Problems achieving mobile infrastructure environmental fit

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Abstract: This paper covers how an organisation's internal structure is shaped by its external environment. Reference is made to a dominant logic theory, to explain why shaping a structure to a new environment take longer than expected to yield results. Actions to speed up the delivery of positive result following a structural change are also discussed briefly.

1. Introduction

Are the structure and practices of companies that serve the same customer the same? The external environment looks the same, so they must be the same, but are they? We take it for granted that a company making microchips and a company importing bananas as different, because their markets are different. However, when it comes to the same market we instinctively assume companies offering broadly the same product or service mix are similar in manner and temperament. Lets explore this idea with an example from the telecommunications field: Vodafone. Vodafone is served by, amongst other companies, Ericsson and Cisco Systems. Although not a detailed scientific enquiry, when we look at these two companies we find the following[1]:

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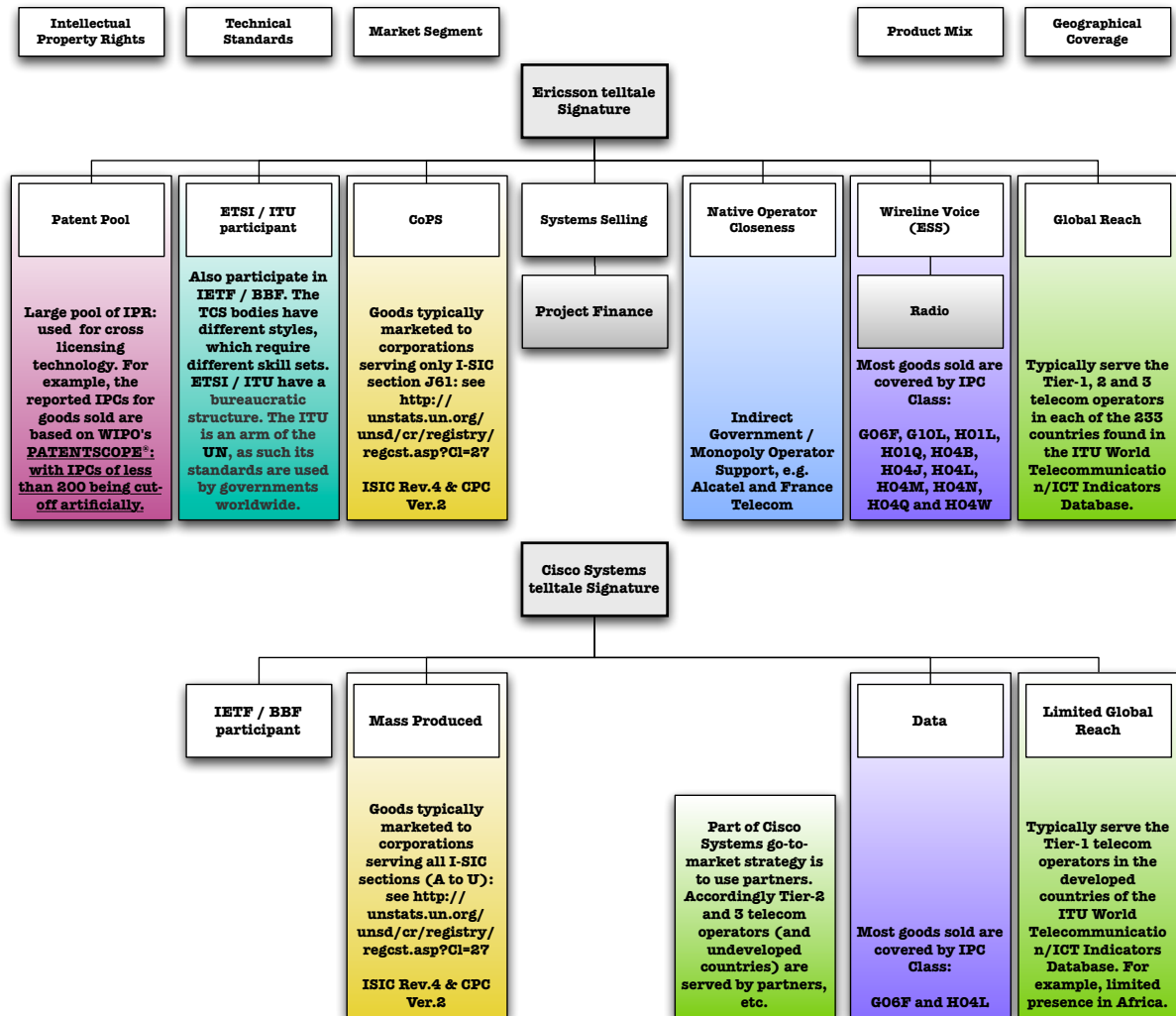
[1] Caveat: for the product mix column, for simplification I have set an artificial floor on the number of patents that must exist (> 200) before a class of patent is considered. I also assume an investment in patents is directly linked to the company's product mix.

2. Differences

As you can see Ericsson and Cisco Systems have some noticeable differences. As it happens, the existence of these differences in companies has been known for a while. Woodward [1] first noted how technical complexity affected organisational structure[2], while Lawrence and Lorsch [2] provided a theory to explain why these differences came about: task uncertainty. Task uncertainty, along with Thompson's [3] related task interdependence, has since become part of an expanded theory: the contingency theory of organisations.

Donaldson [4] describes a contingency[3] as 'any variable that moderates the effect of an organisational characteristic on organisational performance.' In layperson's terms, this means there is a 'relationship between structure, contingency and performance' [4], and this leads to the idea of a fit, i.e. if the structure fits its contingency then high performance will result, and if it doesn't fit poor performance results. Put simply, we can state a company's 'internal structures and processes or organisation are related to the facts of their immediate environment' [2]. The inference from contingency theory is that Ericsson and Cisco Systems differences are a result of serving different parts of the Vodafone environment, i.e. Vodafone's environment is not the same, but diverse in character and content.

So, why are these companies differences being highlighted? Lets return to Vodafone to try to explain. Over the last couple of years the smartphone [5] has led to a growing demand for mobile data. Previously demand was forecast to grow linearly: now it's forecast to grow exponentially. Tie data growth with, the soon to happen, solution[4] intended to serve that data demand, and you have the makings of a commercial opportunity similar to the Internet boom of the 1990s.

Cisco Systems profited from the Internet boom, and is making moves to profit from the mobile Internet by buying mobile infrastructure companies [6]. The issue is, the Internet boom mainly relied on fixed wire technology, while the mobile Internet for the most part relies on wireless technology. On those grounds, based on contingency theory, Ericsson's profile seems to fit the new opportunity better, while Cisco Systems profile does not. The question is: is Cisco Systems aware of that misfit?[5]

It has been noted 'adaption of structure to contingency often has a time lag, which in some cases may be years' [4]. This results in the situation where 'high performance tends to keep an organisation that is in misfit in that state' [4]. Christensen [7] provides an insight into the reason for the delayed response to misfit: a focus on the most powerful customers. He records how the market leader of the disk drive industry changed each time the recording disc shrank, this despite the market leader developing the new disc technology. In summary, a company can be successful, yet overlook changes in its market environment, i.e. a loss of fit with a delayed fall in performance (hysteresis). So, based on this reasoning it seems reasonable to give a guarded 'no' in response to the question above.

3. Dominant Logic

What could possibly explain why a company would fail to notice its performance was slipping, until a point was reached when urgent action was needed? One answer suggested by Christensen, is the company staying too close to its influential customers, but that practice may be as much a symptom of the underlying cause as its reason. A better solution, and one that returns us full circle to the Vodafone case above, is the theory of dominant logic.

A dominant logic is defined by Prahalad and Bettis [9] as: 'the way in which managers conceptualise the business and make critical resource allocation decisions be it in technologies, product development, distribution, advertising, or in human resource management.' In practice this means the dominant logic 'in a diversified firm tends to be influenced by the largest business or the 'core

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[2] Structure refers to the breakdown of a company into its component departments, the design of those departments, the use of specialist staff and usage of resources, etc.

[3] Task uncertainty is a contingency. Some examples of uncertainty are technology, resources and the external environment.

[4] 3rd Generation Partnership Project's (3GPP) long-term evolution (LTE) solution. See http://www.3gpp.org/

[5] Superficially yes, because they are acquiring mobile infrastructure companies, so they must be aware of a shortcoming, but misfit amounts to more than the sum of an organisation's parts.

business' which was the historical basis for the firm's growth (e.g. semiconductors at Texas Instruments, public switching and telephones at GTE). [9]'

The difficulties a dominant logic can do to the operation of an acquired business, that is at odds with the core business, can be imagined from the following sentence. As you read, remember the acquisitions Cisco Systems is making [6] to provide a fit with the mobile Internet environment:

'*If the firm acquires or develops a business for which the critical tasks for success are **substantially different from those in the core business**, because of operant conditioning **the behaviors of top managers** and the approaches they use to manage the new business are likely to remain those that were appropriate for the core business even though they **may be inappropriate in the new business** [9].*'

The important points of this sentence are marked in bold. In view of these points, it is apparent the changes needed to achieve environmental fit at Cisco Systems may go beyond bolting-on mobile competencies[8]. What may also be needed is a change in the mental models of the acquiring company's senior management. Prahalad and Bettis [9] sought to avoid this issue outright, by suggesting during due diligence a buyer look for a match in the 'similarities of [the] businesses and the cognitive composition of the top management team.' Obviously, avoiding a mismatch is not an option when you enter a new market by acquiring a company. The mismatch is something that has to be seen and fixed by the acquiring company, else there will be no benefit achieved from environmental fit.

4. Change

Although unproven, there is a view that people subject to a dominant logic for a long time become unaware of its controlling influence. Only someone from outside, or someone inside who questions how things are done, will sense something is not quite right following an acquisition. An analogy would be to go to a country other than your own, whereupon you quickly notice differences that the native inhabitants take for granted: a siesta would seem odd in Norway, but normal in Spain, etc. What this means in the Vodafone example, is that only employees with experience of the mobile environment will be aware of decisions that are counter to that environment. So, as these employees are the only ones to see a mismatch, how do they go about fixing it?

Reduced to its essentials, the mismatch problem can be rethought as a case of organisational change, and the problem restated as: how do they establish the need for change? How the need for organisational change arises is not well understood. There is very little literature about to explain how it occurs, or how it is communicated inside an organisation, or whether low status employees are involved in the process. Burke [10] repeats the common view: 'CEOs and other senior executives are often in a better position to monitor the external environment and therefore are likely to see the need for change sooner and more clearly than the majority of organisational members.' Incidentally, Burke does agree, in passing, that technical people or the sales force may see the need for change before the CEO, but stops there: nothing more on how the message gets to the CEO[6].

5. Conclusions

This paper put Ericsson and Cisco Systems under the magnifying glass. Their structural differences, which come about from serving different environments, were contrasted: specifically using Vodafone's mobile infrastructure needs as a reference. Some theories to explain why these structural variations come about were presented, and the idea of a structure having to fit its environment to survive was introduced.

A dominant logic theory was introduced, to help explain why a company may not know its structure no longer fits a new or changed environment. Dominant logic was also used to explain why acquiring a company to fix an environmental fit problem may not be successful. It was suggested that a mismatch in an acquired and acquiring company's mental model could be viewed as an organisational change problem: framed as 'how to establish the need for change?'

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[6] Read [11] in his study of upward communication and its screening notes: 'Pleasant matters are more likely to be communicated upward than unpleasant ones, achievements are more likely to be passed upward than information about errors or difficulties encountered at lower levels.' Accordingly, how a message gets to a CEO is not a trivial matter in a large organisation.

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