Article:
Devinney, TM and Hohberger, J (2017) The Past is Prologue: Moving on from Culture's Consequences. Journal of International Business Studies, 48 (1). pp. 48-62. ISSN 0047-2506

https://doi.org/10.1057/s41267-016-0034-z

The Past is Prologue: Moving on from Culture's Consequences

Timothy M. Devinney

Leeds University Business School
University of Leeds
Leeds LS2 9JT UK
Email: T.Devinney@leeds.ac.uk

Jan Hohberger

Faculty of Business
University of Technology, Sydney
Haymarket NSW 2000 Australia
Email: Jan.Hohberger@uts.edu.au

Abstract: In this paper we examine the theoretical and empirical understanding of culture within the international business discipline post the publication of Kirkman, Lowe and Gibson (2006). In their paper, Kirkman et al. provide a comprehensive retrospective on the impact of Hofstede's seminal publication, Culture's Consequences. In addition to looking at what followed on from Hofstede, they lay out a research program they believe was necessary to move the study of culture forward. Unfortunately, in their current review published in this issue, they outline how little, if any, of their thoughtful guidance was taken to heart. In our perspective, we believe that this signals that the study and use of culture in the international business field has become stuck in a theoretical and methodological rut and more radical thinking is necessary if we are going to advance beyond little than "more of the same" science that simply reiterates again and again that that culture matters without any coherent advancement of the key role that it plays in the international arena.

Keywords: Culture, Theory Development, Empirical Measurement

The Past is Prologue: Moving on from Culture's Consequences

Culture's Consequences is one of the most seminal publications in international business and management. The initial publication, along with newer editions and variants, has been cited more than 50,000 times according to Google Scholar. That singular publication created an academic industry that has influenced countless numbers of students, scholars, managers and policy makers world-wide. In reviewing and synthesizing 25 years of work following on from Hofstede's initial publication, Kirkman, Lowe and Gibson (2006) provided not just a descriptive outline of a collective body of work, but also provided us with a coherent synthesis of what we knew to date as well as a clear prescriptive research plan for moving the study of culture forward. However, as noted by both Kirkman, Lowe and Gibson (2017) and Beugelsdijk, Kostova and Roth (2017), little, if much at all, of that plan had been followed in the 10 years since they published their review.

Rather than repeating what our colleagues have articulated more effectively in their retrospective and commentary, we have chosen to focus on three areas: (1) where we believe the field has advanced and how Kirkman, et al. (2006) has helped in that advancement; (2) where we believe it has strayed, particularly in not heeding Kirkman, et al.'s (2006) program but also in terms of being too myopic in questioning what the research findings have been revealing; and, (3) what we believe is are the alternatives going forward, both theoretically and methodologically.

The goal of this article is, to some extent, to follow-on and reinforce the discussion begun by Caprar, Caliguiri, Devinney and Kirkman (2016). Their special issue of the Journal of International Business Studies on "The Theory and Measurement of Culture" reflects an aspect of the work in the field that is worrying and something noted by Kirkman, et al. (2017) – the

study of culture in international business has been distinctly traditionalist, fundamentally accepting old theories and old methodological practices without sufficient scientific skepticism to advance the field to the extent one would hope given both its importance and the fact that 35 years have passed since Hofstede's original publication. The title of this paper hints at where we believe the field should go. We should acknowledge, accept and utilize, where appropriate, the foundational work in culture represented by Hofstede and those that followed on from his work; however, perhaps it is time to close that chapter and move on. But where might we go to move the field forward? We make a number of suggestions, two of which we believe are key if the study of culture is to advance.

The first is to ask whether we need a holistic "theory of culture" – one that accounts for culture at multiple levels of analysis – or it is perhaps more appropriate to think about different "theories of culture" that would address cultural issues at different levels of analysis and in different contexts from different theoretical lenses. While the general view of culture is that it operates at some higher level – e.g., societies, nations, etc. – much of the research on culture focuses on the manifestation at the individual level or its influence at the corporate level. This conflates the factor of what culture has an "influence on" – i.e., the manifestation in some action – with the characterization of the culture that is doing the influencing – i.e., with the measured structure of culture. This is seen by the fact that our measures of culture are aggregations of individual measures – e.g., responses on a survey – that that are then used to explain some other individual or corporate outcome – e.g., purchasing behavior, profitability, or investment decisions.

The second is to ask whether we are not modeling the process by which culture is manifested in individual decisions. One of the issues with traditional psychometric approaches

to measuring culture that have dominated the field since the publication of Culture*'s* Consequences, is that they assume that each of dimension of culture is reflective of a 'trait' invariably measured by the aggregation (usually a mean) of the responses of some group. We propose a different viewpoint that, while not disowning the logic that culture is a societal or group level construct, accounts for the variation of how that is manifested by the individual in different contexts. Such an approach might allow researchers to capture cultural variability both between and within groups more effectively, but requires a very different empirical logic.

The rest of this paper is organized around the three areas outlined earlier. Our paper is meant to be complementary to the other two papers in this issue – Kirkman, et al. (2017) and Beugelsdijk, et al. (2017) – hence we will work to avoid repeating much of what they say except where we believe there are significant points of disagreement. We begin with an examination of the influence of Kirkman, et al. (2007) using bibliometric and text analysis. We then provide an overview of where we believe there are potential concerns about progress in the field as it has been evolving. We conclude with an example of how we might methodologically and theoretically rethink culture as a way of showing how we can use this opportunity to move forward both more radically and more meaningfully in our understanding of one of the most important factors in the study and execution of international business and international management.

The Contribution of Kirkman, Lowe and Gibson

For us, Kirkman, et al. (2006) represents a purposeful pause for reflection in the study of culture in international business and international management. Their intent was clearly to question where we have been in terms of the scholarly study of culture and to provide a plan for moving the field of culture studies forward. A question asked by both Kirkman, et al. (2017) and

Beugelsdijk, et al. (2017) is whether anyone took their plan to heart and the conclusions are quite mixed; leading to one of those "is the glass half full or half empty" type of academic debates in which we are now engaged.

Rather than dive into that debate directly, our approach was to: first, look at how and where Kirkman, et al. (2006) was used in the academic publication space; second, to address whether those publications represent any material advancement – and, if so, how so; and, third, to use this analysis as a basis for raising a series of questions as to whether or not we have gotten as far as we can with current theory and methods and ask if it was, perhaps, an opportune time to move onto a different mode of thinking with respect to culture.

Our first step was to look at all of the articles that cite Kirkman, et al. (2006) – obtained from the Web of Science[1] – and subject them to two types of analysis. First, we used bibliographic coupling – i.e., measuring the proximity between two articles by the shared number of references between articles (Kessler, 1963) – to analysis the research building on Kirkman, et al. (2006) and identify research streams within it. Second, we used machine based Bayesian text analysis to examine what the articles said. Our goal was not to do a full-fledged semantic and text analysis of the field but to simply identify the main research themes that were building on Kirkman, et al. (2006) and to ask where there were similarities in those themes and to see what that work represented in terms of its topical orientation.

We found 400 articles across all journals listed on the Web of Science as citing Kirkman, et al. (2006). These articles were published in 179 unique journals. Table 1 outlines the journals

[1] Focusing on publications and excluding books is common practice within bibliometric research because books do not go through a rigorous editorial review process and biographic data on books and book chapters is not consistent and reliable within databases such as Scopus and Web of Science. Additionally, machine-readable PDF or Word files of the full text content, which are necessary for the text mining are often not easily retrievable (Randhawa, Wilden & Hohberger, 2016).

where the article is cited most. To begin, we categorized each article into fields of research, allowing for double counting where articles spanned disciplinary areas. This information is presented in Figure 1. What is most interesting about Table 1 and Figure 1 is that while international business journals dominate in terms of the number of citing articles being published within the journal – e.g., 33 citing articles in the Journal of International Business Studies (JIBS) – it is the journals with only one, two or three articles that highlight the unique importance of Kirkman, et al. (2006). We will see this a more clearly shortly but what is quite impressive is the degree to which the articles published are outside international business – 20 percent in strategy and general management, 12 percent in OB/HR and psychology, 11 percent in marketing and IS/operations, and 6 through 9 percent, individually, in fields such as accounting, finance, economics, engineering and the other social sciences. What this reveals is that one of the signals of the importance of Kirkman, et al. (2006) was providing a window on the importance of culture to many scholars outside international business – a feat not to be underestimated. In other words, Kirkman, et al. (2006) provided a singular resource for those scholars working outside the domain of culture to get a coherent and considered overview of the field in a manner that helped them integrate culture into their theorizing and analysis. In doing this, it implied that "culture's consequences" were material to more than just international business and the traditional international management domains and that work going on this area was not peripheral to many other areas of scholarly endeavor.

Insert Table 1 and Figure 1 Here

Our next analysis involved the use of bibliographic coupling (Kessler, 1963) to identify themes and trends within the research citing Kirkman, et al. (2006). We calculated coupling

proximity scores based on the shared references of the articles citing Kirkman, et al. (2006) and visualized and analysed the results via social network analysis using a community detection algorithm (Blondel, et al. 2008). Appendix 1 outlines the approach we used in detail.

The result of this analysis is shown in Figure 2. The nodes represent individual publications and the edges the connection based on the proximity scores. The network position of individual articles is approximated by the path length between the articles and the strength of the connections. To ease the interpretation and to focus on the most relevant publications, the network graph is based on publications with a degree range > 1 and proximity scores > 0.1; which leads to 232 out of the 400 papers citing Kirkman et al. (2006) being used in the analysis. Additionally, we weighted each publication in the dataset with the number of citations they received from the sample of publications (with larger nodes representing more cited publications). To make viewing the graph easier, we only show the labels for the most relevant publications.[2] This analysis revealed seven clusters, four of which will be the focus of our discussion hereinafter, as three of the clusters represent small, idiosyncratic sets of work.

Next, we used Bayesian based text analysis to examine what the main thematic orientations of the articles in those clusters were. Figure 3 provides the themes that standout in each cluster, plus the key articles in that cluster (i.e., those most cited and most central), the areas of work that is most represented in each cluster, and the most represented journals. Appendix 2 provides an overview of the methodology applied.

Insert Figures 2 & 3 Here

---

[2] A network with all labels it not readable in a printed document, but an electronic version can be requested by the authors that includes all of the articles used in the analysis.

Beginning with the smallest of the four major clusters (Cluster A representing 25 articles), we see a reinforcement of the point made earlier about the importance of Kirkman, et al. (2006) in bringing culture to those outside traditional international business themes. The work here is dominantly in accounting, finance and entrepreneurship and is orientated around the impact of culture on investment and performance. It is best represented by articles such as Aggarwal, Kearney and Lucey (2012) and Ahern, Daminelli and Fracassi (2015). The journals in which these papers appear are very diverse, with two papers appearing in JIBS and four in the Journal of Banking & Finance. The second smallest cluster, represented by 56 articles (Cluster C), is traditional international business research looking at the impact of culture on some aspect of IB – joint ventures, foreign direct investment, subsidiary performance and so on. Examples of heavily cited articles in this group include Brouthers and Hennart (2007) and Berry, Guillen and Zhou (2010). Twelve papers in this cluster are in JIBS, with five articles appearing in both the Journal of World Business and International Business Review. Cluster D (representing 75 papers) is dominated by studies on the structure of cultural dimensions, more applied micro OB research, work on methods, measurement and GLOBE related studies. Although there are many papers in this cluster with a psychology-related inclination, the work can be characterized as international business and management in the first instance. For example, nine articles in this group are in JIBS and five in the Journal of Applied Psychology. In some regards, we can look on the work in Cluster C as being much more 'macro' and the research in Cluster D as much more 'micro' in its international business orientation. Examples of the influential papers in this group include Steel and Taras (2010), Taras, Kirkman and Steel (2010) and Leung and Morris (2014). The final set (Cluster B) represents 60 papers and is mostly representative of research in human resources and organizational behavior in a cross-cultural context. The key themes seen

these papers emphasize human resources, leadership, employees and jobs, and organizational justice, with an emphasis on cultural distance as a factor leading to better or worse HR or workplace outcomes. The three leading journals represented are the International Journal of Human Resources Management (6 articles), Journal of Applied Psychology (5 articles) and the Academy of Management Journal (4 articles). In many ways it is the least diffuse cluster with a significant number of human resource and applied psychology journals dominating. Some of the most prominent papers in the group are Gelfand, Erez and Aycan (2007), Tsui, Nifadkar and Ou (2007) and Tsui (2007).

Pulling all of this information together we see three primary influences of Kirkman, et al. (2006). The first influence is bringing the study of culture to those not as likely to view culture as an important component of their theoretical thinking – e.g., accounting and finance, information systems, operations management, economics and engineering. The second influence is in reinforcing the importance of culture in terms of its role on international related decisions, but outside the realm of OB/HR and applied psychology. This is seen in cluster C, which includes a number of strategy, general management and marketing related articles. The third influence is reinforcing the "business as usual" logics seen in the last two clusters, where culture is more likely a core part of the theoretical models being used, be they slightly more IB in character (Cluster D) or more OB/HR in emphasis (Cluster B)

However, in reading Kirkman, et al. (2017) it is also clear that much of what their 2006 article aimed to do – i.e., move the field forward – fell on many deaf ears, as little of their well-considered prescriptive guidance was taken on board by those citing their work. We see this in four major ways. First, there is clearly an issue of <u>methodological appropriateness</u> in studies of culture. Despite Hofstede's quite strong, and nearly infinitely repeated, warning, more than half

the articles they reference, and a very large number of the papers that cite them, continue to inappropriately apply Hofstede's notion of culture as a "national trait" to individuals (see, Kirkman, et al., 2006; Table 2, p. 288). Second, there should be great concerns about confirmation bias in the published studies. Most of the papers cited by Kirkman, et al. (2006), plus those that cite their article, do little more than continue to show that "culture matters" – something no doubt influenced by the fact that one would not include culture in an article when it did not matter empirically. Indeed, only 14 of the 180 articles they reviewed hinted that maybe culture doesn't matter very much, particularly when used in the form of a distance and related to firm level outputs (see, Kirkman, et al., 2006; p. 300); nearly every other study showed that culture mattered in some way to some thing. It is very hard/impossible to find predictive studies of culture – i.e., those that test predictively how culture matters rather than testing it post hoc as an explanatory factor. For example, Auger, Devinney and Louviere (2007) looked at how culture and country was related to segments of individual level ethical consumption behaviors. They found that culture and country related strongly to behaviors when used as an independent variable. However, when they tried to predict which country or culture an individual came from based on their behavior they found no relationship. In other words, nearly every study viewed culture as an independent, not a dependent, variable. Third, studies of culture are being overwhelmed by the use of culture in some form (e.g., distance) as a moderator related to another variable of interest – we estimate that it was used in this form in more than 1/3rd of the empirical studies we examined, particularly those looking at some management function or performance outcome. This, in conjunction with the problem of confirmation bias, ultimately leads to the problem of the cum hoc ergo propter hoc fallacy ("with this, therefore because of this"). Fourth, despite nearly have a century of work, we know almost nothing about cultural transmission

mechanisms. Empirically, culture is treated as a trait – manifested either at the individual, group or national level – without any theoretical or empirical understanding of how people aligned to one or another cultural orientation. Hence, we measure culture psychometrically and say it has an influence on something material, but we know nothing about how this relates to the dynamics of why that is so or how we might, or even if we can, change culture in a way that would influence our dependent variable of interest. Culture is still, unfortunately, a black box. We might know that something is in the box, but exactly what that something not just eludes us but does not seem to be viewed as a terribly important problem for our field.

At this juncture there are two ways we can go with our studies of culture. If we believe that the path trodden for the last 35 years is correct and all that is needed are yet more studies like those in the past, then there is little more to do than keep doing what we are doing in the manner we are doing it. For many scholars, this is no doubt the viewpoint they would hold. However, if we believe that we have reached the point where yet another study on the moderating effect of culture on <fill in your favorite variable of interest> is not going to add much to our understanding either of that specific variable or culture more generally, then it is perhaps time to look at different avenues of work and ones that do not follow the same path as in the past. While we respect the former viewpoint, we believe it would be inappropriate scientifically to ignore the latter perspective as unworthy of consideration. In the next section, we will articulate where we see significant areas for new thinking about culture, both theoretically and methodologically.

Rethinking Culture

Levels of Analysis and Theoretical and Methodological Appropriateness

One of the issues that bedevils our understanding of culture is what it is that we believe it embodies and where that embodiment resides. For Hofstede, and most of those scholars concerned with cultural distance, it was clear that national culture was the focal point of their interest. The same is basically true of those taking a more sociological viewpoint of culture that emphasizes the dominant role of the group (rather than just the country) on the individual. For these scholars, culture is a constraint within which individual behavior operates – be that constraint operating at a group or country level. It can something that will be reflected in hard and soft institutions and will also be understood by those existing within the group, whether or not that culture is something by which any one individual is influenced or whether or not it reflects their own values.

However, for other researchers (e.g., Markus & Kitayama, 1991), culture is much more about the individual operating within complex society. From this viewpoint, the individual and group norms interact and what is important is the manifestations – behavior, views of self, ways in which language is used, and so on – that we are most concerned with. This more nuanced perspective has sometimes been associated with more individual levels of analysis but it still does not argue for the primacy of the individual over the group. All it implies is that the individual has a higher degree of variation than the group norms may seem to accommodate, but culture is still operating above the individual. One can, however, be even more reductionist and go further down the levels of analysis all the way to the genetic. Gorodnichenko and Roland (2012) and Mrazek, Chiao, Blizinsky, Lun, and Gelfand (2013) discuss the relationship between culture values and genetic and pathogenic variation.

For many scholars the solution to this dilemma is multi-level analysis (see, e.g., van de Vijver, Van Hemert, & Poortinga, 2015). However, one should question whether this approach is necessary and that the desire to use multi-equation nest structures is the most appropriate empirical model for what might be a solved via definitional and theoretical clarity. In addition, it may be that the theoretical logic embodied within such a perspective is inconsistent with the methodologies applied currently to the study of culture and its consequences.

Let us begin with the issue of the appropriateness of a multi-level approach. There is no doubt that using a multi-level approach feels conceptually better as it gives solidity to the belief that culture operates at many levels and that culture reflects the context within which an individual is always operating. It is also comforting to believe that one is more realistically modeling something akin to the actual process by which culture operates – i.e., it is capturing that complex interactions of values, attitudes, behaviors and institutions that the literature argues are important components of culture.

However, both of these reasons may be fallacious. First, it is not the case at all that one necessarily needs to worry about more than one level of analysis when attempting to predict a dependent variable. For example, does one need to know the psychological details about the managers of firms to understand firm decisions? The answer is that it depends on the firms and the decisions being made. For small entrepreneurial firms with few complex routines and where the manager may hold power through ownership, the answer may be yes. For large multinational corporations with complex and embedded routines and enforced governance mechanisms, the answer may be no. In the former case, the individual may matter. In the latter case, it could be the routines and rules that matter. Similarly, we do not need to account for genetics to measure the influence of culture on organizational practices even though there may be evidence, as noted

above, that culture and genetics are related. Second, it is not a requirement of science that we model the reality of the process by which an outcome arises. The empirical requirements are to isolate the effect of independent variables (in whatever form) on the dependent variable of interest so as to make a clear judgement as to the material influence of that independent variable on the dependent variable. Having a more complex model may appear to add explanatory power but that simply may be an illusion that arises because the additional complexity is simply adding more information, which, by definition cannot harm the explanatory power of the model (e.g., akin to simply adding more independent variables into a regression and finding that the R^2 has increased). As noted by Kincaid (1996):

> [W]holes are, of course, composed of or exhausted by their parts and do not act independently of them; … nonetheless, theories at the level of the whole can be confirmed and can explain at that level, without a full accounting of the underlying details; … theories at the level of the whole may have only a messy relationship to how micro-level theories divide up the world, thus making macro-level theories irreducible. … Searching for lower-level accounts can be informative as a complement to, but not a substitute for, more macro investigations and that reduction is not the only route to the ideal of a unified science" (p. 142).

There are a number of implications of this discussion.

The first is whether we need a holistic "theory of culture" or it is better to have a set of "theories of culture" that are appropriate at different levels of analysis. Currently, the consensus amongst scholars appears to reflect a preference for a singular holistic theory of culture. This dilemma is not dissimilar to the discussion going on in management about the role of microfoundational approaches. Some scholars (e.g., Foss & Lindenberg, 2013) believe it is

necessary to build our higher level models based on behavioral premises, while others (e.g., Winter, 2013) express skepticism and hold viewpoints akin to that of Kincaid (1992) given earlier. As Devinney (2013) notes about the microfoundations debate, if a microfoundational perspective is necessary then our whole approach to the study of management may have to change. The same logic holds for the study of culture. If one takes the "theories of culture" viewpoint, then the implication is that culture should be approached in a manner similar to economics – where there are macro and micro theories co-existing and attempts to integrate them failed miserably (e.g., Kirman, 1992). The micro and macro theories need not be integrated as long as they do not prove to be at odds in terms of their basic assumptions and models.

As noted by Devinney (2013), how one measures constructs at different levels of analysis may not be commensurate as they are currently structured and just having multiple levels of analysis does not, in itself, solve the problem of what levels of analysis are appropriate; it just changes the choice to how many levels are appropriate and where they reside relative to the dependent variable of interest. Aspects of this point are made with respect to culture by Brewer and Venaik (2014), who show that even if one believes in the cultural scales currently in use, it is wrong to consider them appropriate at all levels of analysis. This implies that if we take a more holistic theoretical approach to culture this may imply a complete rethinking not just of theory, but also about methods and measurement. However, as noted earlier, if we take a multilevel approach, we also need to reconsider our methods and theories. Hence, either direction we choose, there is a requirement that we need to rethink culture empirically and theoretically and align our theory and methods appropriately.

Culture as a Probabilistic Behavioral Manifestation

The discussion to this point highlights that while there is a tremendous body of work related to understanding culture and its consequences, Kirkman, et al. (2006, 2017) emphasize that there are still significant and material issues about many of the basics of the theory and measurement of culture that remain unresolved. In addition, unlike Kirkman, et al. (2017), who argue for a future direction that is very much a moderate evolution of the course we have been on, our concerns hint that perhaps a more radical path is needed to push the study of culture in a slightly different direction both theoretically and methodologically.

There are many possibilities for new paths we could take. What we would like to do in the final part of this article is articulate just one example that reveals how we might rethink culture and implies a substantive change in theoretical logic and a new way of empirically characterizing culture. We do this at the individual level of analysis, making no assumptions as to whether this logic might apply at the group or country level; however, we hint at some possibilities and believe it is applicable more generally. In doing so, we leave open the door to both holistic theories and those that operate at different levels of analysis. Our point in outlining this structure is to show how one can conceptualize culture outside the boundaries of traditional theoretical and empirical approaches and what that might imply. We would also note that nothing about the structure we are presenting precludes the use of existing theoretical measurement structures – e.g., the use of Hofstede's dimensions or Schwartz values – nor does it negate a view that culture is a construct that reflects the complex interaction of values, beliefs, norms, and institutions at the level of a group or society. What it focuses upon is the manifestation of culture and the possible empirical implications. In this sense, we view it as a natural, albeit bifurcated and more extreme, evolution of existing ideas.

Let's consider only two dimensions of culture. For simplicity, we will call these dimensions individualism-collectivism and masculinity-femininity. We will also assume that these dimensions are theoretically independent (hence they can be characterized empirically as orthogonal). Traditional psychometric approaches would assume that these dimensions represent 'traits' and those traits are measured reflectively using multiple measures. We need not make such an assumption, as all we need to assume is that we can come up with a clear, articulable, definition of what it means to be 'collectivistic', 'individualistic', 'feminine' and 'masculine' so that the 'attributes' that are embodied by these dimensions are themselves measurable (or at least understood consistently by those being studied). In traditional approaches there is no accounting for how variable individuals are within these dimensions, since even when treated as individual traits they are normally only measured once.[3] At best, traditional individual level analysis does not consider variation within the individual but variations across individuals.

In addition, let's assume that individuals possess latent or potential cultural manifestations on these dimensions. In other words, rather than characterizing individuals based on their Hofstede or Schwartz Value scores, individuals are presented by joint probability distributions across the dimensions of culture. From a Bayesian perspective we can think of this as prior distribution that an individual, across all possible contexts, would act more collectivist than individualist or more masculine than feminine. Empirically, one can only characterize this distribution as it does not represent actual behaviors but thinking this way has some significant implications. First, individuals are not representable as points but as distributions. Even individuals who appear totally individualistic in their behaviors could have the potential for

[3] When culture is measured at the group level (such as Hofstede, Schwartz and GLOBE do), the assumption is that all that matters is the mean of the group and, to some degree, the variance across individuals. What is assumed is that the variance within any individual is not consequential.

collective behavior and this is estimable. In other words, individuals are represented not by a score but by a distribution and its moments. Second, culture cannot be thought about just as a latency but as a latency that is revealed in a context. We do not see the distribution directly, but indirectly either through measurement or a history of behaviors. Third, if this is truly something that is operating at the level of the individual, we need to have measurement structures that allow us to compare individuals directly (in other words, the collectivism of one individual must be directly comparable to the collectivism of another individual).

Figure 4 presents how this logic looks for one individual facing two different contextual situations. If all we had known about this individual is their Hofstede scores on these two dimensions we would characterize them as strongly individualistic and average on feminism-masculinity. However, this individual has the potential to be collectivist – but with low probability – and can swing both ways easily across the feminism-masculinity dimension. However, what we want to know is how that is revealed in behavioral terms in different contexts – which we will call 'work' and 'home'. What can easily arise in this situation is what might appear to be cultural schizophrenia but is no more than how the individual uses it latent cultural potentialities in these contexts. Hence, they may appear strongly 'individualistic' and very 'masculine' at work (point A) and less 'individualistic' and very 'feminine' at home (point B). While this might look to be no different than a model of moderation, where the context is the moderator, this is not the case at all. The logic underlying this discussion is completely different from existing approaches in what it is saying culture is and how it might be represented. The metaphorical analogy would be Bohr's view of an electron as an object orbiting a nucleus as opposed to Schrödinger and Heisenberg's model of an electron cloud. In addition, one can begin to ask questions about how culture is formed differentially by looking at the antecedents to the

formation of an individual's cultural distributions. For example, what about this individual's history and contextual interactions led them to be less variable/flexible on the individualism-collectivism dimension than the masculinity-femininity dimension? Rethinking culture in this manner opens up a host of questions that heretofore were simply not addressable given the theoretic and empirical logics being employed by international business and international management researchers.

Insert Figure 4 Here

We can see this in a different way by looking at Figure 5. Here we have the context being the interaction of two individuals – call them Kevin and Christina – with two different sets of cultural distributions. The question we can ask is "do they have the potential to cooperate?" where cooperation is facilitated by displaying similarity on the cultural dimensions. Kevin's distributions reveal a greater tendency toward individualism and balance across the masculinity-femininity dimension. Christina's distributions reflect a middling normal distribution on the individualism-collectivism dimension and a strong tendency toward femininity. Looking at the probabilistic overlap of the two distributions on the two dimensions we see a high probability for cooperation since Christina has more flexibility on the individualism-collectivism dimension while Kevin is quite flexible on the masculinity-femininity dimension.

This example reveals a host of implications. The first is that one can look at individual and group interactions more effectively and see where areas of conflict may arise depending on the assumptions about what cooperation and conflict entail. For example, the logic of Kevin and Christina can easily be extended to a comparison between New Zealanders and Americans. Second, it shows that just knowing where people are on a distribution as is traditionally done in

'individual' level analyses is the literature to date (e.g., having a point estimate on some culture or values scale) is fairly meaningless. In addition, viewing culture as an aggregation of the responses of individuals (and hence viewing culture as a point estimate for the group) not accounting for individual level variability can also remove an important piece of information from the composition of group or societal culture. Finally, this analysis implies that we need to have measures between individuals that are directly comparable. In other words, we need to know that the distributions of Kevin are comparable to those of Christina (which is not the case when one applies standard Likert scales).

Insert Figure 5 Here

This last point is particularly important as it relates to our discussion of the relationship between theory and methods. Nearly all of the psychological based studies of culture use standard scaling approaches. However, it is well known that scales such as Likert scales do not permit inter-individual comparability. In other words, we do not know that if Kevin ticks 3, 4, and 5 on some set of measures that this is any different from Christina ticking 4, 5 and 6. So in addition to not providing enough information to generate the individual level cultural distributions we have been discussing, their applicability is dramatically limited if one just uses standard approaches to measurement. Fortunately, we have some possibilities that allow us to get around this problem. For example, approaches based on discrete choice structures and experimental designs can generate utility based measures that (a) allow for individual to individual comparability and (b) generate the sorts of distributions we have been discussing. One of the most applied approaches – best-worst, or extreme value, scaling – have been used in many fields including international business (Buckley, Devinney & Louviere, 2007) precisely to

create measures that help researchers not only generate individual level measures but to also allow them to determine the extent to which those measures are distributed both within and between individuals. In addition, because they are based on discrete choice tasks, they generate responses that are directly comparable across individuals – e.g., while I might not know that your '3' means the same thing as someone else's '3' on a 7-point scale, I can be confident that your 'yes' is the same as someone else's 'yes' when the options are 'yes' or 'no'. In addition, such approaches apply an experimental design structure that permits the direct estimation of individual utilities based on random utility theoretic multinomial logit logics (see, e.g., Louviere, Flynn & Marley, 2015) that can be estimated either through standard classical methods of via Bayesian approaches – both of which can generate individual models for single individuals that can be used either in that form or aggregated to create potentially more meaningful group level models.

The examples given here are not meant to be definitive but are aimed at highlighting the fact that there are radically different approaches to thinking about culture that have been ignored due to the success and dominance of standard psychological, sociological and psychometric logics. We show that there are alternatives to these logics and that it may be that many of the issues raised by Kirkman, et al. (2006, 2017) and Beugelsdijk, et al. (2017) can only be addressed by radical new approaches. For 35 years we have assumed that the structures laid down by Hofstede and his followers were the correct path. Perhaps they are simply the first path and it is up to us to make a choice at the fork in the road.

Moving on from the Aftermath of Culture's Consequences

Our goal in this article was to provide a viewpoint on the impact and role played by Kirkman, et al. (2006) in the development of the study of culture in international business and to also reflect

on the implications of that review for the future of research relating to culture. What we have shown is that Kirkman, Lowe and Gibson's 2006 article has had a profound impact on who studies culture, but much less of an impact on how researchers think about culture and go about measuring it. For us as scholars, this creates a dilemma. Kirkman, et al. (2006) outlined a well-considered and quite appropriate research program they felt would catalyze work in the area. Yet, as they note in their own article in this issue, much of that program has not been realized and there is every indication that it will not be realized. In addition, as Caprar, et al. (2016) noted, there is a degree of conservatism in the study of culture that has led to a lack of new and radical thinking both in terms of method and theory. Our conclusion to this is that perhaps it is time to begin rethinking how we conceptualize and measure culture and push for a more radical series of approaches in doing so. Much of the work in the field in the last 10 years has been distinctly limited to either studies on the moderating effects of culture, reiteration of existing models (e.g., the GLOBE studies), or attempts to modify our models at the margin – e.g., by focusing on multi-level modelling, attempting to use national culture in different forms (e.g., biculturalism), or looking at the looseness or tightness of national cultural measures. Beugelsdijk, et al. (2017) focus on different levels of analysis and variability within and between those levels and reinforce our discussion as to whether we might be chasing a Chimera in looking for a holistic and singular theory/model of culture. However, whichever way the field and its scholars choose to go, we need to express a level of appreciation to Kirkman, Lowe and Gibson for setting the scene so that we can more fully understand where we have been and where we are currently standing.

Table 1: Articles Citing Kirkman, et al. (2006) by Journal

Journal	Number of Articles
Journal of International Business Studies	33
International Journal of Human Resource Management	16
Journal of International Management	15
Journal of World Business	14
International Business Review	13
Management International Review	12
Journal of Applied Psychology	9
Journal of International Marketing	8
International Marketing Review	8
Journal of Management	7
Journal of Cross-Cultural Psychology	7
Journal of Organizational Behavior	7
Journal of Business Research	7
Cross Cultural Management-An International Journal	7
Leadership Quarterly	6
Journal of Business Ethics	5
Journal of Banking & Finance	5
Management and Organization Review	5
Human Resource Management	4
Human Resource Management Review	4
Industrial Marketing Management	4
Academy of Management Journal	4
Journal of Management Studies	4
Journal for East European Management Studies	3
Academy of Management Annals	3
Group & Organization Management	3
Entrepreneurship and Regional Development	3
Personnel Psychology	3
Organization Studies	3
European Journal of International Management	3
Journal of Global Information Management	3
Strategic Management Journal	3
Asia Pacific Business Review	3
Asia Pacific Journal of Management	3
Other Journals with 2 Citing Articles	38
Other Journals with One Citing Article	126

Figure 1: Articles Citing Kirkman, et al. (2006) by Primary Area of Research

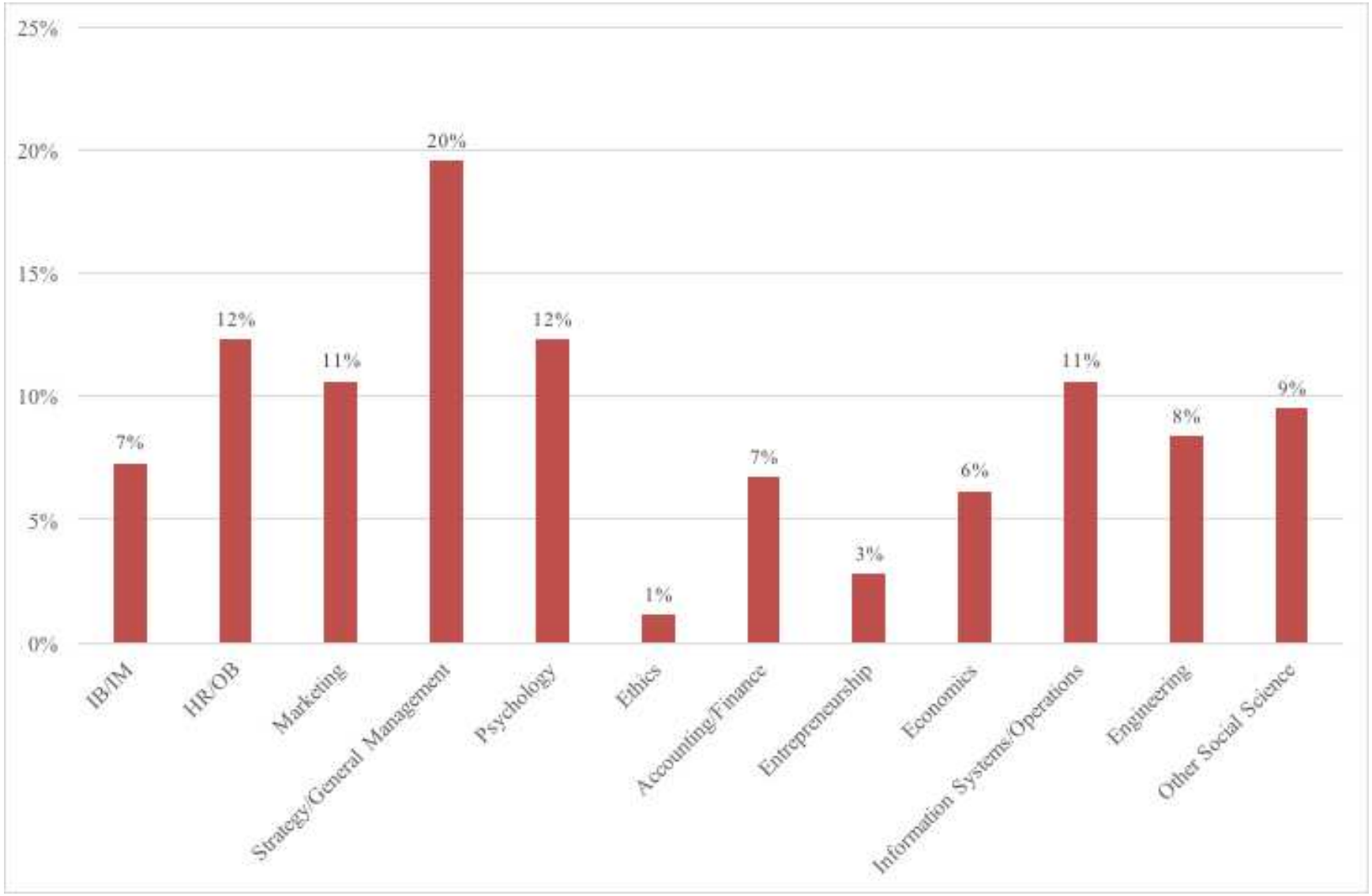
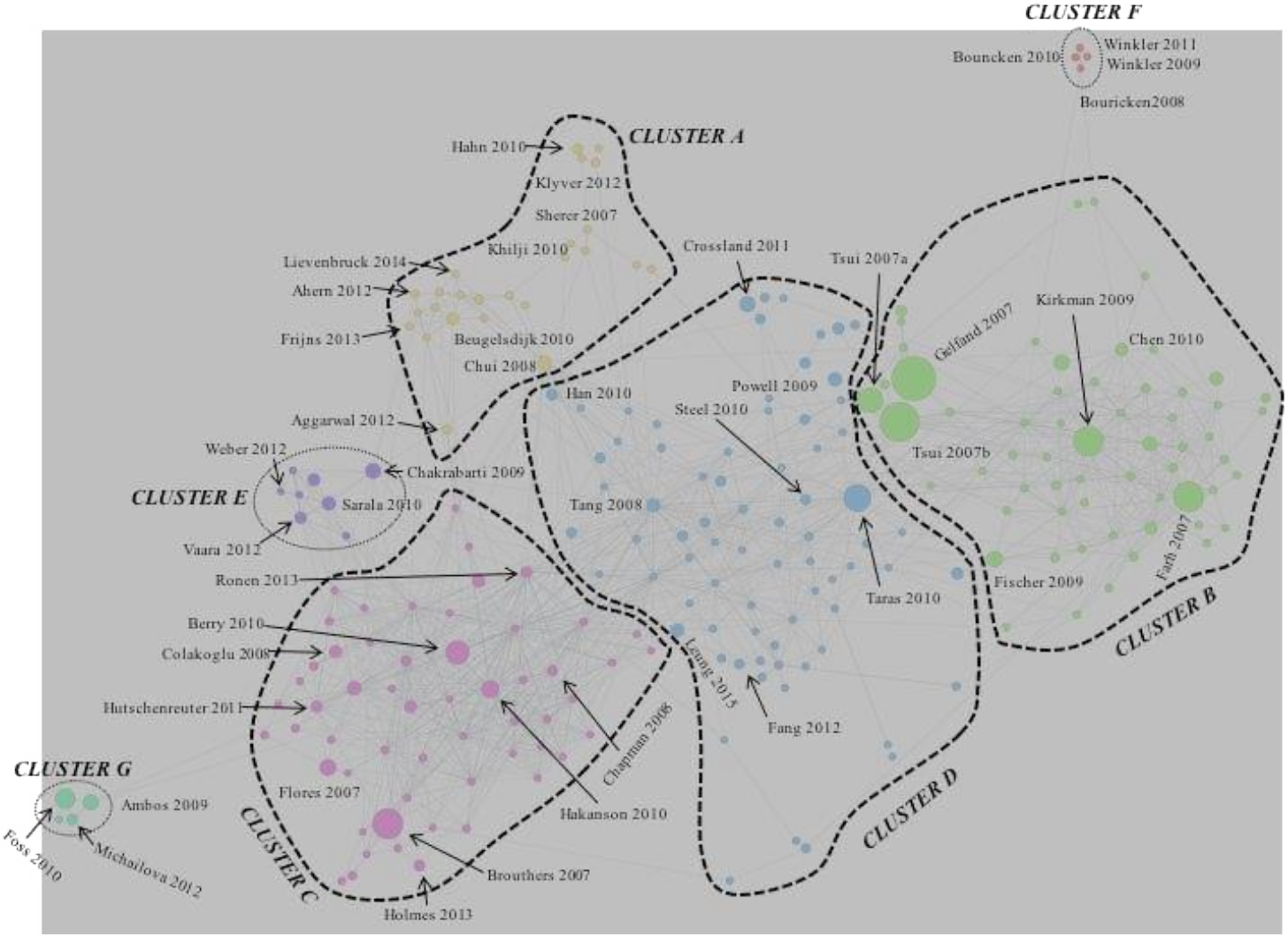


Figure 2: Co-Citation Analysis of Articles Citing Kirkman, et al. (2006)



Note: Only the first author of the articles is given on this figure. A full list of the citing articles is given in the online appendix. Note that 232 of the 400 articles are included in this analysis based on the application of specific selection criteria described in the appendix.

Figure 3: Themes Underlying the Clusters of Articles Citing Kirkman, et al. (2006)

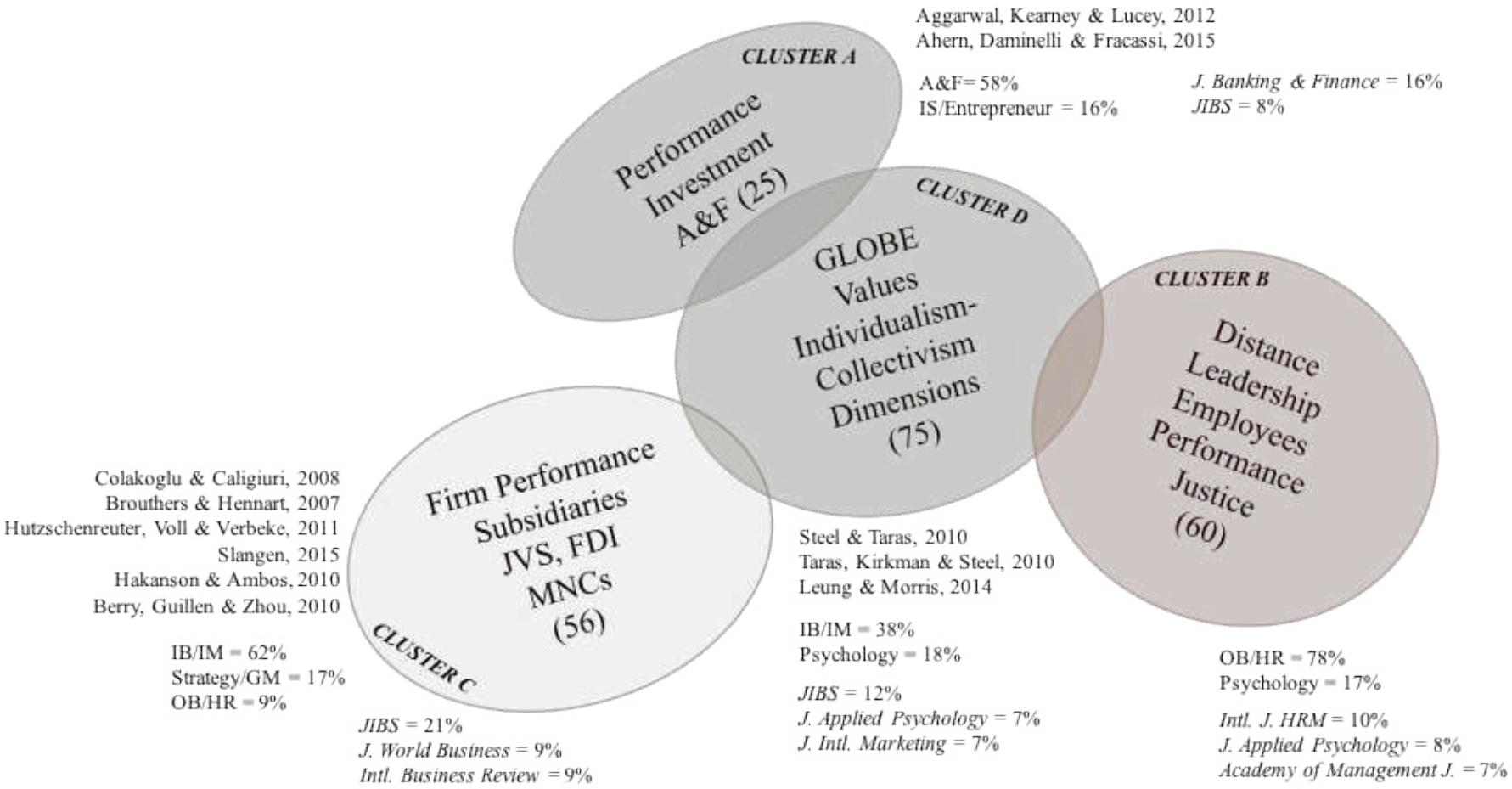


Figure 4: Culture Represented as Probabilistic Distributions with Contextual Manifestations

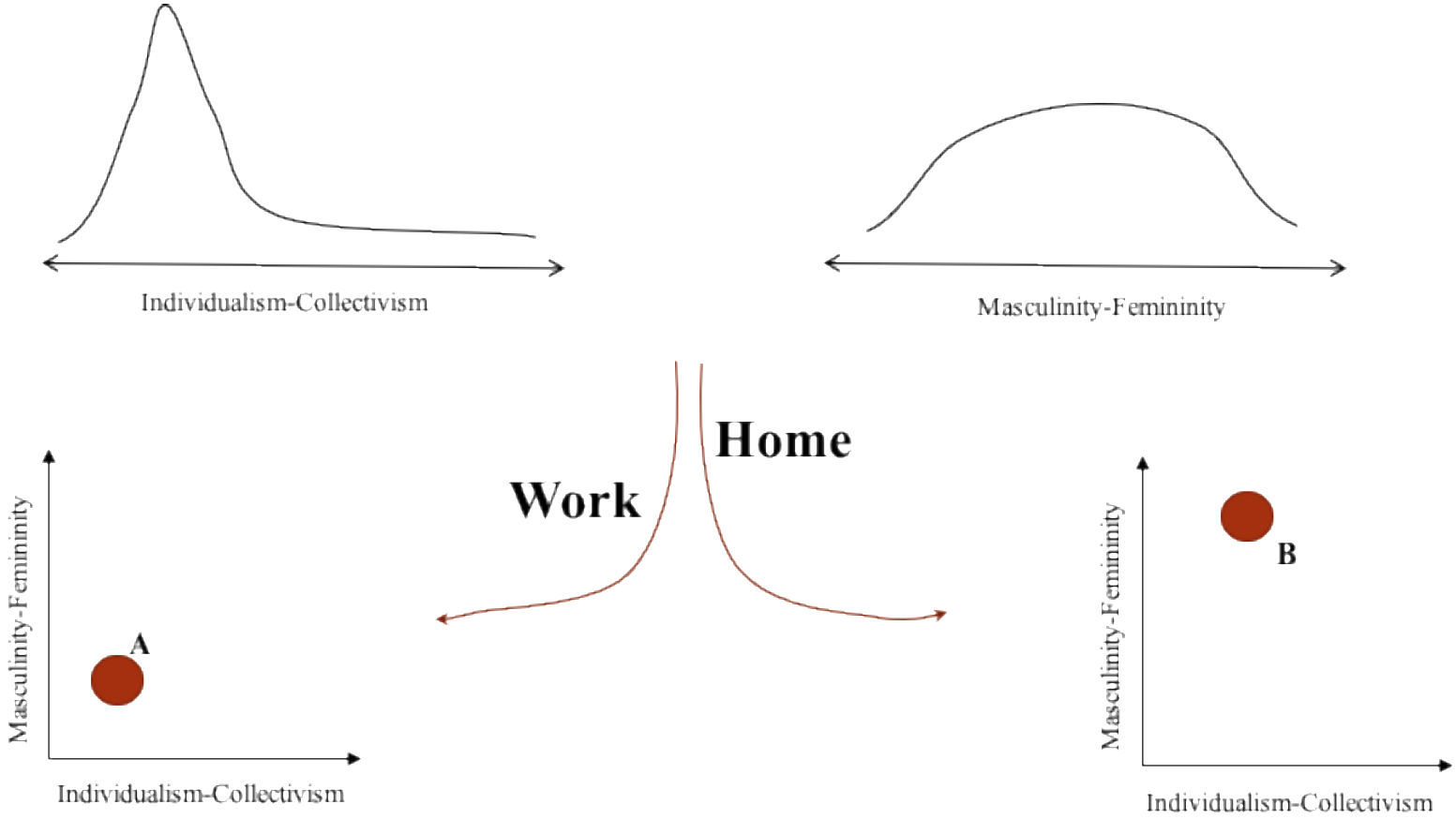
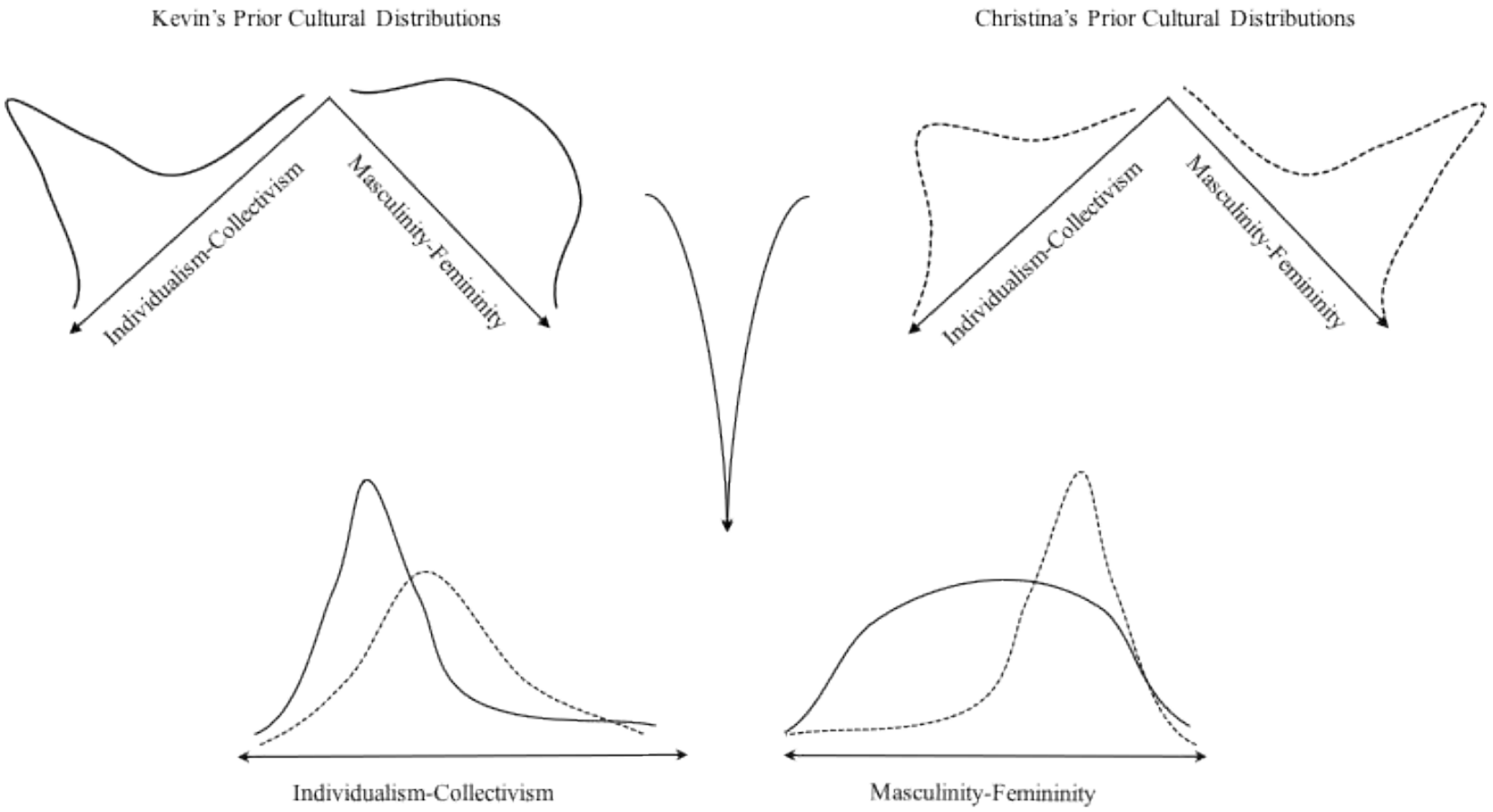


Figure 5: Culture Represented as Probabilistic Distributions with Group Interactions



Appendix 1: Bibliographic Coupling

Bibliographic coupling is, together with co-citation analysis, one of the two main quantitative methods of bibliometric research to map the structure and development of scientific fields and disciplines (Zupic & Čater, 2015). Both approaches are very powerful tools to analysis scientific fields and have been applied in various business areas (e.g., Durisin, Calabretta & Parmeggiani, 2010; Nosella, Cantarello & Filippini, 2012; Randhawa, et al. 2016; Vogel & Güttel, 2012; Zupic & Čater, 2015). The main point of distinction is that in co-citations analysis, the proximity between two articles is measured by the frequency with which two publications are cited by subsequent publications (Small, 1973). In contrast, bibliographic coupling measures the proximity between two publications by the shared number of references between these two documents (Kessler, 1963). As a results co-citation analysis and bibliographic coupling have a different level of analysis (Vogel & Güttel 2012). Bibliographic coupling measures the proximity of two citing publications, while co-citation analysis measures the similarity between two cited publications (references). Additionally, bibliographic coupling is a static approach while co-citation analysis is a dynamic approach (Vogel & Güttel, 2012, Zupic & Čater, 2015). In the case of bibliographic coupling the number of shared references between two publications remains constant over time (Zupic & Čater, 2015), while in co-citation analysis the frequency with which two publications are cited by other publications can change as new publications can appear. The dynamic nature of co-citation analysis implies that older publications can accumulate more citations than newer publications. Thus, co-citation analysis is biased towards the more recent publications which is not the case for bibliographic coupling, where the number of shared references is constant. Bibliographic coupling is therefore, more appropriate to analyse trends among current research (Vogel & Güttel 2012; Zupic & Čater, 2015).

Our bibliographic coupling procedure follows largely the guidelines developed by Zupic and Čater (2015). We use the BibExcel software package (Persson, Danell & Schneider 2009) to perform the bibliographic coupling and to calculate the proximity scores. Additionally, we normalize the proximity scores with the Salton Cosine. Classical analysis and visualization techniques (e.g., exploratory factor analysis and multi-dimensional scaling) often benefit from a normalization of the proximity scores (Zupic & Čater, 2015). While the normalization is not always necessary for network analysis (Wallace, Gingras & Duhon, 2009) our results benefits significantly by applying the Salton's cosine. The Salton Cosine is defined as $= \frac{r_{ij}}{\sqrt{(r_i \times r_j)}}$ where r_i represents the number of references in the reference list of a publication i; r_j the number of references in publication j; and r_{ij} the total number of shared references between publication i and j (Salton & McGill, 1986).

We use the normalized proximity scores to analysis and visualize the relationship between the publications using network and network community analysis. Network analysis has become increasingly popular as a method within bibliometric studies (e.g., Nosella, Cantarello & Filippini, 2012; Randhawa, et al., 2016; Vogel & Güttel, 2012; Zupic & Čater, 2015). Network methods have the advantage that they directly visualize the co-citation pattern between articles (Randhawa, et al., 2016), are generally accurate and effective (Zupic & Čater, 2015) and allow to display a larger number of documents in a meaning full ways (Vogel & Güttel, 2012). In our study, we use the 'Force Atlas 3D" network algorithm within Gephi software package to visualize the network (Bastian, Heymann & Jacomy, 2009). This algorithm approximates the position of a publication in the network by the path length between publications and the strength of the connections between publications. Following common practice in bibliometric studies, to ease the interpretation and to focus on the most relevant publications, we reduced the number of

publication from the 400 articles citing Kirkman, et al. (2006) to a final 232 (Zupic & Čater 2015). The objective of doing this was to exclude documents that are not central to the research area, but still provide a meaningful and representative representation of the field (Zupic & Čater 2015). After testing several networks, we focused on publications with a degree range > 1 and proximity scores > 0.1. This generates the list of 232 articles finally analyzed. To assess the sensitivity of our results to this exclusionary criteria, we generated multiple additional networks with varying threshold levels. The interpretation of these networks is largely similar to the presented results and the network can be requested by the authors.

To aid the identification of research clusters and streams within the network we applied the Louvain modularity optimization to detect communities within the network (Blondel, et al. 2008). The sensitivity of the algorithm can be adjusted using a resolution coefficient (Lambiotte, Delvenne & Barahona, 2008); where a smaller resolution coefficient results in more and smaller clusters. We varied the resolution coefficients in an iterative interactive fashion with the quality of the cluster solutions being judged based modularity parameter (we only considered solutions with a modularity above 0.4) (Blondel, et al., 2008), and the ability to identify meaningful clusters based on the output of the textual analysis described in Appendix 2.

Appendix 2: Text Mining

There are many different approaches to the analysis of text. However, the operative goal is to put structure to unstructured data. In the case of the approached used here, the structure is related to conceptual (thematic) and relational (semantic) relations based on concepts (common text elements). We did this using Leximancer 4.0 (Campbell, Pitt, Parent & Berthon, 2011). Leximancer applies a Bayesian machine-learning algorithm to uncover the main concepts in text and how they relate to each other. The process applied can rely on strong or weak priors (i.e.,

the seed words). As noted by Campbell et al. (2011, p. 92), as "evidence accumulates … The tool automatically and efficiently learns that words predict which concepts." Leximancer derived concept identification has exhibited high face validity, high reliability and reproducibility and thematic clustering without facing the biases associated with manually coded text analyses (Smith & Humphreys, 2006). It is found to be superior to other approaches, such as NVIVO, particularly when the goal is to quickly discover key themes and the relationship between concepts (Sotiriadou, Brouwers & Le, 2014).

Our goal was not to provide a full analysis of the text of the articles citing Kirkman, et al. (2006) – which would involve relating words, concepts and themes in a complex semantic network – but to provide a picture of themes and concepts that dominate the core of the clusters identified by the co-citation analysis. Hence, we were not concerned with the inter-relationship between concepts, but simply what were the major themes represented in the cluster. We did this in two ways. First, each cluster was represented as a separate 'folder' in a larger analysis. This allowed us to use all of the 232 articles from the bibliometric coupling analysis, but to nest the results within cluster. Second, we ran three separate analyses. The first, looked only at the keywords supplied. The second looked only at the abstracts of the articles. The final analysis used the full text available (absent the keywords, abstract and references to remove confounding influences related to the titles of the articles). Because there were 232 articles and we were only concerned about dominant themes across the set of articles in a cluster, the results did not vary much depending on whether we used the abstracts or the full text. The results presented effectively represent both.

References

Aggarwal, Raj, Kearney, Colm and Brian Lucey. 2012. "Gravity and Culture in Foreign Portfolio Investment." Journal of Banking & Finance 36(2):525-38.

Ahern, Kenneth R, Daminelli, Daniele and Cesare Fracassi. 2015. "Lost in Translation? The Effect of Cultural Values on Mergers Around the World." Journal of Financial Economics 117(1):165-89.

Auger, Pat, Devinney, Timothy M and Jordan J Louviere. 2007. "Using Best–Worst Scaling Methodology to Investigate Consumer Ethical Beliefs Across Countries." Journal of Business Ethics 70(3): 299-326.

Bastian, Mathieu, Heymann, Sebastien and Mathieu Jacomy. 2009. "Gephi: An Open Source Software for Exploring and Manipulating Networks." ICWSM 8:361-62.

Berry, Heather, Guillen, Mario F and Nan Zhou (2010). "An Institutional Approach to Cross-National Distance." Journal of International Business Studies, 41(9):1460-80.

Beugelsdijk, Sjoerd, Kostova, Tatiana and Kendall Roth. 2017. "The Impact of Kirkman, Lowe and Gibson's Article on Country Level Research in International Business." Journal of International Business Studies, this volume.

Brewer, Paul and Sunil Venaik. 2014. "The Ecological Fallacy in National Culture Research." Organization Studies 35(7):1063-86.

Brouthers, Keith D and Jean-François Hennart. 2007. "Boundaries of the Firm: Insights from International Entry Mode Research." Journal of Management 33(3):395-425.

Blondel, Vincent, Guillaume, Jean-Loup, Lambiotte, Renaud and Etienne Lefebvre. 2008. "Fast Unfolding of Communities in Large Networks." Journal of Statistical Mechanics: Theory and Experiment 2008(10):P10008.

Campbell, Colin, Pitt, Leyland, Parent, Michael and Berthon, Pierre. 2011. "Understanding Consumer Conversations around Ads in a Web 2.0 World." Journal of Advertising 40(1): 87-102.

Colakoglu, Saba and Paula Caligiuri. 2008. "Cultural distance, Expatriate Staffing and Subsidiary Performance: The Case of Us Subsidiaries of Multinational Corporations," The International Journal of Human Resource Management 19(2):223–39.

Devinney, Timothy M. 2013. "Is Microfoundational Thinking Critical to Management Thought and Practice?" Academy of Management Perspectives 27(2):81-84.

Durisin, Boris, Calabretta, Giulia and Vanni Parmeggiani. 2010. "The Intellectual Structure of Product Innovation Research: A Bibliometric Study of the Journal of Product Innovation Management, 1984–2004." Journal of Product Innovation Management 27(3):437-51.

Foss, Nicolai J and Siegwart Lindenberg. 2013 "Microfoundations for Strategy: A Goal-Framing Perspective on the Drivers of Value Creation." Academy of Management Perspectives 27(2):85-102.

Gelfand, Michele J, Erez, Miria, and Zeynep Aycan. 2007. "Cross-Cultural Organizational Behavior." Annual Review of Psychology 58:479-514.

Gorodnichenko, Yuriy and Gérard Roland. (2012). "Understanding the Individualism-Collectivism Cleavage and Its Effects: Lessons from Cultural Psychology." In Institutions and Comparative Economic Development (Masahiko Aoki, Timur Kuran, & Gérard Roland, Eds). Palgrave-Macmillan: 213-236.

Håkanson, Lars and Björn Ambos. 2010. "The Antecedents of Psychic Distance." Journal of International Management 16(3):195-210.

Hutzschenreuter, Thomas, Voll, Johannes C and Alain Verbeke. 2011. "The Impact of Added

Cultural Distance and Cultural Diversity on International Expansion Patterns: A Penrosean Perspective." Journal of Management Studies 48(2):305–29.

Kessler, Maxwell M. 1963. "Bibliographic Coupling between Scientific Papers." American Documentation 14(1):10-25.

Kirkman, Bradley L, Lowe, Kevin B and Cristina B Gibson. 2006. "A Quarter Century of Culture's Consequences: A Review of Empirical Research Incorporating Hofstede's Cultural Values Framework." Journal of International Business Studies 37(3):285-320.

Kirkman, Bradley L, Chen, Gilad, Farh, Jiing-Lih, Chen, Zhen Xiong and Kevin B Lowe. " Individual Power Distance Orientation and Follower Reactions to Transformational Leaders: A Cross-Level, Cross-Cultural Examination." Academy of Management Journal 52(4):744-64.

Kirman, Alan P 1992 "Whom or What Does the Representative Individual Represent?" Journal of Economic Perspectives 6(2):117–136.

Kincaid Harold. 1996. Philosophical Foundations of The Social Sciences: Analyzing Controversies in Social Research. Cambridge, UK: Cambridge University Press.

Lambiotte, Renaud, Delvenne, J-C and Mauricio Barahona. 2008. "Laplacian Dynamics and Multiscale Modular Structure in Networks." arXiv preprint arXiv:0812.1770.

Louviere, Jordan J, Flynn, Terry N and Anthony AJ Marley. 2015. Best-Worst Scaling: Theory, Methods and Applications. Cambridge University Press.

Leung, Kwok and Michael W Morris. 2014. "Values, Schemas, and Norms in the Culture-Behavior Nexus: A Situated Dynamics Framework." Journal of International Business Studies 46(9):1028-50.

Mrazek, Alissa J, Chiao, Joan Y, Blizinsky, Katherine D, Lun, Janetta and Michele J Gelfand.

2013. “The Role of Culture–Gene Coevolution in Morality Judgment: Examining The Interplay Between Tightness–Looseness and Allelic Variation of the Serotonin Transporter Gene.” Culture and Brain 1(2):100–17.

Nosella, Anna, Cantarello, Silvia and Roberto Filippini. 2012. “The Intellectual Structure of Organizational Ambidexterity: A Bibliographic Investigation into the State of the Art.” Strategic Organization 10(4):450-65.

Persson, Olle, Danell, Rickard and J Wiborg Schneider. 2009. “How to Use Bibexcel for Various Types of Bibliometric Analysis.” Celebrating Scholarly Communication Studies: A Festschrift for Olle Persson at his 60th Birthday 5(June):9-24.

Randhawa, Krithika, Wilden, Ralf and Jan Hohberger. 2016. “A Bibliometric Review of Open Innovation: Setting a Research Agenda.” Journal of Product Innovation Management forthcoming.

Salton, Gerard and Michael J McGill. 1986. Introduction to Modern Information Retrieval. New York: McGraw-Hill.

Small, Henry. 1973. “Co-Citation in the Scientific Literature: A New Measure of the Relationship between Two Documents.” Journal of the American Society for information Science 24(4):265-69.

Smith, Andrew and Michael S Humphreys. 2006. “Evaluation of Unsupervised Semantic Mapping of Natural Language with Leximancer Concept Mapping.” Behavior Research Methods 38(2): 262-79.

Sotiriadou, Popi, Brouwers, Jessie and Tuan-Anh Le. 2014. “Choosing a Qualitative Data Analysis Tool: A Comparison of Nvivo and Leximancer.” Annals of Leisure Research 17(2): 218-34.

Steel, Piers and Vas Taras. 2010. "Culture as a Consequence: A Multi-Level Multivariate Meta-Analysis of the effects of Individual and Country Characteristics on Work-Related Cultural Values. Journal of International Management 16(3):211-33.

Taras, Vas, Steel, Piers and Bradley L Kirkman. 2010. "Negative Practice-Value Correlations in the GLOBE Data: Unexpected Findings, Questionnaire Limitations and Research Directions." Journal of International Business Studies 41(8):1330-38.

Tsui, Anne S. 2007. "From Homogenization to Pluralism: International Management Research in the Academy and Beyond." Academy of Management Journal 50(6):1353-64.

Tsui, Anne S, Nifadkar, Sushil S and Amy Yi Ou. 2007. "Cross-National, Cross-Cultural Organizational Behavior Research: Advances, Gaps, and Recommendations." Journal of Management, 33(3): 426-78.

Vogel, Rick and Wolfgang H Güttel. 2013. "The Dynamic Capability View in Strategic Management: A Bibliometric Review." International Journal of Management Reviews 15(4):426-46.

Wallace, Matthew, Gingras, Yves and Russell Duhon. 2009. "A New Approach for Detecting Scientific Specialties from Raw Cocitation Networks." Journal of the American Society for Information Science and Technology 60(2):240-46.

Winter Sidney G. 2013. "Habit, deliberation, and action: Strengthening the microfoundations of routines and capabilities." Academy of Management Perspectives 27(2):120-37.

Zupic, Ivan and Tomaž Čater. 2015. "Bibliometric Methods in Management and Organization." Organizational Research Methods 18(3):429-72.