Tweeter d'une Tour d'Ivoire à l'Autre: Légitimité des Business Schools, Classements et Position sur les Réseaux Sociaux

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Résumé :

Malgré leur croissance rapide, les business schools peinent à établir leur légitimité malgré leurs investissements dans la responsabilité sociale, pour soutenir leur production de recherche, et renforcer leur utilité pour les étudiants. Mais comment cela affecte-t-il leur relation avec leurs pairs et compétiteurs ? Les business schools les plus légitimes sont-elles les plus susceptibles d'être au centre du réseau inter-organisationnel de leur industrie ? En utilisant une base de données combinant classements des business schools et réseaux Twitter, nous montrons qu'il existe différentes relations entre le facettes de la légitimité et la position des organisations sur les réseaux sociaux de leur champ. Les écoles « bonnes citoyennes » sont plus susceptibles de se trouver mentionnées et connectées à leurs pairs, alors que celles qui se focalisent sur l'intérêt de leurs étudiants sont au contraire ostracisées. Nous attribuons cet effet à la rivalité plus prononcée des écoles sur cette dimension de leur légitimité. Ce travail contribue à notre compréhension des différentes facettes de la légitimité et des interactions organisationnelles sur les réseaux sociaux.

Mots-clés : Media sociaux, légitimité, business schools, réseaux.

Tweeting between the Ivory Towers? Business Schools' Legitimacy, Rankings and Positionality in Social Media Networks.

INTRODUCTION

The growth of the business school sector began after the World War II in the United States and has continued since (Collet & Vives, 2013). Despite their sustained growth, business schools have increasingly tried to legitimize themselves in the last decades (Henisz, 2011; Alajoutsijärvi, Juusola & Siltaoja 2014) and management scholars in particular have engaged in "inner-directed questioning and outer-driven scepticism" with regards to their own sector (Pettigrew, Cornuel & Hommel, 2014: 1). In their seminal piece in the founding issue of the *Academy of Management Learning & Education*, Pfeffer & Fong (2002) put business schools in question for not providing their MBA students with better career opportunities, and not producing impact through their research. Stakeholders have also questioned the practical relevance of social science research produced by business schools (Pfeffer & Fong, 2002). The recent financial crisis was an additional warning for business schools, as a number of commentators point out the complicit role of business schools in the crisis (Starkey, 2015; Fragueiro & Thomas, 2011). From this perspective, little has changed, since as cited by DeAngelo et al. (2005), fifty years ago, "business education was [already] irrelevant to most students, to employers, and to society" (Howell, 1984: 9).

To be legitimate, business schools must indeed be deemed as acting in an appropriate way from their various stakeholders' point of view (Deephouse, 1996). But above all, legitimacy lies in the eye of the beholder, as a "reaction of observers" (Suchman, 1996: 574; Zimmerman & Zeitz, 2002). Thus, in this process of legitimation, business schools have to engage with a wide variety of stakeholders (Starkey, Hatchuel & Tempest, 2004), who differ in their expectations of conformity (Castello, et al. 2015). As a consequence, business schools have to demonstrate their practical utility for a number of different audiences, particularly their students, the research community and the broader society.

In the meantime, rankings have emerged to capture different quantitative metrics to evaluate the relevance of business schools for different publics (Collet & Vives, 2013), thus creating the isomorphic pressures through which business schools can acquire legitimacy (Deephouse, 1996; DiMaggio & Powell, 1983). Schools actively seek to improve their metrics to reach a better rank (DeAngelo et al. 2005), and a large body of literature has examined how business schools can gain legitimacy through rankings (Boyle, 2004; Fragueiro & Thomas, 2011; Henisz, 2011; Pettigrew, et al. 2014).

While these rankings create an obvious pecking order, schools are linked to their peers through other more subtle and complex media, and the properties of communication through these networks offer additional insights into how legitimacy is constructed among business schools. Social network theory has suggested that the position of organizations in social networks is an important determinant of their status and success (Granovetter, 1973), and in a similar fashion, the way universities are linked with each other plays an increasing role in a world where geographical boundaries have become less important (Lewis, Marginson & Snyder, 2005). Being embedded in a network of peers provides organizations and individuals with information flows and diffusion of best practices and innovation (Saunders & Jones, 2000; Burt, 1997) and formation of partnership with counterparts (Koka & Prescott, 2002; Konrad, Radcliffe & Shin, 2014).

Thus, it is important to understand the relationship between network formation in the management education sector, and the legitimation processes individual schools engage in, especially as they rely on the parallel mechanism of isomorphism: how do business schools form ties with their peers and competitors as a function of their legitimacy? While the quest legitimacy is turned towards outside stakeholders, it is unclear how legitimacy struggles affect the relationship business schools have with their peers and their social capital at the field level. Are more legitimate schools more likely to be at the center of their peer network and thus the more influential? In other terms, how do schools react to their competitors' efforts to climb up the rankings by catering for the needs of the stakeholders? Do they try to get closer to those more legitimate schools or on the contrary, do they try to avoid them? Understanding the link between legitimation strategies and peer network is crucial to understand how isomorphic pressures condition relationships between competitors and peers.

We would naturally assume that more legitimate and highly ranked business schools are at the center of the field of management education and well connected with their peers, who can be expected to value the positive evaluations provided by outsiders. However, as the

demands of different sets of stakeholders are extremely diverse for business schools and sometimes contradictory (Pfeffer & Fong, 2002; Alajoutsijärvi, et al. 2014), it is not clear that all forms of legitimacy will affect the schools' social capital and their position in their network the same way (Adler & Kwon, 2002), simply because peers might value different things compared to outside stakeholders.

In this study, we compile a unique dataset combining rankings of business school and their activity on Twitter. We generate and test hypotheses on the relationship between different facets of legitimacy and schools' network positionality, and we observe that while cognitive legitimacy (operationalized as high research quality) and rank are positively related with schools being at the center of their peer network, pragmatic legitimacy (operationalized as the ability to satisfy students' expectations) is on the contrary associated with being a peripheral school. In other terms, business schools with higher scores on student-related outcomes are more isolate, all else being equal. We advance two alternative explanations: while schools want to be associated with research active schools, focusing on students' needs is perceived as less noble by peers. Alternatively, the legitimacy of schools in the eye of students is the aspect for which the competitive rivalry is the strongest, and as a consequence, schools do not want to be associated with schools leading that competition. Our study yields a number of theoretical and practical contributions. From a theoretical perspective, our work shows that different facets of organizational legitimacy, depending on the audiences' needs they address, have differentiated effects on how peer organizations relate to each others. Depending on the stakeholders that organizations are trying to convince, their position in their peer network is modified, suggesting that peers value different things than outsiders when they decide with whom to be associated. On the practical side, our work highlights the different forms of legitimacy struggles faced by business schools and how the management education institutions cluster as a function of those struggles. Isomorphic pressures still imply trade-offs for business schools and as such can lead to a divergence rather than convergence of business school strategies (Pettigrew, 2014). When understanding the quest for legitimacy of business schools, it is crucial to consider the various audiences they need to address: our study suggests that they favor different stakeholders depending on their legitimization strategy, which ultimately affect their social capital in their peer networks.

LEGITIMACY, BUSINESS SCHOOLS AND SOCIAL MEDIA

The topic of the legitimacy of business schools has generated a broad literature: management academics, in particular, have been questioning, describing and analyzing the legitimation processes of their sector (Pfeffer & Fong, 2002; Henisz, 2011; Alajoutsijärvi, et al. 2014). This skepticism is "inner-directed" but at the same time focuses on the way business schools can convince their external stakeholders of their legitimacy (Pettigrew, et al. 2014). The legitimation process is multidimensional, and considering the variety of actors to satisfy, it can indeed become self-contradictory (Alajoutsijärvi, et al. 2014). The variety of audiences to satisfy, and the potential trade-offs that schools have to choose from, makes the legitimation process especially difficult in that context.

A large body of research has examined how business schools can improve their legitimacy (Boyle, 2004; Starkey & Tiratsoo, 2007; Fragueiro & Thomas, 2011; Henisz, 2011). However, because legitimation processes are turned towards external stakeholders, this debate has mostly ignored the processes through which business schools relate to each other as peers. Business schools might have individually acquired legitimacy in the eyes of their main stakeholders, but how does that affect their interactions? In this study, we specifically look at the network of peers formed by management education institutions, considering the key role played by relationships with other business schools for innovation, information flows and partnership. We look at how legitimation in the eyes of external stakeholders affects the perception by peers and the structure of actors within their field. Previous work bringing together social networks and organizational legitimacy have looked at the network formed by organizations with outsiders (Zimmerman & Zeitz, 2002; Castello, et al. 2015) rather than network with peers and competitors within a field.

Stakeholders' Expectations and the Three Pillars of Legitimacy

A legitimate organization is a socially accepted one (Scott, 2008). More specifically, legitimacy is "a generalized perception or assumption that the actions of an entity are desirable, proper or appropriate within some socially constructed system of norms, values, beliefs and definitions" (Suchman, 1995: 574). Legitimacy relies on a collective perception, but is composed of subjective judgments and evaluations carried out by key stakeholders of the organization that are aggregated at the collective level (Bitektine, 2011; Bitektine & Haack, 2015). Despite the fact that legitimacy is an account of the evaluations' provided by stakeholders, it is considered as an objective organizational resource (Zimmerman & Zeitz, 2002). The actors that confer legitimacy can be individual or collective actors that have to

render this judgment because of potential exchange relations or partnership with the organization to be judged (Bitektine & Haack, 2015).

Suchman (1995) and Scott (2008) distinguished three forms of legitimacy that rely on different behavioral dynamics: pragmatic, moral and cognitive legitimacies. This typology has been widely popular in organization theory and strategy research (Zyglidopoulos, 2003; Bitektine, 2011). Differentiating those three forms can help understand the variety of legitimation processes and how they address the needs and expectations of different stakeholders (Castello, et al. 2015). Pragmatic legitimacy relies on the self-interest of the evaluator: an organization is legitimate in the eye of its audience if this audience considers the organization as answering its needs (Suchman, 1995). The cognitive pillar is based on "comprehensibility and taken-for-grantedness" of the organization (Castello et al. 2015: 3). Finally, moral legitimacy, relies on the respect of broader social norms and the benefice brought by the organization to the whole society (Zyglidopoulos, 2003). Legitimation is thus the process through which an organization justifies itself towards its systemic environment (Suchman, 1995) and addresses those three dimensions.

Little research has looked at how different facets of legitimacy interact, especially when they are issued by different audiences, within and outside fields (Bitektine, 2011). In the same fashion, the different dimensions of legitimacy have never been looked at as different determinants, despite the fact that in a number of institutional contexts, addressing those three dimensions of legitimacy means addressing the demands of different groups of stakeholders. This is particularly important in the management education sector, in which business schools have to comply to the demands of a wide variety of actors to acquire different forms of legitimacy (Alajoutsijärvi, et al. 2014).

How do Business Schools seek Legitimacy?

As we have pointed out, legitimacy relies on the evaluation of different stakeholders (Suchman, 1996; Zimmerman & Zeitz, 2002), and business schools tend to target a variety of audiences in their quest for legitimacy (Starkey, Hatchuel & Tempest, 2004). Following the typology discussed above, we build upon the idea that the legitimation process of business schools focuses on the pragmatic, moral and cognitive dimensions of their social acceptance. Those different dimensions relate to the various stakeholders that evaluate business schools and thus confer them legitimacy. Ranking metrics correspond to the specific needs of the schools' audiences (Collet & Vives, 2013) and management education institutions do try to

pro-actively influence them (DeAngelo, et al. 2005). In this section, we examine how the different forms of legitimacy might apply in the case of business schools:

Pragmatic legitimacy: Pragmatic legitimacy relies on the instrumental evaluation of an audience that directly benefits from the activity of the organization (Suchman, 1995). In the case of business schools, pragmatic legitimacy is the ability to be useful to those who actually use the service provided: the students. Legitimacy from a student and applicant perspective relies on the ability of the school to provide work opportunities, career success (Pfeffer & Fong, 2002) or better salaries (Connolly, 2003). Concretely, "what someone learns in business school [would] help that person be better prepared for the business world and more competent in that domain" (Pfeffer & Fong, 2002: 81). Business schools must be able to show that they can fructify their students' human capital. The debate over whether MBA offers value for students has been an important the legitimacy struggle faced by business schools. Economic return of the MBA has for example been one of the key metric to assess pragmatic legitimacy of business schools (Connolly, 2003).

Cognitive legitimacy: Cognitive legitimacy relies on the categorization of the organization as belonging to a certain recognizable group (Bitektine, 2011). In the field of management education, the 'taken-for-grantedness' of business schools has relied on whether they can be accepted as academically acceptable higher education institutions (Alajoutsijärvi, et al. 2014). As the assessment of universities has increasingly relied on a rationalization of research performance (Ramirez, 2010), we can draw a parallel with the "scientification" of business schools (Juusola, et al. 2015). The goal of research is to "enhance the prestige of the business school" (Pfeffer & Fong, 2002) and become visible and academically recognized by more established fields such as the social sciences (DeAngelo et al. 2005). Thus, we argue that cognitive legitimacy is primarily acquired through associating the school with the highest level of qualifications for its faculty and intellectual production.

Moral legitimacy: Moral legitimacy of an organization reflects its level of conformity to social norms and how beneficial is the organization for the whole society (Zyglidopoulos, 2003). One way business schools can boost their moral legitimacy is by promoting ethical and responsible values (Boyle, 2004). In a context where their role in the financial crisis is pointed out (Starkey, 2015), business schools have to be at the forefront of the application of societal norms on the questions of corporate social initiatives and sustainability (Stead & Stead, 2010; Christensen, et al, 2007). Beyond promoting ethical values, business schools are however

closely monitored to actually implement social responsible practices, for examples when it comes to the diversity of their board and faculty (Kelan & Jones, 2010).

Legitimation processes are turned towards external stakeholders, but they may affect the social evaluations coming from peers and competitors that belong to the same field (Bitektine, 2011). In the case of business schools, previous research has overlooked the effect of legitimation strategies targeted at improving ranking and the structure of the management education field. How do schools relate with each other beyond the hierarchy of rankings and how are those relationships affected by their quest for outsiders' approval?

Business Schools and Social Networks

The concept of social networks has become increasingly important in the study of higher education (Shields, 2015). In social network theory, organizational-level outcomes are largely determined by the position of each organization in their social network and their level of embeddedness (Granovetter, 1973). The rise of a "network university" suggests a growing importance of network processes in higher education (Lewis, et al. 2005). Geographical distance does no longer constrains academic work, student bodies are highly international and universities have weaved complex webs through partnerships, consortia, and inter-organizational hiring (Burris, 2004).

Among all forms of network, networks of peers play a crucial role in the diffusion of innovation and information (Saunders & Jones, 2000; Burt, 1997) and the benefits derived from inter-organizational relationships (Koka & Prescott, 2002; Konrad, et al. 2014). Forming ties with peers and competitors has become critical for universities to optimize their strategy in the increasingly competitive field of higher education (King, 2010). In peer networks of universities, organizations "reinforce each others status" in a way that complements and supplants ranking (Tapper & Filippakou, 2009: 62).

Business schools, as components of broader universities or stand-alone institutions, have well understood the network turn in higher education: a number are spread over campuses on different continents (e.g. ESSEC, INSEAD) and executive MBA programs tend to bring schools together (e.g. the TRIUM MBA, bringing together the Stern Business School, the London School of Economics and HEC Paris). Social media have also become a platform for business schools to reach out their different stakeholders at a limited cost (applicants, students, employers, journalists) (Iqbal, 2013). At the field level, interactions of higher education institutions on Twitter reveal a form of positional competition (Shields, 2015). For

example, Times Higher Education recently published a ranking of the most influential universities on Twitter (Parr, 2014). There is a clear rationale for using Twitter, not only to reach outside audience but also as a signal of being part of the international competition (Shields, 2015). As such, social media is a unique way to capture how schools relate to each other and form the network structure of their field.

The Relationship between Social Media Network Positionality and Schools' Legitimacy

In his study of university networks on Twitter, Shields (2015) showed a positive relationship between association on social media and rankings. Networks of peers in the education sector are relatively close and supposed to signal mutual deference. As a consequence, higher education institutions tend to form ties with the institutions that retain the higher position in hierarchies. More specifically, Burris (2004) showed that the centrality of universities in the network of interdepartmental hiring explained a majority of the variance for a number of performance outputs. In a similar manner and consistently with the previous arguments, we can expect business schools that hold higher ranks to be more central in the field of management education.

> ***Hypothesis 1*****:** *The higher the rank of a business school in the Financial Times, the more central it will be in its peer social network.*

We have explained how gaining legitimacy relies on conforming to isomorphic pressures. Those isomorphic pressures are reflected by ranking metrics and this makes ranking a form of aggregation of various audiences' legitimacy judgments. We can thus disaggregate those metrics as different forms of legitimation processes targeting different audiences. In the meantime, previous research has shown that central actors were more likely to be the first to adopt the innovation that will grant them legitimacy (Westphal, Gulati & Shortell, 1997). In this context, universities with the greater social capital have access to the best resources and information to legitimize themselves (Burris. 2004). As a whole, we can thus expect legitimacy to be positively related to centrality in the network of peers. Looking at the three dimensions of legitimacy, we can also independently associate them with a greater centrality. Business schools want to be associated with other institutions when they exhibit high academic quality (cognitive legitimacy), because academic quality signals acceptability by the broader field of higher education (DeAngelo et al. 2005) But they also want to be tied

to the institutions that abide by social norms and show their social acceptability by "doing good" (moral legitimacy), in order to be identified with the most virtuous organizations in their field. Finally, proximity to schools that provide their students with the best opportunities might also be valued.

> ***Hypothesis 2a:*** *The more cognitively legitimate a business school is (i.e. the higher its academic quality), the more central it will be in its peer social network.*
>
> ***Hypothesis 2b****: The more morally legitimate a business school is (i.e. the more it abides by broader social norms), the more central it will be in its peer social network.*
>
> ***Hypothesis 2c****: The more pragmatically legitimate a business school is (i.e. the more it appeals to students), the more central it will be in its peer social network.*

However, these hypotheses overlook the competitive dynamics of the legitimation process: do schools want to be associated with institutions that are more legitimate than them on some dimensions? On the contrary, we might observe that business schools avoid the well performing and more legitimate schools because they want to isolate them and cast them away. It can be a conscious strategic move: by refusing to form a tie with a well performing competitor, business schools can point out this competitor and suggest it is not that legitimate, because not central in the network. It can also be an unconscious avoidance tactic: some institutions might avoid the most legitimate peers to steer clear of unflattering comparisons.

Are Networks of Business Schools US-centric?

Arguably, a relationship between legitimacy and network centrality could be due to contextual factors rather than causal, for example stronger institutions and rules of law might make business schools more likely to abide by social norms. As stressed by Shields (2015), the size of the effect of ranking on the positionality of universities in their network of peers is significant but geographical location matters even more. Schools in English-speaking countries might also be at a natural advantage in Twitter networks, because users interact primarily in English on that medium. The fact of being based in Anglo-Saxon countries might be an important contextual determinant of network centrality.

Beyond the contextual effect, due to the history of management education and the institutionalization of a US model of business schools, we can expect business schools from

the Anglo-Saxon world to be more central in their network of peers. Indeed, as noted by historical research on the emergence of business schools, management education in Europe in the post World War II era was closely following the American model (Collet & Vives, 2013; Alajoutsijärvi, et al. 2014). But the US agencies in charge of the reconstruction also funded the development of European institutions through the Marshal fund, including the training of faculty and the establishment of London Business School and INSEAD (Djelic, 2001). A number of traditional universities however entered the market late, and were as a result being overpowered by institutions inspired from US business schools, whose model was more valued by rankings and traditional performance metrics (Collet & Vives, 2013). Indeed, business schools ranking originated in the US and then diffused in the UK with the *Financial Times* Ranking (Wedlin, 2006). Isomorphic pressures driven by ranking and the American model can be expected to lead to the convergence towards the US model (the "Americanization of business schools" as stated by Juusola, et al. 2015), leading to a positive relationship between the legitimacy of those "model institutions", and the centrality in the network of peers as they are the first to enact the most legitimate practices in the field.

Hypothesis 3a: *Business schools based in an English-speaking country will be more central it will be in its peer social network.*

Hypothesis 3b: *Business schools based in the United States will be more central it will be in its peer social network.*

EMPIRICAL TESTING

Our primary source of data is the activity on Twitter of business schools that appear in the *Financial Times* "Global MBA Ranking 2015". The *Financial Times* ranking is particularly relevant because it puts in competition schools from all around the world and it has progressively attested of the rise of Asian and European business schools (Collet & Vives, 2013).

Twitter provides first-hand data on how business schools form their peer networks. Twitter was created in 2006 and has become one of the most popular social media platforms with more than 300 million users across the globe (Welch and Popper, 2015). Twitter is often presented as a simple-to-use "micro-blogging" website as users are limited to short messages of 140 characters called "tweets". Tweets are by default publicly available but one can

subscribe to other users' account to receive their content on a feed. Those subscribers are known as the followers. On Twitter, mentions and retweets fundamentally differ: mentioning another account means inserting the Twitter alias of this account in their messages. A retweet implies the rebroadcasting of a message from another account as it was originally. In this sense, we can identify three different sorts of social networks formed on Twitter with different degrees of relationships. Following implies mutual interest and respect, and is often expected to be reciprocal (Holton, et al. 2014). By contrast, mentions are aimed at attracting attention of the account it refers to, and retweets are mostly considered as endorsements and are thus seen as the strongest tie.

Each institution that appears in the rankings was associated with a central Twitter account that represented the institution as a whole, and data on these accounts tweets and following were obtained through the Twitter Application Programming Interface (API). In total 95 accounts were identified and included in the analysis, yielding data on 24,833 accounts they follow and 139,610 tweets they have authored. Tweets were further processed to identify cases where one actor in the network mentioned another (N=57,253) and retweeted another's tweet (N=25,116).

Additional data on business schools are taken from the *Financial Times* "Global MBA Ranking 2015". These include the average salary increase for MBA graduates (as a percentage of previous salary), the value for money ranking (based upon MBA cost, alumni earnings, and opportunity costs), the percentage of faculty with doctoral degrees, the percentage of female faculty and board members, research ranking, and overall ranking. Rankings variables (i.e. research, value for money and overall rankings) were transformed by subtracting the ranking from 100, such the top-ranked institutions had higher scores and the bottom-ranked had a score of zero.

We used a two-step approach that combines definition of latent variables through confirmatory factor analysis with modeling of network structure Poisson regression.

Social Network Analysis

Before testing the hypotheses presented above, we present a brief overview of the network structures here. This descriptive analysis presents key features of the dataset and shows macroscopic features of the three networks. We present key metrics of network structure: density (the number of realized ties in each network as a proportion of the number of possible ties), reciprocity (the proportion of directed ties that are reciprocated), and transitivity (the

proportion of connected actors that are also connected by a mutual acquaintance). We also provide two measures of centralization: degree centrality is based upon variation in the incoming ties to each actor. In contrast, eigenvector centrality weights incoming ties, such that ties from actors who are well connected themselves have higher value. Burris links eigenvector centralization to Bourdieu's notion of social capital, which is premised on the idea that ''not all connections are of equal value'' (Burris 2004:251).

For each metric, we compare the observed value to the mean value of 100 random networks with the same density (i.e. the same number of ties). We then test the observed value of each measure against the standard deviation of the random networks, a technique known as conditional uniform testing (Wasserman and Faust 1994:535). This test determines whether the value of each structural measure is greater than that expected due to chance alone, given the number of ties in the network.

Table 1 – Network Model

	Followers		Mentions		Retweets	
Statistic	Obs.	Rand.	Obs.	Rand.	Obs.	Rand.
Density	0.186		0.05		0.023	
Reciprocity	0.795**	0.696 (0.006)	0.922**	0.905 (0.005)	0.957	0.955 (0.006)
Transitivity	0.569**	0.186 (0.005)	0.198**	0.050 (0.006)	0.077**	0.023 (0.019)
Cent. (Degree)	0.397**	0.076 (0.014)	0.089**	0.046 (0.010)	0.054	0.040 (0.012)
Cent. (Eigenvector)	0.185**	0.060 (0.010)	0.298**	0.149 (0.030)	0.423	0.398 (0.131)

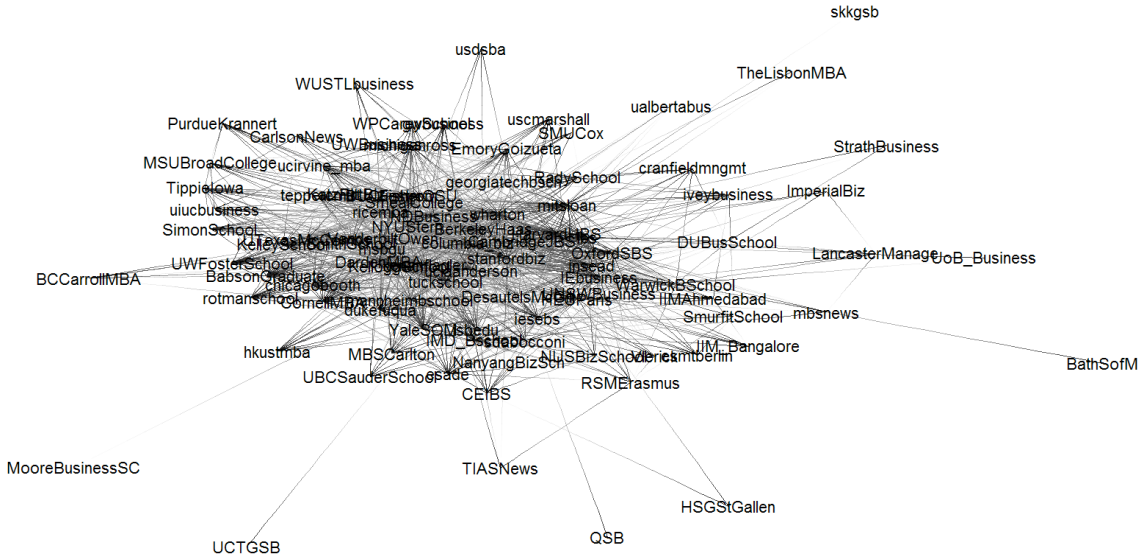


FIGURE 1: The followers network. Lines are drawn between actors in cases where one institution follows another, with the darker end closer to the followed institutions (solid dark lines indicate reciprocal following). Point positions are determined using the Fruchterman-Reingold (1991) algorithm

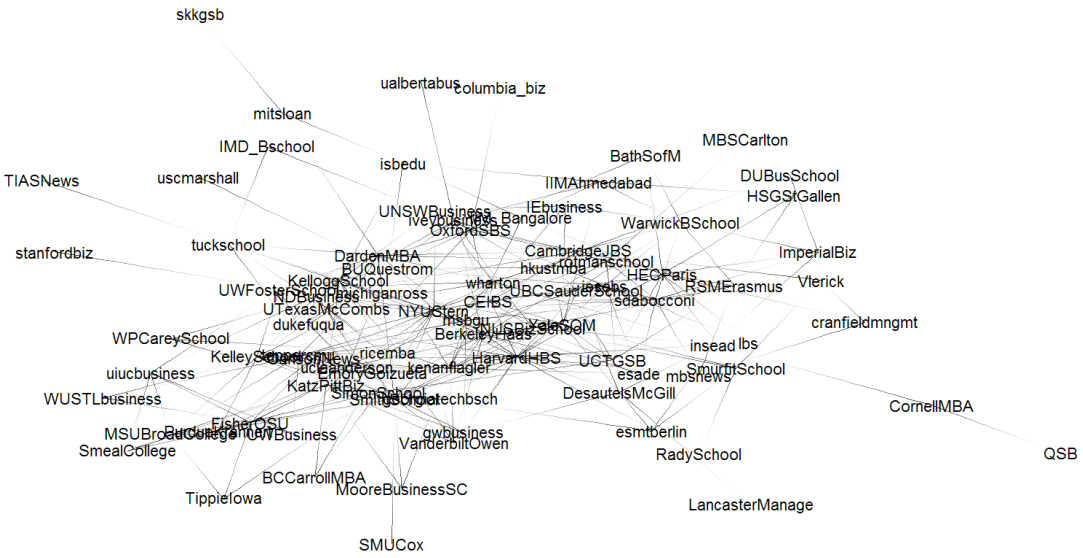
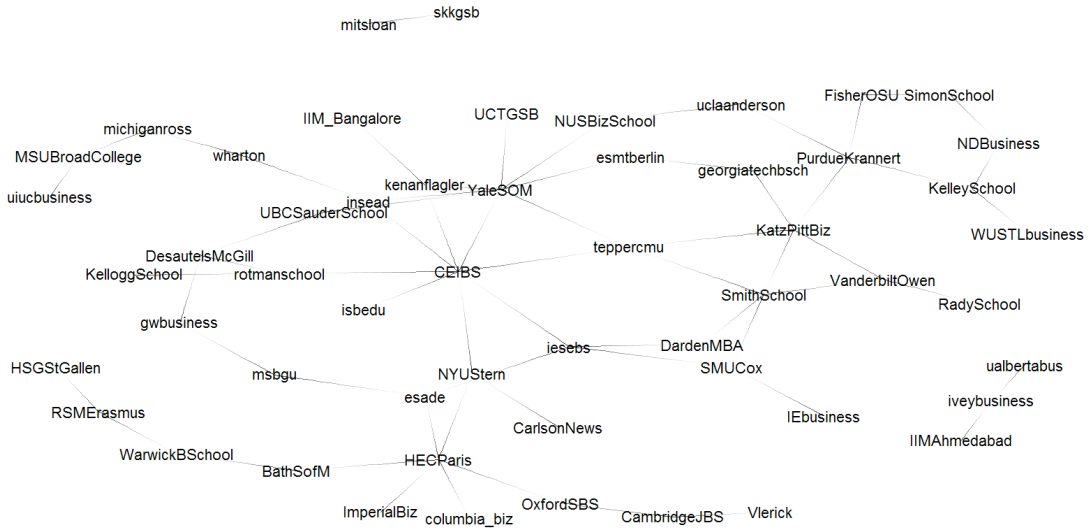


FIGURE 2: The mentions network. Lines are drawn between actors where one actor mentioned the other at least once. The dark end of the connecting line signifies the mentioned actor, and point positions are determined using the Fruchterman-Reingold



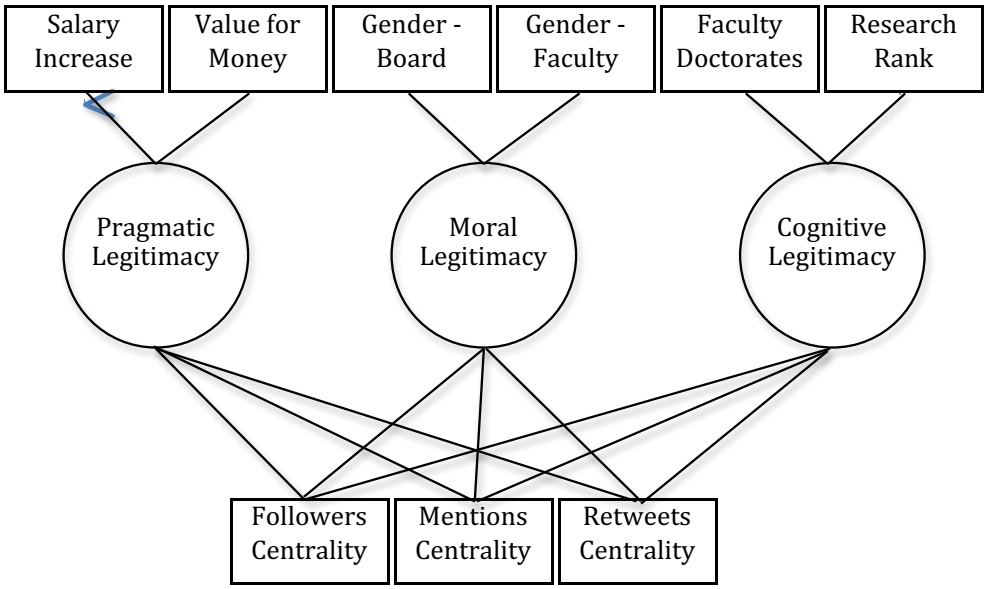
(1991) algorithm

FIGURE 3: The retweets network. Lines are drawn between actors where one actor retweeted a tweet authored by the other. The darker end of the line indicates the actor who was retweeted, and point positions are determined using the Fruchterman-Reingold (1991) algorithm

Structural Equation Modelling

In order to test the hypotheses presented above, we use structural equation modeling (Bollen, 1989). This approach operationalizes the three dimensions of legitimacy as latent variables, i.e. constructs that are indirectly observed through multiple external indicators. These latent variables (the measurement model) are then related to network – specifically the degree centrality of its actors – through Poisson regression. The Poisson model was selected, as the number of incoming ties closely resembles the distribution of count variables.

Figure 4 - Path diagram of the statistical model.



Variables

Independent Variables using a Latent Variable Model (Measurement Model): We defined latent variables through confirmatory factor analysis to construct our independent variables. Table 2 presents the measurement model. In the following paragraph we explain the rationale behind the operationalization choices for the different facets of legitimacy.

Table 2 – Measurement model

	Estimate
Pragmatic Legitimacy	
Salary Increase	-4.884 (1.870)**
Value for Money	19.769 (4.346)**
Moral Legitimacy	
Gender Equity Board	9.001 (3.137)**
Gender Equity Faculty	2.137 (1.212)+
Cognitive Legitimacy	

Faculty with Doctorates	-0.002 (0.001)+
Research Rank	0.039 (0.003)**
Correlations	
Pragmatic -Moral	0.469
Pragmatic - Cognitive	-0.020
Moral - Cognitive	-0.671
N	95

Pragmatic legitimacy: This form of legitimacy relies on the "self-interested calculations of an organization's most immediate audiences" (Suchman, 1995:578) in the case of business schools, students' beliefs that its degrees present an attractive method of human capital investment. We measure pragmatic legitimacy through the average salary increase of MBA graduates and the value for money ranking.

Moral legitimacy: This dimension depends on the abidance to societal norms and the benefits brought by the organization to the whole society (Suchman, 1995; Bitekting, 2011; Zyglidopoulos, 2003). To this end, we define a latent moral legitimacy variable based upon the extent to which the organizational structures represent equitable principles, measured through gender equity on the Board and Faculty of the school.

Cognitive legitimacy: Cognitive legitimacy refers to the extent to which an organization is necessary or acceptable based upon a "taken-for-granted cultural account" (Suchman, p. 582). We define cognitive legitimacy as a business school's adherence to rationalized accounts of the university as a excellent ("world-class") research organization producing knowledge in service of society (Ramirez, 2010). To that extent, we measure Cognitive Legitimacy through the Research Ranking (based upon the volume of publications in management journals) and the percentage of faculty members with doctoral degrees.

Dependent variables: As our dependent variable, we use the degree centrality of each actor across three different networks of peers on twitter: the network of followers (who follows whom?), mentions (who mentions whom?) and retweets (who re-diffuse the tweets of whom?).

Results

Our structural model and the results from the Poisson regression are shown in Tables 3 and 4. Model 1 serves as a baseline to establish the relationship between ranking and positionality in the peer network of business schools. As expected, the overall ranking of a school increases the likelihood that it will be followed on Twitter, it will be mentioned by others in the network, and it's tweets will be retweeted. In other terms, the higher ranking of a school is related to a more central position in its network of peers.

Model 2 extends Model 1 by adding the three latent measures of legitimacy (pragmatic, moral, and cognitive legitimacy). Cognitive and moral legitimacy both significantly increase the chance an institution will be mentioned or followed on Twitter. There is however no relationship to retweets. The effect of cognitive legitimacy is negligible, but moral legitimacy is quite large: one standard deviation increase in moral legitimacy has equivalent effect of eight ranking positions in the followers model and 59 ranking positions in the mentions network (i.e. $0.125 \div 0.16 \approx 8$, and $0.410 \div 0.16 \approx 59$).

Interestingly, pragmatic legitimacy is also significant but the effect is negative, which means that the schools that score high on satisfying students' needs are also the most peripheral and isolated from their peers. In other terms, business schools that focus on student needs are more isolated. This result strongly contrasts with the positive relationship between the other facets of legitimacy and network centrality. There could be two alternative explanations. First, while we can expect schools to be associated with their most virtuous and research active counterparts, focusing on the pay-off for students could be perceived as more instrumental and thus, less noble. A second explanation is that offering the best prospect to students is the most competitive aspect of schools' legitimation strategies. Consequently, schools want to avoid being associated with their counterparts that are leaders on that metric, as they will perceive them as competitors rather than peers.

Table 3 – Poisson Regression of Legitimacy of Business Schools on Network Centrality

	Model 1			Model 2		
	Followers	Mentions	Retweets	Followers	Mentions	Retweets
Intercept	1.741 (0.065)**	1.017 (0.106)**	-0.789 (0.263)**	1.864 (0.064)**	1.104 (0.106)**	-0.854 (0.271)**
Rank	0.019 (0.001)**	0.010 (0.002)**	0.010 (0.004)*	0.016 (0.001)**	0.007 (0.002)**	0.010 (0.004)*
Cognitive				0.001 (0.000)**	0.001 (0.000)**	0.001 (0.000)
Moral				0.125 (0.055)*	0.410 (0.098)**	-0.493 (0.278)
Pragmatic				-0.400 (0.039)**	-0.383 (0.072)**	0.059 (0.171)
AIC	984	576	262	808	552	258
N	95	95	95	95	95	95

	Model 3			Model 4		
	Followers	Mentions	Retweets	Followers	Mentions	Retweets
Intercept	1.652 (0.110)**	1.169 (0.190)**	-0.772 (0.487)	1.515 (0.096)**	0.959 (0.154)**	-0.725 (0.399)
Rank	0.017 (0.001)	0.007 (0.002)**	0.009 (0.005)	0.017 (0.001)**	0.008 (0.002)**	0.009 (0.004)*
Cognitive	0.001 (0.000)**	0.001 (0.000)**	0.000 (0.000)	0.000 (0.000)	0.001 (0.000)	0.001 (0.000)
Moral	0.056 (0.062)	0.430 (0.110)**	-0.463 (0.314)	0.023 (0.059)	0.374 (0.103)**	-0.457 (0.289)
Pragmatic	-0.320 (0.051)**	-0.406 (0.091)**	0.026 (0.237)	-0.182 (0.058)**	-0.293 (0.099)**	-0.025 (0.257)
English	0.211 (0.088)*	-0.066 (0.159)	-0.079 (0.392)			
USA				0.488 (0.095)**	0.221 (0.166)	-0.182 (0.423)
AIC	804	554	260	783	552	260
N	95	95	95	95	95	95

As we have suggested in our theorization, the large effects of moral and pragmatic legitimacy could be due to contextual factors rather than causal. For example, moral legitimacy – which is operationalized through gender equity – could be a reflection of prevailing labour market conditions in North America and Western Europe, which also have greater centrality in Twitter networks. Alternatively, institutions in English-speaking countries might be at a natural advantage in Twitter networks, which operate primarily in English. We model underlying geographic and linguistic contexts in Models 3 and 4 in Table 3. Model 3 includes a binary variable for institutions in the USA, which accounts for 50 of the 95 institutions in the dataset. Model 4 include a binary coding for English-speaking countries (the USA, United Kingdom Canada, Australia and Ireland), which collectively account for 73 of the institutions in the dataset.

Our Models 3 and 4 confirm the relationships indicated in Model 2, even when controlling for geographic and linguistic factors. Cognitive legitimacy is however no longer statistically significant when controlling for institutions in the USA, although its effect size was minimal in Model 2. In the same vein, moral legitimacy is no longer significant in the followers network.

DISCUSSION

This work investigates how the legitimation processes in which business schools engage relate to networks with their competitors and peers. From a theoretical perspective, our study offers a more fine-grained exploration of the legitimacy concept and its different facets on one side, and the relationship between legitimacy and networks within a field on the other side. Furthermore, results show that the three aspects of legitimacy postulated by Suchman – i.e. moral, cognitive and pragmatic legitimacy – function independently of each other and can even be at odds with one another. Concretely, business school that focus on social norms are more appreciated by their peers, while the ones focusing on gaining students' recognition and approval are more isolated. In the end, we show that legitimation outside the field of business education brings about different reactions from peers for the focal organization. Rankings do create isomorphic pressures (Ramirez 2010; Collet & Vives, 2013), but the ability to comply with those pressures can be the subject of a more or less fierce competition.

From a practical perspective, and while previous research has advocated for the use of social media in teaching and learning (Thomas & Thomas, 2012), our study fleshes out the role played by social media for the management of business' school. We point out the importance of interactions on social media with actors of the same field and not only with outside stakeholders.

Theoretical Contributions

By theorizing three dimensions of organizational legitimacy and observing the effect on network of peers, we shed new light on the dynamics of legitimacy and field-level competition relationship between legitimacy and field-level networks. We contribute to the field of social evaluations by looking at the interaction of different forms of evaluation from a variety of actors within and outside the field (Bitektine, 2011). Our two main theoretical contributions are the following:

*Substantiating the Dimensions of Legitimacy***:** Our results lend support to the Suchman's (1995) three-dimensional view of legitimacy. We have not only shown that moral, cognitive and pragmatic legitimacy only different constructs, but also demonstrated how peers appreciate them in a different ways in network relationships. The three aspects of legitimacy are not necessarily correlated, and can even be inversely correlated. Therefore, it makes more sense to speak of each aspect independently than "legitimacy" as a whole. Our findings therefore indicate that legitimacy should be considered as a heterogeneous construct, as aspects of legitimacy relate to network structure in different ways. Future studies on legitimacy would benefit from distinguishing the multiplicity of the isomorphic pressures as a variety rather than a unique determinant of organizational outcomes. Depending on the context, the saliency and power of the different audiences and stakeholders varies. For this reason, social evaluation scholars would benefit from looking at the simultaneous effect of different facets of legitimacy rather than each dimension acting as independent determinants.

Networks and Institutional Legitimacy reveal the complexity of Isomorphic Pressures: Institutional theory has put the emphasis on isomorphic pressures to explain organizational behaviors (DiMaggio & Powell, 1983; Scott, 2008), but has paid limited attention to the distinction between different forms of isomorphism. In the case of business schools, ranking has been shown to drive the isomorphic pressures (Collet & Vives, 2013). Bringing together

social network analysis and institutional approaches to legitimacy yields an interesting insight: because the three aspects of legitimacy have different and sometimes opposing effects, trade-offs and contradictions are introduced into the field of competition. Thus, business schools do not necessarily converge on common strategies or models, although commonalities and typologies are evident (Pettigrew, 2014, Kodeih and Greenwood, 2014).

Our work holds relevance two scenarios in which two audiences are connected to and affected by each other: external stakeholders and the peers that constitute the field. Theoretical work has posited that external audiences can exert some influence on the way practices are enacted within a field, although in some certain situations those fields can remain insensitive to external pressures (Clemente & Roulet, 2015). In the case of business schools, discussions about the impact and legitimacy of business schools have fueled new practices aimed at evaluating impact for example through the Research Excellence Framework in the UK or Business School Impact Score (BSIS) in France. This change suggests that management education is a particularly porous institutional field, sensitive to outsiders' pressures and external judgments. The multi-faceted understanding of legitimacy can help comprehend the complex nature of the interactions with those external judgments.

Practical Contributions

Understanding how business schools can both appeal to their external audiences and form ties with their peers and competitors is crucial to understand how the field of management education constructs legitimacy. Whether business schools are part of a peer network matter to understand how the best practices and models can diffuse.

Refining Legitimation Strategy for the Management Education Sector: As noted by Alajoutsijärvi, et al. (2014), the legitimation process in management education is complicated by the multiplicity of audiences and their respective needs. Business schools are a typical case in which organizational legitimacy is multidimensional, which sometimes make it self-contradictory as schools have to make trade-offs to favour some audiences at the expenses of other. Our study builds upon the idea that business schools can seek different forms of legitimacy and compete on different forms of metrics depending on which audiences they want to prioritize. This suggests that isomorphic pressures, because their variety implies trade-offs for business schools (i.e. they cannot push for every dimension at the same time) do

not necessarily mean convergence of business school strategies (Pettigrew, 2014). We might very well see an increasing divergence in schools' strategies, with some institutions that would rather focus on career placement and opportunities for students, and other on high quality research. In this context, it is up to business schools to capitalize on their competitive advantages and excel on a limited number of metrics rather than obtaining average scores everywhere: this would lead to increasing specialization of organizations in the field of management education. For the industry as a whole, the risk of losing sight from its original mission is non-negligible (Pfeffer & Fong, 2002). In the meantime, those struggles have not prevented business schools from being incredibly successful (Alajoutsijärvi, et al., 2014). From that perspective, we should wonder whether the obsession for legitimacy is justified or even needed.

Networks of Peer and Diffusion of Good Practices: While research on social media and business education has mostly focused on the use of social media in the classroom (see for example Thomas & Thomas, 2012), very little has been said on the use of social media for interaction between business schools. Social media play a crucial role in the construction of social capital of organizations (Castello et al. 2015), and we can expect them to play a similarly important role for business schools, not only to communicate with outsiders, but also to connect with peers. Schools that are at the center of their peer network can more easily "fish" for best practices as the embeddedness in a field is a determinant of adoption of new exemplary practices (Helms, et al. 2012). In this study, we suggest that gaining cognitive legitimacy will be associated with a more central position and being recognized by peers might ultimately yield long-term rewards that have more direct implications than legitimacy gains. More generally, social media can be an opportunity to get out of the ivory tower and address a wider public for all faculty members, students and business schools as organizations (Iqbal, 2013).

Limitations and Further Research

Further research could investigate the different legitimation strategies: do business schools tend to always work on all dimensions of legitimacy or only focus on one type of audience? What is the most efficient to improve ranking and social capital? Following Pettigrew's suggestion (Pettigrew, 2014), such studies could enable scholars interested in the study of business schools to map divergence and convergence in business schools' strategies, which

could in turn yield interesting insights for institutional theory and the understanding of management education as an institutional field. This would extend the work by Juusola et al. (2015) on the different models of Americanization of business schools.

In the meantime, further exploration of the recursive relationship between the positionality of schools in their peer networks and legitimacy, in addition to a better understanding of the causality relationship would be helpful. Positions of organizations in their social networks provide them with a social capital (Adler & Kwon, 2002) that might either accentuate or weaken isomorphic pressures and the conformity to the ideal privileged by outsiders. To take an illustration in the context of business schools, do the best practices that appear to improve key metrics (for example, better placement in the finance sector contributes to MBA graduates' salaries going up) get originated by schools holding central positions?

CONCLUSION

This study has shown that that despite high legitimacy in some domains (e.g. the pragmatic interests of students), business schools can be relatively isolated in social media networks. This raises questions regarding the ongoing debate management scholars had on the legitimacy of management education. The legitimacy of business schools is multifaceted, and it might not make sense to legitimize the institution to all stakeholders in the same way. While outsiders are mostly concerned about the benefits of management education and research for the students, other business schools seem to distance themselves from the institutions going down this path. Why are the "student-oriented" business schools less integrated into social media networks? Business schools mimic their competitors to rank higher on performance metrics, but do not necessarily want to be identified with the schools that do well on all of those metrics. This raises the question of the genuineness of business schools' efforts to be more recognized by their stakeholders: offering their students better opportunities, producing high quality scientific research and having diverse governance bodies should be perceived as good in itself, rather than as levers to improve rankings.

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