The Internet as a Complementary Resource for SMEs: 
The Interaction Effect of Strategic Assets and the Internet

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ABSTRACT

It has been suggested that the Internet can be used to leverage a firm’s strategic assets. However, empirical research on complementarity is still rare and frequently inconclusive, especially in the context of small and medium-sized enterprises. We propose a theoretical framework with the independent variables business resources, dynamic capabilities and IT assets. Survey data of 146 small firms suggest that the Internet is complementary with business resources and dynamic capabilities but not with IT assets. Therefore, the framework may enable small firm managers to create competitive advantage by identifying strategic assets that are complementary with the Internet. Furthermore, our research highlights the threat of an over-investment in IT assets.

Keywords: Competitive Advantage; Complementarity; Internet; Performance; Resource-based View; SMEs; Technology

INTRODUCTION

The resource-based view of the firm (RBV) has become the dominant framework in strategic management research. Its basic assumption is that firms can exploit strategic assets in order to create competitive advantage and thus above average performance. Another core assumption of the RBV is that strategic assets can be complementary. This means their value increases when they are combined. “Complementarity represents an enhancement of resource value, and arises when a resource produces greater returns in the presence of another resource than it does alone” (Powell and Dent-Micaleff 1997, p.379). Teece (1986, p.301) suggests that complementary assets are especially important for small companies because, in contrast to their
larger competitors, they “are less likely to have
the relevant specialized and cospecialized assets
within their boundaries and so will either have
to incur the expense of trying to build them, or
of trying to develop coalitions with competitors/
owners of the specialized assets”. However, the
complementarity of strategic assets is typically
taken for granted but has hardly been empirically
scrutinised, and non-anecdotal studies analyzing
the interaction effects of strategic assets within
a firm are frequently inconclusive (Powell and
Dent-Micallef 1997; Song, Droge, Hanvanich
Therefore, Song et al. (p.271) conclude “clearly,
resource combinations do not always lead to
synergistic performance impact.”

This paper seeks to analyze whether strate-
gic assets are complementary with the Internet. It
contributes to the still underdeveloped research
on complementarity by introducing the Internet
as a complementary resource. We believe that
the Internet can be extremely important for
SMEs, and that it can be used to “level the
playing field”. With this research we want to
give managers of SMEs some information about
which strategic assets can be leveraged by the
Internet. Based on the literature review and
survey data we suggest that researchers should
examine complementarity at research settings
in which a clear distinction of strategic assets is
feasible. The remainder of the paper is organized
as follows. In the next section the literature on
the resource-based view and complementarity
is briefly reviewed and the hypotheses are
presented. After that, the research methodology
is described; followed by the results. And then
the discussion, the conclusions, the limitations,
and some suggestions for future research are
offered.

Complementarity in
Resource-Based Research

According to the resource-based view of the
firm (RBV), firms perform differently because
they differ in terms of the strategic assets they
control (Barney 1991; Penrose 1959; Wernerfelt
1984). The founding idea of viewing a firm as
a bundle of strategic assets was pioneered in
1959 by Penrose in her theory of the growth of
the firm. This paper focuses especially on the
complementarity of strategic assets. Under the
resource-based view, a complementary interac-
tion typically enhances the value for both (or
all) strategic assets, although the causality may
be ambiguous (Barney, 1991). Yet, researchers
have only started to analyze complementarity
of strategic assets. Empirical work in that area
can be divided in the following two research
streams.

One stream of research focuses on comple-
mentarity at strategic alliances or at mergers and
acquisitions. For example, Rothaermel (2001)
found that firms focusing on complementarity
outperform those firms that limit their focus
on the exploration of new technologies. Stuart
(2000) suggested that the reputation of a larger
firm is a complementary resource for a smaller
firm. In particular, an alliance with a larger firm
can help a smaller firm build confidence and
attract customers, which then drives financial
performance for both partners. Chung, Singh,
and Lee (2000) found out that banks tend to
ally with other banks that can complement their
weaknesses. Krishnan, Miller, and Judge (1997)
suggest that complementary top management
teams (defined as differences in functional
backgrounds between acquiring and acquired
firm managers) drive post-acquisition firm per-
formance. Similarly, Capron and Pistre (2002)
suggested that acquirers only earn abnormal
returns when their strategic assets are comple-
mentary with the target and not if they only
receive strategic assets from the target.

The second research stream focuses on
complementarity within a company. Powell and
Dent-Micallef (1997) examined complementari-
ty of IT assets with business resources and hu-
man resources and came to inconclusive results.
Similarly, Song et al. (2005) found complemen-
tarity between marketing-related capabilities
and technology-related capabilities only in high,
but not in low technology turbulent environ-
ments. Zhu and Kraemer (2002) examined the
relationship of dynamic capabilities and firm
performance and came to inconsistent results
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