MEASURING CREOLIZATION IN IT-ENABLED GLOBAL SERVICES SOURCING

Research-in-Progress

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Abstract

Although creolization has been shown to contribute to project success in IT-enabled global services sourcing, the components of the construct have received little theoretical scrutiny and the construct has not been instrumented by a set of systematized measures. This study attempts to provide a better understanding of creolization and advance a systematic approach for measurement. For this purpose, we reconceptualize creolization in this paper by developing the definition of the creolization construct and present an integrated, staged approach that enables researchers to build a set of better contextualized, more complete and more valid measures. We empirically carry out the approach through field studies over four years, involving more than twenty companies in three different regions in China. The results of analysis of the collected data are presented briefly. Our aim is to create an instrument that helps measure creolization rigorously and therefore facilitates practitioners to implement creolization.

Keywords: Creolization, measurement, global sourcing, project success
Introduction

Many researchers have studied the role of culture in IS/IT projects and some progress have been made toward conceptualizing, characterizing and measuring relevant constructs (e.g. Leidner 2010; Krishna et al. 2004; Rai et al. 2009; Loch et al. 2003; Straub et al. 2002). Construct measurement and validation in IS cultural and behavioral studies have been underway for some time (MacKenzie et al. 2011; Straub et al. 2004; Straub 1989). Moreover, there are IS positivist researchers who have made serious efforts to measure and validate the constructs that capture the role of culture. For instance, Straub et al. (2002) proposed Social Identity Theory-based cultural measurement, and Loch et al. (2003) measured technological culturation in the context of technology adoption.

Within the context of IT-enabled global services sourcing, the concept of creolization has been posited to describe the encounter, the interaction, the disjuncture, and the assimilation between cultures across time and space (Abbott et al. 2010). Creolization has been shown to contribute to project success (Abbott et al. 2010; Du et al. 2011; Ai et al. 2012). However, the creolization construct has received little theoretical scrutiny and has not yet been operationalized by a set of systematic measures.

The motivation of the current research is to provide more theoretical scrutiny of the “Creolization” construct and to develop an instrument made of a set of systematized measures. The study attempts to provide a better understanding of creolization and advance a systematic approach for measurement.

To address the gap in measuring creolization, we use a multi-stage approach to construct instrument development and validation in this study. We begin with a review of how creolization has been conceptualized in past research. For purposes of creolization measurement, we define the creolization construct and present an integrated, staged approach that “enables researchers to build measures that are better contextualized, more complete and more valid” (Burton-Jones and Straub 2006). Furthermore, we empirically instantiate the approach. We use data gathered from a preliminary field study to generate tentative items, assess the content validity of the items and specify the measurement model that relates the construct to its indicators. By using the data we’ve already collected we evaluate and refine the scale in a second field study, resulting in an instrument. We believe that the instrument provides a better understanding of creolization for both academics and practitioners, and help them to operationalize creolization in a systematized way.

Literature Review

As the Internet and other information technologies have led to fast-paced, international trade and globally distributed collaboration, the role of culture has intensified among people from different ethnic and national backgrounds. As a result, theoretical and empirical research on the role of culture has progressed via the efforts of researchers in a variety of academic areas, e.g. Hofstede (1984; 1980), Trompenaars (1998), House et al. (2004), Earley and Ang (2003), Shenkar (2012), Lee and Kim (1999), etc.

Hofstede (1984, 1980) found four dimensions of culture that help to explain how and why people from various cultures behave as they do. Trompenaars (1998) derived five relationship “orientations” that can equally be considered to be cultural dimensions. These dimensions are used to compare national cultures, to explain how cultures differ from each other, and to offer practical ways in which MNCs can do business in various countries. There is a widely held belief that organizational culture tends to moderate or ease the impact of national culture. In other words, there is interaction between national and organizational cultures. As a result, individuals espouse national cultural values to differing degrees (Srite and Karahanna, 2006).

In the context of offshore IT/IS outsourcing, therefore, when two companies from two different countries do business with one another, both national cultures and organizational cultures matter. Since an individual working in this context may belong to many cultural groups at the same time (Howard 2000; Karahanna et al. 2005; Straub et al. 2002), one may have multiple social and cultural identities (Straub et al. 2002; Srite and Karahanna, 2006). Hence, Social Identity Theory-based cultural measurement (Straub et al. 2002) is helpful to characterize the role of culture in IT/IS outsourcing. A work that measures technological culturation is the work of Loch and colleagues (Loch et al. 2003; Straub and Loch 2006),
which offers a good start to capturing the role of culture in the context of IT/IS.

In the context of global IT/IS sourcing, the service provider needs to meet the specific requirements of its offshore client. On one hand, not only top level managers but also middle and first-line level managers and operational staff must collaborate with the offshore client team in a distributed way, and thus have to thoroughly understand and be intelligent about the client’s national and organizational cultures. On the other hand, service providers unconsciously bring with them their own national and organizational culture (Hofstede, 1984). Therefore, a good strategy should reflect both an individual’s mixed identity and the organizational cultural hybridity in the service provider. It should also meet the requirements of boundary-free practices and social networking across countries in today’s global business.

To represent this strategy, creolization has been posited as a construct to represent these complexities, i.e. the interconnected concepts and processes of cross-cultural management in offshore outsourcing from a suppliers’ perspective (Abbott et al. 2010). The term “creolization” has been conceptualized as the entanglement of global and local networks, cultures, knowledge and resources, encompassing the dynamics of Diaspora influences, boundary spanning and identity in the processes of cultural confrontation and interactions in offshoring contexts (Abbott et al. 2010). The creolization concept has successfully explained some of the practices undertaken at Chinese service providers, these sub-constructs being labeled as boundary spanning, mixed identity, network expansion and cultural hybridity. Furthermore, Abbot et al. (2010) described the unique basis for strategies positioning cross-cultural work from a supplier’s perspective.

However, the creolization construct has received little theoretical development and has not yet been operationalized by a set of systematic measures. In the next section, we will give more theoretical scrutiny to the creolization construct by developing its conceptual definition and considering factors that may lead to a deeper understanding of the construct.

**Conceptualizing Creolization**

In this section we conceptualize the creolization construct by defining the conceptual domain of the construct and examining the nature and conceptual themes of the construct within the context of IT-enabled global service sourcing.

As for process, first we reviewed the literature of previous research on the role of culture (Rai et al. 2009; Loch et al. 2003; Straub et al. 2002) and the meaning of related concepts such as Social Identity Theory-based cultural measurement (Straub et al. 2002) and technological culturation (Loch et al. 2003; Straub and Loch 2006). Next, we conducted content validity tests and an empirical investigation with subject matter experts and practitioners using an inductive approach. The creolization construct was further conceptualized using as a basis Abbott et al.’s (2010) definition: the entanglement of global and local networks, cultures, knowledge and resources. Thus, the creolization construct can be regarded as a broad concept which goes beyond boundary-spanning (Gopal and Gosain 2009) and encompassing four aspects: network expansion (NE), mutual sense-making (MS), cultural hybridity (CH), and identity multiplicity (IM). Given this construct content, we chose to measure it as a second-order formative construct made of four first-order constructs.

The four first-order constructs of creolization draw upon a wide range of literature from cultural studies, international business, and human resource management. Network expansion refers to the generation and connection of what could be disparate networks at a global level so as to build trust relationships when exploring and establishing local connections and possessing the knowledge and capabilities necessary to build the linkages between actors in adopted and home territories. Mutual sensemaking refers to the knowledge translations that occur between the inter-national and inter-organizational levels by knowledgeable and reflexive agents who draw upon multiple sources of ideas, norms, cultural understanding and institutional rules in the constant process of sensemaking, through which the agents and members of local cultures build trust, affinity and “shared meaning” with each other. Cultural hybridity refers to cultural amalgamation of two or more cultures into a new one at the organizational level. This hybridity retains elements from the original cultures as well as new elements that emerge from such synthesis. Identity multiplicity refers to the cultural positioning of people who draw upon the norms and values of multiple cultures and groups with which they identify at the individual level.
The additional value gained by conceptualizing creolization as a second-order formative construct is to theorize the four first-order sub-constructs, which have existed previously but disparately in different literature, as being within a systematic framework that links the four sub-constructs with the other concerned variables such as knowledge sharing and performance via the second-order formative construct.

Creolization involves all processes occurring in intercultural interactions across an individual's perception of multiple levels (individual, group, organization) of interactivity. It refers to: 1) international trade between suppliers and clients, 2) collaborative projects between distributed units of trans- and multinational companies, and 3) all other types of organizations engaged in global business. It includes cross-cultural collaborations that need to overcome obstacles and barriers resulting from ethnic or national or organizational cultural distance. To specify the attributes/characteristics of creolization, we focus attention on the different cultural values, norms and practices that become integrated in creolization process. Interestingly, they are mixed naturally and equally within most creolization processes.

Creolization, thus, is a multidimensional construct with four proposed components. Some of the concerned constructs and items could apply to both individuals and organizations. However, in surveys it is more feasible to get individual employees who participate in creolization than top managers who would more closely identify with the organizational level influences. We believe that individual employees will have less hesitation about participating and are less likely to disguise their attitudes than top managers because they participate on behalf of themselves, and less so for their organizations. Therefore, the unit of analysis in this study is the individual, but the subjects are being asked to occasionally evaluate constructs and items that might be at the organizational level.

A Staged Approach for Measuring Creolization

Creolization is conceived to be a second-order formative construct with four specific dimensions, and its relevant measures and dimensions may vary across contexts. In this light, having a clearly defined construct and specific dimensions is not enough. What is needed is a way to measure such constructs precisely and validate them more rigorously. Thus, we believe that there is great value in adhering to a staged approach that allows us to systematically develop and validate measures of creolization for specific contexts.

In our approach, measuring and validating creolization require eight stages: 1) gather data from a preliminary field study to generate tentative items to represent creolization, and assess the content validity of the items, 2) specify the measurement model that relates the construct to its indicators, 3) conduct a second field study to collect data for scale evaluation, 4) purify and refine the scale, 5) gather data from a new sample and reexamine scale properties, 6) validate the scale, and 7) develop norms for the scale. This approach is a hybrid of the approaches advocated by Churchill (1979), Straub (1989), Straub et al. (2004), Moore and Benbasat (1991), and Mackenzie et al. (2011).

If this staged approach for measuring creolization is beneficial, researchers may obtain more persuasive and meaningful results. An empirical instantiation should provide support for the utility of the approach. To instantiate the approach empirically, we must choose a context, which in this case was knowledge sharing leading to performance. The substantive context was the creolization process of suppler teams engaged in IT-enabled global services outsourcing. This is a crucial practical context because positive cultural roles have been linked to project success (Rai et al. 2009; Gopal and Gosain 2009; Goo et al. 2009; Koh et al. 2004).

Thus far the following four stages have been completed. After these stages, there are several followup stages as well.

**Stage 1: Gather Data from a Preliminary Field Study to Generate Tentative Items and Assess the Content Validity**

In December of 2008, we conducted seven open-structured interviews with ten managers in seven companies in Xian Software Park, Xian China. From the interviews, we became much more informed about the creolization process that are activated in IT-enabled global services sourcing. Based on this
initial understanding of the subject, we then conducted a preliminary field study in Xian Software Park in May of 2009. In this field study, we visited thirteen companies and conducted twenty-six in-depth, semi-structured interviews. In each of the companies, some members of our research team were holding interviews while the others were conducting a questionnaire in the same sites. In this way we gathered data from the workplace within specific contexts in order to generate items for creolization.

In the preliminary study, we identified constructs related to creolization processes embedded within the business practices of these firms. On the basis of the interviews and the questionnaire, we produced a set of items to capture the essential aspects of the domain of each posited sub-construct of creolization. In particular, we found four aspects/elements of cross-cultural processes which were then mapped to the creolization construct, and labeled as boundary spanning (for mutual sense-making), mixed identity (identity multiplicity), network expansion and cultural hybridity. By working with salient characteristics of those four aspects, we were then able to generate a set of items for each individual aspect/sub-dimension. The formative measurement items were developed on the basis of the interviews conducted in the preliminary field study and the relevant literature. The constructs, items, and their sources/references are show in Table 1.

Following the suggestion of Petter et al. (2007), we paid attention to content validity when the formatively-measured construct was being specified. We established content validity through a literature review and in-depth interviews with experts and practitioners in the context of IT-enabled services global sourcing, which was conducted in this stage.

<table>
<thead>
<tr>
<th>Construct</th>
<th>Type</th>
<th>Items</th>
<th>Source /Reference</th>
</tr>
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<tbody>
<tr>
<td>Creolization</td>
<td>Formative</td>
<td>NE1: One or more members of the senior management team have multi-cultural backgrounds and/or experience relevant to the foreign client. NE2: One or more members of the senior management team have formal liaison or bridging role with regard to the foreign client. NE3: One or more members of the senior management team are capable of setting up connections with both onshore and offshore business contacts and generate business opportunities.</td>
<td>Interviews; Gopal and Gosain (2009)</td>
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<tr>
<td></td>
<td>2nd order</td>
<td></td>
<td>Abbott et al (2010)</td>
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<tr>
<td>Network Expansion (NE)</td>
<td>Formative</td>
<td>MS1: One or more team members visit the client’s site to improve understanding of client’s organizational practices, background and product development. MS2: One or more team members had been formally designated to facilitate coordination with the client with regard to cultural issues. MS3: One or more team members had been informally designated to facilitate coordination with the client with regard to cultural issues. MS4: One or more team members who have visited client’s site are able to share knowledge gained with other team members.</td>
<td>Interviews; Abbott et al (2010)</td>
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<td></td>
<td>1st order</td>
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<tr>
<td>Mutual sense-making (MS)</td>
<td>Formative</td>
<td>CH1: We adopt some of the client’s organizational practices. CH2: We adopt mixed cultural practices from the both countries.</td>
<td>Interviews; Abbott et al (2010)</td>
</tr>
<tr>
<td></td>
<td>1st order</td>
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<tr>
<td>Cultural Hybridity (CH)</td>
<td>Formative</td>
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<td></td>
<td>1st order</td>
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CH3: The client’s cultural practices are dominant in our organization.

Identity multiplicity (IM)

<table>
<thead>
<tr>
<th>Identity multiplicity (IM)</th>
<th>Formative 1st order</th>
<th>IM1: There is little cultural difference in our company between the Chinese and foreign employees.</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>IM2: In our company Chinese and foreign employees have similar values.</td>
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<tr>
<td></td>
<td></td>
<td>IM3: Chinese and foreign employees in our company interact on an equal basis.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IM4: I identify with the values of the country I originate from.</td>
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</tbody>
</table>

Interviews; Abbott et al (2010)

**Stage 2: Specify the Measurement Model**

Based on the constructs, definitions and items in Table 1, we next formally specified a measurement model that captures the expected relationships between the indicators and the creolization construct and its sub-dimensions. The measurement model is shown in Figure 1. We posit that creolization can be captured as a second-order, multi-dimensional construct with four formative first-order sub-dimensions. Each of the four first-order sub-dimensions is represented formatively by several items. The first-order construct Network Expansion is measured formatively by three items, Mutual Sense-making measured formatively by four items, Cultural Hybridity by three items, and Identity Multiplicity by four items.

The formative first-order constructs were the results of qualitative research based on expert interviews in Stage 1, and the results have been presented in necessarily preliminary manner in Abbott et al. (2010). The current paper’s purpose is to develop an instrument of the four formative first-order sub-constructs in a rigorous way. The items were developed on the basis of both expert interviews and the relevant literature review. All the items and their sources / references are shown in Table 1.

**Stage 3: Conduct a Second Field Study to Collect Data for Scale Evaluation**

In May-June 2010, we conducted a second field study to collect data for scale evaluation. This time we expanded our investigation further by conducting in-depth, semi-structured interviews in twelve companies located in three different regions of China: Xian, Beijing and Shanghai. Our samples focus on offshore outsourcing. The major purpose of conducting in-depth semi-structured interviews in this stage is to collect complementary qualitative data that could be useful when purifying and refining the scale in Stage 4. The minor purpose was to retain the relationships with those main contacts in the surveyed companies so that we will be able to use the resources in the future studies. While some members of our research team were carrying out interviews, others undertook a second-round survey of twelve companies that we were currently visiting as well as eight other companies that we previously visited in 2008 and

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2009. At the end of August, we had collected 293 filled-in questionnaires.

In the sample, the proportion of the answered questionnaires from Shanghai to the total was low (49 of 293). Therefore, in December of 2011, we visited more companies in Shanghai and used the same survey questionnaire to collect data from two more companies in Shanghai. By the end of February of 2012 we had collected an additional 76 questionnaires that had been delayed. We included them in the dataset designated for scale evaluation.

**Stage 4: Purify and Refine the Scale**

Straub et al. (2004) reviewed the existing literature on instrument validation and provided guidelines for the assessment of the measurement model of positivist studies. MacKenzie et al. (2011) integrated new and existing techniques and provided recommendations for construct measurement and validation in MIS and behavioral research. Following those guidelines and recommendations, we can evaluate both the scales and the overall measurement model.

Following the published steps for assessing and analyzing formative constructs (Petter et al. 2007), we used the data we had already collected to assess construct validity through PLS (SmartPLS, Version 2.0), examining the item weightings for measures via principal components analysis and evaluating reliability by examining multicollinearity. Furthermore, we used the procedures for interpreting formatively measured construct results given by Cenfetelli and Bassellier (2009). After examining our formative indicators and interpreting our formative measurement through the standards in Cenfetelli and Bassellier (2009), we deleted a very problematic indicator, item IM1, to generate a purified measurement model.

The results of purified measurement model are shown in Figures 2 and 3.

![Figure 2. Purified Measurement Model by PLS](image)

The findings of data analysis are presented briefly by the indicator weights values in Figure 2 and the T-values of the indicator weights in Figure 3. Individual PLS weights of all the items are shown in Figure 2. The T-values of the indicator weights are shown in Figure 3. In terms of the weights of formative first-order constructs, in Figures 2 and 3 we can see that the sub-constructs of creolization, i.e. network expansion, mutual sense-making, cultural hybridity, and identity multiplicity, have weights of 0.457, 0.273, 0.237, and 0.342 respectively. This indicates that all the other sub-constructs of creolization have significant weights except for cultural hybridity. For purposes of content validity, these weights, according to Cenfetelli and Basselier (2009), should be taken as informative but not definitive (with respect to purifying the instrument). Also, the weights and the significance of the individual items of every first-order construct shown in Figures 2 and 3 indicate that the instrument has acceptable psychometric properties.

Next steps are further examination and validation. We will gather data via a new sample to reexamine scale properties, validate the scale, and develop norms for the scale.
Discussion and Conclusion

This paper presents a systematic attempt to define, conceptualize, and measure creolization construct within IT-enabled global services sourcing. The core contribution is the conceptualization and operationalization of the creolization construct. The conceptual definition of the creolization construct was followed by more theoretical scrutiny of the “creolization” construct, the ultimate purpose being to develop an instrument made of a set of systematized measures. The additional value gained by conceptualizing creolization as a second-order formative construct made of four first-order sub-constructs is to theorize the four first-order sub-constructs, which already existed but were dispersed in different literature; the second value is to offer a systematic framework linking the four sub-constructs with other relevant constructs. With the instrument assessed and purified by using the data collected in field studies over a four year period, the conceptualization and operationalization of the creolization construct provides a basis for a better understanding of the creolization process and may facilitate practitioners to implement creolization in practice.

In addition, the present study advocates a staged approach for measurement and validation of concerned constructs in the context of IT-enabled sourcing. In this study, we demonstrate how such an approach has worked by means of an empirical instantiation wherein we have followed the stages to measure and validate the creolization construct. So far we have finished over half of the stages, and are committed to the rest of the work. We believe this study has implications to IS researchers who make efforts to build better contextualized, more complete and more valid measures, and may add a brick on the building of positivist research in IS field.

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