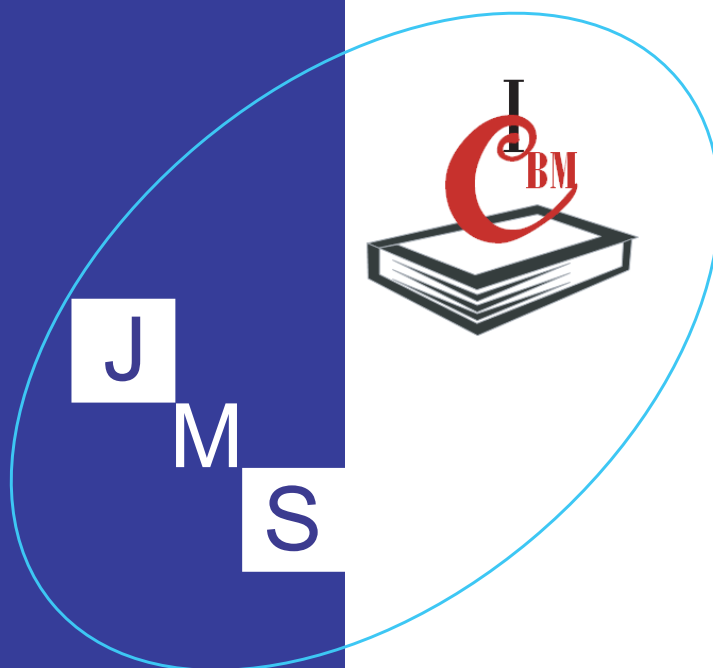


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Contents

Refereed Papers

A Marketing Study of Agriculture as a Job Option for a Younger Japanese Generation : Using the Miyazaki Student Attitude Survey of Agriculture	1
	Kenichi TANAKA
Possibility of Creating Value that Society's Integrated Thinking Brings to Society and Environment : A Case of LIXIL's "SATO" Business Model.....	9
	Tsuyoshi SAKAMOTO
Relationship between Target Costing Activity and Intangibles in the Japanese Firms in Malaysia.....	17
: A Consideration Based on Field Surveys on Establishing Human Capital, Information Capital, and Organizational Capital	
	Masakazu KOZAKAI and Kou TASAKA

[Refereed Paper]

A Marketing Study of Agriculture as a Job Option for a Younger Japanese Generation

: Using the Miyazaki Student Attitude Survey of Agriculture

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Abstract: This study aims to ascertain the attitudes of the local younger generation toward agriculture and to understand how to motivate them to get involved to help secure new leadership in the industry. To achieve these things, I deliver a questionnaire survey to high-school and university students in Miyazaki prefecture. These folks have little experience with farming during their school days. Whereas farming concepts are unusual to most city dwellers, the local young rural folk enjoy fewer inhibitions. This study discusses the effective peripheral factors for promoting agricultural careers. We perform factor analysis to assert the attitude structure of students and to classify their results into explanatory groups. We uncover four attitude factors, which are composed by the groups that are “positive attitudes about engaging in farming under certain conditions”, “interested in agriculture, but retain a negative attitude to farming”, “feel a gap between farming and their own life” and “a positive image about a career in farming”. Two of those groups are marketing targets.

Keywords: Farming business, Job option, Social-science approach, Entrepreneurship, Agropolis

1. Introduction

This study proffers a scheme to influence younger generations having little farming background to enter agricultural careers. It is beneficial in urban environments to portray agricultural careers as attractive job options. The farming economies of the Netherlands comprises our model. Compared to the Dutch, Japanese agricultural technologies and management systems have not resulted in high productivity. In Miyazaki, the ratio of full-time farmers over 65-yr old is 57.7%¹. This rate is much higher than the national average of 38.6% in careers across Japan. Thus, because farmers tend to age more rapidly than other career denizens, we must address the aging agricultural workforce² and focus on the inheritors.

“Recirculation” of the workforce is crucial. The JA Miyazaki group has executed various efforts with the local government regarding agricultural careers³. Efforts have proven successful, and the number of new farmers from Miyazaki (including successors) reached 396 people in 2016. The number of new farmers in Miyazaki increased 58% compared to 2013⁴. Unfortunately, more than 70% of graduates from agricultural high schools or junior colleges choose an unrelated profession after graduation⁵. 90% of high-school graduates do not enter farming businesses. These towering facts imply that farming requires directed marketing. Generally, farming has a hard-working look and feel. People get dirty and endure small incomes for long periods of time. I have decided to understand how the younger generation in and around Miyazaki perceives agricultural business and to propose a high-level strategy.

2. Research object

This study aims to understand how younger people in Miyazaki perceive agricultural careers. I provided a questionnaire to Miyazaki high-school university students, who generally have no direct engagement in agriculture. They are composed by commercial department. Through this study, I aim to build a high-level strategy of farming promotion, instead of the vague and abstract image-building we are used to. Based on data reflecting the attitudes and consciousnesses of younger people, I work toward a solution to improve

agricultural surety by employing a directed marketing approach.

3. Previous research

Wada and Kinami (2012) determined that the motivation for young people to engage in a farming career was formed only after long-term and varying factors. Moreover, they insisted that, by enhancing their motivation when they are young, there is a greater chance of success. Hidano and Hiraizumi (2012) provided a questionnaire survey to farming successors in Niigata and determined that they were motivated as youngsters because of their experiences and family. A survey to junior high-school students in Fukushima showed that farming experience in later childhood influenced participants’ attitudes about considering the profession. These are important anecdotes, because it is crucial to initiate career design and planning at a young age. Thus, this study addresses the peripheral elements (i.e., factors) associated with promoting farming careers during the human formative process by analyzing questionnaire results.

4. Research method

4.1 Survey subjects

I provided the *Agricultural Consciousness Questionnaire Survey* to high-school and university students in Miyazaki prefecture, regardless of participants’ origin. Survey entries missing values were excluded. Respondent attributes are as follows: high school, N = 176; university, N = 58; Male, N = 91; and Female, N = 143 (N = 234).

Respondents partially comprised commercial high-school students. Thus, their gender was predominately female. In this context, the survey is executed to respondents in limited fields of study (management and commerce), so, there might be a bias in comparison with unlimited survey. Prior to the survey, I visited the high school and explained the research object and application method. I also targeted university students at the college I attend.

4.2 Questionnaire survey contents

The questionnaire provided 22 questions to gather the students’

1 Miyazaki prefectural statistics in agriculture.

2 Miyazaki’s agricultural statistics (2017), Miyazaki local government.

3 Engagements include *Miyazaki agricultural practical seminar; Hinata MBA, Program for new farmer supported by JA Miyazaki,*

and more.

4 Securing new leaders in agriculture, forestry, and fishery., Miyazaki local government.

5 In reference to interviews at educational institutions.

degrees of agricultural involvement and their interest in pursuing farming as an occupation. Each question was answered on a 4-point scale, comprising “absolutely agree,” “partially agree,” “partially disagree,” and “absolutely disagree.” See Table 1.

Table 1: Questionnaire items

No.	Classification	Item
1	Contact point of agriculture	Are you aware of Miyazaki's local production inventory?
2		Would you be pleased if Miyazaki's local products became famous?
3		Have you ever learned about agriculture? ⁶
4		Have you ever participated in an outside agricultural seminar? ⁷
5		Have you ever participated in farming or a promotional event for Miyazaki's agricultural products?
6		Do you wish to participate in farming or a promotional event for Miyazaki's agricultural products?
7		Do you have farmers in your family? ⁸
8	Agriculture's image	Do you think farming provides a low salary?
9		Do you think farming is hard work?
10		Do you think farmers have no holiday flexibility?
11		Do you think the income of farming depends on the weather?
12		Do you think that farming requires skills and experience?
13		Do you think farming businesses require a lot of startup money?
14		Do you think that you must be a successor in a farming business to engage the career?
15		Do you think farming is relatively

6 Provide options for the answer as follows: “4. Participated in lecture more than 3 times. 3. Participated in lecture more than 2 times. 2. Participated in lecture at least 1 time. 1. Never participated in lecture.

7 Provide options for the answer as follows: “4. Participated in lecture more than 3 times. 3. Participated in lecture more than 2 times. 2. Participated in lecture at least 1 time. 1. Never participated in lecture.

		easy with regards to cultivating human relationships?
16		Do you think farming is rewarding work?
17	Motivation to engage in farming as a career	Are you interested in farming? ⁹
18		Do you want to work in farming if the income can be relatively high compared to other businesses?
19		Do you want to work in farming if it seems like smart and cool job requiring fashionable working clothes and workspaces?
20		Do you want to work in farming if it is as stable as other careers?
21		Do you want to work in farming if there is established and clarified education system?
22		Do you want to work in farming if it is a short-cut to entrepreneurship?

5. Results and interpretation

5.1 Frequency table concerning contact points

This paragraph provides a quick overview of contact points between agriculture and respondents, based on analysis of the survey dataset. Table 2 indicates the frequency of loyalty toward Miyazaki's local products. The table is sorted by gender.

Table 2: Loyalty toward Miyazaki's local products (Question No.1, Table1)

	Total	Male	Female
Absolutely agree	10 (4.4%)	5 (2.2%)	5 (2.2%)
Partially agree	39 (17%)	14 (6%)	25 (11%)
Partially disagree	132 (57.6%)	51 (22%)	81 (35.4%)
Absolutely disagree	48 (21%)	20 (9%)	28 (12.2%)

N = 234

The intent was to grasp whether respondents preferred to

8 Provide options for the answer as follows: “4. Parents own farming business. 3. Grandparents own farming business. 2. Relatives own farming business. 1. No farmers among family and extended family.

9 Provide options for the answer as follows: “4. Feel very interested. 3. Feel interested, if anything. 2. Do not feel interested, if anything. 1. Do not feel interested at all.

buy local products. Around 80% answered “absolutely disagree” or “partially disagree.” Thus, they do not seem to care about where their products come from. As told in the previous discussion, agriculture is major industry of Miyazaki, so respondents tend to have extended family who engaged in agriculture. Moreover, it is debatable whether respondents from high school usually go shopping for ingredients. So, there might be some bias. these issues will be discussed in further study in detail.

When assessing whether respondents felt superiority in terms of the fame associated with local products, 80% answered “absolutely agree” or “partially agree.” Moreover, the “absolutely agree” category netted more than 50%. This tendency is presumed to be much higher than younger generations in an urban province because they have more opportunities to interact with agriculture and local government provide more effort to enlighten local agriculture compared to urban area. (see Table 3)

Table 3: Consciousness toward a sense of superiority over the fame of Miyazaki local products

	Total	Male	Female
Absolutely agree	97 (42.4%)	35 (15.3%)	62 (27.1%)
Partially agree	87 (38.0%)	34 (14.8%)	53 (23.1%)
Partially disagree	38 (16.6%)	21 (9.2%)	17 (7.4%)
Absolutely disagree	7 (3.0%)	0 (0%)	7 (3.1%)

N = 234

From these results, respondents tend to feel affirmation when any local product gets famous.

More than 40% of respondents have family or extended family engaged in farming, and almost half associate agriculture closely to their surroundings (see Table 4). Thus, they sometimes handle and eat fresh vegetables, and they sometimes work on their family farm during holidays. This result implies that they could deepen their experiences and knowledge by engaging in more opportunities.

Table 4: Farmer in family or extended family

	Total	Male	Female
Parents own farm	9 (3.9%)	3 (1.3%)	6 (2.6%)
Grandparents own farm	50 (21.8%)	21 (9.2%)	29 (12.7%)
Relatives own farm	39 (17.0%)	11 (4.8%)	28 (12.2%)
No relation in farm	131 (57.2%)	55 (24.0%)	76 (33.2%)

N = 234

Almost 50% of respondents felt strongly interested or interested in agriculture as an occupation (see Table 5). Granted, there are many challenges to starting a farming business or even job hunting in the industry, respondents presented a relatively decent understanding of farming business.

Table 5: Consciousness toward farming as a job option

	Total	Male	Female
Very interested	18 (7.9%)	9 (3.9%)	9 (3.9%)
Comparatively interested	89 (38.9%)	30 (13.1%)	59 (25.8%)
Comparatively uninterested	96 (41.9%)	38 (16.6%)	58 (25.3%)
Not interested at all	26 (11.3%)	13 (5.7%)	13 (5.7%)

N = 234

6. Factor structure on attitude

Thus far, I have addressed the likelihood younger people to show an interest in agricultural careers. This section presents a factor analysis¹⁰ of Miyazaki prefecture’s youth attitudes toward agriculture, providing a trend classification via its factor structure. Factor loadings indicate that less than 0.3 were excluded in the first trial. Then, four factors were extracted via eigenvalues, indicating more than 1.0. Table 5 shows the eigenvalues and the contribution ratio of each factor.

Table 6: Eigenvalues and contribution ratio of each factor

Factor	Eigenvalue	Contribution ratio	Cumulative contribution ratio
F1:	4.2298	23.50%	23.50%
F2:	2.4109	13.39%	36.89%
F3:	1.9307	10.73%	47.62%
F4:	1.1678	6.49%	54.11%

Cronbach’s alpha = 0.7489

The cumulative contribution ratio of F4 comes to 54.11%, which is relatively high. Table 6 presents each factor and their loading in descending order. Each structure is explained by the factor items whose loadings are more than 0.3 for each. Thus, 17 items were extracted as interpretational items.

¹⁰ Maximum likelihood method, Promax rotation.

Table 7: Factor items and loadings

Factor item	Factor loading
F1: Respondents with positive attitudes about engaging in farming under certain conditions.	
Wish to engage in farming if there is an established and clarified education system.	0.813
Wish to work in a farming business if it seems like smart and cool job.	0.809
Wish to work in a farming business if income is relatively high, compared to other businesses.	0.737
Wish to work in the farming business if it is a shortcut to entrepreneurship.	0.706
Is interested in farming business.	0.391
F2: Respondents interested in agriculture, but retain a negative attitude to farming.	
Believe farming business is hard work.	0.624
Believe income depends on the weather.	0.596
Believe farming requires a lot of start-up money.	0.585
Believe farmers cannot enjoy flexible holidays.	0.496
Believe farming requires skills and experience.	0.439
Believe farming is rewarding work.	0.368
F3: Respondents who feel a gap between farming and their own life.	
Have some agricultural experience from their school.	0.794
Have experience from an outside seminar.	0.572
Are conscious of Miyazaki local products.	0.446
Have experience with farming or agricultural promotional events.	0.361
F4: Respondents with a positive image about a career in farming.	
Wish to participate in farming or a	0.669

promotional event.	
Think farming is rewarding work.	0.422
Are interested in the farming business.	0.331

The first factor (F1) shows that respondents are positive about becoming farmers under certain conditions. However, they presume that farming is not a fulfilling workplace environment. The second factor (F2) shows a relatively positive attitude towards farming. However, farming does not suit to them as a full-time job, owing to hard work, unstable income, large investments, fluctuating holidays, etc. The third factor shows that respondents are interested in agriculture and tend to be highly conscious of local products, but they do not embed farming into their daily life. The fourth factor (F4) indicates that respondents have some inclination to be farmers and feel that farming experiences are rewarding. Furthermore, they want to participate in future agricultural events. 75% stated they have family engaged in farming, and 45% stated those members are parents or grandparents. The data suggests that this group either recognizes themselves as successors, or they feel that farming could be a job option.

7. Examination of the factor structure concerning farming promotion with a marketing approach

This section discusses a marketing approach of engaging young people with agricultural aspirations, leveraging two of the four factors (F1 and F4), as provided by the survey results.

From the survey results, the elements that encourage young people to enter an agricultural career include stability of occupation, systematic and guided education from scratch, manageable work, good earnings, easy access to entrepreneurship, and high-contact frequency with local agriculture. Alternatively, there is no evidence that subjects believe they would be required to acquire special skills or experience to start a farming business.

Many agricultural corporations in Miyazaki (e.g., Kushima Aoi Co., Synergy, Nakamura, Shinpuku Seika Co., Ltd, Shinkado, and Okumatsu) are well known for their best practices via local media or government reports. These firms are sophisticated, and they tend to prepare their employees with systematic programs and clear jobs using an evaluation system. Regarding production activities, owing to mechanization and process controls, they tend to improve employee satisfaction by lightening workloads and improving working conditions. JA Miyazaki has worked hard on Dutch-

style farming, even sending frequent delegations to the Netherlands to acquire greater agricultural mechanization systems. This fact and others are commonly reported to citizens by the local media, causing local young people to retain a positive image of farming.

The presence of a higher educational institution is important to bolstering positivity toward agricultural career aspirations. A social-science university, for example, could greatly contribute to lessening the gap between agricultural industries and young aspirations. Normally, one must decide relatively early to enter an agricultural high school or college. However, as this study showed, only 30% of young people who enter agricultural high schools or colleges become farmers. The Miyazaki local government now enthusiastically provides a “bridging” effort between farmers who wish to retire and young people who want to become farmers. In fact, they drew up a 2019 budget for cultivating new farmers¹¹. However, there has been insufficient effort applied to increasing young people’s farming interests. Thus, this study insists that a new viewpoint is needed, guided by a marketing approach.

Since 2015, Miyazaki Sangyo-keiei University (MSU) has led a study on local vitalization of the agricultural industry, called “Agropolis.” This project has involved many participants, including local governments, JA Miyazaki cooperatives, and farmers. It provides a tool for leading a charge to market careers to young people who may not be interested at the moment. They leverage entrepreneurship and explore new business models resembling general corporate enterprises. They offer a practical marketing approach that is not normally seen in agricultural situations. The project has been subsidized by Miyazaki Enterprise Promotion Organization since 2016. The program is expected to lead students without an agricultural background to recognize the industry as one with a key management specialty.

Entrepreneurship is not a familiar aspect of Japanese farming. However, it is a key factor to profit-making. We together with Dr. Jos Verstegen from Wageningen Economic Research, Wageningen University, the Netherlands, will design the agricultural business administration curriculum in our local university based on the concept of training young entrepreneurs via research activities as a conclusion of former study.

8. Conclusion

This research was performed to discuss the development of a marketing program for agricultural careers local to Miyazaki prefecture. I used questionnaire survey results to develop a discussion about the importance of universities providing a marketing function between agriculture and eager young people. Results showed that the cultivation of entrepreneurship in farming could be effective, especially with an entrepreneurial social-science university approach. It is crucial that we continue to discuss how to systemize promotional programs as a regular curriculum in our local university that encourage young people to enter the farming business. This will be a topic for a future paper.

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¹¹ The name of activity is “Project on Miyazaki’s management resource inheriting model in agriculture.” Total budget is ¥3M. Project aims to study and build a structure for transferring land of

old farmers to farming freshman. (Reported by Miyazaki Nichinichi press on 15th Feb. 2019.)

[Refereed Paper]

Possibility of Creating Value that Society's Integrated Thinking Brings to Society and Environment

: A Case of LIXIL's "SATO" Business Model

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Abstract: SDGs, which are global missions, have become the norm for 21st century activities. Companies are also in full swing to select materiality (important issues) corresponding to ESG investment and SDGs, and to formulate KPIs (Important Performance Indicators) based on the selection. However, although the three systems of economy, society and environment have their respective circulation independently, it is thought that there is a chasm (separation area) that makes cooperation difficult among the three areas. Therefore, it is not easy to create a value network that exchanges economy, society and environment. In this situation, this study examined the possibility of a business model based on a new value structure by integrated thinking, which is the basic concept of integrated reports. Companies are not just profit centers, but also regional entities that are involved in values other than financial indicators by the creation of social and environmental values. By creating a system that can connect economy, society, and the environment, companies are considered to have their own significance. LIXIL's SATO business was adopted as a verification example. About a third of the world's population (32 billion people) are living without a toilet. In a sanitation-free environment, around 15,000 children under the age of 5 die a day all over the world. In order to improve this situation, SATO was developed as a simple toilet in developing countries. Although the SATO business model belongs to the BOP business, it aims to improve the global sanitation environment more than the realization of profitability. SDGs theme 6 "Safe water and toilets all over the world" is a related business, and it is established as a business, in particular, by contributing to the improvement of environmental and social value in developing countries. As a result of verification of the case analysis, it was able to be derived as a finding that it is effective to create a bridge-like structure that crosses different value systems of environmental issues and economic issues. Demonstration of these activities has enabled us to find new possibilities in the design of the indicators targeted by the integrated report. Furthermore, it is thought that the usefulness of future problem solving business can also be suggested.

Keywords: Integrated Thinking, Integrated Report, Non Financial Information, Social Impact, SDGs

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1. Introduce

1.1 The era of international initiatives

One of the changing times in the 21st century is the creation of international initiatives. Specifically, it is as follows.

- 1997 Global Reporting Initiative
- 1999 Global Compact 10 principles
- 2000 Millennium Development Goals (MDGs)
- 2006 Principles for Responsible Investment (PRI)
- 2010 ISO26000
- 2010 IIRC
- 2013 Social Impact Task Force
- 2014 RE100
- 2015 Sustainable development goals (SDGs)

It is considered as a symbolic social phenomenon that such global initiatives are progressing around the beginning of the 21st century. Common to these activities is the sharing of global problem solutions, and in particular, global environmental issues are considered to be important issues. In the world, there are diverse societies by countries and regions, and people with diverse values live. But global issues like the global environment require a code of conduct with uniform values. International initiatives are underway to discuss the relevance of three global solutions. The issues are environmental issues (global warming, biodiversity etc.), social issues (disaster prevention, food hygiene, child labor etc.), economic issues (poverty, population increase etc.). It is difficult to think that each of these three tasks is completely irrelevant. For example, much of the world's cotton production uses large amounts of pesticides and insecticides, and workers are mainly at low-paying children. Such current situation is concerned about the combined occurrence of environmental load, child labor, health and safety, and economic exploitation. The occurrence of environmental, social and environmental issues from the same social phenomenon means that three issues can be solved simultaneously, depending on the policy and business activities. In this research, we will examine the possibility that value creation based on relevance in multiple issues will become a new business model.

1.2 Overview of integrated report

IIRC is a non-profit organization that aims to create new value through new accounting standard "Integrated Report" to realize sustainable investment like ESG. In particular, the issue is focused on the relationship between the company's efforts to realize a sustainable society and financial indicators. Financial statement reporting has the disadvantage that mid-

and long-term risks can not be visualized and CSR reporting has difficulty in seeing the actual results. The integrated report is aimed at a new accounting framework to improve each such merits and demerits. Traditional business activities have realized productivity by using only the capital that belongs to the organization. However, actual corporate activities are maintained by incorporating external resources belonging to the environment and society into the organization. In the current situation where the finiteness of external resources has come to be pointed out, entities such as companies are considered to be responsible for external resources as well. Producers / suppliers do not just consume environmental resources and social resources, but aiming at sustainable development with consideration to their reproductivity has become a global issue. Because of these trends, keywords such as ESG and sustainability have come to the fore. The new business model in the 21st century is considered to mean that companies shift from resource consumption entities to resource value creation entities.

The international integrated reporting framework announced in 2013, The international <IR> Framework, has the following description. "The company's next development can be considered as communication about value creation." "The main purpose of the integrated report is to explain to the financial capital providers how the organization creates value over time. The integrated report includes all stakes interested in the organization's ability to create long-term value, including employees, customers, suppliers, business partners, communities, legislators, regulators and policy makers. It is useful for holders." "It also aims to explain how the organization interacts with the external environment and capital to create value in the short, medium and long term." The integrated report is a communication tool that conveys expected results in the medium to long term, and is said to show the interaction between external environmental capital and corporate organizational capital. Particularly considering the usefulness of the integrated report, of the six capitals proposed by IIRC, four corporate capitals (finance, intellectual, human, manufacturing) and two external environmental capitals (social relationships, environment). The purpose of this research is to clarify the possibility that such interaction between corporate capital and external capital can develop 21st century business models through the example of a corporation.

1.3 Social impact investment

Since the UN announced the PRI (responsible investment principle) in 2006, ESG investment balance at the end of 2017 has been announced as \$ 31 trillion. In addition, a UK call at

the 2013 G8 Summit created the Impact Investment Task Force. The main large-scale funds for ESG investment have a strong factor in selecting an investment destination with low social risk as a stable investment destination. On the other hand, social impact investment is defined as “social and environmental outcomes resulting from the project or activity, including short-term and long-term changes” (2016 Cabinet Office).

図表 1 社会的インパクト投資残高(推計)の推移

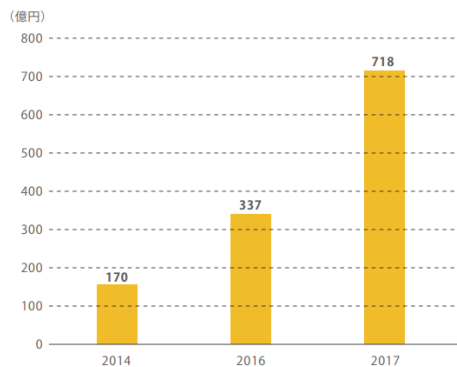


Figure 1. Changes in social impact investment balance ¹

Figure 1 shows the social impact market size in Japan from 2014 to 2017, but it is confirmed that it has been expanded more than four times in four years. ESG investments and social impact investments, by their nature, require social or environmental returns in addition to financial returns. In such a situation, it is important to explain how many reports such as integrated reports have for many stakeholders, mainly investors and shareholders. With the background to solving global issues through ESG investment and social impact investment, corporate activities are also required to create a corporate brand other than direct financial indicators. In particular, shareholders and investors in recent years tend to be required to establish a framework for new corporate activities that will result in financial results in the medium to long term. There is an integrated report in the form of strategic reporting based on unique resources and business vision for the company to achieve results. The integrated report uses six capitals (finance, manufacturing, intellectual, human resources, society / relations, and nature) as inputs to show the impact of outputs from business activities. It is the two capitals of "society and relationship" and "nature", and has the property that it does not belong to the corporate organization. This research is based on the premise that the framework

required in the integrated report is the standard of corporate activities in the 21st century, and it is a network structure that organically connects three value systems of environment, society and economy. Deduce the hypothesis that it is useful.

1.4 What is required of a company's consolidated report

In KPMG's Survey on Integrated Reporting of Japanese Companies 2018, three recommendations are made to improve the quality of the integrated reporting.

1. Communicate the value creation story that management and directors consider.
2. Show management based on integrated thinking without being confused by popular keywords.
3. Show the reality and progress of the value creation story as a pillar.

In these three points, the first characteristic is the value creation story. Financial indicators symbolized by earnings are monetary indicators as a result of the realization of a value system such as philosophy and vision held by management etc. Not only financial indicators that show results, but also explanations that have elements that will lead to financial results in the future are more required. KPMG proposes that such future results can be explained by the "value creation story". In the financial indicators, it is the integrated report that tries to evaluate the importance of what the management itself can use as a story to make something in the future so that past results will be the outcome. The system to decide how to design the first point value creation story is the second point integrated thinking. KPMG explained "The relationship between economic value and social value is explained regarding integrated thinking, and if specific strategic goals of environmental and social related outcomes are indicated, understanding about the long-term survival of a company It will be deepening too." Furthermore, the third point shows the feasibility and achievements of the value creation story in terms of "actual situation" and "progress". The integrated report is considered to clarify and show the structure and process of value creation of a company to stakeholders such as shareholders. The purpose of this research is to clarify the frame of value creation in the new business model brought about by integrated thinking by case verification.

2. Hypothesis and verification method

2.1 Significance of non-financial information

¹ Global Social Impact Investment Steering Group (GSG) website, "Current status of impact investment in Japan" (last accessed

2019-11-30), http://www.siif.or.jp/wp-content/uploads/2019/04/G8-Impact_Investment_2018-2.pdf

The rationale for value creation stories that are important in business in the 21st century are not yet financial indicators, but assume conditions that will lead to financial results in the future. The purpose of the integrated report is to integrate financial and non-financial information, and the rationale for value creation stories is considered to be non-financial indicators.

COMPONENTS of S&P 500 MARKET VALUE

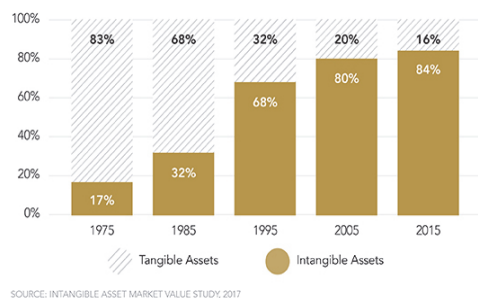


Figure 2. Changes in investments in tangible and intangible assets ²

The above Figure 2 shows the ratio of financial assets to non-financial assets in S & P 500 by Ocean Tomo LLC (developing the financial services business related to intellectual capital in general). It can be read that the explanatory power of financial assets (Tangible Assets) has become significantly lower after the 1990s. Instead, it reveals that the ratio of non-financial assets (Intangible Assets) is high. From these facts, it is considered that non-financial information is indispensable for explaining a company's value creation story by non-financial information. For many stakeholders surrounding a company, the disclosure of non-financial information in the company is necessary to accurately evaluate the company information.

2.2 Results of Non-Financial Information

If non-financial information is an argument for a value creation story, it is considered to be a source of future value creation for the company. Regarding the significance of non-financial information, "Even if a vast amount of information is disclosed without association, it is said that it is not effective as a material for investment decisions. Therefore, Japanese companies are appropriately evaluated by investors. In order to gain understanding, it is important to strategically disclose, based on one's own volition, correlating corporate financial

information and non-financial information in a systematic manner and explaining in an easy-to-understand manner. (Corporate Vitality Research Institute 2012) "The two major issues of disclosing and explaining non-financial information in connection with future corporate value and linking business and non-financial information in the main business." (Corporate Vitality Research Institute 2018) . In other words, the important points in integrated thinking are the following two points.

1. Relationship between non-financial information and future corporate value
2. Relationship between non-financial information and financial information

From this premise, it is thought that what is required of the integrated report is the mid- and long-term value creation story of a company, but also indicates the possibility that it can be explained by future financial information.

2.3 Structuring Problem Solving Models

In order to consider the accountability of non-financial information and its relevance to the business itself, it is necessary to identify the unclaimable factors and the factors that inhibit the relevance. According to the Corporate Governance Code (CGC), which was revised in 2018, the importance of non-financial information is important, yet its explanatory power is low, in order to ensure appropriate disclosure and transparency in the third place. It is pointed out. Furthermore, as specific elements of non-financial information, it is clearly stated that "Financial status of the company, business strategy, risks, matters concerning governance, social and environmental issues, etc. (so-called ESG elements)". Among them, in this research, we will analyze "matters related to social and environmental issues" as factors that make it difficult to see the corporate value and the connection with the business.

In the figure 3, the reverse T-shaped part that straddles the environment, society and individuals is the Missing Area, and it is thought that the problem solution in the 21st century is to construct a "bridge" that straddles the divided area. In traditional business, these activities tended to be typified by charity. However, in the 21st century society, BOP market targeting the poor has come to focus on strategic value from the management aspect. One of the reasons is the huge market size that can cover 40 billion people even if the customer unit price is low. However, from the medium- and long-term perspective, the BOP market is considered to have a very high

² Ocean Tomo website, "Intangible Assets Market Value Study" (last accessed 2019-11-30), <https://www.oceantomo.com/>

[intangible-asset-market-value-study/](https://www.oceantomo.com/intangible-asset-market-value-study/)

growth potential. Economic exchanges with developed countries can be expected to improve economic levels in certain BOP countries. It contributes not only to the global problem of poverty but also to market growth. So to speak, associating problem solving with economic growth is the most realistic business model.

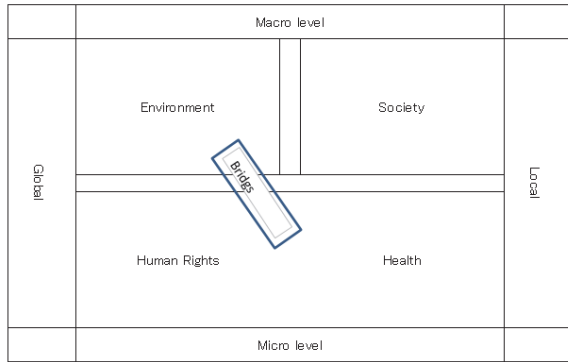


Figure 3. Structure of problem solving model

2.4 Hypotheses in this study

Based on that premise, the following two points are derived as hypotheses.

- Hypothesis 1: Business activities expected in the 21st century are closely related to contributions to solving environmental and social problems.
- Hypothesis 2 : The environment and society symbolized by ESG keywords have their respective domains, including the economy, and value creation as a bridge linking those domains is expected as a new business model in the 21st century.

The above hypothesis 1 can be visualized by a so-called 2×2 matrix.

Hypothesis 1 shows the effectiveness of NEW DEVELOPMNET AREA shown in Figure 3 as a medium- to long-term business model as a new market creation of a company. Although existing strategies have been considered as non-profitable areas, there is a possibility that new strategic significance can be found through the design of medium- and long-term business models. Furthermore, this area is also a blue ocean area with very few competitors, as it has been considered difficult to obtain economic results. Therefore, in the 21st century, innovative market development activities in NEW DEVELOPMNET AREA are expected. In particular, the BOP market is very useful as a solution to the global poverty problem.

Hypothesis 2 is premised on Figure 2 “Structure of problem solving model”. This is structuring the design of the future society in environmental and social problem solving.

Hypothetically, corporate activity that creates a bridge connecting the three domains of environment, society and people is the structure that contributes to sustainable development. It is expected that this value creation will be a new market formation through specific corporate activities, and it will be a framework with the potential to realize the contribution to the environment and society and the result to corporate finance.

HIGH SOCIAL VALUE ENVIRONMENTAL VALUE LOW	NEW DEVELOPMENT AREA	EXISTING STRATEGIC AREA
	NOT WORTH AREA	CONTINUING STRATEIC AREA
LOW ECONOMIC VALUE HIGH		

Figure 4. Structure by economic value and social and environmental value

Hypothesis 1 shows the effectiveness of NEW DEVELOPMNET AREA shown in Figure 3 as a medium- to long-term business model as a new market creation of a company. Although existing strategies have been considered as non-profitable areas, there is a possibility that new strategic significance can be found through the design of medium- and long-term business models. Furthermore, this area is also a blue ocean area with very few competitors, as it has been considered difficult to obtain economic results. Therefore, in the 21st century, innovative market development activities in NEW DEVELOPMNET AREA are expected. In particular, the BOP market is very useful as a solution to the global poverty problem.

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corporate finance.

2.5 Method of verification

In this study, we conducted an analysis based on actual company cases in verifying hypotheses. Specifically, on November 24, 2017, we conducted an interview survey with Mr. Ito of the Corporate Responsibility Promotion Group on the environmental and social activities of LIXIL Corporation. LIXIL Co., Ltd. is a company that was born in 2011 by five manufacturers of construction materials and equipment. It makes it possible to solve all issues in housing in a one-stop way, and is considered to be a leading company that has well-balanced its own profitability and the public benefit of the environment and society.

The verification example is the SATO business at LIXIL. This project corresponds exactly to the NEW DEVELOPMENT AREA in FIG. As a company, it is clear that it will not lead to short-term financial results. As a point to be noted in such circumstances, LIXIL develops the SATO business not just as a social contribution, but as a business model. It can be expected that clarifying why such a strategy is practiced will lead to the demonstration of hypotheses in this research. LIXIL's activity case is considered to be a new corporate activity frame corresponding to social investment like ESG by the relation of economic value, environmental value and social value that integrated thinking aims at.

3. Verification by company case

3.1 SATO business by LIXIL

About a third of the world's population (32 billion people) are living without a toilet. In a sanitation-free environment, around 15,000 children (five and a half million a year as of 2016) die worldwide all day under the age of five a day. In order to improve this situation, SATO was developed as a simple toilet in developing countries.

SATO is easy to install, can be cleaned with very small amounts of water, and can maintain environmental health with a valve structure, making it a product that can greatly contribute to the solution of health problems in developing countries.

As of 2016, SATO has produced a total of 1 million units. Of these, about 500,000 were donated to Bangladesh and sold locally at a low price of \$ 1 per vehicle. SATO can be expected to be extremely useful in the emerging countries of the world

where toilets are still under development. Localizing the SATO business into a local corporation in the region of a developing country will realize value creation by solving environmental and social issues as a problem-solving type business. In addition, business methods enable sustainable development of communities in developing countries. In such a global sanitation situation, SATO may be a source of value creation such as human value, hygiene value, economic value etc. in the community. The SATO business is considered to be a practical method of common principles such as the SDGs theme in the problem solution.



Figure 5. SATO³

3.2 SDGs sixth goal

The goal 6 of the SDGs is to "make water, sanitation and sustainable management available to all people". With the advent of the 21st Century, one of the challenges of the UN Summit was to improve the mortality rate of children under 5 years of age. The goal 6 of the SDGs is to "make water, sanitation and sustainable management available to all people". With the advent of the 21st Century, one of the challenges of the UN Summit was to improve the mortality rate of children under 5 years of age. The situation continues to exceed 10 million a year until the end of the 20th century. The goal of the MDGs (Millennium Development Goals) in 2000 was to reduce the mortality rate of children under the age of five to one third of the mortality rate in the 1990s. The causes of death are usually pneumonia, diarrhea, malaria, many of which can be improved by promoting preventive medicine and public health. This goal has never been achieved, but as of 2016 it has been achieved at about one-half level. In addition, issues such as measures for daily life, hygiene conditions including safe water, maternal health conditions, and provision of appropriate medical services are being considered. One of the themes of SDGs is "water and sanitation". As a specific example of corporate activities, an interview survey was conducted on the head office of Tokyo

3 LIXIL Group CORPORATE RESPONSIBILITY REPORT 2019, 03 THREE STRATEGIC PILLARS, "GLOBAL SANITATION&HYGIENE" (last accessed 2019-11-30,

https://www.lixil.com/en/sustainability/reporting/pdf/LIXIL_CR2019_en.pdf#page=14

on November 24, 2017 about the project of LIXIL Corporation. LIXIL Co., Ltd. integrates five housing related companies that were group companies in 2010 as a new company. The three priority areas of LIXIL for a sustainable society are (1) solving global sanitation problems, (2) water conservation and environmental protection (3) respect for diversity. These three items have very high affinity with the 17 goals proposed by SDG. In particular, (2) water conservation and environmental protection are SDG theme 6 "clean water and sanitation" itself. LIXIL aims to solve environmental issues through the toilet division, a business area as a company. The LIXIL Group has commercialized the spread of SATO (SafeToToilet), which has been used by 9 million people around the world as a social activity to solve global sanitation problems. SATO is a cheap and light plastic type simple toilet. SATO was originally released from the American Standard, supported by the Bill & Melinda Gates Foundation. Later, with the American Standard becoming the LIXIL Group, SATO also developed as the LIXIL brand. The LIXIL Group aims to improve the sanitation environment of 100 million people around the world by 2020 through social activities.

4. Hypothesis verification

4.1 Structuring by value network model

Integrating global issues such as environmental issues into essential goals is considered difficult with just the diverse value systems of individuals and societies. It is exactly due to the Missing Area shown in FIG. Therefore, it is necessary to concentrate on specific behavioral criteria. Many international initiatives have proposed standardization and standardization on global issues. Furthermore, in such an action plan (agenda), as it is said that "having a common understanding of important issues in the future is effective for forming a vision", value sharing such as CSV in the 21st century Highly useful as a social environment solution model. What is important here is that economic and social areas are not concepts integrated as a hierarchical structure, but can play a cooperative role as a value network structure. In Hypothesis 2 of this research, it is necessary to verify whether a business entity can properly realize two different value systems. The enterprise value system in the 20th century was a period where the influence of the short-term and quantitative framework was strong. It is thought that the root cause of social investment is the fact that actual economic phenomena are in need of a medium- to long-term framework that can not be explained using only short-term figures such as financial statements.

4.2 Bridge model with less than 5 years old mortality

As a model of the value network, take "falling under 5 years old mortality rate" as a common principle. Such global goals need to be dropped for each country and company. The model for that is shown below.

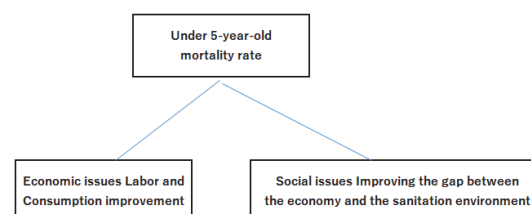


Figure 6. Bridge model in value structure

The above figure is a business model that divides the common idea "improvement of mortality under 5 years old" as multiple values of economic problems and social problems. Although it is difficult to relate various social issues based on international economic issues and regional culture etc., as in the figure above, the common philosophy is derived by deriving two as multi-faceted elements of value in global issues. It serves as a bridge connecting economic and social issues, and can mutually realize value formation. Such structuring makes it possible to connect various value systems, and realizes two-way value formation beyond the Missing Area.

The decrease in mortality rates for children under five is one of the goals of the SDGs, Goal 3.2." By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1000 live births and under-5 mortality to at least as low as 25 per 1000 live births."

Furthermore, in the target areas of developing countries, it can be expected to achieve both economic and social value creation. These two values are mutually related and contribute to global problem solving. Economic value and social value become a business model that is connected by the principle of "decrease in mortality rate of children under 5 years old".

4.3 Verification of hypothesis 1

The fact that these activities are realized is considered to be a test of Hypothesis 1. The SATO business will belong to the so-called BOP business. BOP business is an international business activity that targets low income groups worldwide. It generally refers to people whose annual income is less than 3000 USD, which corresponds to 4 billion people, 70% of the world's population. The distinctive feature of BOP business is

that it defines the target consumer's task as a "BOP penalty" and employs a business approach to its solution.

LIXIL's SATO project is a business model that contributes to the solution of sanitation issues in communities in developing countries and issues related to securing water and toilets. Under these assumptions, we will examine the requirements for establishing LIXIL's SATO business as a business from the issues of Hypothesis 1.

In the actual interview survey, it was important whether the SATO business was sustainable as a business. As a result of investigation, it became clear that the business model of thin interest and high sales system is possible for the huge market of BOP by making a local corporation. However, if it is a business of that much, it does not leave the area of social contribution. In addition, the parallel research on the literature revealed new facts.

According to the Nomura Research Institute (NRI) 's original survey (2011), it is announced that the economic level of 3.52 billion people, half of the BOP group, will improve in 2030 and move to the MOP layer. In such a case, it is expected to create a very large and high value-added product market. LIXIL is considered to adopt a strategy to increase brand power and engagement as a company in the BOP market on the premise of such medium- and long-term social change. As proof of Hypothesis 1, it became clear that LIXIL uses as its business scheme an activity that enhances medium- and long-term social value and environmental value.

4.4 Verification of hypothesis 2

LIXIL's SATO project based on SDGs theme 6 that links economic issues in developing countries (such as poverty) with environmental issues (such as lack of hygiene management) is considered to be a demonstration of Hypothesis 2.

LIXIL distributes SATO free of charge to many developing countries, and implements a plan to make it sustainable by local incorporation. This is truly a long-term business creation to realize solutions to environmental and social issues. Furthermore, such a business model is a bridge between the economic system and the social and environmental system's Missing Area. Economic activity as a profit structure for sustainable activities and social activity as a solution to environmental and health problems are not considered to be originally related to each other. By bridging the situation based on the common philosophy, it is possible to realize a business model connecting the three ESGs. This is the activity system expected in the 21st century. Multi-faceted value development enables environmental issues to be shared with the cultural values of different regions and designs

around the world. It is a central issue of this study to examine whether it is possible to derive a corporate activity model that solves the 21st century environmental and social problems from such design. Such a value system is expected to contribute to health promotion of social capital and communities, and improvement of economic level. Common philosophy> Value creation> The ability to realize value cooperation such as social effects can be expected as a new model in the 21st century. Furthermore, increasing the effectiveness and efficiency of this model is considered to be the economic entity represented by companies.

In the field of social diversity, in contrast to the common philosophy, the breadth of different value systems is important. The realization of diverse societies is a very important keyword for realizing the "world which nobody cares" which SDGs advocates. According to a McKinsey survey, which surveyed 366 companies in the world in 2015, companies with high managerial gender showed 15% higher performance compared to other companies, and those with high ethnic diversity and high dispersion. The results are shown to be 35% higher than the comparison. It is thought that common values, which can aggregate various values, can be flexibly rebuilt as the times change.

4.5 Implications of this study

A case analysis of LIXIL's SATO business suggested that global common goals such as the 17 themes in SDGs could organically link business with global issues. It is considered to be the practice of integrated thinking in the integrated report. The goal of integrated thinking is to realize both creation of environmental and social value and creation of new business areas. In the 21st century business model, it is expected that non-financial information possessed by companies will be more descriptive to business as value creation stories. Furthermore, non-financial information is also required to lead to future financial returns. In order to establish such a business, business models in which the systems of environment, society and economy are independent but related to each other are effective. In order to design such a new business model, we clarified that the "bridge" structure that links the discontinuities of environmental value, social value and economic value is important. This finding indicates that the future integrated report may be better engaged with investors, shareholders, etc.

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[Refereed Paper]

Relationship between Target Costing Activity and Intangibles in the Japanese Firms in Malaysia

: A Consideration Based on Field Surveys on Establishing Human Capital, Information Capital, and Organizational Capital

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Abstract: The purpose of this study is to elucidate the context of information capital related to cost information, by identifying the context of localization of Target costing based on a field study of Japanese firms in the Malaysia. Specifically, we will elucidate the degree as well to which human capital has been built up in localization of Target costing and the types of information systems used to manage cost tables. We confirmed that the degree of discretion on information systems was high, as pointed out by Mizoguchi (2012), and a materials OEM supplier had transferred its own Target costing system. It is also confirmed that suppliers were quicker to carry out localization, as pointed out by Ota (2014). Further, we confirmed that accumulation of IT-related human capital was weak, and in many cases spreadsheet software was used. It could be point out that overall, even if Target costing has been localized, building of information capital tends to be delayed.

Keywords: Target costing, human capital, information capital, organizational capital

1. Introduction

Since Japanese manufacturers began expanding internationally in pursuit of new markets, they have advanced into countries in North and South America and in Europe, as well as Thailand, Indonesia, and others. Japanese manufacturers were forced to advance into overseas markets due to the contraction of Japan's domestic markets for products such as motor vehicles and home electronics, resulting from the shrinking of the nation's population.

Target costing has been positioned as a management accounting method for more than 50 years since its development. Furthermore, overseas transfer issues of Target costing have been dealt with as an expanded issue on Target costing practice. This research would contribute to accumulate cases of applying Target costing from Japanese companies.

This paper will report on the knowledge obtained from a fact-finding survey of localization of Target costing at Japanese manufacturers operating in Malaysia and elucidate the outcome of analysis of the context of localization of Target costing. Specifically, based on a literature review and interviews with firms that have entered the Malaysian market, it will consider (1) the context of localization, (2) cost-table management, and (3) building of information capital, to elucidate the current state of localization of Target costing and the accompanying readiness in building information capital. First, the purposes of this study will be described. Second, the research methodology and research site will be described. Third, the results of interviews in the field will be considered. Fourth, the implications from the literature review and interviews will be discussed.

2. Purposes of This Study

Malaysia, the market focused on in this study, is experiencing stable growth as a market for new vehicles, in which 667,000 vehicles were sold in 2015¹. This growth can be considered to be backed by Malaysia's per-capita GDP of \$11,307, much higher than other ASEAN nations. Malaysia is experiencing stable economic growth, and many manufacturers are advancing into the market to target this growth.

Even so, the positioning of individual countries in overseas expansion actually is dynamic, and the global firms think about global expansion dynamically, taking into consideration the economic, foreign-exchange, and political conditions of each country. On this point, Malaysia is well suited as a research site that enables observation of stable conditions over several years, since it is experiencing stable growth and less susceptible to the effects of dynamic fluctuations. In addition, in Malaysia's automotive and home-electronics industries, unlike those in countries such as Thailand and Singapore that already have developed as regional centers, localization of production and development now are in progress. For this reason, the issues faced by Japanese manufacturers in Malaysia are likely to be similar to those that they will face when advancing into, and localizing production and development in, markets such as Vietnam and Pakistan in the future. Elucidation of these issues should provide information useful to Japanese manufacturers.

Just as has taken place in developed countries by now, the ASEAN nations also are experiencing diversification of lifestyles and preferences accompanying economic growth. In response, each manufacturer needs to reflect this diversification steadily in its product development. Under such conditions, some Japanese manufacturers can be seen to be localizing not only production but also development and design, and some also conduct Target costing locally. Accordingly, it should be highly meaningful to proceed with research on localization of Target costing at this time, in preparation for a future in which product development will have been localized in various countries.

Among previous studies, Tasaka and Kozakai (2017; 2018) have elucidated the current state of localization of Target costing by Japanese manufacturers that have entered the Malaysian market. However, they have not elucidated to a very large degree the aspects of intangibles, such as management of information on the cost tables that serve as the basis for a system of cost estimating in Target costing. Furthermore, since the degree of utilization of IT and information systems is related strongly to an organization's organizational culture and business processes,² it should be highly meaningful to consider the building of information capital, which is strongly related to the success or failure of Target costing.

Thus, the need could be identified to research information systems related to cost tables, which are important factors in realizing localization of Target costing,

1 JACTIM(2017, p.364)

2 Kozakai(2011; 2012a; 2012b; 2013; 2014a; 2014b; 2015)

from the perspective of intangibles, as an issue that remains to be addressed. Specifically, there is a need to elucidate the degree as well to which human capital has been built up in localization of Target costing, the types of systems used to manage cost tables, and the kinds of information systems to which these are linked.

From the above considerations, the purpose of this study is to elucidate the context of information capital related to cost information, by identifying the context of localization of Target costing based on a field study of firms that have entered the Malaysian market.

3. Previous Studies and Research Methodology

3.1 Previous studies

Target costing is “a method of strategic cost management to reduce costs and manage profits by building consensus among related sections, such as technology, production, sales, purchasing, and accounting sections, centered on the product planning and design stages.”³ However, with the progress of globalization, the ways of thinking on Target costing have changed.⁴ In light of these changes, there is a need to define localization with regard to Target costing.

At present, the number of studies addressing localization of Target costing is not very large, and most studies looked at auto-parts makers. Ito (2004) studied cost management in a developed-country market, based on the case study of Denso in the United States. This study assumed globalization in which preliminary design were done in the home country (Japan) and detailed design and preliminary mass production were conducted to fit the distinguishing features of each country.

Kitahara (2011) and Ota (2014) describe in general terms and discussed localization of development and design. Kitahara (2011) shows that in most cases basic research, applied research, basic product planning, development, and preliminary design are conducted at head offices in Japan, while local engineering facilities act in a coordinated and cooperative manner through division of responsibilities with the Japanese head offices. On the other hand, Ota (2014), while not addressing Target costing directly, discusses separately the progress of assemblers and suppliers.

As a previous study on Target costing in emerging markets, Nakazawa (2012) shows, from case studies in

Thailand of a local supplier and a local subsidiary of a Japanese SME, that transfer and localization of Japanese management methods was successful. However, the Japanese firm in this case study conduct preliminary design in Japan and left detailed design and preliminary mass production, fitted to the distinguishing features of the local market, to the local supplier. Also, although the company was a primary supplier, it employed the method of drawings supplied rather than drawings approved, and in this way its basic assumptions for localization can be considered to be similar to those of Ito (2004).

In response to these studies, in a study on Target costing in emerging markets Tasaka (2013a; 2014) considered a case study of failure of Target costing deployed through reducing the functions of products developed and designed for developed markets to introduce them to local markets at lower prices and the processes through local procurement of parts, analyzing and proposing strategic patterns.

There are great expectations for Target costing as a means of lowering costs and strategic profit management. However, it is not necessarily the case that Target costing can be transferred unchanged to overseas markets where cultures and systems differ. Tasaka (2014; 2016) discusses the kinds of points that should be noted in order to deploy Target costing successfully overseas.

The authors' research is an extension of the course trod by these previous studies. The significance of this study is in the way it identifies clearly the efforts of assemblers and suppliers in the advancement of localization of development and design and localization of Target costing and discusses the issues faced by Japanese manufacturers in localization of Target costing in connection with practical information management.

The authors previously were able to elucidate the context of localization of Target costing in companies operating in Malaysia⁵. An issue remaining to be addressed from that study was that of considering the development of intangibles, which can be considered to play important roles as success factors for Target costing. Accordingly, this study will focus first of all on information capital, including abilities to manage detailed cost tables, as one success factor in Target costing.

Tanaka (1995) describes the five-stage cost estimate system as a cost estimate system for use in cost tables. Also, Tanaka and Xiaojia (2017) identified inadequacies in the cost estimate calculation systems of most major firms,

3 Sakurai(2015, p.307)

4 Tasaka(2013a; 2013b; 2014; 2016)

5 Tasaka and Kozakai(2017; 2018)

arguing that it was essential to link cost estimate systems to CAD, CAM, CAT, DFMA, BOM, ERP, and other systems. This study also examines linkage to such systems. However, Noda (1998) argues that there are four types of cost tables, based on their purposes: (1) for rough designs, (2) for estimating costs, (3) for purchased parts, or (4) for comparison of existing products. For this reason, linkage with cost estimate systems and procurement/purchasing systems also needs to be included in the subjects of study.

Furthermore, Mizoguchi (2012) considered compatibility between the organizational properties of overseas subsidiaries and information systems. According to Mizoguchi (2012), “subsidiaries have a high degree of discretion in selection of information systems,”⁶ and there are tendencies for integrated global SCM systems such as ERP systems to be used in assembly businesses and for independent SCM systems to be used in materials businesses. In such cases, an SCM system can be considered to be information systems that integrates a backbone system with various systems for specific functions. This study will consider the building of information capital in localization of Target costing by using this argument from Mizoguchi (2012) as the analytical framework.

3.2 Definition of localization in this study

First, this study will separate localization of production, localization of development and design, and localization of Target costing. Often, the term “localization” is used to refer solely to localization of production. However, since the essence of Target costing is in cost reductions and building in profit in the development and design stage for new products, localization of development and design alone cannot be described as localization of Target costing. This study sees localization as illustrated in the left side of Figure 1 (Figure 1 (A)). Localization of production refers to “production conducted through constructing plans and making capital investments in local markets, hiring local workers, and procuring local materials and parts.”⁷ The four reasons for localization of production by Japanese firms are (i) in response to regulations requiring local production, (ii) in response to economic friction, (iii) to reduce foreign-exchange risk, and (iv) to reduce costs.⁸

Localization of development and design refers to conducting development and design activities locally to satisfy the required quality suited to local needs. Thus, this

paper considers localization of development and design to refer to localization conducted after the stage of preliminary design or detailed design.

Localization of Target costing practice refers to the localization of Target costing activities accompanying localization of development and design. Localization of development and design is not the same thing as localization of Target costing practice. This is because even if product development and design facilities have been shifted overseas (localized), that does not necessarily mean that Target costing itself has been shifted overseas.

Second, in considering localization this paper also will consider factors related to information capital. The effects of IT investment are obtained not from IT investment alone but in conjunction with investment in human capital and organization capital.⁹ Existing studies have looked at topics including the organizational capability known as IT capability.¹⁰ Such research on IT capability has been conducted within research on a resource-based view.¹¹ These studies have been incorporated into a logical framework by Kaplan and Norton (2004; 2006) and have developed to the stage of research on information capital as intangibles.¹²

In addition, although it is easy to confuse these because in many cases Target costing is conducted through cooperation between the home country and local facilities, this study will identify separately information capital in the home country, information capital in the country where a facility is located, and local (Malaysian) information capital (Figure 1 (B), on the right side). The study looked at types of information systems including backbone (ERP) systems, procurement/purchasing systems, production systems, design systems (e.g., CAD, CAM, PDM), and cost-table tools. Reflecting these considerations, this study proposes the following research question: “Is it not the case that where localization of Target costing has advanced, building of information capital (including IT-related human capital) also has advanced, to improve the precision and efficacy of cost estimates in cost tables?”

6 Mizoguchi(2012, p.1)

7 Kitahara(2011)

8 Ibid.(2011)

9 Brynjolfsson(1993)

10 Aral and Weill(2007)

11 Grant(1991), Ross et. al.(1996), Powell and Dent-Michallef (1997), Bharadwaj(2000), Aral and Weill(2007), Mithas, et. al.(2011)

12 Kozakai (2011; 2012a; 2012b; 2013; 2014a; 2014b; 2015)

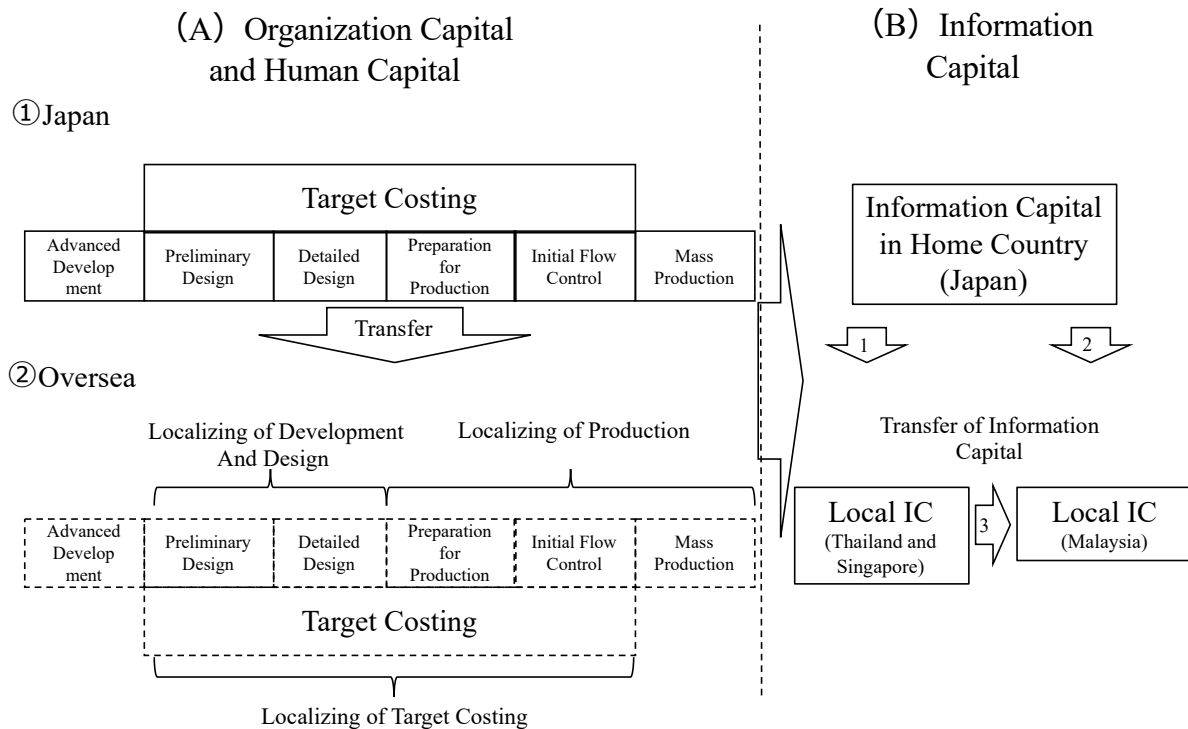


Figure 1: Definition of localization and relation to information capital factors

3.3 Local interviews

In addition to the literature review, this study also is based on local interviews conducted in two stages. The March 2016 interviews with two automotive assembler companies and one automotive supplier were conducted and asked about matters including cooperation with local suppliers, revisions to cost plans, QCD standards in the home country and local market, and the state of development of and methods of utilizing information systems. At this stage, the study involved the issue of the small sample size of firms interviewed, with research on suppliers being inadequate in particular.

The March 2017 interviews looked at differences in localization of Target costing by type of manufacturer, differences between the home country and local markets concerning standards on subjects such as quality, delivery time, and cost, and information management for cost tables and other subjects. As content related to cost tables and IT, in addition to topics such as standardization of costs tables and methods of sharing them, information management, and linkage of information systems, these interviews also were designed to enable consideration related to information capital. Also, the companies surveyed included two automotive suppliers, as well as one home-electronics assembler to enable study of subjects such as differences between the automotive and home-electronics industries.

4. Overview of companies operating in Malaysia

4.1 Current conditions of the Malaysian market

The Malaysian automotive market is one experiencing comparatively stable growth among ASEAN markets. The market is large in size relative to the nation's population, with 667,000 new vehicles sold in 2015¹³. Malaysia is the only ASEAN country with its own national automakers, and nearly one-half of new vehicles sold there are domestic. Passenger vehicles account for a very high percentage of the Malaysian automotive market. This is due to the fact that the national automakers Proton and Perodua both manufacture and sell only passenger vehicles. Japanese automakers account for a share of roughly 42% of the market, and Japanese firms also account for a high share of the automotive supplier (parts maker) market¹⁴.

13 JACTIM (2017, p.366)

14 Ibid.(2017, p.374)

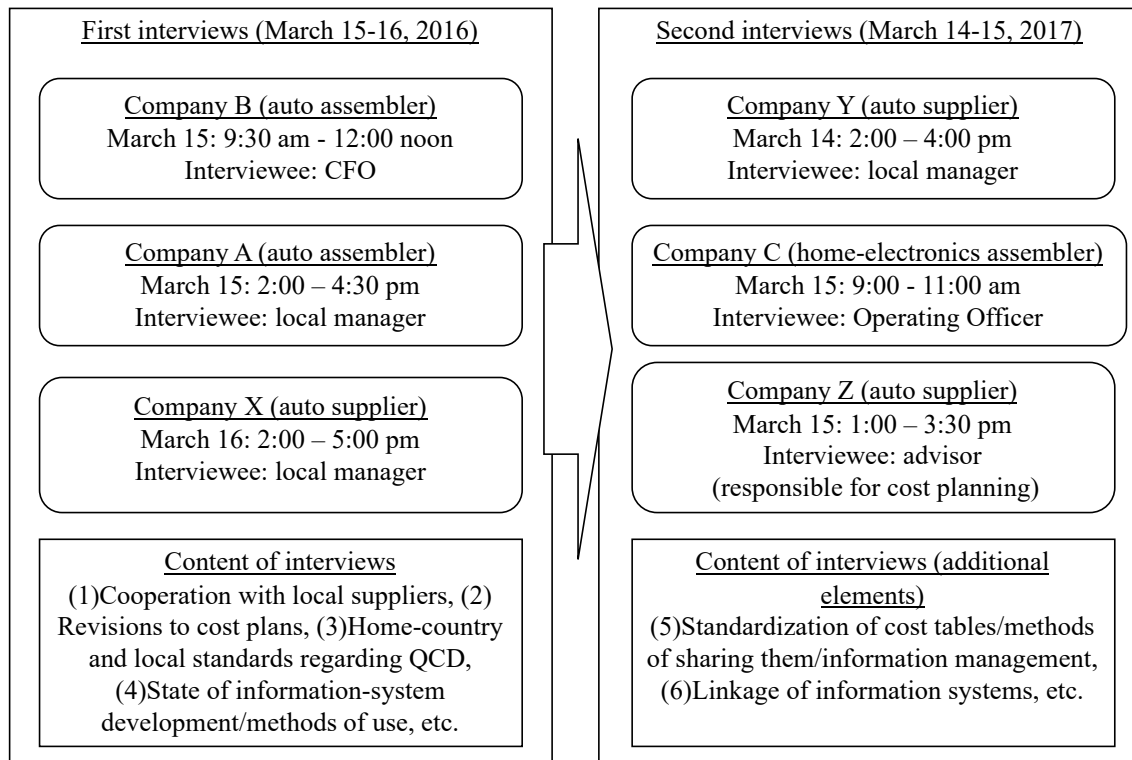


Figure 2. Overview of interviews

While the home-electronics industry had grown steadily until 2013, at present it is in the midst of a pronounced downward trend. Total demand for home appliances in 2015 was MYR2,573 million, down 10%, while total demand for audio-video home electronics was down 34% to MYR2,106 million¹⁵. While among home appliances conditions are rough for air-conditioners, washing machines, and refrigerators, but small kitchen appliances and air purifiers are popular, chiefly in urban areas. On the other hand, the spread of use of smartphones and tablets, accompanying progress in enhancements to the ICT infrastructure, has led to a contraction of the market for audio-video home electronics as a whole, and this combined with falling prices has led to difficult conditions for Japanese manufacturers.

4.2 Factors facilitating, and inhibiting, entry into the Malaysian market

(1) Facilitating factors

The most important factor facilitating Japanese manufacturers' entry to the Malaysian market is the conclusion of the Malaysia-Japan Economic Partnership Agreement (EPA). The EPA is being utilized to important products from Japan to Malaysia. It also stimulates foreign

investment in Malaysian manufacturing. From the start, foreign firms have been required to obtain manufacturing licenses, but this requirement is waived for companies with equity of no more than MYR2.5 million and less than 75 full-time employees. In 2003, ownership of capital in most manufacturing projects was liberalized, and in motor-vehicle manufacturing the capital requirements have not been applied, with some exceptions, since 2010¹⁶.

The second most important factor facilitating Japanese manufacturers' entry to the Malaysian market consists of the good state of the nation's road infrastructure, backed by the growth of the automotive industry, and its low fuel prices. In fact, the condition of the nation's roads is good and its expressway network is increasing. Malaysia also is concentrating on improving central arteries in rural regions¹⁷. Also, fuel prices are relatively low thanks in part to government subsidies.

At the same time, compared to other ASEAN markets Malaysia's ICT infrastructure is relatively highly advanced, and cloud computing systems are utilized widely. Market penetration of mobile phones has reached 148.8%, with smartphone penetration of more than 50%, and social networking services (including audio communication and

15 Ibid.(2017, p.366)

16 Ibid.(2017, p.148)

17 Ibid.(2017, p.90)

messaging services) are utilized widely in business¹⁸. The Malaysian government also is promoting a wide range of e-government initiatives¹⁹.

The third factor facilitating Japanese manufacturers' entry to the Malaysian market is the trend toward environmental-protection and energy-conservation efforts in the home-electronics industry. At present, the Malaysian government is moving toward passage of a law on recycling of home electronics. Energy-conservation efforts in particular are a strong point of Japanese manufacturers, and they can be expected to have advantages in these areas in the future.

(2) Factors inhibiting market entry

On the other hand, there also are some factors that inhibit entry by Japanese manufacturers to the Malaysian market. These are two protectionist measures implemented by Malaysia and the nation's position within ASEAN.

One of the protectionist measures is excise taxes. These taxes apply to specific products such as automobiles, beer, and tobacco products. Furthermore, in the automotive industry Malaysia has a National Automotive Policy (NAP) that serves to protect the domestic auto industry, centered on the national automakers. High excise taxes (65–125%) as well as a system of promoting the domestic industry through waiver of excise tax on the value of locally sourced parts and the Approved Permit (AP) system of permits for importing vehicles still remain in effect today. Since the AP system is intended to control total imports by adjusting the number of APs issued, there is a quota on the number of completed vehicles that can be imported from Japan. The system of franchise APs that permit importing of new vehicles will not be liberalized before the end of 2020.

Due to the high excise taxes, the number of completed vehicles imported is not growing. For this reason, domestic vehicles with high local content have an advantage, while those from foreign automakers are at a disadvantage. Due in part to these circumstances, some auto assemblers employ a complete knockdown method (in which all processes other than manufacture of parts are localized).

The second inhibiting market entry is Malaysia's position within ASEAN. The Malaysian economy is characterized by rising labor costs and chronic staffing shortages, as well as a shortage of managing engineers. At present, employers depend on foreign workers to make up

for the labor shortage. Also, competition is fierce in the home-electronics industry, and retail prices show a pronounced downward trend. In light of these conditions, some companies are choosing to enter other ASEAN markets instead of Malaysia, or to shift their manufacturing emphasis to such markets.

The trend toward entry of Japanese manufacturers to the Malaysian market continues today, and no mood toward withdrawal from the market has been identified. However, the local interviews described a tendency toward intensification of competition with the entry of Chinese and South Korean manufacturers.

4.3 Types of localization in Malaysia

This paper divides localization into localization of production, localization of development and design, and localization of Target costing. Localization of production refers to building plants in local markets, hiring local workers, and producing products there. Localization of development and design refers to conducting development and design activities locally to produce products that satisfy the required quality suited to local needs. Localization of Target costing practice refers to conducting Target costing activities locally to accompany localization of development and design.

Based on the research of Tasaka (2013, 2016), this paper groups international transfer by Japanese manufacturers to Malaysia into three types (Figure 3). While Tasaka (2013, 2016) proposed five types, at present three types have been identified: transfer of production (type 2), transfer of design (type 3), and transfer of Target costing (type 4). However, in reality companies such as auto assemblers will employ different types for different products, such as vehicle models. Also, this paper divides the development and production processes into the six stages of advanced development, preliminary design, detailed design, preliminary mass production, initial flow control, and mass production.

(1) Transfer of production

Under the transfer type of transfer of production, processes from preliminary design (the stages from system analysis through preparation of basic specifications for hardware and software) to detailed design (mass-production design, application design, detailed arrangements for subsystems and key equipment) are conducted in Japan (product planning is included in preliminary design), and overseas production is conducted on a knockdown basis at the parts level.

¹⁸ Ibid.(2017, pp.115-116)

¹⁹ Ibid.(2017, pp.117)

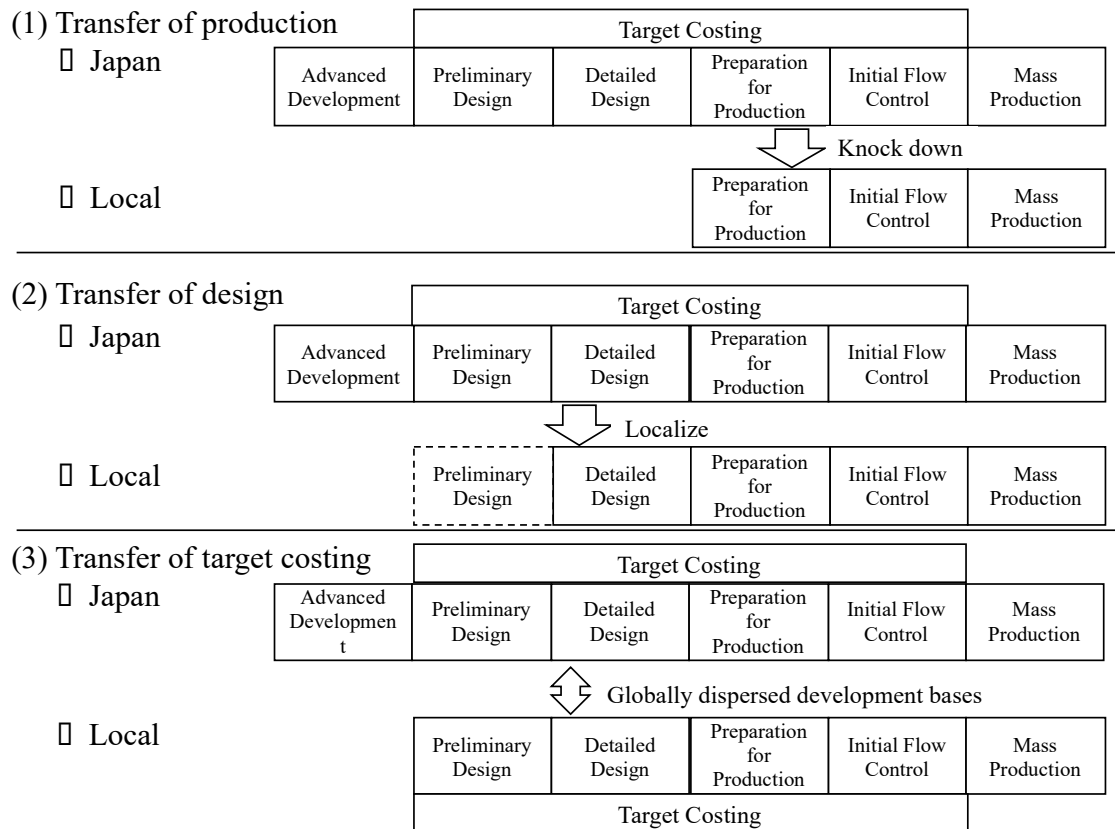


Figure 3. Types of localization in Malaysia

(2) Transfer of design

Under the transfer type of transfer of design, preliminary design for overseas production is conducted in Japan while detailed design and later stages are conducted locally (at the overseas subsidiary or local suppliers). Alternatively, preliminary design for overseas production and later stages may be conducted locally. In some cases, products may be exported to Japan. However, no double standards apply to quality, cost, and delivery (QCD) standards between the home country and the local market.

(3) Transfer of Target costing

Under the transfer type of transfer of Target costing, the stages from preliminary design through mass production are conducted locally, and processes are localized through the Target costing stage. In some cases, under this type, QCD standards that differ from those in the home country may be tolerated to fit local market conditions.

5.1 Localization of production, design, and Target costing

Table 1 summarizes the content of localization by the six firms surveyed. It shows that auto assembler Company A and supplier Company Y, a member of the group of companies of a major auto assembler, employed the transfer type of transfer of production, while Company Z, a supplier that is a member of Company A's group of companies, employed transfer of design and auto assembler Company B, home-electronics assembler Company C, and auto-parts supplier Company X employed transfer of Target costing.

While five of these six companies have market shares that are somewhat high, auto assembler Company B has not captured a very high share of the market. This indicates that localization of Target costing is not directly related to market share.

5. Findings of research on Target costing in Malaysia

Table 1. Conditions of localization at manufacturers that have entered the Malaysian market

	Assemblers			Suppliers (Parts makers)		
Company surveyed	Company A	Company B	Company C	Company X	Company Y	Company Z
Industry	Auto	Auto	Home electronics	Auto	Auto	Auto
Market share	High	Low	High	High	High	High
QCD standards	Transfer of home-country standards	Local adaptation	Local adaptation	Local adaptation	Transfer of home-country standards	Transfer of home-country standards
Localization of design/development (initial phase)	N/A	Local design (Preliminary design)	Local design (Preliminary design)	Developed at regional base (Planning)	N/A	Local design (Detailed design)
Localization of Target costing	N/A	Localized	Localized	Localized	N/A	N/A
Type of localization	Transfer of production	Transfer of Target costing	Transfer of Target costing	Transfer of Target costing	Transfer of production	Transfer of development

A look at QCD standards shows that assembler Company A and group-member suppliers Company Y and Company Z had transferred standards from their home country. Company A and Company Y, which engage in localization of production in pursuit of lower costs, employ quality standards in particular that are as strict as those in the home country. Company Z, a supplier that is a member of Company A's group of companies, employs the transfer type of transfer of design, conducting detailed design locally, but as with Company A it prioritizes quality above all, transferring quality standards from the home country.

On the other hand, assemblers Company B and Company C and supplier Company X all employed the transfer type of transfer of Target costing, while at the same time employing QCD standards adapted to the local market. Company X is a supplier that serves as an OEM maker, and it conducts Target costing in the country where its regional base is located and not in Malaysia.

5.2 Building information capital locally

Table 2 shows the results of research concerning management of cost data at the six firms surveyed. It mainly shows information concerning transfer of IT-related human capital and information capital.

A look at the final products and parts provided by companies that have entered the Malaysian market shows that, for the most part, there are considerable differences in

specifications between the home country and Malaysia. At the assemblers Company A and Company B, there are differences in each part assembled, and Company C employs numerous local specifications. At suppliers Company X and Company Y, there are many differences from use in the home country, and at Company Z there are differences in each product (constituent part).

Research on the differences between the home country and the local market with regard to information systems shows that only Company C answered that it had standardized these globally. Company Y, an assembly manufacturer that is a member of an automaker's group, does not engage in local procurement. Generally, there is a strong tendency toward standardization of backbone systems. While production systems, inventory systems, procurement/purchasing systems, and other systems vary among companies in terms of their details, there was a strong tendency to procure them locally and independently.

Each of the companies' local information-systems section had from one to a few staff members, and these do not appear to be considered to be sections that would locally manage IT proactively. For this reason, the degree of readiness for building IT-related human capital is low. The degree of utilization of the latest IT, such as IoT, also is quite low.

Four of the six companies answered questions concerning cost management items, management of cost

Table 2. Management of cost data among companies operating in the Malaysian market

Company surveyed	Assemblers			Suppliers(Parts makers)		
	Company A (Transfer of production)	Company B (Transfer of Target costing)	Company C (Transfer of Target costing)	Company X (Transfer of Target costing)	Company Y (Transfer of production)	Company Z (Transfer of design)
				Materials OEM	Group assembly maker	Group assembly maker
Differences with home country in product specifications	Varies by part	Varies by part	Numerous	Numerous	Numerous	Varies by product
Differences between home-country and local systems	Some (e.g., procurement) shared, high percentage procured independently	Backbone system procured locally	Shared globally (procured independently in other countries)	Some (e.g., production management an inventory management) shared	No local procurement	Backbone system shared, others reused or procured independently
Information systems section	IT section at regional base	Local IT section(small)	Three staff members for backbone system	Mainly managed by head office, with local activities outsourced	One local staff member (concurrent post)	Local IT section(small)
Cost management items	-	-	Local format (Comparison difficult)	Shared	Local format	Shared
Cost-data management	-	-	Spreadsheet basis	Shared Target costing system	Spreadsheet basis	Spreadsheet basis
Linkage to other systems	-	-	Linked with CAD/CAM in home country	-	CAD partially linked	No linkage

data, and linkage with other systems. These questions were added during the second field study in March 2016. The answers from Company X were received through additional questioning by email after the interview.

Company C and Company Y manage cost management items using their own formats, while Company X and Company Z do so using the same items as in the home country. Even though home-electronics assembler Company C manages cost-table information using its own format, since many of its products are made to local specifications, for some models it compared costs among different countries. However, it appeared that it

found it difficult to carry out proper comparisons since costs turned out not to be comparable and processing costs varied due to considerable differences in labor costs, so that information from comparison was not useful for reference purposes.

Company Y too has set up cost management items using local formats. On the other hand, Company Z uses the same cost items as in the home country, and these are shared through its information systems. Since Company X employs the transfer type of transfer of design, without conducting Target costing locally, it shares design information and cost information with the Target costing

team in the home country.

In considering linkage with other systems, an ideal information system for Target costing would include links to not only backbone systems centered on accounting information but also design, procurement/purchasing, and production systems, as well as business intelligence (BI) tools for analysis of data collected.

However, the results of the interviews showed that originally three of the six firms employed transfer of Target costing, and one-half of the companies had cost tables for use in Target costing. Also, the results of the interviews and additional questioning by email showed that almost no progress had been made on linkage of cost management systems and tools, including those for purposes other than Target costing, with other systems.

On the subject of obtaining cost data locally for backbone (ERP) systems, while both Company C and Company Z had the ability to link cost data in their backbone systems with cost management, each of them used spreadsheet software for flexible analysis in management of cost data. Since they use spreadsheet software, linkage with CAD/CAM and other systems was weak at all three companies of Company C, Company Y, and Company Z (Company X did not answer questions on this subject). Company C is in the process of standardizing its CAD/CAM systems globally, and it is subject to centralized management in the home country.

Of note here is Company X, a materials OEM maker. Company X processes materials and both delivers them to assemblers as parts and sells them to other customers in general. Only Company X has a common global Target costing system, which helps it prepare cost estimates and reduce costs in the design stage. For this reason, Company X is one company that demonstrates best practices for building information capital related to localization of Target costing among companies that have entered the Malaysian market.

6. Implications

6.1 Consideration of the context of localization of Target costing

First, this section will make clear the implications from the context of localization of Target costing, based on the results of the field study. Among assemblers, Company B and Company C employed the transfer type of transfer of Target costing. Accordingly, an attempt was made to identify a relationship between transfer of Target costing

and market share, but no clear relationship was identified. While Company B, which transferred Target costing to the local market in order to incorporate local needs, was unable to secure a very high share of the market, Company C, which similarly transferred Target costing to the local market to incorporate local needs, had a higher market share as a result. The high market share of home-electronics manufacturer Company C would appear to be due to its high degree of differentiation in terms of its organizational capabilities related to product design. This suggests that differences in market share among auto assemblers could be due to differentiation in areas such as organizational capabilities related to product design and Target costing, brands, and sales capabilities.

Each of the three suppliers uses a different type of localization. What should be noted here is the difference between the group-member suppliers and the OEM supplier. Company Y and Company Z, both of which are members of assembler groups, would appear to be influenced strongly by the assemblers, for example by transferring home-country QCD standards, as the assemblers did. On the other hand, OEM maker Company X trades with multiple assemblers. The findings can be interpreted to indicate that, for this reason, it independently transfers Target costing and adapts QCD standards to the local market as appropriate.

Suppliers that are members of assemblers' groups of companies are advancing into overseas markets along with the assemblers. For this reason, they are strongly influenced by assemblers and they tend to use strict QCD standards transferred from the home country. This can be considered an effect of the fact that the assemblers that are their main trading partners originally prioritized quality above all and the fact that these assemblers entered the Malaysian market together with group-member suppliers. As a result, it could be that these have a tendency to transfer no more than production or design since when transferring home-country standards they did not also transfer Target costing, because doing so would have a low level of benefits compared to costs.

On the other hand, OEM makers are not strongly focused on independence because they maintain transaction relations with multiple assemblers and also need to respond to needs for localization. For this reason, they could be more likely to transfer processes through the stage of Target costing because of the need for proactive localization. It also is conceivable that they could decide whether to conduct Target costing at regional bases alone or to conduct in it other countries such as Malaysia too

depending on whether or not it would result in benefits that would exceed the costs.

6.2 Consideration of the context of information capital in connection with cost information

Second, to make clear the implications from the context of information capital based on the results of the field study, this paper will consider aspects of information management related to localization. Two implications can be identified here: those regarding (1) linkage of cost information with other systems and (2) transfer of Target costing systems.

(1) Linkage of cost information with other systems

The authors' research question was "Is it not the case that where localization of Target costing has advanced, building of information capital (including information systems and IT-related human capital) also has advanced, to improve the precision and efficacy of cost estimates in cost tables?" However, the authors were unable to confirm the presence of a company where linkage of systems had advanced to a high degree and was used in cost estimating. Overall, under current conditions building of information capital is delayed.

First, The key to understanding this delay in building of information capital is the independent natures of information systems and data due to the large number of independent local product specifications. It is clear that regardless of the type of transfer—transfer of production, transfer of development, or transfer of Target costing—local specifications for products and parts are relatively numerous. For this reason, it is not useful to refer to cost-table information from the home country, and independent local cost-management items are set up and used for management. Also, there would seem to be a tendency to use spreadsheet software as an IT tool for management of cost information in particular due to the ease and flexibility it enables in data management and data analysis.

Second, as pointed out by Mizoguchi (2012), the degree of local discretion in information systems tended to be high among companies that had entered the Malaysian market. This could even be one factor leading to increased costs of integration with other systems. If cost management items were established independently, then costs would increase further. For this reason, it is more likely that cost-benefit analysis in evaluation of IT investment would lead to the conclusion that the benefits would not be high,

and this could lead to the delay in linkage with other than backbone systems.

(2) Transfer of Target costing systems

Next, this paper will consider the degree of readiness for building information capital in connection with transfer of Target costing systems (information systems for Target costing purposes). Through research conducted by now, the only confirmed case of transfer of a Target costing system from the home country and sharing it globally was that of Company X.

Ota (2014) argues that progress on localization proceeds at a faster pace among suppliers, although this observation is not limited to Target costing alone. On the other hand, Mizoguchi (2012) identifies a tendency toward use of independent systems by overseas subsidiaries in materials businesses. Company X, which already has transferred its Target costing system to Malaysia, is an OEM maker in a materials business. For this reason, this study was able to confirm that, as pointed out by Mizoguchi (2012), even at local subsidiaries in Malaysia the degree of discretion on information systems was high, and a materials OEM supplier had transferred its own independent Target costing system. Its findings also would seem to indicate that, as pointed out by Ota (2014), suppliers were quicker to carry out localization than assemblers. While the issue remains of the limited nature of the conclusion that can be reached at this time, since the number of companies surveyed remains small, these can be considered important findings.

7. Conclusions

The purpose of this study was to elucidate the context of information capital related to cost information by connecting it to the context of localization of Target costing, based on field study looking at Japanese companies that have entered the Malaysian market. The results made clear the differences in readiness for building information capital with regard to Target costing among assemblers and suppliers. This paper makes the following two contributions.

First, it confirms that, as pointed out by Mizoguchi (2012), even at local subsidiaries in Malaysia the degree of discretion on information systems was high, and a materials OEM supplier had transferred its own independent Target costing system. At the same time, it also confirmed that, as pointed out by Ota (2014), suppliers

were quicker to carry out localization.

Second, it confirmed that accumulation of IT-related human capital was weak, and in many cases spreadsheet software was used. It could be said that overall, even if Target costing has been localized, building of information capital tends to be delayed.

However, it can be pointed out that since the number of firms operating in Malaysia surveyed remains small, this study can do no more than propose hypotheses. Probably there is a need to increase the number of surveys in the future. Furthermore, there also is a need to proceed with surveys in countries where regional bases are located and regarding interaction with the home country, instead of surveying companies operating in Malaysia alone.

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ICBM2019, which was held at International Conference of Business Management in Tokyo, October 2019, was closed over the course of raging session.

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