The Firm Boundary Decision for Sustainability-Focused Companies

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ABSTRACT

This paper examines the vertical integration level of environmentally sustainable and non-sustainable companies. The first part develops the theoretical foundation for linking sustainability strategies to organizational structure. The second part empirically examines the vertical integration level of 144 sustainability-focused companies in 9 different industries. The results demonstrate that sustainability-focused companies in the Health Care Industry and the Industrials Industry tend to have more vertically integrated organizational structures than their industry competitors that are not pursuing such a strategy since these two industries are production oriented and they have closer relationships with their suppliers. There was no significant difference in the vertical integration level of sustainability-focused versus non-sustainability-focused companies for the other seven industries studied. Research shows the linkage between environmental strategies and vertical integration has not been thoroughly examined. This study’s results are useful to researchers and managers who are interested in corporate sustainability behavior.

Keywords: Natural Resource-Based View, Sustainable Supply Chain, Sustainability, Transaction Cost Economics, Vertical Integration Measurement

INTRODUCTION

This study contributes to our understanding of the relationship between supply chain structure and the pursuit of sustainability-focused corporate strategies. A company’s strategic plan provides guidance for the decisions it makes regarding its products, processes, and its supply chain. An example of a decision that is greatly influenced by company strategy is the make-buy decision. The make-buy decision is particularly critical for firms pursuing a sustainability-focused strategy because such companies require that every aspect of the supply chain have a similar focus (i.e. such firms view sustainability holistically). This requirement introduces an additional constraint that is unique to firms pursuing such a strategy. For example, while a sustainability-focused firm may want to outsource a particular product or service, if there are no sustainability-focused suppliers of the product or service they may opt to develop the capability internally. As a result, sustainability-focused companies may tend to be...
more vertically integrated relative to their non-
sustainability-focused counterparts, particularly
in the early stages of the sustainability move-
ment life cycle when there are a limited number
of suppliers committed to this strategy. In this
paper, we examine this hypothesized trend to-
ward vertical integration in make-buy decisions
for sustainability-focused companies. Vertical
integration may enhance performance, profit-
ability, and market competitiveness because of
better supply chain coordination. The literature
indicates that an increased level of integration
across the supply chain is necessary in order to
pursue a sustainability-focused strategy (Hart,
1995; Russo & Fouts, 1997). However, under
some industry, product, and market conditions,
having a vertically-integrated organization
structure is not reasonable. These conditions
will be discussed in later sections.

Thus, there appears to be a potential for
tension for some companies that set out to
pursue a sustainability-focused strategy. That
is, while firm capabilities, firm culture, and
industry dynamics may make outsourcing the
preferred solution, there is dual pressure to
vertically integrate simply as a result of the
pursuit of a sustainability-focused strategy.
This paper will explore this issue and deter-
mine if sustainability-focused companies tend
to be more vertically integrated regardless
of industry. As an empirical study, we will
analyze the vertical integration level of 116
sustainability-focused companies in the United
States Dow Jones Sustainability Index. Unlike
previous studies that employed surveys, we
use objective economic data and employ the
measurement method of Fan and Lang (2000),
which is a widely used and accepted index in
recent literature. Fan and Lang use the sales of
companies in primary and secondary industries
and benchmark input-output (I-O) tables. We
utilize the Compustat database to collect the
sales information of companies. The Bureau
of Economic Analysis (BEA) publishes the
input-output tables every five years. We use
the 2002 I-O table, which is the most recently
published table at the six digit NAICS code
level. Following Fan and Lang (2002), we also
analyze the relationship between the integra-
tion level and their industry types to provide
insight regarding the make-buy decision for
sustainability-focused companies versus their
counterparts pursuing other strategies.

The rest of the paper is organized as follows.
Background section provides information on
vertical integration, make-buy decisions, trans-
action cost economics, resource based view,
and collaboration in sustainability-focused-
organizational structures. The methodology
of Fan and Lang (2000) section will provide
some literature review for the measurement
of vertical integration. We will document the
sample and data sources; implement our vertical
integration measure after methodology. Results
section presents the main analysis. Discussion
section explains the results and, finally, last
section concludes.

BACKGROUND

Theoretical and empirical work dedicated to
illuminating make-buy or firm-boundary deci-
sion, has taken a number of different approaches.
Two important perspectives are transaction cost
economics and the resource-based view. Both
theories focus on different factors to explain
make-buy decisions. In this section we will
introduce the concepts of vertical integration,
transaction cost economics, and the resource-
based-view and their implementations on
sustainability-focused strategies. Then we will
explain how these concepts may be useful in
thinking about environmental strategies; we will
point out mainly the studies of Coase (1937),

Vertical Integration

Both vertical integration and its absence may
cause significant problems for companies.
Several researchers have investigated the ef-
ficiency and inadequacy of vertical integration
compared with contractual relations since the
1970s. We propose the definition of vertical
integration as follows: A firm is classified as
vertically integrated if its segments are oper-