulltime Faculty: it corresponds to the number of full-time faculty who teaches in MBA courses.
- ii. Students MBA per Fulltime Faculty: ratio of number of students in the MBA program per total full-time Faculty teaching in the program(s).
- iii. Faculty Top Schools: those Fulltime faculty who obtained their PhD degree in world class universities. This list is reported by AmericaEconomia magazine.
- iv. Top Faculty/Total Fulltime Faculty: ratio Faculty Top Schools/Fulltime Faculty.
- v. Alumni Score: This score is reported by AmericaEconomia magazine and evaluates the executive position and track record achieved by the graduates of each school, according to the top three executive positions achieved by each of the top 10 graduates in the last three years.
- vi. Associations: alumni associations and placement centres.
- vii. Foreign Students: number of foreign students graduating from an MBA.
- viii. Dual Degree: number of students graduating with a dual degree.
- ix. Exchange Agreements Top Schools: Number of exchange agreements.
- x. Accreditations: Number of international accreditation (AMBA, AACSB and EQUIS).
- xi. WoS: number of papers (Thomson Reuters base) whose affiliation corresponds to the business school, differentiated between full time and part time professors.
- xii. Average IF: average Impact factor of WoS.

Sample characteristics are presented in **Table 3**:

TABLE 3: Sample characteristics

Mean (SD)	2015	2016	2017	2018	2019	Total
Full-time Faculty	33.04 (13.23)	34.38 (12.93)	35.42 (17.22)	33.12 (17.79)	32.96 (19.54)	33.79 (16.1)
Students MBA/Fulltime Faculty	11.27 (8.59)	10.67 (6.79)	9.84 (6.15)	10.76 (6.83)	9.18 (4.54)	10.35 (6.66)
Faculty Top Schools	6.42 (7.11)	11.42 (9.87)	14.96 (12.94)	13.38 (11.74)	13.04 (14.5)	11.84 (11.69)
Alumni Score	90.15	92	93.54	97.2	65.4	87.76

	(14.86)	(15.6)	(16.84)	(17.27)	(24.66)	(21.12)
Associations	3.27	3.73	3.88	3.54	3.16	3.52
	(4.49)	(4.52)	(4.43)	(3.74)	(4.64)	(4.32)
Dual Degree	26.5	23.35	27.04	30.00	27.32	26.84
	(39.57)	(30.46)	(37.06)	(35.28)	(49.09)	(38.14)
Exchange Agreements Top Schools	5.92	7.77	9.08	9.19	5.28	7.47
	(6.58)	(7.77)	(10.4)	(10.74)	(7.49)	(8.78)
Foreign Students	64.08	48.5	60.54	48.73	39.72	52.41
	(93.75)	(72.04)	(102.35)	(77.33)	(68.77)	(83.12)
Accreditations	1.31	1.54	2.5	1.35	1.32	1.42
	(1.16)	(1.14)	(0.58)	(1.16)	(1.11)	(1.13)
WoS	27.19	26.73	32.31	49.04	41.52	35.31
	(28.34)	(30.13)	(34.5)	(45.53)	(46.43)	(38.1)
Impact Factor	1.29	1.42	1.93	2.01	1.98	1.73
	(0.51)	(0.52)	(0.78)	(0.65)	(0.94)	(0.75)

Descriptive statistics

We start by performing a descriptive analysis of the database, with a characterization per country of the attributes.

Clustering

In order to better analyze the evolution of the business schools under study, we use K-means clustering methodology (see for instance Likas, Vlassis, Verbeek (2003)), which aims at partitioning the business school data into K disjoint subsets (clusters), where a clustering criterion is optimized. The within-cluster variation for group C_k is a measure $W(C_k)$ of the amount by which observations within a group differ from each other. Therefore, we want to solve the problem of divide the observations into K groups so that the total within-group variation, summed over all K groups, is as small as possible:

$$\min_{C_1, \dots, C_K} \left\{ \sum_{k=1}^K W(C_k) \right\} \quad (1)$$

Total within-clusters sum of squares, Dunn index, silhouette width, Davies-Bouldin index are tested to determine the effectiveness of these indices in identifying optimal partition provided by the clustering algorithms.

All statistical analyses were performed using programs: R version 3.6.3 and R-Studio version 1.2.503.

Results

Recent Evolution of Latin American Business Schools

We analyze the key determinants driving the AmericaEconomia ranking and how these variables have evolved through time.

For our analysis, we collect and analyze data from the AmericaEconomia Latin America MBA ranking from 2015 to 2019 to understand what attributes of the ranking are more relevant in order to explain the position of schools in the ranking in a specific year. Thus, we use as independent variables the attributes that remain consistent through the years in the ranking, including number of fulltime faculty, percentage of faculty with PhD, number of papers indexed in WoS, international accreditations (AACSB, EQUIS and AMBA) and number of dual MBA degree agreements.

As we show in **Table 4**, the selected business schools participating in the AmericaEconomia ranking have no increased fulltime faculty in the period, being the average number of fulltime faculty per institution 34. Chile and Peru are the only countries with an increase in the number of fulltime faculty members, being those increments 30% and 17% respectively.

TABLE 4: Average Number of Full-Time Faculty per Institution, Characterized per Country

	2015	2016	2017	2018	2019	% increment in the period
Argentina	41	39	34	34	35	-16%
Brazil	31	37	42	35	31	0%
Chile	33	37	42	41	43	30%
Colombia	31	31	28	25	26	-17%
Ecuador	12	14	14	11	10	-17%
Mexico	47	45	47	41	25	-47%
Peru	36	40	40	42	42	17%
Uruguay	16	15	14	14	13	-19%
Venezuela	28	29	32	27	28	0%
Total	33	34	35	33	33	0%

Even though Business schools in Latin America have not increased the number of full-time faculty members, the qualification of their professors has had a significant improvement. In recent years, there have been a tendency in the region to recruit more faculty with Ph.D. degrees, highlighting countries like Ecuador, Mexico, Brazil, and Chile. See **Table 5**.

TABLE 5

Average Number of Full-time Faculty with PhD from Top Schools, Characterized per Country

	2015	2016	2017	2018	2019	% increment in the period
Argentina	15	21	15	15	12	-18%
Brazil	4	7	15	14	9	157%
Chile	10	17	22	19	23	146%
Colombia	2	4	6	5	3	89%
Ecuador	2	5	7	8	7	250%
Mexico	4	7	20	16	11	214%
Peru	9	18	22	23	21	128%
Uruguay	0	2	2	2	2	NA
Venezuela	4	7	11	9	7	75%
Total	6	11	15	13	13	103%

In the past, in general, business schools did not use to have an important body of research faculty, which can be inferred by the number of papers indexed in WoS reported by institutions in comparison with the number of publications reported in 2019 by the AmericaEconomia ranking. **Table 6** shows a tremendous increase in the number of indexed publications in the region, highlighting countries like Ecuador, with an increase in the average number of papers per institution from 1 to 12 during the period under study. Colombia had an increment in the number of publications from 12.7 to 28. Chile has increased from 46.8 to 69.1 the number of publications.⁵

TABLE 6

Average Number of Papers WoS per Institution, Characterized per Country

	2015	2016	2017	2018	2019	% increment in the period
Argentina	23.7	23.0	28.0	36.7	24.3	3%
Brazil	40.5	30.5	31.0	61.5	54.5	35%
Chile	46.8	46.6	56.4	77.5	69.1	48%
Colombia	12.7	11.3	15.2	26.0	28.0	121%
Ecuador	1.0	2.0	5.0	10.0	12.0	1100%
Mexico	24.5	32.5	39.5	47.0	20.0	-18%
Peru	15.0	17.5	21.0	50.0	33.0	120%
Uruguay	10.0	9.0	14.0	32.0	22.0	120%
Venezuela	15.0	13.0	12.0	30.0	15.0	0%
Total	27.2	26.7	32.3	49.0	41.5	53%

⁵ For an overview of innovation and business research in Latin America, see Olavarrieta and Villena (2014).

By contrast, the number of dual degree agreements has been decreasing in Universities in Latin America, see **Table 7**. The only countries with an increment in the number of dual degree agreements were Brazil, which in 2015 have 1.5 agreements per university in comparison with 40 in 2019, Perú with an increment of 42 to 122 and Colombia which in 2015 had 12 agreements and in 2019 had 24.8.

TABLE 7

Average Number of Dual Degree Agreements per Institution, Characterized per Country

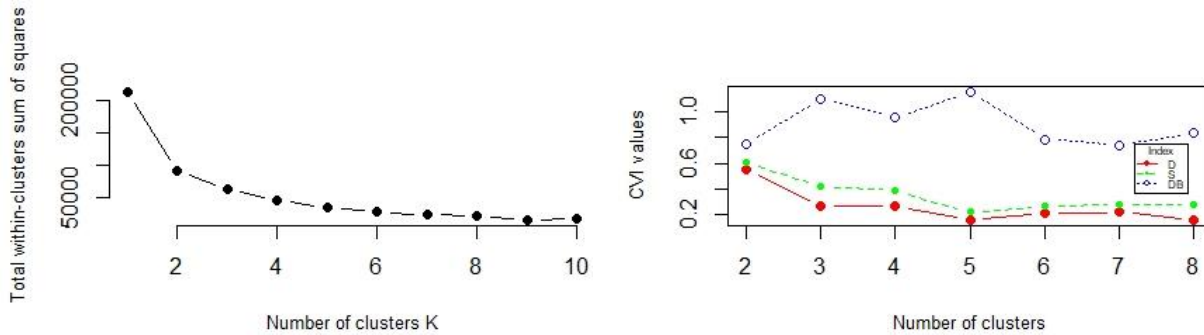
	2015	2016	2017	2018	2019	% increment in the period
Argentina	6.0	10.0	8.3	3.3	1.0	-83%
Brazil	1.5	8.0	18.5	54.0	40.0	2567%
Chile	50.1	28.3	32.4	28.4	24.8	-51%
Colombia	12.0	16.3	37.2	38.3	24.8	107%
Ecuador	0.0	0.0	0.0	0.0	0.0	NA
Mexico	51.5	50.0	53.5	47.5	9.0	-83%
Peru	42.0	65.0	26.0	55.0	122.0	190%
Uruguay	1.0	2.0	0.0	0.0	0.0	-100%
Venezuela	7.0	5.0	0.0	0.0	0.0	-100%
Total	26.5	23.3	27.0	30.0	27.3	3%

Cluster Analysis

All techniques used to choose the number of clusters – Total within-clusters sum of squares, Dunn index, silhouette width and Davies-Bouldin index – are consistent with an election of five clusters (see **Figure 1**).

FIGURE 1

Results Total within-clusters sum of squares, Dunn, Silhouette, and Davies-Bouldin



Panel (a): Total within-clusters sum of squares

Panel (b): Dunn, Silhouette, and Davies-Bouldin

In addition to the statistical criteria for the definition of the number clusters, we examined Cluster membership to check for any fundamental inconsistencies in the clustering outputs. We believe that his procedure: combining statistical criteria and subject expertise may provide a stronger and more valid taxonomy of Latin American Business Schools. Mean scores for all five clusters and membership percentages are presented in **Table 7**.

TABLE 7
Mean scores and percentage for five clusters of Latin American Business Schools

	Cluster 1 (11.15%) All Rounder	Cluster 2 (19.2%) Global Network	Cluster 3 (3.9%) Academic Excellence	Cluster 4 (7.7%) Dual Degree Strategy	Cluster 5 (57.7%) Emerging
Fulltime Faculty	51.83	36.64 ^(f)	82.8	36.4	25.93
Students MBA per Fulltime Faculty	16.73 ^(b,c)	10.1 ^(e,g)	11.52 ^(h,i)	14.37	8.78
Faculty Top Schools	27.83 ^(b)	14.12 ^(f)	36.2	10.3 ^(j)	6.53
Alumni Score	109.47	98.64 ^(e)	93.6	76.6 ^(j)	80.83
Associations	8.3 ^(a,b)	5.72 ^(e)	5.4	0.9	2.21
Foreign Students	225.97	82.36 ^(e)	86.2 ⁽ⁱ⁾	14.2	13.28
Dual Degree	65.08 ^(b,c)	7.92	63 ^(h)	92.9	15.25
Exchange Agreements Top Schools	17.32 ^(a,b)	13.88 ^(e)	14.8	4.1 ^(j)	3.37
Accreditations	2.75	2.05 ^(e)	1.8 ^(h,i)	1 ^(j)	0.93
WoS	76.7	42.4	164	13.1 ^(j)	19.43
Average IF	1.99 ^(a,b)	2.14 ^(e)	1.82 ⁽ⁱ⁾	1.18	1.6

(a) denotes no significant difference in the attribute between clusters 1-2, (b) denotes no significant difference in the attribute between clusters 1-3, (c) denotes no significant difference in the attribute between clusters 1-4, (e) denotes no significant difference in the attribute between clusters 2-3, (f) denotes no significant difference in the attribute between clusters 2-4, (g) denotes no significant difference in the attribute between clusters 2-5, (h) denotes no significant difference in the attribute between clusters 3-4, (i) denotes no significant difference in the attribute between clusters 3-5, (j) denotes no significant difference in the attribute between clusters 4-5.

Significant differences were found across all attributes between most of the clusters (t-test with $p < 0.05$). However, for all attributes, there is at least one relationship with no statistically significant difference in means. There are no significant differences observed for fulltime faculty between cluster 1 and cluster 2. The ratio students/fulltime Faculty has no statistically significant mean difference for cluster 1 and cluster 3, cluster 1 and cluster 4, cluster 2 and cluster 3, cluster 2 and cluster 5, cluster 3 and cluster 4 and cluster 5. Faculty educated in top schools has statistically equal mean for cluster 1 and cluster 3, cluster 2 and cluster 4 and cluster 4 and cluster 5. For alumni score, there is no significant differences in means between clusters 2 and cluster 3 and cluster 4 and 5. Associations has no significant differences

observed between clusters 1 and 2, clusters 1 and 3 and clusters 2 and 3. For dual degree, there are no significant mean differences between clusters 1 and 3, clusters 1 and 4 and clusters 3 and 4. Exchange agreements are no significant different for clusters 1 and 2, clusters 1 and 3, clusters 2 and 3 and clusters 4 and 5. Clusters 2 and 3 and clusters 3 and 5 have no significant differences for number of foreign students. Accreditations is statistically no different for clusters 2 and 3, clusters 3 and 4, clusters 3 and 5, and clusters 4 and 5. The number of papers WoS is not different for clusters 4 and 5. Finally, impact factor is not significant for clusters 1 and 2, clusters 1 and 3, clusters 2 and 3 and clusters 3 and 5. See **Table 7**.

The five clusters are described as follows: Cluster 1 (All rounder BS) was characterized as having superior mean ratings in most of the criteria used with higher percentages of fulltime Faculty, higher percentages of Faculty educated in top schools but relatively higher ratios students/fulltime Faculty,, higher ratings from alumni, high number of exchange agreements and foreign students, moderate number of students with dual degrees, high number of memberships and accreditations, and a moderate to high number of papers WoS and high impact factor. Cluster 2 (Global Network BS) was characterized by a moderate number of fulltime Faculty, lower students/fulltime Faculty ratios, low percentage of Faculty educated in top schools, high rating from alumni, moderate number of exchange agreements and foreign students, a low number of students with dual degree, moderate number of memberships and accreditations, and a low number of papers WoS and high impact factor. Cluster 3 (Academic Excellence BS) was characterized by high number of fulltime Faculty, low ratio students/fulltime Faculty, high percentage of Faculty educated in top schools, moderate rating from alumni, moderate number of memberships and foreign students, moderate number of students with dual degree, moderate number of exchange agreements, moderate number of accreditations, very high number of papers WoS and a moderate to high impact factor. Cluster 4 (Dual Degree Strategy BS) was characterized by a moderate number of fulltime Faculty, a moderate ratio students/fulltime Faculty, low percentage of Faculty educated in top schools, low rating from alumni, high number of students with dual degrees but a low number of foreign students, memberships, exchange agreements, and accreditations, very low number of papers WoS and low impact factor. Cluster 5 (Emerging BS) was characterized by lower numbers of fulltime Faculty, low ratio students/fulltime Faculty, low percentage of Faculty educated in top schools, lower ratings from alumni, low number of memberships and foreign students, low number of students with dual degree, low number of exchange agreements, low number of accreditations, low number of papers WoS and low impact factor.

Given the results of our cluster analysis we put forward the following taxonomy of Latin American business schools, see **Table 8**.

TABLE 8

Taxonomy of Latin American Business Schools

STRATEGY TYPES	BUSINESS SCHOOLS	DIMENSIONS
All Rounder BSs	<i>EGADE Business School, Escuela de Administracion-Pontificia Universidad Catolica, Universidad Adolfo Ibañez (UAI)</i>	These BSs present a superior performance in most of the categories assessed: in terms of faculty quality, alumni network, internationalization, and accreditations. They also show a higher-than-average performance in number and quality of WoS articles and number of students with dual degree.
Global Network BSs	<i>Fundação Getulio Vargas (EAESP), IAE Business School-Universidad Austral, Universidad de Palermo, Universidad Torcuato Di Tella, Universidad de Los Andes</i>	These BSs main characteristic is a superior performance in terms of alumni network. They also show a higher-than-average performance in terms of memberships and foreign students, exchange agreements, accreditations, and fulltime Faculty. However, they present a low performance in terms of students/fulltime Faculty, percentage of Faculty educated in top schools, students with dual degree and number and quality of WoS articles.
Academic Excellence BSs	<i>Graduate School of Economics and Business-Universidad de Chile</i>	This school shows an excellent performance in the main academic indicators analyzed, namely: number of papers WoS, fulltime Faculty, percentage of Faculty educated in top schools. They also show a higher-than-average performance in terms of alumni network, memberships and foreign students, students with dual degree, exchange agreements and accreditations. Nevertheless, this school presents a low performance in terms of the ratio students/fulltime Faculty.
Dual Degrees BSs	<i>Pacifico Business School, Universidad Sergio Arboleda</i>	These BSs main characteristic is a superior performance in terms of students with dual degree. They also show a higher-than-average performance in terms of fulltime Faculty and ratio students/fulltime Faculty. However, they present a low performance in terms of Faculty educated in top schools, alumni network, memberships and foreign students, exchange agreements, accreditations, and papers WoS.

Emerging BSs

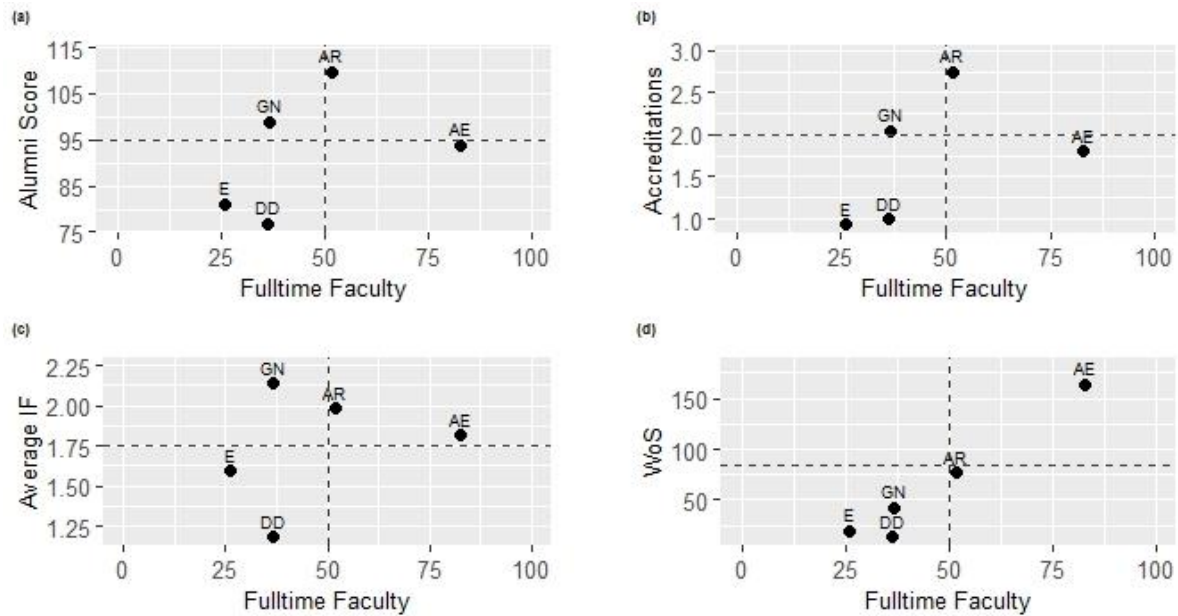
Universidad EAFIT, ESAN Graduate School of Business, Fundação Instituto de Administração (FIA) Business School, School of Business and Economic Studies-Universidad Icesi, Instituto de Estudios Superiores de Administración (IESA), Facultad de Administración y Ciencias Sociales-Universidad ORT, Universidad Alberto Hurtado, Universidad de Santiago, Universidad del Rosario, Universidad Diego Portales - FEE - Facultad de Economía y Empresa, Universidad Externado, Universidad Técnica Federico Santa María (USM), Universidad del Desarrollo, Universidad de las Américas Puebla, USFQ Business School-Universidad San Francisco de Quito

These BSs are still in an early stage of development, presenting a low performance in most of the indicators analyzed, namely: fulltime Faculty, students/fulltime Faculty, Faculty educated in top schools, alumni network, memberships and foreign students, students with dual degree, exchange agreements, accreditations, and WoS articles.

Hence, our taxonomy of Latin American Business Schools identifies 5 different types, namely: All Rounder, Global Network, Academic Excellence, Dual Degrees and Emerging. A better visualization of the positioning of each dimension of our taxonomy is presented in **Figures 2 and 3**.

FIGURE 2

Positioning of clusters 1

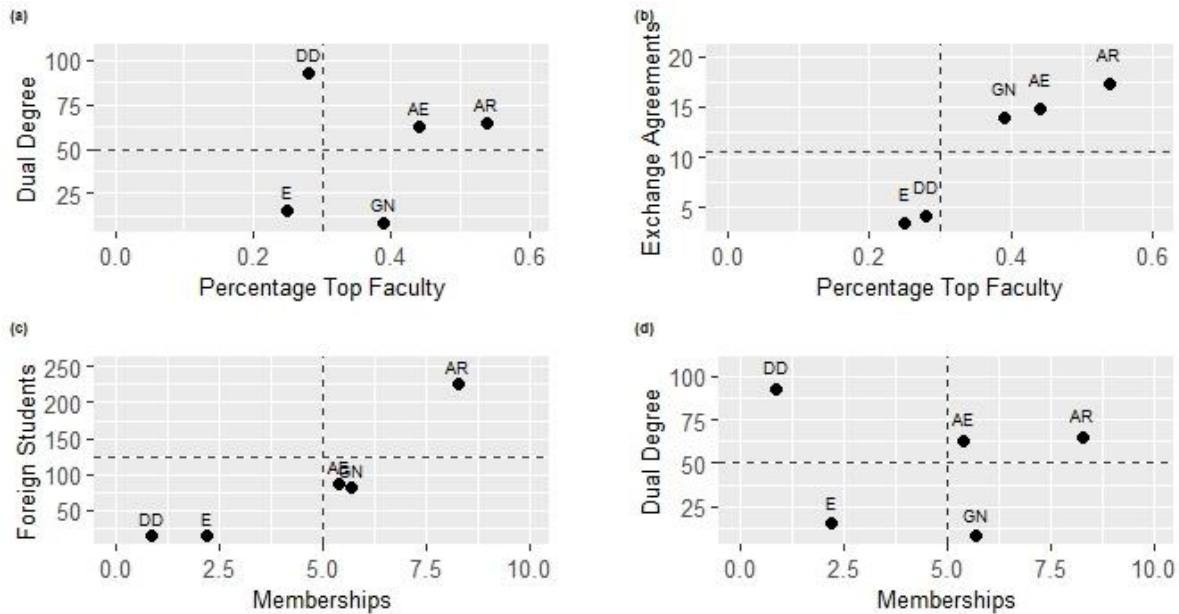


(a) Alumni Score vs Fulltime Faculty, (b) Accreditations vs Fulltime Faculty, (c) Average impact factor vs Fulltime Faculty, and (d) Papers WoS vs Fulltime Faculty.

AR: All Rounder, GN: Global Network, AE: Academic Excellence, DD: Dual Degree Strategy, E: Emerging.

FIGURE 3

Positioning of clusters 2



(a) Dual Degree vs Percentage of Faculty educated in top schools, (b) Exchange agreements vs Percentage of Faculty educated in top schools, (c) Foreign students vs Memberships, and (d) Dual degree vs Memberships.

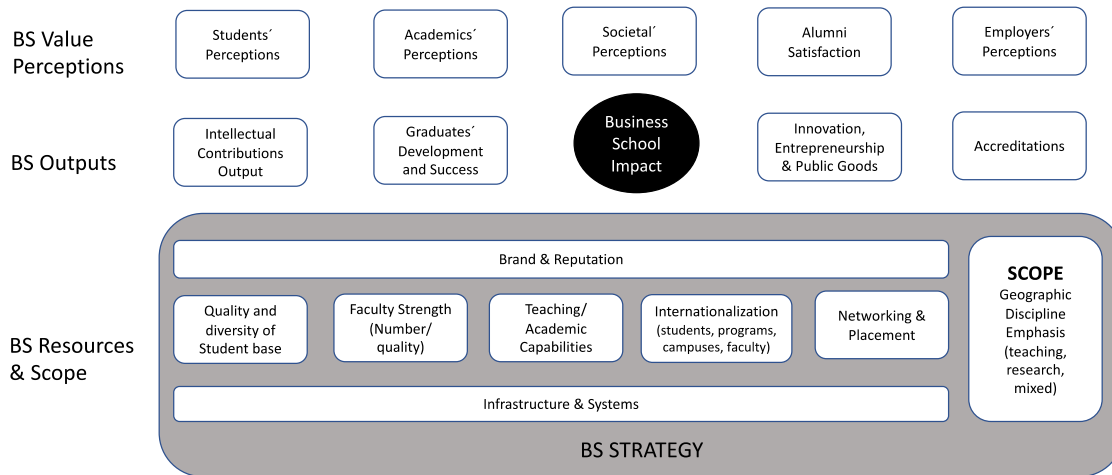
AR: All Rounder, GN: Global Network, AE: Academic Excellence, DD: Dual Degree Strategy, E: Emerging.

A Business School Strategy Impact Model

A business school's strategic plan must explain how the organization intends to allocate its scarce human and physical resources among competing demands in order to optimize its objectives. In this context, in **Figure 4** we put forward a business school strategic impact model, which includes three dimensions, namely: (i) BS Resources and Scope; (ii) BS Outputs and (iii) BS Value Perceptions. As the main *resources and scope* of business schools we list the quality and diversity of the student base, faculty strength in terms of number and quality, teaching and academic capabilities of faculty, internationalization efforts of the BS that may include international students, faculty, programs, campuses, and so on, and finally networking and placement capabilities. As cross-cutting resources business schools have their infrastructure and systems and their brand and reputation. Finally, business school's strategy must also consider the scope of their interest, which are usually defined in the School's mission and vision, in terms of geography and discipline emphasis in teaching and research. Given the business school *Resources and Scope*, we assess the impact on two dimensions, the business school's outputs and the value perceptions of different stakeholders.

FIGURE 4

Business School Strategy Impact Model

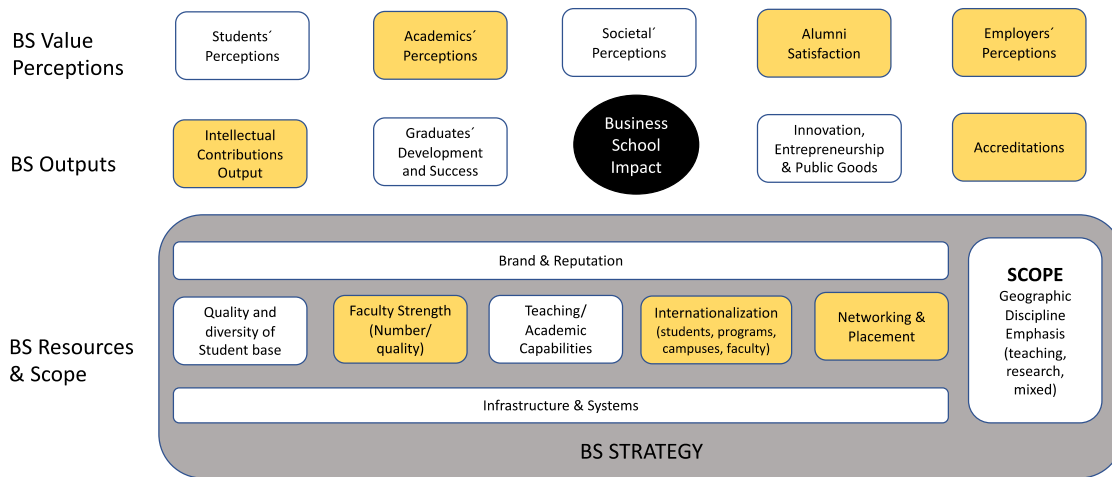


The business school's outputs include the intellectual contributions of their members, faculty and students, the school graduates' development and success in the marketplace, the innovation, entrepreneurship, and public goods generated by the school and the accreditations awarded to the school. Beyond all these outputs, the school's actions also result in *value perceptions* from its main stakeholders: students, academics, employers, alumni satisfaction, and societal perceptions at large.

This business school strategic impact model can be used as a benchmark to analyze the dimensions analyzed in the previous section. **Figure 5** shows that besides the variables we gather from the AmericaEconomia ranking, colored in yellow, there are still some dimensions left out that are relevant for business schools' strategy.

FIGURE 5

Business School Ranking Indicators most heavily used



In terms of *resources and scope* of business schools neither the quality and diversity of the student base nor the teaching and academic capabilities of faculty are included in the main variables typically considered in AmericaEconomia business school ranking. In the *business school's outputs dimension*, the variables graduates' development and success and innovation, entrepreneurship, and public goods generated by the school are not considered either in the AmericaEconomia's ranking. Finally, in terms of *value perceptions*, the AmericaEconomia's ranking does not include variables such as students' perceptions and societal perceptions at large.

These gaps between the variables included in our strategic impact model and the main ones used by the AmericaEconomia's ranking clearly point towards the shortcomings and challenges faced by most business schools' rankings.

An interesting point from this analysis that applies to all the different types of business school identified in our taxonomy, is that there are usually not enough efforts directed towards improving the quality and diversity of the student base of business schools. This is so especially in recent times in which MBA programs have become to star losing their competitive hedge in favor of Master of Science programs, which are more focus, cheaper and sometimes shorter than MBAs. In this context, nor rankings nor accreditations consider this variable in their analysis. Similarly, in terms of outputs, students' perceptions are also usually left out of the analysis by rankings and accreditations.

Another key variable, typically left out of rankings and accreditations analyses, is the teaching and academic capabilities of faculty. This is of particular importance for All Rounder and Academic Excellence business schools, which put a strong emphasis on research quality and quantity and so sometimes include researchers in the MBA lecturers' roster, that are not very good in teaching MBA audiences, lacking practical experience. While this allows these schools to perform well in rankings and accreditations, the

business education of students is not necessarily of the best quality. As students' perceptions are not considered either by rankings or accreditations analyses, these problems are not typically identified.

By contrast, the variable *graduates' development and success* is key for the most prestigious international business school rankings such as Forbes, Financial Times, Business Week and Wall Street Journal, which do evaluate the performance of recent graduates and/or alumni in the job market as a measure for business schools' success. This variable is something that AmericaEconomia should start incorporating more heavily in future versions of its Latin America business school ranking. Similarly, the variable *innovation, entrepreneurship, and public goods* is typically considered in most business school accreditations such as AMBA, EQUIS and AACSB, but not so much in the AmericaEconomia's ranking.

Finally, in terms of *value perceptions*, the variable *societal's perceptions* at large represent an important challenge for business schools all around the world. As business enterprises are under increasing scrutiny for their ethical considerations a negative social impact since the 2008-2009 global financial crises, and for their negative environmental effects, business schools have done little in terms of improving the perceptions society has on the business community and business schools beyond the industries in which has a marked influence. While the AmericaEconomia's ranking does not include this particular variable in its analyses, neither does the business school accreditations.

Concluding Remarks

We collect and analyze data from the AmericaEconomia Latin America MBA ranking from 2015 to 2019 and build a panel with quantitative data and performance indicators for 26 business schools located in nine Latin American countries. Particularly, we use as independent variables the attributes that remain consistent through the years in the ranking, including number of fulltime faculty, percentage of faculty with PhD, number of papers indexed in WoS, international accreditations (AACSB, EQUIS and AMBA) and number of dual MBA degree agreements.

From this analysis we showed that Chile and Peru are the only countries with an increase in the number of fulltime faculty members for the period 2015-2019. Although, on average, business schools in Latin America have not increased the number of full-time faculty members, the qualification of their professors has had a significant improvement. In fact, in recent years, there have been a tendency in the region to recruit more faculty holding Ph.D. degrees, especially in Ecuador, Mexico, Brazil, and Chile. This trend has implied as a direct consequence an important increase in the research output of the business schools in terms of number of papers indexed in WoS, especially in Ecuador, Colombia, and Chile. The number of dual degree agreements has been decreasing in Latin America business schools, which can be due to the fact that those schools are now stronger academically speaking and therefore the need for foreign business schools to give them academic quality and prestige has diminished in time. Finally, it should be noted that accreditations have also played a significant role in the quality assurance of the main business schools in the region. All schools that consistently appear on top of the ranking are accredited internationally with at least 2 of the 3 international accreditations.

We also perform a formal statistical procedure, applying a cluster analysis in order to group business schools in terms of a set of indicators. Using the results of our cluster analysis we proceed to develop a business model taxonomy for Latin American Business Schools, identifying 5 different types, namely: All Rounder, Global Network, Academic Excellence, Dual Degrees and Emerging. The All Rounder business schools present a superior performance in most of the categories assessed: in terms of faculty quality, alumni network, internationalization, and accreditations. They also show a higher-than-average performance in number and quality of WoS articles and number of students with dual degree. The *Global Network* business school's main characteristic is a superior performance in terms of alumni network. They also show a higher-than-average performance in terms of memberships and foreign students, exchange agreements, accreditations, and fulltime Faculty. The Academic Excellence business schools show an excellent performance in the main academic indicators analyzed, namely: number of papers WoS, fulltime Faculty, percentage of Faculty educated in top schools. They also show a higher-than-average performance in terms of alumni network, memberships and foreign students, students with dual degree, exchange agreements and accreditations. The *Dual Degrees* business school's main characteristic is a superior performance in terms of students with dual degree. They also show a higher-than-average performance in terms of fulltime Faculty and ratio students/fulltime Faculty. Finally, the *Emerging* business schools are still in an early stage of development, presenting a low performance in most of the indicators analyzed.

Finally, we put forward a business school strategic impact model, which includes three dimensions, namely: (i) BS Resources and Scope; (ii) BS Outputs and (iii) BS Value Perceptions. When comparing our impact model with the analysis from the AmericaEconomia Latin America business school ranking, we found that a variable missing from this ranking that is crucial for the strategic analysis of business schools is the output variable: *graduates' development and success*. We can explain this missing variable by AmericaEconomia due to the stage of evolution that Latin American's business schools were when the ranking began. At the beginning of the 2000's, most of Latin America's business schools were formed by part time lecturers, the schools were not research oriented and few schools had full time programs, lagging far behind from their peer's schools in the U.S. or Europe. In this context, we can argue that the America Economía business school ranking has somehow contributed to rise the academic standard of Latin America's business schools, by providing incentives for schools to improve the quality of their faculty, research output, their international accreditation and internationalization in general. Nevertheless, given the continuous improvement of Latin American Business School in terms of academic variables, in the foreseeable future it would be advisable for AmericaEconomia to start incorporating more "output variables", such that alumni salary and propensity to recruit MBAs from a certain Schools, for example, in the ranking.

We also argue that there are usually not enough efforts directed towards improving the quality and diversity of the student base of business schools and also that the teaching and academic capabilities of faculty are not typically considered by rankings and accreditations and hence are often neglected by business schools. This is of particular importance for All Rounder and Academic Excellence business schools, which put a strong emphasis on research quality and quantity and so sometimes include researchers in the MBA lecturers' roster, that are not very good in teaching MBA audiences, lacking practical experience. While this allows these schools to perform well in rankings and accreditations, the

business education of students is not necessarily of the best quality. As students' perceptions are not considered either by rankings or accreditations analyses, these problems are not typically identified.

Finally, we argue that the variable *societal's perceptions* at large are importantly neglected by business schools and that this represents an important challenge for business schools all around the world. As business enterprises are under increasing scrutiny for their ethical considerations a negative social impact since the 2008-2009 global financial crises, and for their negative environmental effects, business schools have done little in terms of improving the perceptions society has on the business community and business schools beyond the industries in which has a marked influence.

References

- Altbach, P. (2003). The costs and benefits of world-class universities. *International higher education*, (33).
- Bradshaw, D. (2010). US schools see their power begin to wane. *Financial Times*, 9.
- Byrne, J. A. (2011). The diminishing dominance of the American MBA. *Fortune*.
- Collet, F., & Vives, L. (2013). From preeminence to prominence: The fall of US business schools and the rise of European and Asian business schools in the Financial Times Global MBA Rankings. *Academy of Management Learning & Education*, 12(4), 540-563.
- Deem, R., Mok, K. H., & Lucas, L. (2008). Transforming higher education in whose image? Exploring the concept of the 'world-class' university in Europe and Asia. *Higher education policy*, 21(1), 83-97.
- Devinney, T., Dowling, G. R., & Perm-Ajchariyawong, N. (2008). The Financial Times business schools ranking: What quality is this signal of quality?. *European Management Review*, 5(4), 195-208.
- Dichev, I. D. (1999). How good are business school rankings?. *The Journal of Business*, 72(2), 201-213.
- Dichev, I. (2001). News or noise?. *Research in Higher Education*, 42(3), 237-266.
- Dichev, I. D. (2008). Comment: The Financial Times business schools ranking: What quality is this signal of quality?. *European Management Review*, 5(4), 219-224.
- Drnevich, P. L., Armstrong, C. E., Crook, T. A., & Crook, T. R. (2011). Do research and education matter to business school rankings?. *International Journal of Management in Education*, 5(2-3), 169-187.
- Espeland, W. N., & Sauder, M. (2007). Rankings and reactivity: How public measures recreate social worlds. *American journal of sociology*, 113(1), 1-40.
- Fee, C. E., Hadlock, C. J., & Pierce, J. R. (2005). Business school rankings and business school deans: A study of nonprofit governance. *Financial Management*, 34(1), 143-166.
- Gioia, D. A., & Corley, K. G. (2002). Being good versus looking good: Business school rankings and the Circean transformation from substance to image. *Academy of Management Learning & Education*, 1(1), 107-120.

- Huisman, J. (2008). World-class universities. *Higher Education Policy*, 21(1), 1-4.
- Kogut, B. (2008). Rankings, schools, and final reflections on ideas and taste.
- Miles, M. P., Hazeldine, M. F., & Munilla, L. S. (2004). The 2003 AACSB accreditation standards and implications for business faculty: A short note. *Journal of Education for Business*, 80(1), 29-34.
- Morgeson, F. P., & Nahrgang, J. D. (2008). Same as it ever was: Recognizing stability in the BusinessWeek rankings. *Academy of Management Learning & Education*, 7(1), 26-41.
- Mussard, M., & James, A. P. (2018). Engineering the global university rankings: gold standards, limitations and implications. *IEEE Access*, 6, 6765-6776.
- Navarro, P. (2008). The MBA core curricula of top-ranked US business schools: a study in failure?. *Academy of management learning & education*, 7(1), 108-123.
- O'Brien, J. P., Drnevich, P. L., Crook, T. R., & Armstrong, C. E. (2010). Does business school research add economic value for students?. *Academy of Management Learning & Education*, 9(4), 638-651.
- Olavarrieta, S., & Villena, M. G. (2014). Innovation and business research in Latin America: An overview. *Journal of Business Research*, 67(4), 489-497.
- Paruolo, P., Saisana, M., & Saltelli, A. (2013). Ratings and rankings: voodoo or science?. *Journal of the Royal Statistical Society: Series A (Statistics in Society)*, 176(3), 609-634.
- Power, M. (1997). *The audit society: Rituals of verification*. OUP Oxford.
- Quinteros, M. J., Sánchez, R., & Villena, M. G. (2020). How do business schools compete in Latin America? Stability and best predictors of success for the AmericaEconomia MBA Ranking. *Applied Economics*, 52(50), 5546-5563.
- Saisana, M., & d'Hombres, B. (2008). Higher education rankings: Robustness issues and critical assessment. *How much confidence can we have in higher education rankings*.
- Saisana, M., d'Hombres, B., & Saltelli, A. (2011). Rickety numbers: Volatility of university rankings and policy implications. *Research policy*, 40(1), 165-177.
- Sauder, M., & Lancaster, R. (2006). Do rankings matter? The effects of US News & World Report rankings on the admissions process of law schools. *Law & Society Review*, 40(1), 105-134.
- Soh, K. (2015). What the Overall doesn't tell about world university rankings: examples from ARWU, QSWUR, and THEWUR in 2013. *Journal of Higher Education Policy and Management*, 37(3), 295-307.
- Urgel, J. (2007). EQUIS accreditation: value and benefits for international business schools. *Journal of Management Development*.
- Wedlin, L. (2007). The role of rankings in codifying a business school template: Classifications, diffusion and mediated isomorphism in organizational fields. *European Management Review*, 4(1), 24-39.