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Introduction

We are pleased to bring you Volume 2 Issue 1 of the *IAFOR Journal of Business & Management*, an internationally reviewed and editorially independent interdisciplinary journal associated with IAFOR's international academic conferences.

The first issue was published in August of 2014 and we hope to recover from the two-and-a-half-year gap by publishing two issues this year. The next issue is planned for October 2017.

The *IAFOR Journal of Business & Management* publishes articles touching on international, intercultural, innovative and interdisciplinary issues in business management that address challenges and solutions in a complex and rapidly changing environment. We encourage submissions from academics, practitioners and professionals within the fields of Business and Management.

This issue of the journal presents four research papers and deals with issues in Marketing, Human Resources and Supply Chain Management.

We would like to thank the authors and reviewers for handling the peer review process in a collegial and timely fashion. We would also like to thank the editorial staff at IAFOR led by Ms Clare Midgley, Publications Manager, who were instrumental in keeping us on track and bringing out the issue on time.

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Authenticity in B2B Relationships: Do Channel Members Really Care?

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Abstract

According to a significant amount of research, consumers take the notion of authenticity very seriously in their consumption decisions of such things as products, services, relationships and service encounters. On the other hand, business to business (B2B) transactions are thought to be more formal, following set processes, and more rational. However, as people are at the core of B2B transactions, one would expect to see some impact of authenticity on those transactions as well. As authenticity is almost completely absent from the B2B literature, using an interpretive thematic analysis this paper analyzed the relationships between distributors and their suppliers, and found that authenticity was a factor in those relationships. Furthermore, it was found that consistency, promises, a balanced presentation and spontaneity were important cues used by distributors in evaluating the authenticity of their suppliers. From this research it is clear that the authenticity theories are applicable and should be included in further B2B research.

Keywords: authenticity, channels, distributors, buyer-seller relationships

Introduction

> *Fake. Contrived. Disingenuous. Phony. Inauthentic. Do your customers use any of those words to describe what you sell or how you sell it? That is exactly how more and more consumers view what companies offer them.* (Pine and Gilmore, 2007, p. 1)

Authenticity has received a lot of attention over the past several years. Just look at the *Time Magazine* article (March 24, 2008) "10 ideas that are changing the world" – you will find "Synthetic Authenticity" at number seven; top management writers Pine and Gilmour (2007) published a book titled *Authenticity: What Consumers Really Want.* It is apparent that authenticity has become a common concept across many different domains – including marketing.

Thus far the concept of authenticity in marketing is set quite firmly in the consumer realm. Consumers want to be sure that they are not spending their money on a sham, fake or forgery (e.g., Beverland, 2006; Brown, Sherry & Kozinets, 2003). Pine and Gilmore (2007, p. 4) say "practically *all* consumers desire authenticity." These same consumers also work in channel companies, so it is reasonable to assume that the same is true as they deal with other businesses. However, there is scarce (if any) mention of authenticity within the channels and B2B literature. This paper endeavors to address this gap, and determine if authenticity is important in a B2B context, and if so, what cues are used by channel members in making authenticity evaluations.

Therefore, the main research questions of this paper are: (i) are companies subject to authenticity evaluations by distributors? and (ii) what factors or cues are used by distributors to assess the companies' authenticity? As the concept of authenticity is rare in the B2B literature, this study is exploratory in nature, and seeks to understand if and how authenticity figures into this context. Thus a thematic analysis of a trade magazine, *VARBusiness*, was undertaken.

This paper is divided into the following main sections: first is a literature review of authenticity, the second makes the conceptual link between authenticity and companies. The third section outlines the method, followed by key findings. The fifth section provides a discussion of the findings followed by managerial implications and the conclusion.

Authenticity

At its core authenticity relates to notions of truthfulness, facts, honesty, genuineness, trustworthiness and actuality (Beverland, 2006). According to the Oxford English Dictionary (2001), authenticity is "something that is authentic; as being in accordance with fact, as being true in substance; as being what it professes in origin or authorship, as being genuine."

Philosophically authenticity seems to be a concern for all people in their self-identity projects. Furthermore, in people generally apply authenticity judgments to objects, experiences and people around them. From the political, communications and tourism literatures we know that authenticity is a construct that people use as a global evaluation of other people, experiences and objects (e.g., Cohen, 1988; Donsbach & Jondura, 2003; MacCannell, 1973; Tolsen, 2001).

Within the marketing literature there are two main applications of authenticity. One is within a consumption context where consumers purchase and use items or engage in activities to

authentically display their identities. This view of authenticity is primarily internally focused (e.g., Arnould & Price, 2000; Schouten & McAlexander, 1995), dealing with how people feel about themselves, and how they attempt to reveal their true selves, especially to others.

The second use of authenticity is to make an evaluation of market offerings (Grayson & Martinec, 2004). Consumers are interested in the authenticity of certain products and services that they consume, such as premium wines (e.g. Beverland, 2006), retro cars and movies (e.g. Brown, Sherry & Kozinets, 2003), white water rafting (e.g. Arnould, Price & Tierny, 1998) and mountain man and MG car competitions (e.g. Belk & Costa, 1998; Leigh, Peters & Shelton, 2006). Authenticity evaluations can impact consumers' satisfaction, loyalty, word-of-mouth behaviours – in both positive and negative directions.

This same discussion of authenticity has been largely absent from the marketing channels literature. There is some coverage of a concept that has similarities to authenticity – the problem of adverse selection (e.g. Akerlof, 1970), where one party has information about its products and services that the other party does not have. This has an impact on contracting between the partners, as there is no certainty about the true nature of the product or service. Thus, choice of partner, pricing and market size can be affected by this issue. As the concept of adverse selection concern appears in the channels literature (e.g. Cakanyildirim et al., 2010; Savaskan et al., 2004), and given its overlap with the notion of authenticity, it seems likely that channel members would have similar concerns as end consumers about authenticity. That is, they do not want to deal with fakes and phonies – they will react negatively to inauthenticity, and positively to authenticity. But how would this play out in a B2B setting?

We know that in a B2B setting there is more emphasis (versus the consumer context) on the corporate brand and the company behind it than on individual product brands (e.g. Kuhn, Alpert & Pope 2008). Thus in the B2B context, authenticity may function in relation to the entire company, rather than to a specific product or product brand. Companies actively engage in impression management practices (e.g. Elsbach, 1994), and it is expected that a company will attempt to manage their corporate brand to present an overall positive face to its stakeholders. The use of impression management implies that there is an actual or real version of the company that may be different from what is presented. This brings to mind the notion of authenticity; where authenticity is the comparison of what something appears to be, and what something purposefully *claims* about itself. It seems that this gap in a company's claims about itself and its reality is relevant to the people's perception and evaluation of companies. Therefore one would expect to see authenticity evaluations occurring within a channel, or B2B context. Thus this study first looks to see if there is evidence of this happening.

The second concern of this study is to uncover the cues used as in authenticity evaluations. Several cues are recognized from existing authenticity literature. We know that a balanced presentation, versus a self-enhancing or self-deprecating presentation, is considered more authentic; and honesty and self-knowledge are also indicators of authenticity (Robinson, Johnson & Shields, 1995). We also know that spontaneity or naturally occurring events and objects are perceived to be more authentic than prepared or staged events and objects (e.g. Cohen, 1988; MacCannell, 1973; Tolson, 2001). It has been shown that authenticity can be either indexical (objective) or iconic (subjective) or even a combination of both of these (e.g. Cohen, 1988; Grayson & Martinec, 2004). Finally, Beverland (2006) identified heritage, consistency, quality commitments, and downplaying of commercial motives as cues to authenticity. These characteristics, combined with overall notions of being real, trustworthy,

reliable, genuine and sincere (e.g. OED, 2001) provide a strong filter with which to analyze the data.

Method – Thematic Analysis

Thematic analysis is used to interpret the data for this study. Braun and Clarke (2006, p. 79) say that "thematic analysis is a method for identifying, analyzing and reporting patterns (themes) within data." As a method in its own right, thematic analysis is infrequently recognized. It is, however, used as a process within many forms of qualitative analysis, and can be considered a good foundation for other qualitative methods (e.g. Boyatzis, 1998; Braun & Clarke, 2006; Roulston, 2001). Generally speaking, the analysis involves a search across all of the data, looking therein for patterns of meaning (e.g. Boyatzis, 1998; Braun & Clarke, 2006). To begin with, there are two broad approaches to doing thematic analysis, a more inductive approach and a theoretical approach. The inductive approach is closely aligned with a grounded theory approach (Glaser, 1992) where theories emerge from the data. The theoretical approach is more deductive, and requires a closer and deeper involvement in the related literature prior to analysis.

Braun and Clarke (2006, p. 86–87) outline six steps for completing a thematic analysis. These steps guide a researcher through the process of looking for "patterns of meaning" through to reporting on the meaning of themes in a paper. These steps are presented in Table 1 and are followed through this study.

Phase	Description of the process
1. **Familiarizing yourself with your data:**	Transcribing data (if necessary), reading and re-reading the data, noting down initial ideas.
2. **Generating initial codes:**	Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code.
3. **Searching for themes:**	Collating codes into potential themes, gathering all data relevant to each potential theme.
4. **Reviewing themes:**	Checking if the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic 'map' of the analysis.
5. **Defining and naming themes:**	Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells, generating clear definitions and names for each theme.
6. **Producing the report:**	The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis.

Table 1: Thematic Analysis Steps

This study utilizes a theoretical approach. The existing literature provides fairly deep coverage of authenticity but not within a B2B context. The analysis in this paper looks to see if similar findings are evident in the B2B context.

The Data Set – *VARBusiness* Magazine

VARBusiness is "A management-related publication featuring trends and profiles of people in the VAR [value added reseller] market" (online publisher description). It is a regularly

published trade magazine with a total readership (with pass-along) of 450,000. It is designed to highlight the issues, concerns, trends and news within the Information Technology industry channel (primarily in North America). It includes interviews with company personnel such as distributor, supplier and customer senior management. It also provides commentary by industry and subject matter experts, on companies, the industry and people within the industry. It provides multiple perspectives from within the channel and external to the entire channel in a way that there can be corroboration of evidence. Additionally, as compared with interviews, there is no chance of "leading questions"; thus where evidence related to the research questions of interest is found, it could be considered as strong support for the importance of authenticity.

Of the over 12 years of issues of *VARBusiness* available online, one year was chosen for this paper's analysis. The author read through all articles in detail allowing the author to become very familiar with the content of the magazine. Once one year's worth of issues was read in its entirety, other years' articles were scanned in less detail – looking specifically for articles that dealt with issues and concerns of distributors and their suppliers. This fits with a theory-driven approach to thematic analysis where "you are coding to identify particular (and possibly limited) features of the data set" (Braun & Clarke, 2006, p. 89). The types of articles in *VARBusiness* are quite technical in nature, and use a significant amount of technical jargon. The tech industry, and the technology used therein changes very rapidly; as the technology changes, so does the jargon. At times, the authors of articles, and industry people being interviewed or quoted use this technical jargon, assuming that the reader is familiar with its meaning. Without this familiarity, it would be difficult to adequately read and understand the full meaning of the articles. Thus in order to complete a thorough and well understood reading and analysis of the data set, the author chose a timeframe in which he worked in the industry, and thus has knowledge and experience to understand the technical terms and issues that are discussed in many of the articles. This facilitated a more in-depth analysis and interpretation of the data. The year chosen for this complete reading was 2001.

There is undoubtedly additional supporting information to be found in articles other than from the year 2001. However, as is common in other qualitative research, when repetition of themes is encountered, it is acceptable to stop gathering and analyzing data (Glaser & Strauss, 1967). This repetition occurred within the data from 2001. However, in order to supplement this information, articles from other years were also analyzed. These served to confirm that similar themes were evident across time, and that there was nothing particularly unique about 2001. In total, more than 1000 articles from the trade journal were read and analyzed.

Findings

Authenticity
The first phase of the analysis was to look for evidence that distributors make authenticity evaluations of their suppliers. As a preliminary step in this phase, the terms "authentic" and "authenticity" were put into an electronic search of the entire archive of *VARBusiness*. In that entire database of over 300 issues, in thousands of articles there were only 19 incidents of these terms. Only two of these were relevant to the current research. One was the COO of a supplier that made a passing reference to one characteristic of his own company being authentic; the other was a distributor saying that he wanted authentic relationships with his suppliers. The other incidents related to issues such as security, accessing web sites and software copies and piracy.

Clearly "authenticity" is not a term that commonly springs to mind in the people who contribute to *VARBusiness*. However, there are many other words, terms and concepts that can indicate that authenticity is a concern. Therefore, analysis of data in order to explore the issue of authenticity needed to be carried out by looking for themes that related to authenticity; themes that indicate that distributors are evaluating suppliers to find out what they are *really* like.

One such theme is that of a corporate façade. A façade is generally the front of a building, but it can be an artificial, superficial front that hides what the building is actually like. In the data, there were many instances where distributors wanted to know what the real corporate supplier was like. One quote in particular gives an indication of a façade: "you also really have to understand and trust the organization *behind* the company you're getting into" (April 16, 2001: 40). That is, a supplier makes claims about itself, but it is necessary for its distributor to get behind that front to feel confident in doing business with the supplier. In another example, one application services provider (ASP) was described as follows:

> "At the end of the day, Pandesic was simply overhyped," Laube concludes. "You had two businesses [two companies had merged to form Pandesic] who knew nothing about running a service business-and it showed."
> In Pandesic's case, it expected world-class customers to beat a path to its door before it verified its business model or its technology. (Jan 8, 2001: 46)

In other words, Pandesic was projecting capabilities beyond what it actually had. The reality did not match the façade. When distributors realized this, it was not long before Pandesic failed. Distributors look for signs of a gap between the corporate claims for itself, and what the reality is. In speaking about some suppliers, another VAR said:

> The main problem … is mismatch: mismatched skills, investor expectations, management capabilities and, most critically, mismatched delivery models. They tout the new economy, but operate under old-economy models. (Jan 8, 2001: 71)

Here again there is a disparity between what suppliers project, and how they actually operate. The disparity – i.e., "mismatch" – represents authenticity, or when the disparity is large, *in*authenticity. The editors of *VARBusiness* also recognize the importance of not being fake. In discussing effective supplier advertising strategies, one editor said:

> Solutions-oriented companies trying to glean insights from the massive investments made by others into Super Bowl spending should keep the following in mind: After singing puppets, fighting brides and attacking wolves, audiences have soured on broken promises, unmet expectations and phony platitudes. (Feb 5, 2001: 65)

One can almost hear the derision in the editor's voice as he attacks inauthentic advertisements, and he clearly alludes to distributors' – i.e. the "audiences" – dissatisfaction with such approaches. It is not just dissatisfaction though; the dissatisfaction has led to defections by distributors.

> Vendors are calling for lunch dates, sending reps to hunker down for business-development meetings and trying to renew old acquaintances. For solution-provider executives living in warmer climates, the calls are going out for golf dates. "I won't turn them down," one veteran solution provider says, but "Where have they been?" Solution providers, sceptical about vendor claims to begin with, have grown downright suspicious.

> They've moved business from vendors that stopped paying attention to them and instead rewarded those that understand partnerships. (Feb 19, 2001: 18)

From past experience, and history with these suppliers, the distributors know that the lunch and golf dates are mostly illusions of care and concern by their suppliers. They are not symbols of true care, and the distributors end up thinking less of the suppliers that use these tactics, and moving business away from these suppliers. Also, when there are illusions of care and concern, the distributor may begin to think of the motivations behind such actions. The motivations are not interpreted as in the best interests of the distributors, rather in the interests of the supplier – and the distributor's interests are secondary or peripheral.

There are also positive authenticity evaluations – not just negative evaluations for inauthentic situations, as the above quotes may have implied.

> What made Fiorina's [then CEO of Hewlet Packard (HP)] remarks helpful in the short term, according to analysts, was her candor in admitting a problem existed in the first place.
> "In any relationship, the most important issue is credibility," says Jonathan Eunice, an analyst at Nashua, N.H.-based Illuminata. "When a company like HP comes forward and says what it had to say, there's a propensity to give it a chance to come back and fix the problem."

HP did not claim to be perfect, nor did it claim to be completely 'bad', rather it presented a balanced picture of itself. This has been shown in other literature to be interpreted as authentic, and is a positive attribute (e.g., Robinson, Johnson and Shields 1995). One could also see Fiorina's remarks as showing honesty and integrity. As a result of the above situation with HP, there was a very positive response and reaction from HP's distributors. Suppliers must walk a fine line with how they promote themselves. The tendency is to only talk about the positive things. But in the communications literature this focus *only* on self-enhancement is generally considered inauthentic. It appears the same holds true in the channels context.

Authenticity Cues
Although the word 'authenticity' is not used by distributors in the above quotes, it is clear that authenticity evaluations are taking place. In addition to this finding that authenticity evaluations take place in the channel, several types of authenticity cues emerged from the data; that is, indicators that helped distributors determine whether the reality of the vendors matched the façade that they projected – or how authentic they were.

Communication – Balance Versus Hype
One important cue is the use of self-enhancing communications. That is, when suppliers make seemingly incredibly positive claims about themselves: their abilities, their values, what they guarantee, or their past track record in dealing with stakeholders, distributors tend not to believe them. Distributors refer to this form of communication as "hype", and too much of it leads to evaluations of inauthenticity. However, when more balance is used, distributors are more accepting of the claims:

> While some companies have tried to win business by promising clients more and delivering less, Reston, Va.-based Proxicom wins business by giving clients realistic expectations and then delivering on them, says CTO Craig Miller. For instance, when bidding on a project to build a trading hub for the mining industry, Miller says his

company, which Compaq recently announced it is acquiring, came up against a number of well-known e-services companies that promised end-to-end solutions in less than three months for under $1 million.
"Nobody had ever heard of Proxicom in this organization, but we came in and said, 'No, you don't really understand the complexity of this. We are going to charge you $5 million and take six to eight months to do it,'" Miller says. "So we were by far the highest bidder, but we walked out with the gig because we were able to sit down and explain to them that these things are not as easy as they are being portrayed." (May 14, 2001: 77)

Distributors recognize the hype, and know to avoid it. In the quotation presented above the suppliers who made unrealistic claims for what they could accomplish were sending signals to their distributors that they were not for real – they were inauthentic. But Proxicom, whose claims were more balanced and honest looked more authentic, and won the business. This fits well with Robinson, Johnson and Shields (1995) findings. Key to Robinson, Johnson and Shields (1995) study were the attributions behind someone making a balanced, self-enhancing or self-deprecating communication. In particular, self-enhancers are viewed as less honest, as they may have an ulterior motive for claiming such overwhelmingly positive characteristics for themselves. But a balanced presentation, such as given by Proxicom seems to recognize a reality that is not overly positive, yet not overly negative; distributors can relate to and understand this, as it is how they experience the world themselves.

Consistency
Another cue to suppliers' authenticity is their consistency. By its very nature, this involves some measure of history of the supplier. This matches with the importance of heritage as identified by Beverland (2006). As a result, newly created suppliers could be at a disadvantage in this regard. However, distributors look to their suppliers to be consistent in their actions, communications and behaviour. The CEO of supplier ViewSonic says:

The ViewSonic program is truly based on what the solution provider and reseller want. We listen carefully to their needs. They have come to know that through the consistency in our program, we meet their needs as well as ours. We wind up in a win-win relationship." – James Chu, Founder, CEO & President/ViewSonic (March 19, 2001: 135)

The genuineness of ViewSonic is shown by the consistency in its program. In the above quote, it is the supplier itself that shows recognition of what evaluation criteria are used by its distributors. If consistency exists, then a distributor can have confidence in knowing what a supplier is really like. On the other hand, lack of consistency is a cue to the inauthenticity of a supplier as the following quotation illustrates:

Others, meantime, point out that Oracle has taken bold stances before, only to change positions later. Who can forget the number of times Oracle trashed Microsoft's proprietary approach to operating systems and applications technology? As it turns out, Oracle's new plan borrows heavily from Microsoft. (April 2, 2001: 26)

In the above quote Oracle shows inconsistency in core business issues in dealing with its distributors. This unpredictability in a supplier means that distributors cannot figure out what the supplier is truly like, and the distributor in this case considered severing ties with Oracle.

Promises

A third cue that distributors use in making authenticity evaluations is promises – are they honoured? Or broken? Promises are cues to the honesty of the supplier, and obviously, broken promises are indicators of inauthenticity.

> Founded in January 1999, Netpliance promised in its commercial [Super Bowl XXXIV] to make everyone, including Dallas Cowboy cheerleaders, "Web heads" ... A few months later, the company gave up on its original mission and promise. In November 2000, Netpliance declared that its attempt to compete with box manufacturers for consumer attention wasn't working. It announced a strategic shift in its business model and said that it would become an "enabling infrastructure and managed services company." (Feb 5, 2001: 65)

Going back on promises makes people question the true nature of a supplier, while keeping promises helps to build up the strength of a supplier. Not only is the above quote an example of a broken promise, it is an example of inconsistency. That is, what is commonly viewed as stable over time – the mission of a company – was changed when the promise was broken. With broken promises, and a changing mission, it would be difficult for anyone to know what the true company was like.

It seems that promises – whether they are kept or not – give an indication as to the true nature of a supplier. Promises are the claims of a supplier about itself, which set up a façade for the supplier. Broken promises indicate that the company's façade is a false front; whereas kept promises suggest that the facade has substance behind it, that is, an authentic supplier. However, reasons or motivations for broken promises can have an impact. At times industry or general economic conditions might create a situation whereby a supplier could *not* keep its promises. Thus distributors factor in the motives of the suppliers in deciding on whether or not broken promises are really signals of inauthenticity.

Spontaneous Versus Staged

A fourth cue that distributors seem to use in evaluating the authenticity of their suppliers is the spontaneity versus prepared or staged nature of communications and behaviours by the suppliers. That is, when a supplier has carefully crafted a communication, there are questions about its authenticity. But when the communication is perceived as naturally occurring, spontaneous or "off-the-cuff" it is deemed to be more authentic.

> At the recent Oracle AppsWorld conference held in New Orleans, CEO Larry Ellison declared that partners should be able to see the same information about products, release plans and bug patches that internal Oracle employees do. Watch to find out if his lieutenants make it happen. (March 19, 2001: 18)

At a major conference designed to build up good feelings for Oracle amongst its distributors the presentation by CEO Ellison is obviously prepared and polished in advance. Recognition of this is apparent in that the channel analyst expresses doubts about the sincerity and authenticity of the promises. Essentially the proof will be in the actions of employees, and that will only be revealed in the future.

Often times, prepared, polished presentations that are overly positive are called "hype". This also comes up in the data several times as something to be wary of in suppliers'

communications. The Oxford English Dictionary (2001) says that to hype something is "to cheat; to deceive, to con, especially by false publicity."

> Historically, vendors have espoused the virtues of their partnership programs in an effort to gain your loyalty and access to your end-user clients' purchasing dollars. When vendors tout the quality of their partner programs, you've got to sift through the hype and ask: What do you have to give-and what do you expect to get in return? (March 19, 2001: 68)

The impression given here is that the suppliers pre-plan what they are going to claim in order to get distributors to partner with them. But because the promotional efforts are planned in advance, they are seen as hype, and thus need to be viewed with suspicion, and thus inauthentic.

Discussion

The first objective of this study was to look at whether or not distributors make authenticity evaluations of their suppliers. In some ways this was difficult to establish, as it is uncommon for channel members to actually use the term "authenticity" or "authentic". However, the spirit of authenticity – the genuineness and core truth of what suppliers are really like – came through as a key concern of distributors. Within marketing, the authenticity perspective is typically that of the end-consumer (e.g. Brown, Sherry & Kozinets, 2003; Grayson & Martinec, 2004); yet this study has shown that authenticity is also important in the middle of the channel. That is, an important finding from this research is that suppliers are subject to authenticity assessments.

Within the marketing literature, authenticity has been viewed as iconic/subjective and indexical/objective (e.g. Grayson & Martinec, 2004), various factors comprising authenticity have been identified (e.g. Beverland, 2006); including heritage and pedigree, stylistic consistency, and downplaying of commercial motives. In addition to the iconic/subjective nature exhibited at times, Belk & Costa (1998) showed that authenticity can be socially constructed. The data analyzed in this study supported these findings. That is, the history of a supplier, its consistency in behaviour, the facts of its announcements and behaviour, as well as the subjective experiences of distributors all contribute to supplier authenticity assessments by distributors.

However, non-marketing literature (e.g. communications, tourism, political studies, discourse studies) has suggested other factors associated with authenticity: balanced versus self-enhancers and self deprecators, honesty, and self-knowledge (Robinson, Johnson & Shields 1995), spontaneity/naturally occurring versus staged/prepared (e.g. Cohen, 1988; MacCannell 1973; Tolson, 2001). Although these do not explicitly appear in the marketing literature, they were found to exist as important factors in the analysis of this data set. Distributors were suspicious of the authenticity of suppliers who were too positive in their presentations. Or distributors felt suppliers that really did not understand themselves – what they could do and accomplish – were inauthentic.

Thus it seems appropriate to bring these aspects of authenticity within the domain of marketing. This also makes logical sense as much of marketing revolves around the presentation of a corporation, product, idea, person or concept. In this data set one theme that emerged was that of a corporate façade. This is particularly apropos in light of the focus on the corporate brand. The corporate brand is the projection of the corporation; in the same way the façade is the projection of what a building is. At times the façade and the corporate brand are genuine

representations of the true nature of what is behind them, at other times they are significantly different. The more different they are, the more inauthentic they are perceived to be. Thus the façade is a metaphor for authenticity, and evaluations are ultimately a comparison of what is projected by the corporation and what the corporation is really like.

However, one needs to also understand what cues are used by distributors in authenticity assessments. Although this is a complex area, the data provides insights into these cues. The primary cues used by distributors were the self-enhancing messages of suppliers, consistency, broken promises, supplier self-knowledge and prepared or staged communications. While each of these is a signal or cue that distributors use, it also appeared that each or any of these created suspicion or skepticism of the supplier. Fein (1996) suggests that suspicion triggers deeper and more critical or evaluative thinking about an object. Thus when a supplier presents a self-enhancing message versus a balanced message; one that is too perfect, or too good to be true, distributors are suspicious, and draw conclusions that the supplier is not authentic. The same is true of each of the cues.

Importantly, when a cue raises suspicions, and triggers an assessment, distributors look at the suppliers' motivations that underlie the cues. That is, what attributions do distributors make about the suppliers' behaviours? Is the behaviour (e.g. broken promises) an indication of the intrinsic character of the supplier? Or are there external drivers? The first results in an assessment of "inauthentic"; the second, "authentic".

Beverland (2006) suggested that *commercial* motivation resulted in assessments of inauthenticity for premium wines. However, in the data analyzed for this study, there was no indication that "commercial" motivation created a problem; on the contrary, it seemed that distributors expect and desire their suppliers to have a commercial, profit motivation. Probably a disavowal of commercial motivation would result in an assessment of inauthenticity (although no such disavowal was seen). However, one explanation that may reconcile Beverland's findings and the findings of this study is that the motivations are not so much profit-oriented as self-oriented, or self-centred. That is, in Beverland's study, a commercial motivation might have actually been an indication of the vintners' attempts at benefiting themselves at the expense of the consumers. Thus it is not how commercial the motivations are, rather how self-centred they are. This matches the findings with the distributors evaluations of suppliers in this current study.

Therefore, motivation appears to interact with the cues to authenticity to generate overall authenticity evaluations of suppliers. Given the above discussion, a model has been developed to illustrate the constructs used. This is shown in Figure 1 below.
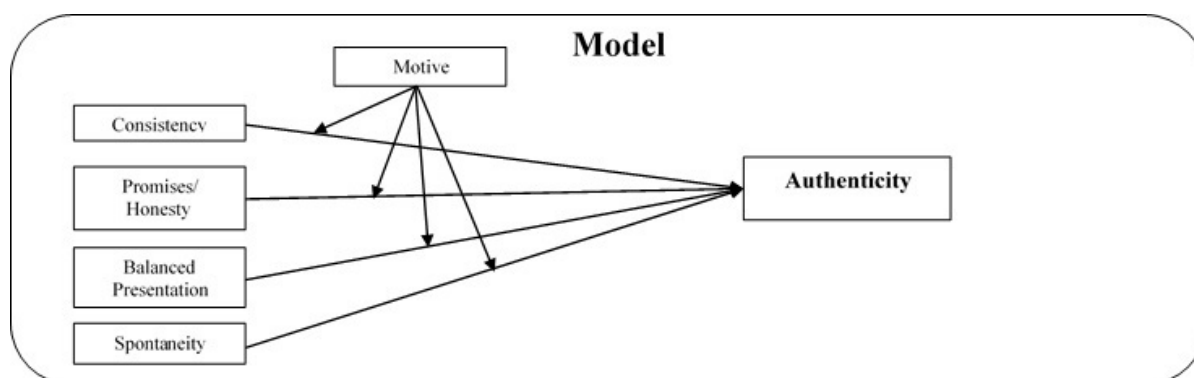

Figure 1: Model of Authenticity Cues

Results of Authenticity Assessments

Throughout the data in *VARBusiness* evidence emerged showing that authenticity assessments were made of suppliers. However, these assessments were not an end in themselves; rather, they resulted in consequences. For suppliers, it seemed that authenticity was important in helping to establish and maintain their presented identity. For distributors, a lack of authenticity, caused uncertainty about their supplier, and whether or not it could meet their needs.

Assessments of authenticity led to judgments of credibility and positive emotional reactions. When authenticity had been shown over time, loyalty was strengthened. Lack of authenticity resulted in negative affect, and in some cases, a determination to switch to other suppliers, or reduce dependency on a current supplier.

An additional key consequence of a lack of authenticity, or the perception of a lack of authenticity was a reduction in trust in the supplier. According to Morgan and Hunt (1994), trust is a key mediating variable in relationships. Trust has a positive relationship with relationship commitment, which has a negative relationship with propensity to leave the relationship. When a distributor perceived its supplier to be inauthentic, trust declined, and distributors would look for new suppliers, or put more emphasis on other suppliers' products and services; essentially a shifting in loyalty away from the perceived inauthentic supplier. This fits with the findings of Schallehn, Burmann & Riley (2014) who showed that brand authenticity lead to brand trust.

Finally, the suppliers, as corporate entities could get hurt or helped by their authenticity ratings. Every year *VARBusiness* conducts a survey of VARs (distributors) to evaluate their vendors (suppliers). Although "authenticity" is not one of the rating categories, there was a link between authentic suppliers and high ratings, and inauthentic suppliers and low ratings. The authenticity evaluations were gleaned from VAR comments in the time prior to the rating survey. The survey results are public, and thus contribute to awareness of, and create associations of the supplier brand. This suggests that authenticity assessments have an impact on the corporate brand, and thus on corporate brand equity.

Implications

The findings of this study are significant in marketing for a number of reasons. First, although authenticity is not a new topic, its application and development has previously been focused on end consumers only. This study has expanded the scope of authenticity's relevance into channels research, looking at distributors' evaluations of their suppliers. This study has also advanced our understanding of authenticity and how it is used in a business context. That is, we now know more factors that are important in making authenticity assessments – i.e., the cues used be distributors to evaluate vendors' authenticity - consistency, promises/honesty, balanced presentations and spontaneity. Importantly, we now also see that the supplier's motives (self-interested versus other-interested) interact with these cues to contribute to the authenticity evaluations.

It is significant to know that authenticity and its evaluation takes place in the channel. However, it is also important to know that there are consequences to evaluations. Although this was not the primary focus of this study, it was noted that there appeared to be a link between authenticity, trust and loyalty or commitment.

For suppliers this is critical information in managing their companies. It shows that they cannot rely simply on functional characteristics such as leading edge technology, or high quality products and services. Underlying these are other corporate level attributes and characteristics that impact how they are viewed as business partners. The assessment of the supplier company's ability to function in a relationship is of great significance to its distributors. Suppliers should attend to how they present themselves through their corporate brand. In particular, they should strive to be authentic in all that they do. This is a tall order, but one that can benefit them.

Conclusion

The goals of this preliminary study were to determine if distributors made authenticity evaluations of their suppliers as corporate entities, how they do so and what cues do they use in those evaluations. Although authenticity was not an explicit topic of discussion within the VAR community, it was clear that distributors did in fact make such authenticity assessments. That is, they looked at the genuineness of their suppliers, and they were concerned with issues of what their suppliers were really like. The main cues that they used to make these assessments were self-enhancing messages of suppliers, consistency, broken promises, supplier self-knowledge, and prepared or staged communications. These cues appear to interact with supplier's self- versus other-centred motives.

These findings show that authenticity is important beyond the typical end-consumer and product brand research carried out in marketing. Authenticity has a much broader applicability and impact than has been studied to date. This leads us to conclude that it is important for further studies with authenticity to be carried out. In particular, as authenticity in this context is an assessment of a corporate entity's authenticity, one would expect that the supplier's corporate brand equity would be impacted. The degree and areas of that impact could guide how suppliers react or change in order to strengthen their perceived authenticity.

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Assessing Job Satisfaction Using Herzberg's Two-Factor Theory: A Qualitative Study Between US and Japanese Insurance Employees

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Abstract

The topic of job satisfaction is important for businesses to decrease employee turnover and increase overall productivity. With international business being conducted around the world more than ever, job satisfaction becomes increasingly difficult to measure when dealing with different cultures and environments. One of the most important theories of job satisfaction and motivation is Herzberg's Two-Factor theory. Due to a dominance of quantitative research being utilized in testing the theory, research continues to provide conflicting results on its validity. This research utilizes a cross-cultural, qualitative methodology on US and Japanese insurance employees in an attempt to provide clarification to and practical application of the theory. The results generally support the Two-Factor theory, but indicate that the factors of job satisfaction may be more complex, especially when researching cross-country factors. It is suggested that further similar qualitative research should be conducted as a means of explaining the discrepancies of quantitative research and providing additional insight on the topic.

Keywords: job satisfaction, cross-country, Two-Factor theory, qualitative study, Japan, United States

Introduction

There is no shortage of research on job satisfaction. Spector (1997) defined job satisfaction as "related to the way how people feel about their job and its various aspects. Job satisfaction and job dissatisfaction can appear in any working environment that make workers like or dislike their job." Locke (1976) defined job satisfaction as a pleasurable emotional state, which results from the appraisal of one's job experiences.

The benefits of creating job satisfaction are numerous. According to Mosaddegh-rad (2004), job satisfaction is one of the most important factors in job accomplishment and results in greater effectiveness, efficiency and productivity as well as feelings of personal satisfaction. Job satisfaction is considered as one of the main factors regarding efficiency and effectiveness of businesses (Nguyen, Tran, & Wang, 2015). Job satisfaction has shown to have a significant influence on performance, retention and turnover rates of employees (Garcia-Bernal, Gargallo-Castel, Marzo-Navarro, & Rivera-Torres, 2005). And low job satisfaction has shown to lead to employee turnover in organizations (Srivastava, 2007).

Cross-Country Differences

While factors of job satisfaction and motivation have been extensively researched around the world, the majority of job satisfaction studies have been conducted in the United States and the United Kingdom (Nielsen & Smyth, 2008). Fewer studies have been conducted for Japanese employees. Worthley, MacNab, Brislin, Ito, and Rose (2009) compared gender differences and managers versus non-managerial employees in Japan. The results showed that overall, intrinsic satisfaction factors such as the enjoyment of work and the feeling of personal rewards provided more job satisfaction than extrinsic factors like financial bonuses for most employees. Female employees on the other hand did not make a distinction. There is even less research on cross-country comparisons between Japan and the United States, despite the two countries sharing strong economic and political ties. In today's world, the global market is becoming more interconnected, and businesses are increasingly engaging in international ventures. According to Steers and Porter (1989), the working atmosphere of international business changes how organizations motivate employees.

One of the most famous studies on cross-country differences is Hofstede's (1984) extensive study on 117,000 IBM employees between 66 countries with a focus on workers' values. In regards to American and Japanese workers, his research suggested that Japanese tend to be collective, weak to uncertainty and long-term focused career-wise. Americans on the other hand were shown to be individualistic, tolerable with uncertainty and short-term focused. But there has been criticism regarding overgeneralizing entire populations into single brackets without taking into account personal factors such as gender, age and industries that people work in (McSweeney, 2002). Caution is therefore needed when conducting cross-country comparisons. It is however still important to conduct such cross-country studies, as researchers have emphasized the value of studying concepts cross-culturally to understand the world market (Sledge, Miles, & Coppage 2008). Studying cross-cultural comparisons can give insight into the business environments between countries.

The Insurance Industry

The insurance industry is vital to every country because it plays an important role as a motivator of investments, helps to create stabilization in financial markets, and is critical in curbing

companies' risks. Unfortunately, some insurance industries are also suffering from recent personnel issues. For instance, there have been turnover issues in some countries' insurance sector, where attrition has been shown to reach a rate of 35–40% (Devina & Sreeradha, 2013). In particular, some private life insurance companies are recently battling 70% to 100% frontline attrition. This is significant because generally the expected cost of recruiting new employees can be calculated at 50% to 60% of an employee's first year's salary, and can be up to 100% for certain specialized, high-skill positions (Hale, 1998).

Literature

There is no shortage of job satisfaction and motivation theories that attempt to influence employees to achieve better results (Steers & Porter, 1989). Since the beginning of motivation theories dating back from Maslow 1954 and McClelland 1961, the concept of needs has made up the bulk of research on motivation (Haivas, Hofmans, & Pepermans, 2014). Vroom's 1964 research inspired a new approach emphasizing the process of motivation, which changed the attention from needs towards goals selection and pursuit as the major motivational theories (Steers & Porter, 1989). Recently, Self-Determination Theory has changed the idea of psychological needs by emphasizing its role in both the content and the process of behavior (See Figure 1).

Herzberg's Two-Factor Theory

Herzberg and his associates changed the traditional view of job satisfaction in developing the Two-Factor theory in 1959 (Bassett-Jones & Lloyd, 2005). The Two-Factor theory is adapted from Maslow's Hierarchy of Needs pyramid, which stressed the importance of a process of obtaining extrinsic factors first such as survivability, and then working up the pyramid towards intrinsic factors such as self-actualization (Haivas et al., 2014).

Herzberg developed his theory by using Critical-Incident Method and asked volunteers to recall a time when they felt a very positive or negative experience at work (Herzberg, Snyderman, & Mausner, 1966). From the results, trends were found between what were termed hygiene factors and motivator factors. Herzberg argued that the opposite of job satisfaction is not dissatisfaction. Instead, job satisfaction operates on a scale from no satisfaction to high satisfaction. Conversely, job dissatisfaction operates on a separate scale, which ranges from high dissatisfaction to no dissatisfaction. On the satisfaction scale, employees are mainly influenced by intrinsic motivator factors such as achievement, recognition, work itself, responsibility, advancement and personal growth. On the dissatisfaction scale, employees are more affected by extrinsic hygiene factors such as pay, job security, status, physical working conditions, company policies and relations with coworkers (Wong, Siu, & Tsang, 1999).
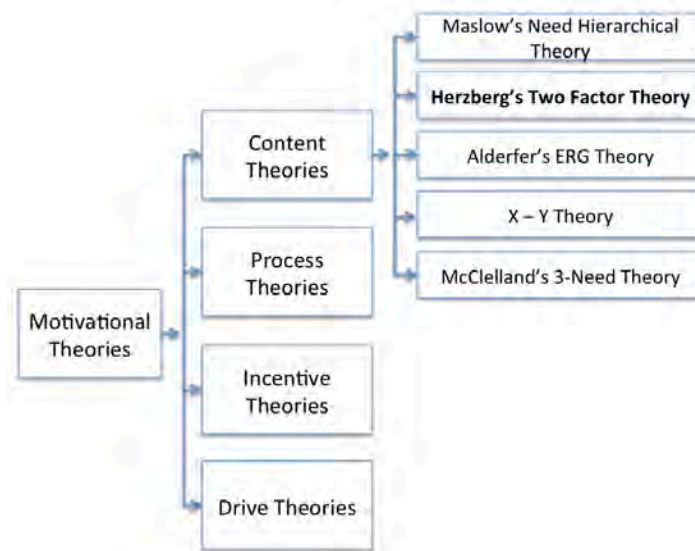
Figure 1: Motivational Theories

Herzberg's Two-Factor theory has been replicated many times to test factors of both satisfaction and motivation, and is credited with advancing research in the area of industrial psychology (Steers & Porter, 1989). There have been many research papers published in recent years that favor the theory. Hamed (2010) surveyed 629 employees in Saudi Arabia and found that the employees were motivated by the work nature and responsibilities given by their managers. Bassett-Jones and Lloyd (2005) surveyed 3,200 employees from 32 organizations in the UK, with results showing that motivator factors contribute to better motivation. Kodjo and Dai (2010) surveyed 120 employees from a utility company in Cote D'Ivoire and asked the employees to rank 10 motivator and hygiene factors. The results ranked interesting work first, good wages second, and full appreciation of work done third.

There have also been studies that disagree with the Two-Factor theory for what this research found to be typically for four reasons. First, when Herzberg separated motivational factors into two categories of hygiene and motivational factors in his study, criticism arose regarding the potential for these factors to overlap into one another. Locke (1976) is the major criticizer in this regard, stating that the hygiene and motivators overlap with each other. For instance, if you eat something, the food can provide nourishment as well as pleasure.

Second, research has also shown that motivators sometimes cause both satisfaction and dissatisfaction. Kovach (1987) examined different theories by using 40 years of data and surveying 460 people from various industries. The results showed that the need for salary, recognition and responsibility appear as both motivator and hygiene factors. Other research has shown similar results (Spillane, 1973; Savery, 1996; Ruthankoon & Ogunlana, 2003).

Third, there has been an argument that the uniqueness of individuals cannot be bracketed together into one theory. A study on 1,385 employees in different industries showed motivator task rewards led to job satisfaction, but hygiene factors only created job satisfaction in the lower-level employees (Mottaz, 1985). A study on 82 British firms showed that the Herzberg model may not be perfectly applicable to salespersons (Shipley & Kiely, 1988). Similar results are seen with the work of Wong et al. (1999) and Maidani (1991).

The final argument involves results showing that hygiene factors are motivating employees. Simons and Enz (1995) surveyed 278 employees from 12 different hotels and argued that hygiene factors were satisfying employees since they ranked good wages, job security and opportunity for advancement at the highest. The research of Eller, Doerfler, and Meirer (2000) found that money matters for employee motivation, especially for teachers who feel underpaid.

In order to clarify these discrepancies, research in recent years have taken a step further by comparing differences of smaller subgroups such as occupation, gender, managerial level and income. However, the research continues to rely predominantly on quantitative Likert Scales and ranking questionnaire methodologies. The results continue to be mixed between supporting and opposing the Two-Factor theory (Houston, 2000; Kovach, 1987).

These studies hint that that there may be variation between groups that quantitative methodologies may not be picking up. There have been suggestions to use qualitative methods to provide further clarification (Schepers, De Gieter, Pepermans, Du Bois, Caers, & Jegers, 2005). In accordance with this, Sledge et al. (2008) conducted a qualitative study on Brazilian employees and showed general support for the Two-Factor model. Additionally, the results suggest that Herzberg`s model may be more complex when dealing with a variety of factors such as culture, environments and demographics, which can cause fluctuations.
Therefore, the purpose of this research is to examine these unique aspects by applying a cross-cultural, qualitative methodology to the Two Factor theory.

Method

Sample and Data Collection
Due to a limitation of contacts within the insurance industry, this research utilized a convenience sampling methodology to solicit participation through a network of established connections with employees within the insurance industry in Japan and the United States. In total, 4 US employees and 5 Japanese employees agreed to be interviewed. For the collection methodology, interviews were conducted online via webcam chatting software between August of 2015 and January of 2016. For the Japanese employees, a native Japanese-speaking translator was made available. The interviews consisted of semi-structured questions to make sure that we covered the appropriate topics while also allowing for the interviewees to feel comfortable responding (Polit & Hungler, 1987). The questions revolved around the Job Satisfaction Survey created by Spector (1985), which includes questions on general satisfaction, motivator factors and hygiene factors (see Table 1). The interviewees were first asked to provide general background information (see Table 2). The length of each interview averaged at approximately 45 minutes.

General Satisfaction:
- How satisfied are you with your job overall?
- What are the best/worst parts of your job?
- What are things that would make your job satisfaction better?
- What are things that will not make your job satisfaction level any better?

Motivator Factors:
- Do you have many personal achievements at work? Do you feel empowered at your job?
- How often are you recognized for your contribution to the company? Is it enough?
- How interesting is your work itself? How challenging is your work?
- Do you have opportunities to take responsibility?

Hygiene Factors:
- How do you view your company's policies and administration?
- How would you rate the quality of supervision by your manager?
- How are your physical working conditions?
- How is your relationship with other coworkers?
- How do you view your Salary/Compensation?
- What is your opinion about your job security?

Table 1: Interview Template

	Sex	Age	Occupation	Highest Education	Company Tenure	Overall Satisfaction*
US						
US-1	M	64	Sales Agent	Bachelors	28 years	6 (out of 6)
US-2	F	34	Claims Manager	Bachelors	12 years	5 (out of 6)
US-3	M	27	Claims Adjuster	Bachelors	3 years	3 (out of 6)
US-4	F	38	Claims Adjuster	Bachelors	15 years	4 or 4.5 (out of 6)

	Sex	Age	Occupation	Highest Education	Company Tenure	Overall Satisfaction*
Japan						
JP-1	M	33	Sales Consultant	Masters	9 years	5 or 6 (out of 6)
JP-2	F	41	Phone Operator	Trade School	5 years	3 (out of 6)
JP-3	M	32	Sales	Bachelors	9 years	6 (out of 6)
JP-4	F	33	Phone Operator (Sub Manager)	High School	5 years	5 (out of 6)
JP-5	F	34	Phone Operator	Bachelors	4 years	2 (out of 6)

*Employees were all asked to rate their overall job satisfaction on a scale of 1 to 6. 1 is the lowest satisfaction, 6 is the highest satisfaction.

Table 2: Respondent Demographics

Analysis

Analysis of the data consisted of a comparative case methodology based on Sledge et al. (2008) and pursuant to the recommendations outlined by Ragin and Amoroso (2010). The interview

recordings were first transcribed, and categorizes of hygiene and motivator factors based on the Two-Factor theory were identified (Miles & Domke-Damonte, 2000). Open coding took place to create tentative labels based on items that emerged. Next, axial coding was conducted to identify the relationships between the open coding. Finally, selective coding took place to address the core themes for all the data. This process was repeated twice.

Results

The coded results were placed in a table to evaluate elements of the Two-Factor model. The results have been separated into motivator and hygiene factors, and each section consists of responses by the US and Japanese employees.

Motivator Factors

Achievement
Achievements for the US employees included surviving long term in a difficult industry, receiving awards such as 'Agent of the Year', earning trips around the world and the "feeling of being able to actually get some work done". Employees expressed the satisfaction of helping their customers in saying "we do a good job...helping people reach their full potential". But accomplishments were also described as a day-to-day thing: "some days... I feel like I didn't accomplish anything at all". The level of perceived achievement appeared to be related to the amount of workload that employees had. An employee with low overall satisfaction said "(It) felt like you will never get ahead of it."

Most of the Japanese employees expressed a positive attitude towards accomplishments by saying: "if I try hard, good results will come out", and "when I hit my target number, the feeling of achievement goes up". Some employees described accomplishments as being able to contribute positively to society and helping customers. One employee said "my customers were happy and that boosted my achievement feeling". Another admitted that they have accomplished a good amount, but expressed a need to accomplish more. Also, an employee with low overall satisfaction had a low feeling of accomplishments. Group accomplishments were also important with quotes like "very important to achieve the target as a team". There was also a sense that the perceived ability to achieve was connected to perception of neverending projects and repetition of tasks. One employee stated "my achievement is only 5%... There are so many calls that answering calls becomes not important."

Recognition
A negative sentiment expressed with some of the US employees was in regards to being recognized equally. An employee with low overall satisfaction said "everyone is graded the same way...everyone is just a math equation". This employee prefered recognition over financial compensation. Another said "I think some managers are better at recognizing people for the things they do compared to others."

Most of the Japanese employees were satisfied with their amount of recognition. One employee also voiced that good bosses give good recognition: "If I'm working with a good boss, then I can get many recognitions from them."

Tasks
The US employees mentioned the frustration of wasting time and doing unnecessary work with words like "over processing", "wasteful", "just do it one way", "spinning our wheels",

"repeating/redoing work" and "could streamline". Most employees said they enjoy a challenging, busy and interesting working environment, but to a certain extent. "I like having a challenging job because I like to think and my mind goes really fast" and "If you have an interesting job, it will show with your relationship with your clients." Some employees expressed a change of interest over the years: "I need to have the opportunity to change what I'm doing when I change" and it "started off super interesting... (but) progressively got boring".

The Japanese employees mostly expressed a preference to have challenging jobs: "I prefer a challenging job", "so far interesting" and "I think it's interesting. It is important." It was also seen as important to work hard for several employees. One said: "If I work an okay amount for 7 hours, then I get paid... But...I cannot personally feel that I'm doing the best." Instead of changing their job when they get bored, the Japanese employees said things like "If the work isn't fun, then I think I should change myself" and "If I want to have a more challenging job, it is up to my private life." One Japanese employee voiced the concern of being micromanaged as well in saying "everything is controlled, there is no freedom".

Responsibility

The US employees talked positively about having high responsibility. One said "others are counting on the work that I do". Another even directly volunteered to take on additional responsibilities in order to help out more. But there was a limit to this, as some employees complained that "expectations were so high and the amount of time you put in was so high". Also, some employees voiced the need to be recognized for the added responsibility, either through financial compensation or appreciation.

The Japanese employees expressed mixed responses for responsibility. The employees with higher overall satisfaction (those who ranked 4 or higher out of 6) elected to have high responsibility. One employee also explained his "social responsibility" to provide a positive impact to the world. The employees with lower satisfaction (those who ranked 3 or lower out of 6) responded with "I'm not a person that has much confidence" and "I don't want only responsibility" while stating the need to have compensation such as a promotion or salary increase in order to take on additional responsibility.

Advancement

The US employees expressed the need to change their work when it becomes boring. One employee stated that before being promoted to a manager, "I was getting to the point where I was saying 'I don't want to do this anymore.'" After being promoted, this employee said "I think there's enough areas at this company that I can find something that coincides with what I want to be in another 5 years." The employees agreed that cross-functional advancement was limited. There's "a lot of opportunity to move up in that exact function... But to grow cross-functionally...I did not feel like there was a lot of potential to do that."

The Japanese employees expressed an ability to move up when they work hard. One stated: "If I try hard, I am able to raise my job title steadily." There was also a need to improve one's own skills to provide more value. Another employee stated "It's important to my skills. I prefer learning other skills too. I have to continue studying about many fields, many industries. I have to connect with many people... (It's) important for me to develop my market value." There was also an issue with being able to move cross-functionally to a different type of job: "If I become a manager here... the next job would probably be again a manager at a call center."

Hygiene Factors

Policies and Administration

The US employees expressed a trust in the company to pursue overall positive goals, and they acknowledged their efforts. Some things said include: "very satisfied knowing that there's reasons for these things", "great integrity", "they do a great job in trying", "it works for what they are trying to do", "they are listening" and "trying to do things that they can change". Among some of the mentioned flaws, the employees described policies that are "bureaucratic", "slow to make changes", "stuffy", "conservative" and "by the book". Some employees felt it was important to be included in on decision-making by saying things like "I had no choice in the matter", "no one asked me", "wasn't a lot of transparency" and "always hush-hush". There was also discussions about branch management versus corporate management in that employees may agree with what corporate is doing overall, but disagree on a branch-level.

Most of the Japanese employees favored the overall policies of their companies by saying "I agree as a whole", and "agree overall". They believe their company "thinks and manages how the whole industry and insurance itself should change". But there was a concern regarding corporate management in that "those people who have never worked here will consider it as a whole thing". There was also a contradiction in corporate goals: "One year it was 'stand in the customer's shoes'. The next year was 'try talking on the phone as short as possible'. These two things are completely opposite." One employee was disgruntled about being micro-managed and said that "management by time is bad".

Manager Relations

Most of the US employees had great relations with their manager and felt comfortable expressing themselves through open dialog. One employee with low overall satisfaction had poor relations with his manager because he felt the manager was inept. This employee felt having a good manager was very important to "boost morale in the team..., shield you from negative comments from customers" and create group cohesion. Bad managers can make simple problems worse.

Most of the Japanese employees had great relations with their managers. One employee said she didn't like her manager and that her satisfaction would go up if she had a better one. Another employee said that having a bad manager would really affect the ability to make achievements and would make satisfaction go down severely.

Working Conditions

The US employees were overall satisfied with their working conditions and didn't feel it contributed much to satisfaction. They said "It's a side thing... just a convenient location for clients to come" and "an office is an office to me. I don't live there." Another employee who was not satisfied overall said "your surroundings won't make a huge difference". Some employees did however enjoy a better communication link to each other due to their office layout. There were some concerns expressed regarding work life balance and commuting distance. One employee desired to telework, but another said that "I felt isolated working from home" and elected to work at the office.

The Japanese employees also agreed that working conditions don't satisfy much: "It is enough. I'm satisfied with them." When asked if an increase in working conditions would increase satisfaction, the response was "my satisfaction will go up a little bit". Others said a "good environment makes it easy to work", but it's "not too much of a connection (to satisfaction)",

and "It's not a physical problem. It is a mental problem." One employee with high overall satisfaction said "It is important to have time to spend with family and friends." Employees who had low overall satisfaction had a good work-life balance and said "I can finish my work at a certain time" and "I have good amount of private time." For some employees, physical location can also add a communication link to other employees.

Salary

Salary didn't appear to bring much satisfaction to the US employees after they were content. Some of the things said included: "On par with most of the industry", "satisfied", "being satisfied with my job is not influenced by money", "(an) increase in salary isn't going to motivate you any more" and "problems that were there won't disappear just because you get a raise". Salary was seen as just something that will temporarily satisfy employees. The employees also judged the amount of work they do in regards to how much salary they deserve: One said "In comparison to the work I did, I think it was subpar."

The Japanese employees mostly agreed that additional salary would not bring them satisfaction. "It's not money...(my) salary is not high...but I'm satisfied." Two employees with low overall satisfaction believed that a salary increase could bring satisfaction, but were conflicted regarding how much: "When talking about if it's proportionate, I doubt it." Some employees also felt their pay was relative to their workload, saying, for example, "pay is good, but not enough considering the amount of work I do".

Relationships with Coworkers

The US employees all said that they had great relations with their coworkers. In fact, one employee with low overall satisfaction said he had great relationships with coworkers. When asked what is the best part about the job, the answer was "definitely the people that I work with". Another employee stated "I like the people I work with. Employees as a whole are a really good."

Most of the Japanese employees had positive things to say about their coworkers. One employee stated that the best part of the job was the coworkers, and that "human relations with coworkers makes up for less pay". But a parallel arose where there were extremely good and bad relations with particular employees. "There are certain people that I don't have good relations with... But overall, the relations (with coworkers) is good I think."

Job Security

None of the US or Japanese interviewees were worried about their job security, and this had no prospect of raising satisfaction. The US employees expressed an ability to secure another position within the insurance industry if for some reason they lost their job. "I knew that if I wanted a job in insurance...I would have one", and there's a "lot of recruiters out there". The Japanese employees on the other hand expressed confidence that they would never lose their job. One employee said "it's based on lifetime employment, (but) repeated mistakes again and again are not allowed".

Discussion

When combining both the US and Japanese data, the results show that the employees who rated themselves as having higher overall satisfaction typically had good relations with their managers and coworkers, and interesting and challenging work with high responsibility. They also were relatively in agreement that they had attained a good amount of personal

achievements. Most agreed that their salaries, working conditions and employee/manager relations were appropriate, and that a change to these would not be too effective in changing their satisfaction.

Likewise, the employees that rated themselves as having lower overall satisfaction indicated that the worst part of the job included a high workload, bad relations with particular coworkers, a poor work-life balance and boring or meaningless work. These employees agreed that the best part of their job was the ability to work with good coworkers. Factors mentioned that can increase their satisfaction include better relations with some coworkers, a fairer performance evaluation, less micro-management and more autonomy. Finally, they all agreed that their salaries were too low, but the satisfaction of a salary increase seemed minimal.

The results mainly favor the arguments of Herzberg et al. (1966) and the Two-Factor theory in that hygiene factors mostly appear to be causing the most dissatisfaction why motivator factors are causing most of the satisfaction. Also, hygiene factors like salary match the findings in that they can only provide a temporary boost in satisfaction. However, when separating and comparing the groups and looking at their specific answers, we can take a step further and assess the distinctions and reasoning given by the respondents.

For motivators, achievement was important for both the US and Japanese employees, but there were differences in what employees considered to be an achievement. It was also apparent that repetitive and never-ending tasks might affect the perceived ability to accomplish achievements. Both the US and Japanese employees felt that good managers give great recognition to their employees, while the US employees emphasized individual recognition as being important instead of taking a top-down approach to acknowledge their importance. With advancement, we see the desire of being able to advance not just in the same position, but to have the option to move cross-functionally to a new line of work. For tasks, both the US and Japanese employees wanted challenging jobs. The US employees were frustrated with wasted work while the Japanese employees mentioned an irritation with micro-management.

For hygiene factors, both the US and Japanese employees mentioned a distinction between corporate management versus local management when talking about their companies' policies. Both sides discussed sentiment about being treated as a numerical calculation rather than an individual human. In regards to supervisor relations, all employees felt that the competency of their manager was related to their relationship. It therefore may be beneficial for manager competency to be included as an item in future research since many employees felt a manager's role in satisfaction and dissatisfaction was important. All employees felt their working conditions were adequate with little prospect of creating satisfaction. Some US employees brought up teleworking as a means to create better working conditions, which is still not comparatively prevalent in the Japanese working environment. This discussion may start in the Japanese workplace in the near future as well. It is important to note that the employees' relations with their coworkers had extreme ups and downs since there were some employees that they liked and some they really didn't like. Contrasting responses like this may be causing an issue for quantitative research methodologies if a simple average is taken. Finally, both sides became accustomed to living a lifestyle with their current salary, and the prospect of a salary increase was therefore seen as always temporary.

Conclusion

As with the findings of Sledge et al. (2008), it appears that job satisfaction is more complex when taking into account cross-country factors. While quantitative research has been important in helping to measure larger populations, the predominance of it has caused an abundance of answers with a lack of explanation of the means. Even if the behavior of employees from different backgrounds show support for the Two-Factor theory, their reasoning in doing so may differ. Therefore, the role of qualitative cross-country research can be useful in providing clarification to the abovementioned discrepancies. This research hopes to promote similar, larger and more comprehensive studies to discover core reasons of job satisfaction and dissatisfaction to develop practical applications that can be directly implemented in the workplace.

Limitations

The limitations of this study include the need for a larger sample size to better solidify the findings. The sample size availability in the insurance industry was an issue that limited the availability of volunteers, and a convenience sampling therefore needed to be implemented. Further similar studies would benefit from a larger sample size utilizing a random sampling methodology to solidify the results.

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The Changing Nature of the Information Supply Chain

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Abstract

Management faces replacement by automated processes. Workflow automation in the information processing sectors of the economy is changing the way information and knowledge workers do their jobs. I consider the changing nature of the information supply chain from the creation of knowledge in firms to the supply of information to consumers. The changing nature of data and the development of data science and machine learning methods that enable the analysis of unstructured data have meant that what was once viewed as tacit knowledge is now just a problem in information processing. The rise of workflow automation in the IT industries and the emergence of the reproducible research movement in the sciences is leading to increased automation of the production of information in both industry and academia and this has profoundly changed the nature of the information supply chain.

Keywords: information supply chain, knowledge creation, workflow automation, iPaaS, reproducible research

Introduction

The emergence of the knowledge and information society in which we live and work has had far-reaching implications on our lives. Knowledge and information workers as part of their daily routine are engaged in the production and consumption of knowledge and information.

The information economy has been long studied by both management theorists and economists (Drucker, 1959) (Machlup, 1962), (Stigler, 1961), (Marschak & Radner, 1972). However, despite this few have attempted to consider the production and distribution of information from a supply chain perspective (Sun & Yen, 2005).

In this paper I will discuss recent developments and future trends in the information supply chain: the interconnection of organizations from the production of information to its consumption and the role of information as a service. The key research question is how is the information supply chain changing in the face of workflow automation and how is this changing our understanding of knowledge and information processing in business and academia? The role of the knowledge creating company has been and is continuing to evolve in largely unpredictable directions. The rapid and disruptive development of information technology continues to change the nature of the information supply chain. Geva Perry has noted that:

> We are witnessing a seismic shift in information technology – the kind that comes around every decade or so. It is so massive that it affects not only business models, but the underlying architecture of how we develop, deploy, run and deliver applications. (Perry, 2008)

Since he wrote that in 2008 the pace of technological development in the IT industry has continued to accelerate in the direction he outlined. There are two main paths to this development the first is DevOPs a fusion of development and operations that is leading to shorter development time in the IT sector. The second major development concerns workflow automation and this underpins both DevOPs as well as other developments that we are seeing across those sectors of the economy that we deal with the production of knowledge and information. The key thesis of this paper is not in fact just about the IT sector but about a broader trend across a number of sectors involved in the production, deployment and delivery of information. While IT provides the infrastructure of the knowledge/information sector, the management of operations in this sector is not purely an issue of IT. Education for example is involved in the production, deployment and delivery of information and knowledge. The media in the form of newspaper, television, radio and internet media has a similar role. The key thesis is that the way in which business, researchers and others involved in information production and dissemination manage and process information is changing and that the degree of awareness of the extent and nature of these changes is relatively low. The aim of this discussion paper is to report on some of these developments and to relate them to the academic literature on the nature of knowledge and information processing in firms and organizations.

New technological developments such as integration Platforms as a Service (iPaaS) and network virtualization are enabling workflow automation to an extent we have not yet seen before, these developments along with the containerization of software products are leading to rapid automation of information development and production in automated information supply chains. At the same time at the upstream end of the information supply chain in

research and development particularly but not only, in higher education there are increased calls for more transparency in research and greater reproducibility of results. Reproducibility of research requires greater automation of knowledge production as part of the research process. We are therefore seeing rapid automation of workflows across research and educations sectors as well as in the IT sector of the economy. In parallel with this, developments in machine learning and the management of "big data", and in particular the application of these methods to natural language processing and analysis of unstructured texts, the understanding of which is replete with tacit knowledge, means that we need to re-evaluate old models of the role of knowledge and information in business.

That the new technology considered in this paper is radically changing the way in which we produce, process and manage information seems beyond question; that it is likely to disrupt business processes and to a largely unforeseen extent seems plausible. In this paper I hope to outline some of these developments and theory, the implications for business and management, and the changing nature of the information supply chain and how the knowledge-creating company is evolving to an information-creating company in which even tacit knowledge is just a form of unstructured data that has been waiting to be processed by new methods arising from the merging of computer science and statistics, a new field that has begun to be termed data science (Anthes, 2010).

In this paper I will discuss the information supply chain from the production of information through to its dissemination through various networks and final consumption. In the next section I begin with a critique of the distinction between tacit and explicit knowledge and the view that companies create knowledge; indeed, I question the distinction between knowledge and information. I then go on in the following section to consider the standard conception of knowledge as justified true belief and try to relate that to the information theoretic definition of information. In this section I also discuss the incompatibility of Rylean and Polanyi characterizations of knowledge with the standard conception of knowledge as justified true belief. The following section considers some counterexamples to tacit knowledge in particular Polanyi's face recognition example by discussing how recent developments in face recognition technology and machine learning have made this an example of what Polanyi would call explicit knowledge rather than tacit knowledge. This discussion of the breakdown of the distinction between knowledge and information that is resulting from developments in machine learning is followed by an analysis of the role of workflow automation and the emergence of integration platforms as a service (iPaas). In parallel with this development the emergence of the reproducibility drive in the scientific research is discussed and finally it is concluded that we stand before major changes in the information supply chain due to radical changes in workflow automation based on new IT technology that has only really appeared in the last few years.

From Knowledge Creation to the Information Supply Chain

Nonaka (1991), drawing on Polanyi's concept of tacit knowledge, argued that the role of the firm, and in particular Japanese firms, was the production of knowledge. He contrasted Western concepts of information processing in firms and distinguished firstly between knowledge and information and secondly proceeded to break down knowledge into different sub-categories. The information processing model of the firm can be traced to work by Jacob Marschak culminating in the development of team theory (Marschak & Radner, 1972).

The idea that knowledge can be further subdivided is due to Ryle (1946); however, Polanyi's

division into tacit and explicit knowledge is probably better known. Both Polanyi and Nonaka can be viewed as Ryleans in the sense that they distinguish between knowledge that is in some sense innate and not directly communicable with the external world and knowledge that is communicable with the rest of the world. Ryle's view of knowledge had however been challenged early on by Sellars (1956).

In the management literature there is a split between the two communities of knowledge and information management. Those authors writing on knowledge management make little reference to information management and vice versa. What is the difference between knowledge and information? While information has a rather precise definition (it can be defined mathematically) the definition of knowledge remains somewhat controversial. While there are numerous controversies and schools of thought the standard view in philosophy is that knowledge is justified true belief (Ichikawa & Steup, 2014), (Turri, 2012). On this account tacit knowledge cannot in fact be knowledge because one cannot justify something without articulating what one is justifying, so that Polanyi's definition of tacit knowledge as knowledge "that cannot be articulated" ("we can know more than we can tell") implies that tacit knowledge cannot be justified, which is not consistent with the standard account of knowledge as justified true belief. If, one grants then that tacit knowledge is not knowledge, although it may well be a true belief, then the epistemological model of the knowledge-creating firm is on somewhat shaky ground from a philosophical perspective. A better and more accurate term for tacit knowledge may simply be "gut feeling". Once we concede that firms are generating information and this information may be both structured and unstructured, the question naturally arises as how information should be managed from an operational perspective and how information flows fit into a service-oriented supply chain. The analysis of services is however sparse (Pinedo, 2009).

Sun and Yen (2005) appear to be the first to have applied concepts from operations management and supply chain theory and in particular supply chain management to information flows in business, and to have been the first to coin the term "information supply chain". They define an information supply chain as: "an information supply chain (ISC) fulfills users' information requirements by a network of information-sharing agents (ISA) that gather, interpret, and satisfy the requirements with proper information" (see Figure 1).
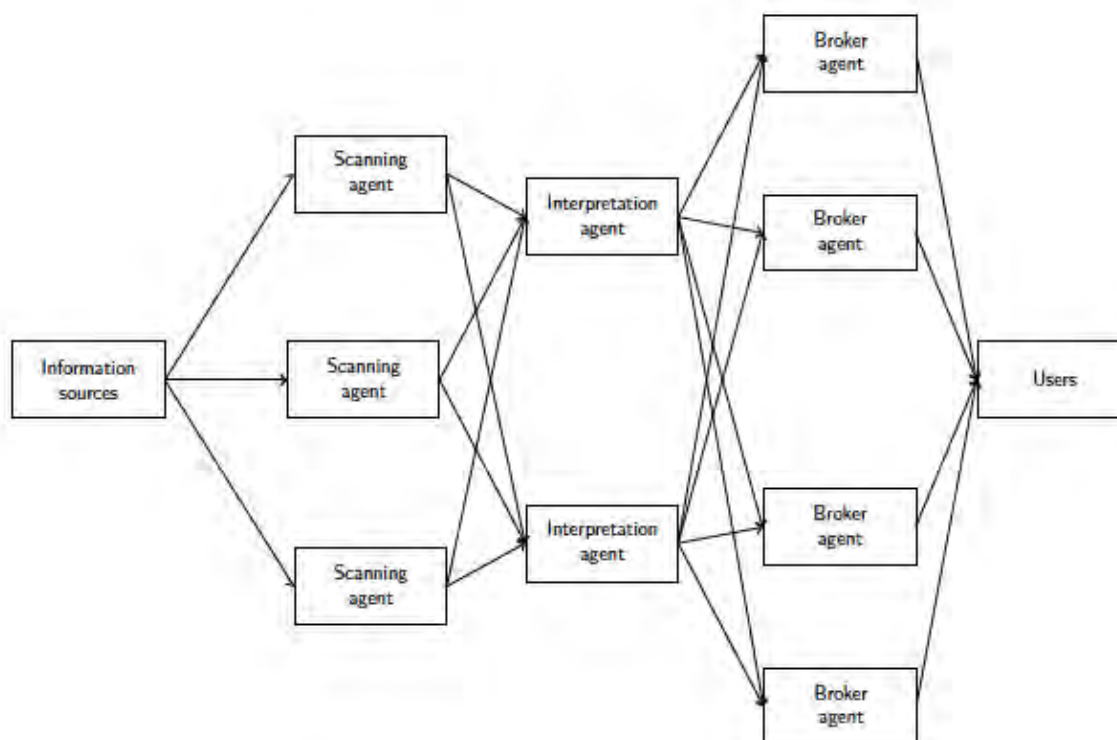
Figure 1: An information supply chain (adapted from Sun & Yen, 2005, p. 423)

The particular focus of their work is on information sharing. They point out differences between material supply chains and information supply chains in particular. Building on their ideas it is clear that it is difficult to establish property rights to information. Some information is public and with some there is a clear need and concern for privacy.

The difficulties arise in the latter case because while information can be secured, thereby establishing property rights over it, it is non-rivalrous in consumption, which erodes the ability to enforce property rights (Buchanan, 1965). Information therefore essentially has the characteristics of a club good. In managing flows of club goods different problems arise compared with the management of flows of private goods.

Justified True Beliefs and Information

The conception of knowledge as justified true belief can be traced to Plato in the Thetaetetus. This view of knowledge has largely been the benchmark view of knowledge in serious philosophy until 1963 when it was challenged by Gettier (Gettier, 1963). Much of the philosophical debate since then has concerned how to reconcile Gettier's challenge with the Platonic account of justified true beliefs as knowledge. Both the accounts of Ryle and Polanyi of knowledge fail to satisfy even the Platonic account. Polanyi's view could be perhaps be conceived as arguing that there are things we can know which cannot be rationally explained or justified. However, even Gettier accepts the rational justification postulate. Both Ryle and Polanyi and consequently Nonaka in following this path are at odds with both the standard account of knowledge as justified true belief and the subsequent discussion in the literature following from Gettier's challenge. This is not to argue that the justified true belief conception of knowledge is the last word on the matter. There is an ongoing debate in philosophy that attempts to deal with the challenges raised by Gettier.

Information can be thought of as that which makes you able to make predictions better than chance (Adami, 2016). A precise definition of information may be made in terms of entropy, a measure of uncertainty. Abstracting somewhat from Adami's account information is the difference between the maximal uncertainty (entropy) and the actual uncertainty concerning something (X). Information therefore is defined as that which reduces uncertainty. Adami's account differs a little from the usual story told of information and uncertainty. There are two alternative but equivalent definitions used (Gray, 2013).

Knowledge Creation and Unstructured Data

Polanyi argued that face recognition is an example of tacit knowledge; one may recognize a face without being to articulate who it is. Yet face recognition software is making rapid progress, and the development of biometric methods based on machine learning is making tacit knowledge amenable to computational analysis. When this happens such knowledge is simply a problem in the analysis of unstructured data. The facial images then become information, so that tacit knowledge becomes an element of latent information within it. The written program becomes an expression of what we know about face recognition. Numerous other examples held up as representative of tacit knowledge fall into the same category and with further analysis can be seen to be little more than examples of unstructured information. Earlier writers in the Ryle-Polanyi tradition perhaps could not have foreseen the rise of machine learning that eliminates the distinction between tacit and explicit knowledge. Is this technology being used in firms, and does it have management implications?

Most certainly. Face recognition software is being used from everything from biometric security through to e-learning research into emotions, another supposed example of tacit knowledge, that has progressed to the point where analysis of facial micro-expressions that reveal emotional responses using machine learning is possible (Pfister, 2011). A written computer program for face recognition is a set of instruction that tells us how to recognize faces. As such the existence of such programs implies that we can tell how to recognize faces and that the face recognition problem is no longer an example of "knowing more than we can tell".

Today many problems involving unstructured data that would once have been considered examples of tacit knowledge are being analyzed by writing down sequences of instructions for acquiring such knowledge (programs). These programs are for the most part written by people who are in fact able to say "how we can tell". In fact, they say this by writing a face recognition program. Machine learning has narrowed the gulf between Ryle's knowing how and knowing what. Programmers have learned to narrow this gap incrementally through observation and technology capture of the information and applied it through technology such as algorithms and hardware.

Returning to the Knowledge-Creating Company

If we grant that explicit knowledge largely has to do with what we glean from structured data and tacit knowledge is concerned largely with the same sorts of problems as those involved with the analysis of unstructured data and furthermore, following Nonaka we concede that it is the act of combining these two types of knowledge that generates new knowledge. We would then expect that the combined analysis of structured and unstructured data (Koenker &

Zeileis, 2009) is likely to generate new knowledge. This is precisely what data science and machine learning do that is new.

Workflow Automation

Workflow automation has a long tradition. Since the introduction of the production line, increases in production efficiency have largely been due to increased automation of workflows (the other main source of efficiency gains is in regard to energy inefficiency). In the IT sector scripting languages have long played a role in automating workflow on a user's machine. The use of VBA (Visual Basic for Applications), for example in automating a series of steps or sequences of commands in Microsoft-Excel, should be familiar to many. To users of the various flavors of UNIX including Darwin-OS/X shell scripting via the bash shell enables automated copying of files; the "make" program, for example, allows for the automation of installation and updating of files without the user having to go through each step of the process. However, make scripting and even VBA have for many years remained for many users of information technology rather esoteric tools. Despite having been in widespread use for many years, workflow automation has for the most part remained limited to the programming community. There is increasing evidence that this is about to change.

The Emergence of Cloud Computing and the Software as a Service (SaaS) Paradigm[1]

SaaS has now evolved further and led to a number of new acronyms IaaS (Infrastructure as a Service),[2] Platforms as a Service (PaaS), XaaS (Anything as a Service) and iPaaS (integration Platforms as a Service). The latter involves connecting SaaS applications together, thereby eliminating the need for the user to interact with each application in separate instances. This essentially enables the automation of workflows via cloud applications. A number of iPaaS providers have now emerged, with companies like Blockspring, IFTT, Cloudpipes, Zapier among the better-known names. However, new challengers are entering the market with products such as Microsoft Flow. All of the above platforms fall into the category of integration platforms.

Other examples of workflow automation software include Automated Insights' Wordsmith software that employs natural language processing technology to automatically generate written reports from data. Such software when integrated with web-scraping technology and iPaaS will allow complete automation of the data collection, analysis and reporting cycle. This has the potential to radically change the nature of information production in the workplace.

In the next section I will consider the iPaaS market in detail and discuss current development and trends in competition between platforms in terms of how they may impact the information supply chain.

Integration Platforms as a Service

The introduction of containers and the rise of DevOps has also contributed considerably to increased automation of software development and particularly web development. New

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[1] SaaS or software as a service refers to software applications that are cloud based and accessible via the internet (Turner, Budgen, & Brereton, 2003).

[2] Examples of Infrastructure as a Service include Amazon Web Services (AWS), Microsoft Azure, Google Cloud, Digital Ocean, Rackspace and similar cloud service providers.

innovations in this area are making it easier to deploy new software in the cloud. The key to this is automation of workflows. DevOps enables the integration of software development, deployment and maintenance during production and automates the development, deployment and production workflow using approaches based on software containers (examples of this technology include Docker).

Given the appearance of so many new startups and the presence of old established IT players competing with new products based on the iPaaS model, we should expect to see considerable future competition in this market. The analysis of platform competition has been developed by Rochet and Tirole (2003). Competition between integration platforms is increasing and thorough analyses of this new technology are lacking. The theoretical bases for understanding pricing in such markets exist but there is a lack of case studies.

The rise of IPaaS has changed the nature of the information supply chain in a number of ways. If we examine the model depicted in Figure 1 (Sun & Yen, 2005), then there are information sources, three types of agents (scanning, interpretation, and information brokers), and finally users. A stylized model is depicted in Figure 1 and the impact of the introduction of iPaaS is depicted in Figure 2.
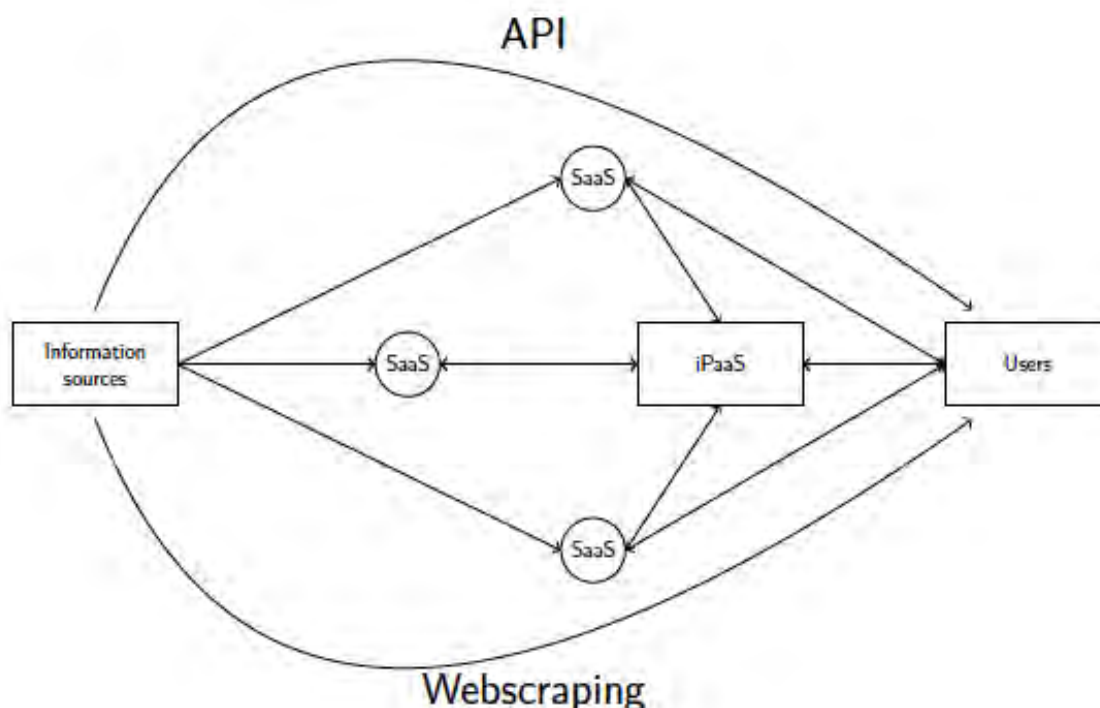
Figure 2: Where iPaas fits in the information supply chain

In Figure 1 it can be seen that end-users acquire information through brokers who obtain this information from interpreters, who obtain it from scanners who have scanned the information directly from sources. This is the traditional, relatively linear model of the infromation supply chain as described (Sun & Yen, 2005). Scanners for example might be statistical agencies or other sources of information in collated form, interpreters could be research organisations and media suchas newspaper, television, etc. Brokers form part of the distribution function that distributes processed and interpreted information to customers.

Today, with the help of API's and iPaaS end-users can directly access information from the scanning level, without making use of brokers or interpreters. For example, to obtain data from, say, the World Bank, I might once have gone to their website and downloaded an Excel file, then opened it and begun analysing the data, or I might have purchased data from a third party data vendor (a broker). Today, I am able to use the World Bank's API and, with a single line of computer code, import the data directly into R or Python and begin processing and displaying it. The manual search and downloading steps are removed from the process. It also does not matter whether the data is in structured or unstructured form, because webscraping utilities allow one to directly access embedded information in webpages without downloading and processing files, and the same can be done with sound and images. The programs used to write these commands provide a permanent record of the steps involved in enhancing reproducibility and automation. The user no longer has to remember what they did to acquire the data. Figure 2 depicts how iPaas modifies the information supply chain. It also incorporates how users are able to directly access information (data) using API's (Application Programming Interfaces) or by directly scraping webpages.

iPaas provides a different level of functionality in that it allows the customer to directly link local and cloud based applications in customizable and modular ways. So, for example, the end user can use an iPaaS to reconfigure different SaaS applications to customize their own personal information supply chain (essentially this is what services like Blockspring, Cloudpipes and Zapier do). SaaS applications my be linked together in series or in parallel to automate workflows for acquiring and processing information and for enabling routine actions.

Some SaaS applications – for example, Slack – have iPaas functionality built-in, and it enables integrations in the form of Apps (Slack Apps). For example, it is possible to integrate Slack with Blockspring and then a Webscraping App, to directly import web data to the Slack command line or to a file. This allows the rapid acquisition of web content that can then be be passed to collaborators mid-chat without having to access a web browser. iPaaS essentially provides end users with endless possibilities for experimenting and reconfiguring cloud-based workflows without requiring any formal programming experience.

At the same time this has consequences for cybersecurity, because the ability for the user to reconfigure different pathways in the cloud means that websites and services that may have been blocked from the end user's perspective are now accessible through reconfiguring of the path by which information flows, and this is largely in the end user's control.

The use of API's and web-scraping essentially allows the end user to automate direct access to the information source thereby bypassing the whole supply chain. This is like consumers purchasing products directly at the factory, rather than through retailers but then arranging direct delivery, rather than having to pick their goods up at the factory. It is a fundamental part of the reproducibility drive within the sciences discussed in the next section.

The Scientific Supply Chain, Reproducibility and Workflow Automation in Science

The rise of workflow automation in the production of knowledge in industry and in particular in the IT industry is paralleled in the academic world by the reproducible research movement. That research be reproducible in order to stake a claim of being scientific has long been a tenet of scientific research. The rise of information technology has led to increased emphasis

on the reproducibility/replicability of all steps of scientific supply chain from initial data collection, through analysis to report writing/generation and publication. This process has been termed reproducible research (Claerbout, 1992). Examples of software tools that support reproducible research include R packages, Sweave and KnitR, which allow the automatic generation of reports and documentation from statistical analyses conducted in the R package for statistical analyses.

The idea is to see data collection, analysis and report writing as an integrated whole based on principles of literate programming (Knuth, 1984). So, for example, KnitR allows one to export commented analyses from the R package directly to Microsoft Word and other word and document processing packages. In effect the idea is to automate the production of scientific reports by combining data and analyses with an automated workflow in something akin to a supply chain for information. Nor is package support for reproducible research confined to R. Python has a version of Sweave: PSweave and commercial vendors of academic software such as STATA have begun addressing the question of how to modify their software to enable and enhance reproducibility of research and the automation of the data analysis and report writing process.

Increasingly, data is collected through automated scraping or the use of API's (Application Programming Interfaces) directly from webpages without the need for entry by hand (see Figure 2), it is then collated and pre-processed (cleaned, munged, wrangled) before it is analyzed and then incorporated into a written report (Web Scraping, 2009). Multiple iterations of the process are frequently managed using version control systems that allow change tracking and in some cases, through integrations with communications packages such as Slack provide automated updates of changes to research team members. While reports are currently still hand written, the automated generation of written reports from data is now possible. See, for example, Automated Insights' Wordsmith software that has been used to analyze and generate reports for Associated Press (AP) among other clients. The automated collection, analysis and generation of written reports is therefore already feasible although not yet in widespread practice.

Workflow automation in the education and knowledge sector, at least in research and particularly in the sciences, is already well underway. Software-based lab management systems and electronic lab notebooks augment these systems and further contribute to the automation of the scientific enterprise of information production and dissemination. The automation of this part of the information supply chain, although characterized to some extent by different technology to that which is being used in industry, cannot be said to be either lagging or leading compared with similar developments in industry.

Academic research is yet to incorporate the iPaaS model to any great extent, and has for the most part not systematically developed cloud based technology, due, it would seem, to a desire by university and research administrations to retain control of information technology rather than outsourcing it. The reproducibility drive in science has also been criticized (Bissell, 2013). Potential downsides to reproducibility include too strict requirements leading to the possible stifling of innovation.

Bacon's vision in the Novum Organum of automatic science may not quite yet be here, but is at least a vision that in the light of recent technological advances today appears plausible.

Conclusion

In this paper I have addressed the changing nature of the firm from the perspective of recent developments in information technology. I have argued that the old distinctions between tacit and explicit knowledge due to Polanyi break down when confronted with recent developments in machine learning technology, which simply treat tacit knowledge sources as unstructured data. These methods, in conjunction with new technologies ranging from web-scraping through to cloud application integration (iPaaS) and the rise of the reproducibility movement in science, are leading to increased automation of information production that has and is continuing to change the nature of the information supply chain. Automation is unlikely to be confined to the shop floor but will increasingly impact managerial tasks in business and the research world. The implications of this development have yet to be considered in any detail but are likely to be profound. I have tried to outline the broad trend of this development and embed it within the literature on knowledge and information management. One caveat is that much of this technology is very new and is evolving rapidly, so predicting future trends is somewhat difficult. However, workflow automation is presenting a strong signal that it may be the next major trend in IT, which will impact business and academia in the same way that it has begun to impact some sectors of the research industry.

These developments suggest a number of future research directions. Firstly there is increasingly a need for operations managers to become aware of how automation of information workflows can enhance operational efficiency. There is a need for further research at the interface of operations management and information management with a focus on automation of information workflows; in both academia and business the importance of these new developments appears to be underappreciated. The buzzwords of today are concerned with big data, cloud computing, robotics and digital transformation, but none of these terms adequately cover the automation of information workflows that has been quietly occurring for a number of years but has largely gone unnoticed.

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The Insourcing and Backshoring Dilemma: Global Economies Fight for their Share

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Abstract

Since the financial crisis, there has been an increased awareness about the globally interconnected world of business, its complexity and sustainability. There is emerging evidence that one popular aspect of global supply chains, outsourcing, is taking a reverse turn and insourcing and backshoring are on the rise. Reasons for such a change include considerations for cost (labour cost, transportation cost, tax differentials, exchange rates, etc.), quality control (provider reliability, availability of internal expertise), customer satisfaction, security (protection of intellectual property and information privacy), speed to market, effect on innovation (e.g., proximity of operations with R&D), and overall risks and uncertainties (e.g. political and environmental stability). Basically, outsourcing cost advantages have been gradually eroding, especially when productivity-adjusted labour cost is considered. However, insourcing does come with a set of challenges, particularly in relation to human capital, infrastructure and the level of resource commitment. To ensure insourcing effectiveness and sustainability, all stakeholders have roles to play. Strategies and processes must all be aligned. Otherwise, the balance may once again shift toward outsourcing. This paper, then, explores how emerging economies (who have felt the negative effect of insourcing) can "fight back" to reverse the trend with adjustments to their economies, markets and organizational strategies.

Keywords: insourcing, backshoring, reshoring, offshoring, outsourcing

Introduction

Since the financial crisis, there has been increased awareness of the globally interconnected world of business, its complexity and sustainability. There is emerging evidence that one popular aspect of global supply chains, outsourcing, is reversing, and insourcing and backshoring are rising, a phenomenon recognized by the United Nation Conference on Trade and Development (e.g. Fratocchi, Di Mauro, Barbieri, Nassimbeni, & Zanoni, 2014; Sirkin, Zinser, & Hohner, 2011). While a Deloitte survey on IT work found that nearly half the respondents had terminated an outsourcing contract before completion, and a third of which brought the work back in-house, they also reported that four fifths of the respondents said that they were satisfied or very satisfied with their insourcing (Deloitte, 2013). Further, studies by The Boston Consulting Group and the Massachusetts Institute of Technology (MIT) also speculate that insourcing or backshoring of manufacturing will increase in the years ahead (Sirkin, Zinser, and Hohner, 2011; Burkart, 2012). It is, therefore, important to understand this phenomenon – the reasons for it and its implications.

Reasons for such a change include considerations for cost (rising labour, transportation and energy costs, tax differentials, exchange rates, etc.), quality control (provider reliability, availability of internal expertise), customer satisfaction, security (protection of intellectual property and information privacy), speed to market, effect on innovation (proximity of operations with R&D), and overall risks and uncertainties (e.g. political and environmental stability) (Burton, 2013; Burkart, 2012; Deliotte, 2013; Kim, 2013; Sirkin, Zinser, & Hohner, 2011). The outsourcing cost advantages that were so appealing to organizations a decade ago have been gradually eroding, especially when productivity-adjusted labour cost is considered. With regional and local economies struggling, bringing back manufacturing and services is also viewed as an effective strategy to revitalize economic growth at home.

The positive effects of insourcing on society are also receiving great attention. When General Electric Corporation (GE) spent $800 million to bring work back from countries like People's Republic of China (PRC) and Mexico to the GE Appliance Park, many of its suppliers opened plants in its proximity and, thereby, reviving the whole community (Fishman, 2012). Employment will increase and, consequently, so will consumer power. However, insourcing does come with a set of challenges, particularly in relation to human capital, infrastructure, and the increased level of resource commitment that is required to support both the transition from outsourcing to insourcing and to maintain the work as an insourced component of business operations. To ensure insourcing effectiveness and success, organizations, the government, employees and their unions, as well as the community, all have a role to play. Strategies and processes must be well aligned.

This paper starts with a discussion of the definitions of insourcing and related terms. It then addresses the major trends and examples of insourcing and backshoring (including co-sourcing) and their implications for business in the evolving environment of volatility, uncertainty, complexity and ambiguity (VUCA) (Bennett & Lemoine, 2014). This paper proposes a framework to address the challenges of changing global supply chain strategy (especially off-shore manufacturing and services) and assesses the kinds of decisions required to reverse this trend, favoring offshoring and outsourcing over backshoring and insourcing. This aspect is explored from both the viewpoints of the developed countries adopting insourcing and backshoring and those emerging economies reliant on outsourced and offshored work that are receiving the negative impacts of the recent changes.

Insourcing and Backshoring/Reshoring

Sikula et al. (2010, p. 3) define insourcing as the situation where "an organization uses especially internal labor and personnel, but other resources as well, to supply the operational needs of its enterprise". Along a similar vein, Burton (2013, p. 37) describes insourcing as the reversal of outsourcing to mean "transferring jobs from a domestic or foreign contractor or supplier to the internal operations of a business". Hence, the simplest view of insourcing is about bringing work in-house, and involves the dimension of the source of resources.

Insourcing is closely related to reshoring or backshoring, which generally refer to the geographical dimension with regards to transferring of operations from abroad (including foreign locations owned by the company or other companies) to the home country (Burton, 2013, p. 3; Holz, 2009, p. 156; Kinkel & Maloca, 2009, p. 155). On the contrary, the use of production operations overseas (one's own firm or otherwise) is regarded as offshoring. Insourcing, however, refers to the use of internal instead of external resources. The two dimensions described above give rise to the typology as shown in Table 1.

	Internal Resources	**External Resources**
Domestic Location	Insourcing and backshoring	Outsourcing and backshoring
Overseas Location	Insourcing and offshoring	Outsourcing and offshoring

Table 1: Typology on sourcing and location

Insourcing and Backshoring Developments

Many large manufacturing companies in the US private sector have insourced and/or backshored work back to the United States. Some examples commonly cited by researchers (Burkart, 2012; Economist, 2013; Kim, 2013; Ohio Energy; Sirkin, Zinser, & Hohner, 2011; Spector, 2013) and industry are:

- GE opened plants in Texas, Colorado, and Pennsylvania creating 16,000 new jobs between 2009 and 2013;
- Whirlpool opened a plant in Tennessee;
- GM reversed its outsourcing policy and decided to do 90% of IT work in-house and to re-open a Missouri facility;
- Ford Motors announced the return of 2000 jobs and invested 2.3 billion dollars in two new plants in Kentucky and Missouri;
- Otis Elevator brought work back to South Carolina;
- Caterpillar, a heavy equipment manufacturer, backshored to Texas; and
- Apple has been observed adopting insourcing to secure microchips for iPads.

A similar development is also seen in the public sector. America's President Obama has indicated that job creation and investment within the country are important priorities and both federal and state governments have been offering strong incentives to make US manufacturing more competitive (Kim, 2013; Sirkin, Zinser, & Hohner, 2011; Courtemanche, 2012). Federal agencies (other than the Department of Defense) have been

required by America's legislative branch to establish guidelines for insourcing for both new operations and previously outsourced work, while the Department of Defence has been planning to curb outsourcing and increase civilian employees by over 33,000 (Needham, 2009; Sikula, et al., 2010, p. 9).

Overall, one study sponsored by the Council of Supply Chain Management Professionals found that 40% of US manufacturing firms surveyed reported a backshoring trend (MSU Research, 2012). In the healthcare field, five out of six surveyed by the American Society for Healthcare Engineering and the Association for the Healthcare Environment expected the volume of outsources work to fall (Carpenter, 2012).

Outside of the United States, there is also evidence of backshoring activities in European countries. For example, Kinkel and Maloca (2009, p. 154) analyzed German data on 1663 firms and found that offshoring has "lost momentum", that 2.5% of all surveyed firms had backshored activities between 2004 and 2006, and that one-fourth to one-sixth of offshoring operations were brought back within four years of offshoring. Varying degrees of backshoring amongst European countries, between 2007 and mid-2009, ranging from 2% of surveyed companies in Germany to 7% in Spain, Denmark and Finland, were reported by Fratocchi, et al. (2014), citing Caterpillar, Bosch, and Philips as some of the backshoring manufacturing firms.

Outsourcing and Offshoring Problems

Outsourcing and offshoring skyrocketed around the turn of the century, because contract (outsourced) work, especially work done overseas (offshored), was expected to provide much cost advantage. Such an advantage largely stemmed from the low labour cost in PRC and other less developed countries. The trend began with outsourcing of unskilled work, like garment manufacturing. Then, the service sector, particularly call centres, followed as some countries offered personnel with expertise firms sought, such as IT skills in India. This was also driven by low cost of service providers. However, there were firm-level problems that started to emerge as well as changing economic factors that have been eroding the once-appealing cost advantage. Firm-level concerns for outsourcing organizations typically include poor worker motivation and quality control (sometimes due to poor working conditions), risk to intellectual property, disconnect between production/operations and R&D, lost sales/customers, as well as the extra cost of support, coordination, and monitoring (Deloitte, 2013; Kim, 2013; Sikula, et al., 2010). Offshoring tends to accentuate those problems, relative to insourcing, due to the greater distance and environmental differences (legal, economic, political, social, technological, and others). For example, control and coordination may be more difficult (lack of supply chain "visibility") while legal, cultural, and technological differences may make easier for theft and misappropriation of intellectual properties in some countries without being detected and/or penalized. Quality of services rendered by foreign call centre personnel has also been found to be substandard due to the language barrier (accents can make the message hard for the consumer to understand) and unfamiliarity with the North American customer service practices (Economist, 2013). Moreover, offshoring has other disadvantages beyond those common to outsourcing. Loss of potential sales can be experienced if a firm cannot respond to changing local customer demand and/or deliver highly customized products in a timely fashion. Overseas scandals (sweatshop operations), safety and terrorism concerns, reduced speed to market, and longer supply chains giving rise to more risks, like those related to natural disasters or wars, are just

a few additional concerns for the outsourcing firm (Kim, 2013; Sikula, et al., 2010). All these concerns for the outsourcing firm have prompted reconsideration of the sourcing strategy.

In terms of the financial advantages of offshoring, many reports offer evidence that the cost gap between China and US production is rapidly decreasing. For example, The Hackett Group found the cost gap to have shrunk by almost 50% over a recent eight-year period (Esler, 2012). Boston Consulting Group found that, in China, the wage rate had been increasing by 15–20% per year, whereas, in comparison, US wage increase has been averaging about 4% per year between 2005 and 2010, reducing the labour cost savings to only 10– 15% when adjusting for the US's higher productivity (Burkart, 2012; Sirkin, Zinser, & Hohner, 2011). Recent Chinese legal changes have provided workers with more labour relations rights (allowing for strikes) and better benefits (severance pay), which are generally seen as undesirable from the employers' cost perspective (Sirkin, Zinser, & Hohner, 2011). Other major cost increases for offshored Chinese production include rising land cost, especially among the coastal regions, increasing transportation and utility costs due to oil/coal price jumps (oil price went from $20–$30 a barrel in 2001 to $100 a barrel in 2012 (Ivalua Insights, 2012), and continuing strength in the Chinese currency, all combined toward closing the China versus US cost gap (Sirkin, Zinser, & Hohner, 2011). Moreover, as pointed out by Burton (2013), some firms outsourcing operations either did not take into account the hidden costs of production overseas or grossly underestimated it. These costs were estimated to be around 14–16% of a products' purchase price. Such costs for offshore operations include greater inventory cost, higher amount of scrap and warranty repairs, unexpected logistics issues, more planning, scheduling, coordinating, and monitoring expenses, as well as lost opportunities for fast product development and delivery (Burton, 2013). Hence, the various costs of outsourcing and offshoring must be considered in choosing the sourcing alternative.

At the level of society, offshoring can have significant social cost, such as unemployment of workers, which leads to reduced consumer spending that can fuel an economic downturn. Outsourcing and offshoring are, also, often contentious issues in labour-management negotiations, potentially giving rise to unproductive dialogue, distrust, and job actions, such as "work-to-rule", wherein labourers refuse work tasks beyond contractual requirements, and outright strikes. Even though terminating employees' service is usually not contravening legal standards, especially under employment-at-will doctrine in which employees can be dismissed for almost any reason (or when adequate notice or wages in lieu of notice is given in other doctrines), dismissing of good employees is often morally undesirable, especially in smaller communities where alternative employment opportunities are scarce and employers are expected to assume a degree of corporate social responsibility. Outsourcing and offshoring employers may therefore also risk not being able to attract talented employees in future. Moral responsibility is not only limited to the domestic situation. Sweatshop operations have led to heavy consumer criticisms and even boycotts. The Bangladesh factory fire incident of April 2013 (Butler, 2013) underscored the fact that substandard factory conditions can carry significant potential costs in terms of legal responsibilities, compensation, and lost customer support.

Table 2 summarizes, along the categorization used in Lam and Khare (2016), the types of outsourcing and offshoring costs that can be disadvantageous.

Production-related Costs	• Labour/wage costs • Overhead costs, e.g., land cost, utility cost • Inventory costs
Logistics-related Costs	• Shipping and transportation costs • Long-scheduling costs • Insurance costs
Quality-related Costs	• Re-work and waste material costs • Cost dealing with customer dissatisfaction • Loss future sales due to poor quality
Risk-related Costs	• Greater potential exposure to safety hazards, natural disasters and terrorism with certain overseas production • Risks of job actions (i.e. strikes) are higher in some countries than others • Risks of fines and consumer boycott if production facilities overseas do not meet legal or moral standards (e.g. sweatshop operations) • Risk of intellectual property theft
Opportunity-related Costs	• Slow pace to market due to long shipping time means losing potential sales • Distance and lack of integration between manufacturing and R&D could result in less innovation or new products • Low responsiveness to increasingly more customized consumer needs also means losing potential sales
Societal Costs	• Displaced unemployed workers, affecting workers' livelihood and government welfare programs • Lower consumer spending due to less domestic income • High impact on community if outsourcing and offshoring happened in small communities due to lack of alternative employment.
Other Hidden Costs	• Costs of more challenging coordination and monitoring • Cost of cash flow (more cash tied up in longer production pipeline) • Cost of conflicts or conflict resolution due to unfamiliarity with the offshore firm's environment, culture, and style of working • Cost related to morale and productivity of employees if they become less committed as a result of lack of job security.

Table 2: Outsourcing and offshoring costs

Determinants of Insourcing

Firms that have encountered various problems with outsourcing and offshoring are beginning to more fully appreciate the benefits of insourcing and backshoring. However, taking work back in-house is as big a strategic decision as it is for the initial outsourcing and requires similar levels of due diligence and planning. Most importantly, the firm must first determine if insourcing and backshoring is a strategically sound decision and if there is capability within the firm and the domestic location to do so. According to a Deloitte survey, the three primary drivers of change in such situations are the need to improve customer service, to gain better control, and to be more cost effective (Deloitte 2012).

In terms of strategic choices, organizations experiencing difficulties with outsourcing and offshoring can (a) insource to their own domestic facilities, (b) insource to own offshore facilities, (c) outsource to other domestics organizations, or (d) continue to outsource and offshore, but to other vendors. The focus of this part of the paper is on the first two insourcing categories. Sikula et al. (2010) outlined eight factors for insourcing decisions, namely, communication, employee morale/loyalty, control, security, transportation, innovation, customer satisfaction, and speed to market. Cervinka et al. (2012) propose that insourcing is appropriate where it is necessary to maintain one's know-how and to keep information about customers confidential, or where the work is complex. Caputo and Palumbo (2005) add further considerations for insourcing, such as the firms' familiarity with the product, core competence, alignment of the strategies between the firm and the vendors, and possibilities of achieving economies of scale. Deloitte (2013) also presents a list of strategic considerations for insourcing previously outsourced work. The first consideration is whether the work to be done is of a strategic nature. If the work provides strategic advantage and is at the core of the business, outsourcing to vendors could cause significant reputational risk, so the work is better to be done in-house and probably closer to home where monitoring is less complex or challenging. Second, whether to terminate an outsourcing contract and bring work back in-house depends on the ease of contract termination and specific contract provisions, such as, among others, whether the organization is allowed to hire the vendor's employees to work, whether the vendor services can be reduced gradually, and whether there is good intellectual property protection. Third, the more the firm is able to influence the vendor's behaviour during the transition to in-house, the more favourably predisposed that firm will be to insourcing. Fourth, organizational readiness is a major consideration in terms of whether the firm has the necessary resources available for deployment for the insourced activities. Fifth, institutional knowledge must be able to support insourcing in that the policies, processes, systems, required information, and measurements are all in place. Sixth, similarly, physical infrastructure must be accessible or able to be quickly built to support insourced activities in a cost-effective manner. Last, but not least, the insourcing decision must be based on sound a business case by comparing its cost effectiveness with other alternatives, such as re-tendering.

The insourcing determinants are summarized in Table 3, with indication of their applicability for insourcing or backshoring.

Decision Factors	Favouring Insourcing	Favouring Backshoring
Nature of Work		
- Work of strategic advantage or involves firm's core competence	Yes	Depends*
- Maintenance of know-how/intellectual capital	Yes	Yes
- Work highly complex	Depends on internal vs. external expertise	Likely
Customer Service		
- Speed to market	Likely	Yes
- Maintenance of confidential customer information	Yes	Yes
- Innovation and responsive to customer needs	Yes	Yes
Product Quality		
- Control and monitoring	Yes	Yes
- Reduction of rework cost	Yes	Likely
Organizational Readiness		
- Internal expertise inshore	Yes	Yes
- Internal expertise offshore	Yes	No
- Ability to hire vendor's personnel	Yes	Depends*
- Internal systems and processes in place to handle work	Yes	Depends*
- Familiarity with own offshore locations	Yes	No
- Internal infrastructure to support extra work	Yes	Depends*
Product Costs & Logistical Concerns		
- Security from disasters or unexpected events	Yes	Yes
- Rising offshore costs (wage, land, utilities, etc.)	Yes	Yes
- Rising transportation cost	Yes	Yes
- Internal economies of scale	Yes	Depends*
- Ease of terminating vendor contract	Yes	Depends*
Other Intangible Factors		
- Communication with employees	Yes	Yes
- Employee morale and loyalty	Yes	Likely
- Maintenance or enhancement of domestic employees' skills	Yes	Yes
- Good corporate citizen by boosting community's business activities	Yes	Yes

* Depends on capabilities of own offshore facilities

Table 3: Insourcing/Backshoring decision factors

Other than insourcing and backshoring, there is a less commonly used alternative called co-sourcing whereby the outsourced work is performed at a location such that both internal and

external members involved with the product or service work alongside each other. For example, the partnership between Eli Lilly (a pharmaceutical firm) and AMRI (a contract research and manufacturing organization), in which a team of 40 synthetic chemists from AMRI in Indianapolis work closely with Eli staff to support that pharmaceutical firm's drug-discovery programs in 2012, has been cited as an effective alternative to the traditional outsourcing model (van Arnum, 2012). This relationship is able to ensure speedy innovation and product development and quick adjustments to project needs due to the real-time information exchange between the parties involved. This model also fosters a collaborative and problem-solving atmosphere where people are willing to share ideas and communicate constantly. However, this is not a new concept as it was practiced in late 1990s by Micro Compact Car Company (then a subsidiary of DaimlerChrysler and manufacturers of the SMART Car), which allowed suppliers to provide their services on the assembly line in Hambach, France (Arnold, 2000). Another example is in the financial industry where AlixPartners or similar companies provide a team of management people to work inside the organizations that are recovering from near-bankruptcy situations (Rosenberg, 2007). This can be a situation of insourcing, if those management members become employees, or a situation of co-sourcing if they are external members working in conjunction with the welcoming organization's employees. Co-sourcing can be seen as a hybrid approach that has the potential to reap the benefits of both insourcing and outsourcing and lead to huge tangible cost-savings as well as intangible benefits such as a more integrated and committed workforce. The success of this strategy depends on the availability of physical space for co-location, compatibility of the cultures of the two firms with both groups of employees embracing the collaborative approach and complementarity of the skill sets of the groups.

Stakeholder Roles and Implementation Challenges

A number of main actors play prominent roles in achieving insourcing and backshoring success. These include governments, organizations and their management teams, employees and those worker's unions and the community at large.

Government

Governments can exert a huge influence on organizational insourcing and, especially, backshoring activities. Regulations on import tariffs can raise the price of imported goods, making them much less attractive compared with domestic production through backshoring. Even within a country, taxes on land, oil and gas, and other factors of production can also have a significant impact on the selection of production sites. Legal restrictions on employment of foreign workers, employment standards provisions, and labour relations codes can all affect the availability of human resources, the ease of union organization, and the level of labour cost. By stricter enforcement of the law, governments can also curb outsourcing practices for organizations trying to gain advantages from labelling workers as contract staff in order to bypass the need to pay employees benefits when the workers do exactly the same work as regular employees.

Governments can also provide the necessary infrastructure and other positive incentives and programs to facilitate backshoring (Eliasson, 2005). Building an efficient transportation network within the country can prompt organizations to build plants at less popular, but more cost-effective, locations. While better and more efficient port facilities may encourage importing, they can also promote domestic production and exports. In other words, through improvement in the infrastructure such as port facilities and transportation networks,

governments increase market efficiencies for both importers to and exporters from resident location, which in turn, reduce the cost of goods and benefit the resident citizens.

Governments are responsible for the overall educational plan of their populations. The skills and competencies developed by various academic programs, as well as specific vocational certifications, prepare the domestic workforce for future human capital needs and put human resources at a competitive advantage as compared with foreign counterparts. Where labor supply in the skill areas needed is a concern, immigration policies can help to relieve the pressure of such shortages, particularly in the short term while such skills are being developed domestically (Kim, 2013). After all, the level and composition of workforce skills are important factors affecting backshoring.

Moreover, governments can entice backshoring by offering direct incentive and rebate programs, particularly such as those that encourage desired types of innovative production or those that involve the employment of a large number of workers. Examples of such incentives include one of $1.3 billion in cash and tax breaks over 15 years from the State of New York for building a $4.2 billion silicon-wafer plant in the state, and another involving a US Department of Energy loan of $1.45 billion to Nissan for investing in a new Tennessee plant (Sirkin, Zinser, and Hohner 2011). Such incentive plans not only help organizations to be more cost-effective but also raise the nation's profile as an innovative leader and revitalize certain communities where new operational facilities are built.

Governments are also often large employing organizations and large customers for many products and services. Hence, they play an organizational role and consumer role as well. These roles will be discussed further in later sub-sections. In short, as large employers, they can help to set trends and act as a role model of insourcing and backshoring by demanding government departments to review their sourcing policies and procedures in favor of such practices. As consumers, they can also voice preferences and demands for flexibility, customerization and fast delivery, which are conducive to favorable insourcing and backshoring decisions.

As with any government policies, there will be political and other challenges in providing any legislative changes. Trade barriers like higher import taxes may affect international relations, potentially increase prices consumers pay and possibly condone complacency among domestic producers by limiting competition. Specific financial support for any particular organization or community will inevitably encounter objections from other companies and communities. Even funding for support of general education programs may be at the expense of that for other social services. Immigration policies can be another controversial area. Organizations may favour a lenient approach for hiring temporary or "permanent" foreign workers, but domestic workers could be leery of losing jobs to these immigrants. Recent developments in Canada are indicative of this dilemma, where allegations were made about employers abusing the temporary foreign worker system by hiring foreign workers in place of Canadian workers despite the government policy requiring that employers prove the need for such workers and that no Canadian is available to do the job. This prompted a halt in the processing of applications for firms in the fast-food industry, where most complaints seemed to have originated, and a subsequent decision to impose gradually stricter caps on the number of such workers that can be hired with the possibility of phasing out the low-skilled stream of the temporary foreign worker program by 2016 (The Canadian Press, April 23, 2014; CBC News, April 24, 2014; Milewski & Mas, June 21, 2014). In sum, government policies,

regulations and funding allocation affect labor availability as well as firm's cost and competitive position. They are often controversial topics without one best solution.

Hence, governments must set clear priorities, balance the needs of various parties, and make strategic planning for the long-term gain of their jurisdiction. Proper communication of the government's strategic and insourcing-promotion plans with communities, and organizations, as well as foreign companies, through efforts of agents and diplomats, is critical to ensuring insourcing and backshoring success. A point to note is that this situation is not static. It is dynamic and changes in environment lead to "attractiveness of locating operations" shifting between outsourcing and insourcing. This requires government to monitor both global and domestic situations on a regular basis and adjust its policies, proactively where possible, from time to time.

Organizations

After deciding to insource based on the factors discussed above, an organization's management must devote substantial efforts and care to the insourcing planning process. This broadly includes acquiring resources, determining resource allocation, building internal infrastructure, communicating the implementation plan (with employees and other stakeholders such as unions), as well as defining and measuring insourcing effectiveness (Clark and Monk, 2013; van Adelsberg & Trolley, 1998). In the following paragraphs we discuss the issues that emerge from this aspect.

To bring work back in-house requires extra financial investments to purchase land, equipment, technology, supplies, and more importantly, human talent. Organizations' expertise in finance, operations, and human resource must be well leveraged and coordinated to achieve effective insourcing. Efforts need to be directed at not just the product design, but also the work design, that is, whose responsibility is the work and how the work is to be done. The option of "buying" (hiring external) or developing (internal) talent is often a human resource dilemma that requires the assessment of the time line and the availability of talent in the market. If the relationship between the organization and the previous vendor doing similar work is good and there are no contractual restrictions on acquiring the talent from the vendor, "buying such talent" may be a quick way of ensuring human resource needs are met. It may also help to provide employment to those vender workers who might be displaced and unemployed otherwise. If outright hiring is forbidden, it may still be possible to make training agreements with the vendor to capitalize on their expertise and to maintain a harmonious relationship despite the discontinuance of the outsourcing contract.

As with any change management initiative, top management commitment to insourcing is essential especially during the transition period. There may be changes in people's roles and in resource allocation. Employees involved in the insourced functions need to feel supported in terms of having the necessary access to various types of resources, and that their security and development needs are addressed. Especially if the function has been outsourced before, employees hired for the function may feel insecure in their jobs. This concern can be alleviated by appropriate human resource strategies, such as fostering a culture where employees are valued and empowered, providing important general and firm-specific skill development opportunities so that employees know they are both in demand within and outside the organization and offering attractive contract terms particularly in the event of severance (as this not only provides tangible benefits for the employees, but also sends a strong signal that the organization is not planning to use layoffs as an easy decision choice). Appropriate human resource measures are therefore critical during the insourcing transition.

Just as important as it is for government to build the external infrastructure, organizations must build or upgrade their internal infrastructure to meet the needs of the new insourced production and delivery. Such infrastructure includes equipment, systems (operational, information technology and human resource) and storage capacity and delivery networks. Policies and processes must also be aligned with the new activities so that they can be well integrated with other activities in the organization. For example, where activities are competing for the same resources, such as time and manpower, priorities must be set with clear objectives, criteria, and procedures. Overall, new or revised policies or processes are needed for the expanded infrastructure.

Even if the policies, processes, and systems are in place to guide insourcing activities, there needs to be a clear communication plan to ensure the necessary messages are properly conveyed to all those involved. In any change situation, a one-way communication is not desirable. In the case of employees, for example, they are often in the best position to offer good feedback on new structures and approaches. After all, they are the ones who do the work and know the more subtle repercussions of any changes. Moreover, a top-down approach without consultation does not generate buy-in. As for departmental managers, their role is more than that of just employees. They are the ones to oversee the complex changes and coordinate cross-functional activities. Therefore, their support of the insourcing-related policies and processes largely influence insourcing success. In sum, proper communication and consultation with stakeholders are crucial in insourcing decisions.

One question to be asked in insourcing implementation is how well the organization's culture is prepared for the change. A culture that embraces continuous improvements, new approaches, and innovations can be very conducive to insourcing success. Contrarily, if the organizational members tend to have a set way of doing things and resist changes at every step, insourcing will be problematic. Moreover, when there is an influx of new activities and employees, the well-established culture of the organization may be challenged. New organizational members may not know or share similar norms, values and expectations of the existing members. Thus, if the existing culture is a good one to maintain, then care must be taken to continue fostering it. Cultural values are shared through explicit messages from the leaders, organizational policies, ceremonies, rituals, stories, and even symbolism. Again, a two-way communication is key to successful integration in this regard.

A crucial step in any implementation process is monitoring and review. The goals and targets for insourcing as well the measurement indicators for success need to be determined and translated into performance standards for individual employees involved so that efforts can properly be directed and rewarded. Employees will also be in a better position to offer constructive feedback from their knowing the goals and expectations of the organization. Taking feedback and then reviewing and revising processes accordingly can ensure that what Argyris and Schon (1996) termed "double-loop learning" takes place, where thorough understanding of the causes of underlying problems leads to appropriate long term remedial actions rather than temporary quick fixes. In other words, applying "double-loop learning" to the review and monitoring of insourcing processes is both practical and constructive.

In sum, the main organizational challenges in insourcing usually relate to resources (financial and human), infrastructure and work design (equipment, systems, processes, capacity and networks), culture and communication, and performance management. This section has provided some suggestions to handle the challenges but most importantly, the challenges should be anticipated in advance and addressed proactively wherever possible. Again, for

organizations, this is a continuously evolving situation. Investments have to be matched with efficiency gains. Continuous monitoring and adjustments are required to control and improve the situation.

Employees and Unions

Employees and unions are both important stakeholders in insourcing decisions. They can even "make-or-break" the initiative. Whether unions cause organizations to be less competitive by raising wages and whether higher union labour productivity is more than sufficient to compensate for the higher wages are issues beyond the scope of this paper. However, there is little doubt that in a unionized environment, management and the union are in a long-term relationship and the more they can partner in addressing the challenges concerning the work and employment aspects, the better the chances of insourcing success. For example, Ford Motor's backshoring of 2000 jobs back to the US was due to the favourable agreement that it made with United Automobile Workers (UAW), especially on the new hires' wages (Sirkin, Zinser, & Hohner, 2011). Rather than focusing only on wages, the organization and the union can also jointly work on raising productivity through training and development, total quality management initiatives, incentives to reduce wastes and increased efficiency (such as gain sharing and profit-sharing), and overall increase in employee morale (such as negotiating some degree of job security, having policies on code of conduct that treat employees with respect, and establishing open communication channels for feedback). In situations like this, where both the substantive outcomes and the relationship matter, a collaborative (integrative) negotiation approach is more appropriate than a competitive (distributive) one (Lewicki, Orlander, & Hiam, 1996). Indeed, insourcing can provide a good opportunity for reclaiming union work and reviving union membership (Zullo, 2004). Thus, management and union joining hands in dealing with insourcing issues is advantageous to both parties.

Employees can also make it easier for the organization to bring work back in if they show they can handle the extra workload, they have the skills (or are willing to learn the new skills) to do the work, and they can work well as a team with new employees who need to be hired. For employees, insourcing means extra opportunities for upwards or lateral movements that can enrich their work experience and potentially make their jobs more secure (as there is more work and they have higher seniority than the new hires). In the transition period, there will likely be uncertainties about the workflow and individual roles. Employees' cooperative attitude and feedback along the way are most invaluable to the organization.

Community
Insourcing and backshoring can help revitalize communities by bringing in employment opportunities, which can boost consumer spending. Hence, communities should consider playing an active role in enticing organizations to adopt these two initiatives. As examples, communities can help by showing support for re-zoning of land to make it easier for building facilities, promoting a business-friendly environment where citizens and businesses can hold meetings to determine overall developments and needs, and building affordable residences and desirable amenities to attract new migrants who will come for the new jobs in the community.

For the workforce in the community, the willingness to constantly upgrade their skills through courses and practicums and to be prepared for new insourced jobs when available, and to purchase domestic products instead of imports in order to support backshored

production are just some of the ways that can help increase the pace of insourcing and backshoring. Therefore, community is an important stakeholder in insourcing and backshoring.

As discussed above, insourcing and backshoring involve many stakeholders, including governments, organizations, unions, employees as well as communities, each of which have roles to play that affect the effectiveness of these two initiatives. Challenges are inevitable in implementing changes and need to be addressed with careful planning and proper resource allocation.

Table 4 summarizes the stakeholder roles in economies that benefit from insourcing/backshoring.

Government	• Implement tariffs and taxes (on land, oil and gas, etc.) as well as incentive/rebate programs attractive for domestic production • Review labour/immigration legislation and enforcement to improve skilled labour availability and curb outsourcing • Provide necessary infrastructure, e.g. transportation network • Promote educational and vocational training programs • Adopt insourcing/backshoring practices and preferably purchase domestic products/services within the government departments
Organizations	• Make necessary investments for purchase of land, equipment, supplies and human talent for bringing production back • Direct efforts at product and work design • Communicate and consult proactively with stakeholders • Foster a culture that embraces quality, innovation, and employee empowerment • Consider hiring the displaced outsourcing vender workers or making training agreements with such venders for knowledge transfer • Provide developmental and resource support for employees • Enhance internal infrastructure for insourced production and delivery • Set appropriate and measurable goals/targets for insourcing performance standards that can be translated to the individual level
Employees and their Unions	• Jointly work with the organization to raise productivity through training, total quality management, and reward incentives • Negotiate collaboratively with management to enlarge the pie for both
Community	• Support the rezoning of land for production facilities and construction of transportation networks • Provide a business-friendly environment, affordable commercial/residential spaces, and good amenities to attract businesses and new migrant workers • Upgrade the overall workforce skills to take on new tasks • Purchase domestic products

Table 4: Stakeholder roles in economies favouring insourcing/backshoring

Emerging Economies – Mitigating Insourcing and Backshoring Impact

The new insourcing and backshoring trend clearly has a negative impact on the emerging economies that have previously attracted manufacturing and provision of services from offshore locations. It would be naïve to believe that they would not try to reverse this trend in order to sustain their growth and progress. The question is where agents within those emerging economies start and what roles the government, organizations and markets play in the "fight back". The paper presents the strategic changes needed for these actors based on the cost factors identified in Table 2 earlier.

Government
The government of the emerging economy can have a significant impact on various production and logistical costs that can in turn affect offshore investments. Lower tariffs on imports directly lead to lower cost production, where foreign raw material supplies are concerned. Reducing taxes on oil and gas products can decrease the utility costs involved in production, storage and delivery. Tax rebates and subsidies to select industries fast track the growth of those industries and help with their specialization that gives them a competitive edge in the global market. Monetary policies determine the strength of the domestic currency as well as the inflationary pressures within the economy. A stable currency exchange rate maintained through government market intervention, as in the case of PRC, reduces currency fluctuation risks for foreign investors. While purposely having a weak domestic currency curbs imports and boosts exports, a by-product of this approach is possible inflation within the domestic economy, which can drive up labour and other costs of production (ECR Research, 2014). Therefore, the monetary policies of emerging economies affect the investments and competitiveness of businesses.

In terms of labour and human capital, government legislation and educational investment have a significant impact on such a resource. While labour cost are a major concern for foreign companies, these firms are also concerned about their reputation as ethical employers (and organizations in case of contracted work) as there could be repercussions on customer actions, such as boycotts on sweatshop operations. Regulations that mandate and enforce basic human rights as well as acceptable standards of working conditions and wages, while potentially raising labour cost, are able to increase morale, productivity, and product and service quality. Such an environment entices foreign companies to contract out to domestic providers, as the need for and cost of due diligence in this aspect can be reduced. On the other hand, freedom to strike and taking of job actions could be seen negatively by foreign investors due to the risk of production interruptions. Therefore, a delicate balance of regulatory measures is needed to ensure workers are treated fairly while at the same time, mechanisms are in place to facilitate fast resolution of labour disputes and concerns. For example, alternative dispute resolution, like mediation, conciliation and arbitration could be effective ways of addressing labour matters without disruptive strikes and help in discouraging adversarial work environments. Overall, government educational and vocational policies and investments affect labour pool competency. The supply of skilled labour can address some of the quality concerns of foreign companies. In particular, encouraging local citizens to learn foreign languages and study abroad bridges the knowledge and culture gap between local and foreign economies. The more domestic managers understand the needs, values, and expectations of the foreign companies, the more likely that the local providers will be able to reduce the hidden costs of cross-country coordination, communication, and conflict management, and, thereby, increase responsiveness to foreign market needs.

Governments can also implement other regulatory changes that stem the fear of various risks to which foreign companies may be exposed. Political stability, good national defence, and disaster preparedness are all important factors in alleviating the fear of unexpected crises arising from war, terrorism, or natural disasters. Appropriate occupational and safety regulations combined with necessary training and monitoring will reduce losses due to safety hazards. Strong intellectual property infringement penalties will definitely help in minimizing foreign companies' concern over proprietary losses such as loss sales due to counterfeit products. Strict anti-corruption laws can create a level playing field for honest organizations that want to set up operations in or contract work to the emerging nation. All these regulatory measures will appeal to risk-averse foreign investors.

Besides monetary policies and various regulations, governments can raise their country's attractiveness to foreign companies by investing in infrastructure, such as enhancing the rail, air, and road networks that better connect various production locations to ports. Efficient means of transportation and improved port facilities not only can lower costs, but more importantly, reduce shipping time, thereby addressing the slow pace-to-market concern associated with foreign production. Development of trade zones and industrial hubs is another potentially useful means of attracting offshored relocation, especially for specialized products and services. With organizations having similar needs locating in close proximity, it would be more cost-effective for the government to provide the required infrastructure, facilities and support services to the organizations. For example, government sponsored research and development laboratories, product display centres, training facilities, and hotel services for foreign visitors, can all be planned and established in an integrative way. Such can become internationally renowned locations for foreign investments if promoted by a government and its ambassadors. In all, government action can directly or indirectly affect foreign business investments and relationship.

Organizations

With one of the major reasons for insourcing and backshoring being quality concerns, organizations in emerging economies must be able to address this area to keep foreign investments and operations. Investment in research and development can lead to more innovative ways of producing newer, more efficient, and quality products. Organizations may want to identify their niche and focus on some specialized areas in order to develop their competitive edge. Establishment of reliable quality management systems that include the adoption of internationally accepted quality standards and processes, not just for the purpose of monitoring, but also for double-loop feedback and necessary improvements, can ensure product quality meeting foreign companies' expectations. Moreover, improvement of the IT system can greatly facilitate communication and coordination within the company as well as with foreign outsourcing firms or parent companies. A good IT system also allows for data capturing and analysis on which effective management decisions can be based. In addition, investing in automation, especially in face of rising labour cost, may be worth considering to reduce quality fluctuations and material waste. Hence, quality management systems and management information systems are critical for success.

As intellectual property risks are serious concerns for foreign organizations, especially those with cutting edge innovations, companies wanting to attract contract work from these organizations must have safeguards in place, including clearly enforced confidentiality agreements, code of conduct, and physical security measures to minimize unwarranted access to or leakage of critical product design and development information. Careful recruitment and

selection as well as proper disciplinary policies may also help. Having security measures in place significantly reduces intellectual property infringements.

To combat backshoring, firms in emerging economies must work towards cost containment. While costs are often exogenous factors determined by the supply and demand of the market, organizations can certainly control costs by utilizing more efficient designs and processes, or by having more productive labour. Training and development, especially where firm-specific skills are important, can both raise internal productivity as well as reduce staff turnover.

Employees and the General Public
Employees and the general labour force can help to attract foreign investments and contracts by upgrading their knowledge and skills. A cultural shift towards stronger work ethics and zero tolerance for corrupt practices and intellectual property infringements will appeal to foreign organizations. Cooperative labour relations (especially where unions are involved) and willingness to participate in an organization's employee involvement initiatives can provide added tangible and intangible advantages for the organization. Overall friendliness to foreign investors and an appreciation of the differences in national and organizational cultures will go a long way in creating a welcoming environment for outsourcing and offshoring foreign firms.

Table 5 summarizes the stakeholder roles in emerging economies that are "fighting" insourcing/backshoring.

Government	- Lower tariffs on raw material imports and taxes related to land and utility costs - Establish tax rebates and subsidies to promote growth of preferred industries - Implement monetary policies to stabilize currency; enhance political stability, national defence and disaster preparedness; and enforce strong intellectual property and anti-corruption laws that appeal to foreign investors - Provide a regulatory framework that respects basic human rights and allows for expedited resolution to labour disputes - Improve educational and vocational programs and encourage citizens to learn foreign languages or study abroad to bridge knowledge and culture gaps - Build necessary infrastructure (e.g., transportation network, trade zones and industry hubs)
Organizations	- Invest in R&D to produce newer and better products with more effective means - Establish good quality management (e.g., adopt international quality standards) and management information systems - Put various security measures in place (e.g., careful employee selection, confidentiality agreement, limited physical access) to protect intellectual property and confidential information - Provide appropriate training and development for employees

Employees and the General Public	• Upgrade the overall workforce skills
	• Push for a culture shift towards stronger work ethics and zero tolerance for corruption and intellectual property infringements
	• Learn to appreciate cultural differences between foreign and local firms
	• Adopt more cooperative labour relations strategies and practices

Table 5: Stakeholder roles in emerging economies "fighting" insourcing/backshoring

Conclusion

The main question this paper examines is what drives backshoring or insourcing. Looking at the issue from various angles, one can conclude that the main drivers are the quest of efficiency in operations and serving markets better. A couple of decades ago, outsourcing offered this opportunity as existing domestic systems had grown inefficient. Now the tide has turned and the international supply chain has gained inefficiencies and is not as attractive as it used to be. With the addition of social responsibility issues, backshoring and insourcing has again emerged as a considerable competitor to offshoring and outsourcing. Not all organizations are embracing it fully but they are certainly taking steps to examine the domestic suppliers and their own capabilities to determine if they should backshore. This backshoring and insourcing trend will only stay as long as it can remain efficient and provide organizations a competitive edge in domestic and international markets. With tight financial situations, the tide may turn yet again if the anticipated efficiencies are not gained. The prospect of emerging economies (that are most effected by insourcing) developing strategies to reverse the trend can be good for global economies and businesses as competition would help bring greater efficiencies to the global marketplace.

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