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 学位論文題目 Effectiveness and Relevancy of “Invisible Value Strategy” for Japanese B2B Manufacturers (日本の B2B 製造企業にとっての「不可視価値戦略」の有効性と適合性)
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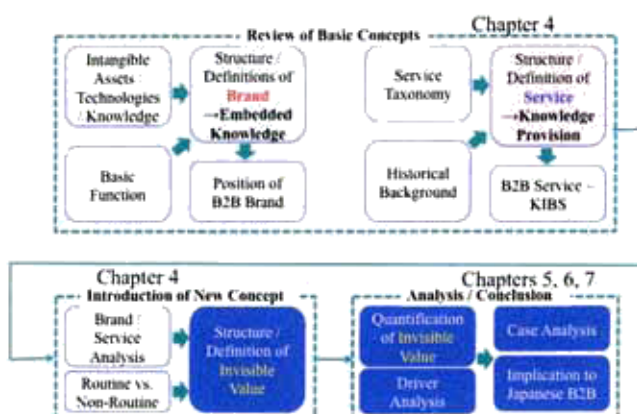
論 文 内 容 要 旨

First, objectives of this study are stated below.

- 1) Clarify the concept and the components of “Invisible Value” by examining the concepts of Brand and Service
- 2) Quantify the Invisible Value so defined.
- 3) Present a novice method to compare Invisible Values between companies across industries and of various sizes.
- 4) Attempt to capture the major drivers for creating Invisible Values in Japanese B2B manufacturers
- 5) Attempt to evaluate effectiveness and relevancy of Invisible Value Strategy for Japanese B2B manufacturers.

3 components constitute the overall framework of the research; review of basic concepts, introduction of a new concept and numerical analysis / conclusion.

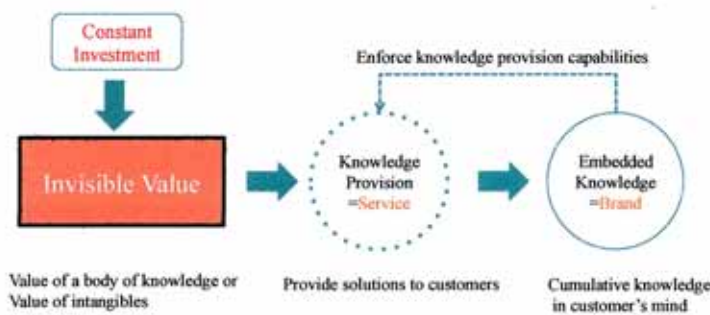
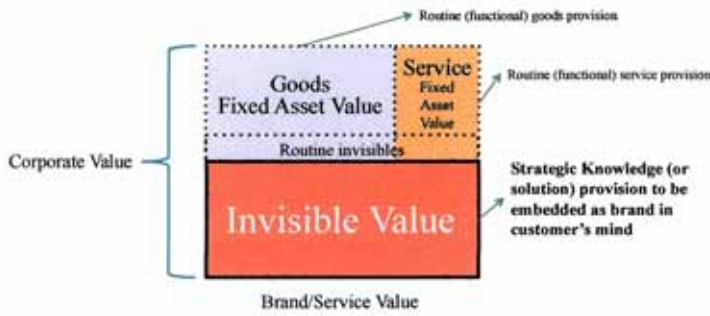
In the section of the review of basic concepts, definitions and structures of Brand and Service are discussed with several kinds of background information. In the section of the introduction of a new concept, definition and structure of Invisible Value is introduced and discussed with key conceptual elements. Having explored the concepts, the section of analysis / conclusion quantifies the Invisible Value for Japanese electronics companies, performs meaningful comparisons, explore major drivers for Knowledge Ratio and presents implications for Japanese B2B manufacturers.



Brands are a reflection of the quasi-entire assets of companies. Accordingly, brands can be identical with broadly defined technologies or Knowledge and their value is equivalent to the value of such technologies or Knowledge. In other words, Brand is made from accumulated knowledge.

Service is “various intangible non-routine activities that provide strategic knowledge / benefits to customers beyond such functional routine benefits as provided by the original basic functions of goods).”

“Invisible Value” is defined as any sources (asset or value) of benefits that give customers such utility that goes beyond the sheer (routine) functionality of the product/service in question. Routine/Non-Routine distinction is discussed by Harlow N. Higinbotham. Actually, this is a Brand value from one perspective and, at the same time, Service value from another perspective. To distinguish from conventional use of the term, “intangible” asset, the term “Invisible” is purposefully used, so that Invisible Value denotes a new concept encompassing both Brand and Service.



Quantitative analysis

Assets		Liabilities and Equities	
Current Assets		Current Liabilities	
Tangible Fixed Assets		Fixed Liabilities	
Unrealized Value of Land		Market Capitalization	
Investments			
Unrealized Value of Investments			
Invisible Value			

Service/Brand Value

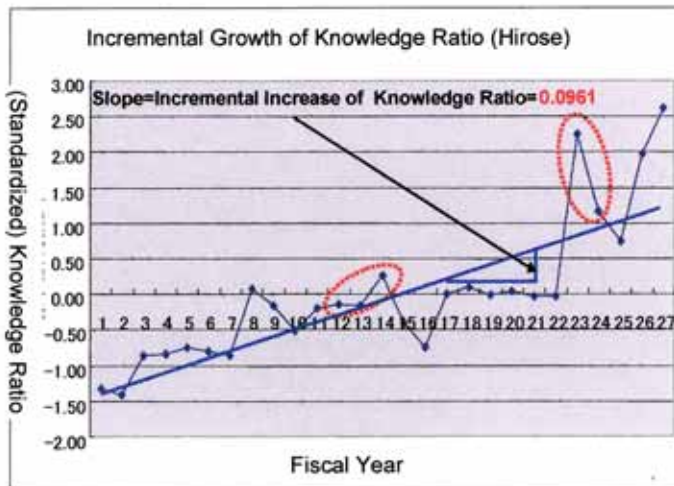
This research proposes that true Invisible Value be measured in terms of “Stable Knowledge Ratio Increment.”

Knowledge Ratio (KR) = AIV (Absolute Invisible Value) / Assets
 where, AIV = Market Value of Equity – Book Value of Equity

Regression equation based on 27 years of financial data of Japanese electronics companies.

$$KR = a + b*(1\sim 27) + c*D + e \quad (D = \text{Dummy} = 0 \text{ or } 1)$$

Values 1 to 27, instead of 1977 to 2003, are used for the horizontal axis. Dummy coefficients are used for bubble periods (1 for 88, 89 and 90 or 12, 13 and 14) and IT bubble periods (1 for 99 and 00 or 22 and 23).



b in the equation corresponds to the slope in the figure. “Stable Knowledge Ratio Increments” is computed by dividing Knowledge Ratio increments by variances of Knowledge Ratios. Hirose, B2B manufacturer, ranks the highest.

R+D productivity turns out to be one of the important factors for stable knowledge ratio increments. Additional regression analyses show that KR is explained by R+D density, R+D expense used per patent and advertising density (B2C only).

Hirose case analysis shows that it is almost obvious that Hirose has pursued “solution” provision=Service to customers and established its Brand by creating customers’ firm trust built on its management behavior and shared value towards customers, summing up to the employment of Invisible Value Strategy, beyond the routine functionalities of its products.

The Hirose case study has significant implications. First, excellent B2B manufacturers make the most of value chains and well consider stakeholders from its supplier to its customer’s customer (consumer) in order to provide strategic non-routine services, not just providing physical/functional goods and routine services. Second, B2B manufacturers pursue fundamental customer values of the utmost abstraction / sophistication level that can be easily understood by and convincing to customers. Third, successful B2B manufacturers build a win-win relationship based on the profit split and risk split.

It has been shown that Invisible Value has huge impacts on a company’s profitability citing the example of Hirose. And it has been verified that the “Stable Knowledge Ratio Increments” is a reliable new metrics to measure the firms’ relative competitive power and relative value, which can be utilized for corporations of any size in any industry. Inter-company comparison becomes much more meaningful with this new metrics.

Less-known Japanese B2B manufacturers including Hirose displayed excellence in Knowledge building (=Brand and Service building=Invisible Value building), thus Invisible Value Strategy, similar to that of well-known B2C companies like Canon.

Customers needs have become more demanding and more abstract ones of higher level. Japanese B2B manufacturers have come to the point where they need to execute “Invisible Value Strategy” in order to cope with such higher needs, although the Japanese seem to be weak in this area from an institutional point of view. When Japanese B2B manufacturers pursue their Invisible Value Strategies, they need to take seriously into account the Japanese institutional systems and services’ fit with them.

Many kinds of products have already become “engineered commodities.” Asian powers such as Korea, Taiwan and China have accumulated their technological capabilities and placed products with comparable

functions and qualities into markets in many product areas, leading to extensive price wars. Japanese B2B manufacturers now are not in a good position. Employing Invisible Value Strategy is most effective and relevant.

論文審査結果の要旨

知識基盤型経済社会を迎え、製造業において、競争優位性の源泉としての知識の重要性が高まっている。特に、B2B 製造企業(部品・部材産業)は、最終製品製造企業(B2C 製造企業)に対して部品・部材の供給を通じて製品の競争力を高めるための知識の提供も行っている。しかし、B2B 製造企業は最終製品を販売していないことから、従来の指標では、研究開発力などの知識の蓄積等を勘案した企業価値評価が困難とされてきた。

本論文は、企業の知識の総和を不可視価値 (Invisible Value) とし、B2B 製造企業における不可視価値および知識割合(Knowledge Ratio : 不可視価値を資産合計で除したもの)を新指標として評価した企業価値に関する成果をまとめたもので、全文 7 章からなる。

第 1 章は、序論である。

第 2 章では、不可視価値 (Invisible Value) の具体的な内容を、企業ブランド、サービスなど、先行研究における企業価値関連の諸概念を知識という視点から明らかにしている。これは有益な成果である。

第 3 章では、企業価値評価に関連した先行研究の検討を行い、これまでの評価指標、評価対象期間、および企業規模によって研究結果での企業価値の変動が大きくなる問題点を明らかにしている。これは重要な成果である。

第 4 章では、企業価値評価に関する 1943 年から 2010 年までの先行研究に基づいた分析によって、企業の技術創造活動によって組織全体の知識割合が増加することを明らかにしている。これは重要な成果である。

第 5 章では、B2B 製造企業 19 社および B2C 製造企業 19 社の合計 38 社の 27 年間の有価証券報告書、研究開発費、特許権、に関するデータを使用して企業の不可視価値および知識割合の経年勾配を算出し、両指標に基づく企業のランク付けを行っている。その結果、不可視価値のランクが高い企業は、知識割合も増加していることを明らかにしている。これは極めて重要な成果である。

第 6 章では、日本の B2B 製造企業の不可視価値戦略を考察し、自社の不可視価値および知識割合の長期的な推移を検討して短中長期的な目標を設定し、事後に検証して、差異があればそれ考察するという戦略のサイクルを提案している。競合他社の不可視価値および知識割合の算出は、本論文での算出方法に基づいて公表データを使用すれば可能であることから、他社との比較を行って目標設定することもできるとしている。これは極めて有益な成果である。

第 7 章は、結論である。

以上要するに本論文は、B2B 製造企業の企業価値評価のために、新指標として不可視価値および知識割合を導入し、これらに基づく不可視価値戦略についての成果をまとめたものであり、技術経営学への寄与は少なくない。

よって、本論文は博士(工学)の学位論文として合格と認める。