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Amid growing global competition, many Japanese companies have lost their competitiveness and are no longer able to maintain their profitability or build on their growth potential. These companies now face the need for major change. While IT can speed up the implementation of business change, it can also act as an obstacle to change. Corporate executives and chief information officers (CIOs) must look ahead to determine the change that will become necessary, and prepare information systems that will support the implementation of the desired change. Companies must have a future vision for business change and change to information systems that will become necessary.

This paper examines the area(s) of business strategy that companies are reviewing, the change that they are implementing and the area(s) of change management. This paper also clarifies how IT has been contributing to the achievement of the desired change. Based on these analytical findings, this paper proposes the use of IT that contributes to corporate change, which is the "IT strategy." For about 10 years, Nomura Research Institute (NRI) has annually conducted the "Survey on the Actual Status of the Use of IT by User Companies." The most recent survey, conducted in December 2011, looked at business change and how IT is being used for such change.

Faced with the need for reviewing business strategy, a company must determine the area in which change will be implemented and must undertake change management in the area(s) that is necessary to achieve the desired change in accordance with the determined scenario based on the stage of the business life cycle at which the company finds itself. In order to implement change and its management more effectively, IT must be used to a greater extent. For companies that plan to embark on change, the scenario assumed in this paper based on the actual status of companies that have been moving ahead of others in terms of implementing change will serve as a guideline.

I Need for Prospects for Both Business Change and the Use of IT

As competition in the global market becomes increasingly intense, many Japanese companies are finding that they are losing their competitiveness and are no longer able to maintain their profitability or build on their growth potential. These companies are now facing the need for major business change. While information technology (IT) can accelerate the pace of the implementation of business change, it can also act as an obstacle to achieving such change. Because merely maintaining vast amounts of information system assets is a major burden for a company, rebuilding or replacing these systems is not an easy task. Any changes to an information system will require a huge amount of labor and cost and, more than anything else, will be time consuming. In other words, it is difficult to upgrade IT tools in a timely manner so as to keep abreast of business change.

Therefore, corporate executives and CIOs (chief information officers and managers of information system departments) must look ahead and foresee possible change in business activities, and must prepare an information system that is capable of serving as the platform for such change. According to the situation in which a company finds itself, the company must have prospects for business change as well as for the capabilities required of information systems to support such change.

This paper examines the area(s) of business strategy that companies are reviewing and the change that they are implementing, and clarifies how IT has been contributing to the achievement of the desired change. Based on these analytical results, this paper proposes the uses of IT that contribute to corporate change, which is the "IT strategy."

For about ten years, NRI has annually conducted the "Survey on the Actual Status of the Use of IT by User Companies." For the survey conducted in December 2011, responses were received from 526 companies. The survey addressed the following points:

(1) Any change in a company's business strategy
(2) Change implementation
(3) Change management
(4) Use of IT to achieve the desired change

While the survey included some questions that were difficult to answer, each responding company took the time to answer carefully, for which we would like to express our sincere gratitude. Based on the valuable data that we were thus able to gather, this paper proposes the "IT strategy" that could serve as guidelines for those companies that are embarking on their programs of change.

II Hypotheses Adopted Regarding Corporate Change and the Use of IT

1 Overall structure of the hypotheses

This paper adopts the following hypotheses:

- Faced with drastic changes in the business environment, companies are making changes in a variety of business strategy areas.
- In pursuit of these goals, companies are implementing change at many different levels.
- To successfully achieve such change, management is important in several areas.
- IT can have a profound impact on any change to business strategy as well as on the implementation of change and the management to achieve the desired change.

2 Key areas for changes in business strategy

When formulating business strategy, a company generally determines options for the strategy based on the analysis of "external situational factors" and the analysis of "internal aspects."[1] The external analysis involves changes related to customers and competitors, while the internal analysis is an evaluation of the company's own strengths and weaknesses.

One way of formulating business strategy is to look at the market structure and the industrial structure, that is, customers and competitors that constitute external factors. For example, five competitive forces should be identified, i.e., (1) threat of new entrants, (2) bargaining power of suppliers, (3) bargaining power of buyers, (4) threat of substitute products or services and (5) intensity of rivalry among existing firms. To cope with the five competitive forces, one of the following three generic competitive strategies should be chosen: (1) overall cost leadership, (2) differentiation or (3) focus.[2]

At the same time, there is also a method for determining effective business strategy based on the assets that form a company's strengths, which are one of the internal aspects. The resources of a company include physical capital resources, human capital resources and organizational capital resources. With corporate culture serving as a mediator, these resources are integrated into a single resource bundle. Based on the unique resource bundle, business strategy that leverages the strengths of a company can be formulated.[3]

As a policy for implementing the business strategy thus formulated, a company makes a set of four decisions, which is known as the marketing mix.[4] From the perspective of suppliers, the marketing mix is defined as the 4Ps—product, price, place and promotion.[5] From the perspective of customers, the mix is defined as the 4Cs—customer solution, customer cost, convenience and communication.[6]

In this paper, four key areas are assumed as those where change is taking place in business strategy. They are the 3Cs and the marketing mix, as follows.

(1) Markets and customers (customers)
(2) Industry and competition (competitors)
(3) Company strengths (company)
(4) Marketing mix

(1) Markets and customers

Because the target markets and target customers have changed, there is a need to redefine both the values that a company should provide and the target customers.

(2) Industry and competition

In view of changes in competitive conditions in the industry, increased threats from new entrants and substitute products or services, and increased pressure from the upstream or downstream of a supply chain, it is necessary to review a company's position in the industry and its competition strategy.

(3) Company strengths

Because a company's traditional strengths have lost rareness and inimitability and its organization is no longer able to maintain such strengths, new strengths must be created.

(4) Marketing mix

Because the ways by which values are provided and delivered to customers have changed, a company must review its marketing mix such as the company's products or services, their prices, the underlying cost structure, the supply channels and the methods of communicating with customers.

3 Targets and levels of change to be implemented

To successfully implement its business strategy, a company undertakes a variety of changes. Business activities are expressed as a chain of activities, such as procurement, manufacturing, logistics, retail and after-sales service, which are conducted by a company to generate value for its customers. This chain is known as the "value chain."[7] Business changes include those of products or services, which are the output of the value chain, those of processes, which constitute the value chain, and those of a business model, which represents the structure of the value chain.

Among these changes, product or service change can take several forms: (1) the penetration of existing products or services into existing markets, (2) brining existing products or service to new markets, (3) launching new products or services in existing markets and (4) developing new products or services for new markets.[8] These forms represent change at different levels: Item (1) is at the improvement level; Item (2) is at the reform level; and Items (3) and (4), which involve new products or services, are at the creation level.

Process change also involves the improvement, reform and creation levels. Activities such as quality management that are designed to continuously improve customer satisfaction by constantly improving all organizational processes are at the improvement level.[9] Reengineering, in which thought is given to how work should be done and what organizational structure should be adopted if business activities were to restart from scratch, is at the reform level.[10] The creation of new processes, which is at the creation level, is part of a major rearrangement of the value chain.

In this way, business change undertaken by enterprises takes three forms, depending on the target of the change. The forms are "product or service change," "process change" and "business model change." Furthermore, there are also three levels, depending on the extent of the required change. They are "improvement level," "reform level" and "creation level." In this paper, corporate change is classified into these "3×3" categories.

4 Change management

Regardless of whether a decision is made on controlling the implementation of a strategy that has already been formulated or on formulating and reviewing a strategy in the course of day-to-day business activities, it is essential to effectively manage change in order to implement a strategy successfully. For a business to be successful, the 7-S framework is necessary, which consists of strategy, structure, systems, skills, staff, style and shared values.[11] Shared values are placed in the center of the framework. The 7-S framework is also important for achieving the desired change. In this paper, these seven elements are classified into four areas of management—three areas within an organization plus one area that involves resources outside the organization.

(1) Shared values and management style are classified as "value governance (control of business value creation processes)."
(2) Staff and skills are classified as "change capabilities (management of human resources needed to promote change)."
(3) Structure and systems are classified as "change mechanisms (design and development of mechanisms to implement change)."

In addition to the above three areas of management within an organization, the following fourth area is included.

(4) The creation of collective strategy together with network members outside the organization[12] is classified as "procurement of change resources."

(1) Value governance

The value governance for change is defined as "clarifying the decision rights and accountability framework[13] to encourage change (by the use of IT) through aligning the goals of a strategy with the implementation of change." The specific framework is laid out in "Val IT" of ISACA (previously known as the Information Systems Audit and Control Association in the U.S.; now only its acronym is used).[14]

Value governance is designed to establish control over a series of business value creation processes, such as formulating change plans that are consistent with a business strategy, managing overall change projects as portfolios, ensuring the implementation of individual change projects and promoting continued improvements after the completion of any change project.

(2) Change capabilities

Management in the area of change capabilities involves creating a collective learning process with the aim of developing and using inimitable core competencies (strengths).[15]

To this end, the management of human resources is necessary, such as enabling all employees engaging in a change project to share the vision of the desired change, ensuring that individual employees set their goals towards implementation of the change and that they commit to achieving such goals, and equipping employees with the abilities necessary to execute business and to continue improving such abilities.

(3) Change mechanisms

Change mechanisms refer to the overall structure consisting of business models, business processes, business/organizational functions, data and information systems, which constitute a foundation for achieving change. These mechanisms are known as "enterprise architecture." A company must adopt a phased approach to achieve a more mature architecture.[16] A framework for designing an enterprise architecture was proposed by Zachman.[17]

The creation of change mechanisms means establishing the mechanisms needed for change by enabling employees to share the knowledge, wisdom and information that constitute the sources of change; designing new business models, business processes and business functions based on such sources; and actually applying such newly designed elements to an organization as well as to its information systems.

(4) Procurement of change resources

As a means of procuring resources from outside the organization, the use of strategic alliances[18] and strategic sourcing[19] is important. In pursuing such external cooperation, a company needs to collaborate with competitors as partners. By so doing, a company must establish relationships that benefit the company itself.[20] For this purpose, a company should develop a strategy for procuring resources that become necessary to operate the businesses that are created as a result of change. Based on this strategy, the company should select the best external resources and develop mutually beneficial relationships with external partners. In this way, the company will be able to offer the best products or services by combining optimal internal and external resources.

5 Influence of IT on change

IT acts as an enabler[21] for accelerating the speed at which change occurs. At the same time, IT also causes a company to take on change. For example, direct sales over the Internet are now commonplace, giving rise to long-tail markets[22] that consist of a huge number of niche products and services. The products and services that have thus become popular by means of IT have created a new competition theory in which the value of products and services is determined by the user base. This theory is known as the network economy.[23] In the fields of those products and services that are created on the basis of rapidly advancing IT, the leading companies are always faced with the threat of revolutionary products that could take the place of theirs.[24] In retail businesses, a "clicks and mortar[25]" business model has been widely adopted, which generates synergies between traditional retail outlets and online direct sales channels. As such, companies must review their strategies on the marketing mix by using IT to a greater extent.

The following paragraphs describe how IT is related to the following three areas: changes in business strategy, change implementation and change management.

(1) Influence of IT on changes in business strategy

The following effects can be brought about by the use of IT.

① Changes in markets and customers include:

- Information will be transmitted instantly over the Internet, such that news of products becomes known simultaneously around the world.
- Waves of new trends will come about as a result of customers making their voices known on the Internet.

② Changes in industry and competition include:

- Companies that are better at utilizing information will come to dominate the industry.
- Downstream businesses that make good use of customer information will exert influence on upstream businesses.
- Direct selling companies will acquire a greater market share.

③ Changes in a company's strengths include:
- Progress in the digitization of products will generalize currently unique manufacturing technologies.
- With the spread of systems, the information gap between service providers and users will be eroded.

④ Changes in the marketing mix include:
- By adding systematized mechanisms, new added value of products will be enhanced.
- Combining traditional retail outlets with online direct selling channels will generate synergies.

(2) Use of IT to implement change

① Using IT for product or service change

② Using IT for process change
- Using IT for product/service planning and development processes
- Using IT for product/service production and supply processes
- Using IT for after-sales service processes

③ Using IT for business model change

(3) Use of IT for change management

① Using IT to establish a means of value governance
- Using IT for formulating plans and monitoring

② Using IT for the management of personnel who are engaged in change projects
- Using IT to facilitate communication and information sharing among employees

③ Using IT to design and develop the mechanisms needed to achieve the desired change
- Using IT to design and build mechanisms

④ Using IT for the procurement of resources necessary to achieve the desired change
- Using IT to enable internal and external cooperation

III Details of Most Recent Survey Content and Analytical Results

In December 2011, questionnaires were mailed to the chief information officers (CIOs) of the 3,000 companies with highest sales in Japan, and responses were received from 526 (a response rate of 17.5 percent). Because responses came from a full range of industries, the answers can safely be assumed representative of Japan's leading companies. The following analyses were undertaken based on response data.

1 Understanding the overall situation

- Are changes in business strategies actually occurring in the four key areas assumed in Section 2, Chapter II?
- Of the "3×3" categories specified in Section 3, Chapter II, which ones have companies actually implemented?
- Have companies actually implemented change management in the four areas specified in Section 4, Chapter II?

2 Correlation between changes in business strategy, change implementation and change management

- Have a greater number of companies that have changed their business strategy actually implemented change in some areas than those that have not changed their strategy?
- Have a greater number of companies that have changed their business strategy actually undertaken change management in some areas than those that have not changed their strategy?
- Have a greater number of companies that have undertaken change management actually implemented changes in some areas than those that have not undertaken such management?

3 Effects resulting from changes in business strategy, change implementation and change management

- Have those companies that have reviewed their business strategy been able to create the desired effects from change?
- Have those companies that have implemented change been able to create the desired effects from such change?
- Have those companies that have undertaken change management been able to create the desired effects from change?

4 Influence of IT on change

- Does IT have an effect on changes in business strategy?
- Is IT being used to implement change?
- Is IT being used for change management?

IV Analytical Results

1 While many companies recognize the need for change, they are actually unable to implement change

While many companies recognize the need for reviewing their business strategy, they are actually unable to undertake such review and remain at the level of improving the current status.

- More than 70 percent of responding companies selected either "necessary" or "somewhat necessary" for them to review all four key areas of business strategy, which were specified in the hypothesis indicated in Chapter II. In particular, 45.6 percent selected "necessary" for "markets and customers." However, the percentage of responding companies that are actually reviewing their strategies was only 21.9 percent for the area of "markets and customers," for which the largest number of responding companies selected "necessary." For three other areas, the percentage was around 10 percent (Tables 1 and 2).
- With respect to change implementation, the percentage of responding companies implementing change at the "improvement level" for "products or services" was 21.3 percent. It was 18.1 percent for "processes" and 12.2 percent for "business models." However, the percentage of responding companies that are implementing change either at the "reform level" or "creation level" was around 5 percent (Table 3).
- More than 70 percent of responding companies selected either "necessary" or "somewhat necessary" for change management in all four areas. However, the percentage of responding companies that are "fully implementing" management was around 10 percent. Among them, the percentage of these companies that are implementing management in the area of "change capabilities" was slightly higher at 15.2 percent, and the percentage for the area of "procurement of change resources" was lower at 8.6 percent (Table 4).

2 Review of business strategy + change implementation + change management = achieving desired change effects

For all four strategy areas (markets and customers, industry and competition, company strengths and marketing mix), a high percentage of responding companies that reviewed their business strategies implemented change in all four areas and also implemented change management relative to those companies that have not reviewed their business strategies. Similarly, a significantly high percentage of responding companies that implemented change management achieved desired effects relative to those companies that have not implemented change management.

- Among responding companies that reviewed their business strategy, the percentage of companies that implemented change at the "improvement level" is higher by about 10 percentage points for "products or services" and "processes," and by about 5 to 10 percentage points for "business models" relative to all responses.
  At the "reform" level, the percentage is on the order of 10 percent for most strategy areas, which is more than double that of all responses. At the "creation level," the percentage is low, as is naturally expected, and is less than 10 percent for most strategy areas. However, the percentage is higher than that of all responses. In particular, the percentage of responding companies that reviewed "company strengths" and "marketing mix" is more than double that of all responses (Table 5).

Table 1. Need for review of business strategy

(N = 526, unit: %)

	Necessary	Somewhat necessary	Can't say either way	Not so necessary	Not necessary	Don't know
Markets and customers	45.6	37.1	9.5	4.8	0.8	1.0
Industry and competition	31.6	42.6	14.6	6.7	1.7	1.5
Company strengths	30.8	38.8	19.8	6.7	1.1	1.3
Marketing mix	31.2	41.3	19.2	4.6	1.1	1.1

Source: "Survey on the Actual Status of the Use of IT by User Companies" conducted by Nomura Research Institute in 2011.

Table 2. Extent to which business strategy is reviewed

(N = 526, unit: %)

	Reviewing	Reviewing to some extent	Can't say either way	Not much reviewing	Not reviewing	Don't know
Markets and customers	21.9	45.8	17.1	8.9	3.6	1.1
Industry and competition	14.6	40.5	25.5	10.8	4.9	1.7
Company strengths	13.9	38.6	27.9	12.4	4.0	1.3
Marketing mix	9.9	39.9	29.7	12.2	5.5	1.0

Source: "Survey on the Actual Status of the Use of IT by User Companies" conducted by Nomura Research Institute in 2011.

Table 3. Change implementation

(*N* = 526, unit: %)

"Implementing" change			
	Improvement level	Reform level	Creation level
Products or services	21.3	5.5	5.7
Processes	18.1	5.3	3.0
Business models	12.2	4.2	3.2

Implementation of change is "somewhat insufficient"			
	Improvement level	Reform level	Creation level
Products or services	45.6	29.3	29.3
Processes	45.6	28.9	24.1
Business models	44.5	26.6	23.6

Implementation of change is "insufficient"			
	Improvement level	Reform level	Creation level
Products or services	20.0	40.3	46.8
Processes	23.8	43.2	44.7
Business models	27.9	42.4	47.3

Source: "Survey on the Actual Status of the Use of IT by User Companies" conducted by Nomura Research Institute in 2011.

Table 4. Change management in four areas

(*N* = 526, unit: %)

Need	Necessary	Somewhat necessary	Can't say either way	Not so necessary	Not necessary	Don't know
Value governance	33.8	39.0	13.3	5.5	1.3	5.1
Change capabilities	53.0	34.6	6.5	1.7	—	2.3
Change mechanisms	39.2	45.8	8.4	1.9	0.6	2.5
Procurement of change resources	28.9	41.6	18.3	4.4	0.6	4.0

(*N* = 526, unit: %)

Extent to which management is implemented	Fully implementing	Sometimes implementing	Previously implemented but now ceased	Plan to implement	Never implemented	Don't know
Value governance	12.9	33.1	1.7	16.2	19.2	14.4
Change capabilities	15.2	38.6	1.0	19.4	13.9	9.7
Change mechanisms	13.3	39.2	1.3	21.3	13.3	9.3
Procurement of change resources	8.6	32.9	2.9	20.2	18.3	14.6

Source: "Survey on the Actual Status of the Use of IT by User Companies" conducted by Nomura Research Institute in 2011.

- While the percentage of responding companies that implemented change management stands at around 10 percent for all four management areas in all responses, responding companies that reviewed their business strategies constituted a relatively high percentage for all four areas at 20 to 30 percent. In particular, responding companies that reviewed their "marketing mix" constituted a notably high percentage for all four management areas (Table 6).
- A large proportion of responding companies that implemented change management have actually implemented change. Relative to all responses, the percentage of responding companies that implemented change management and have actually implemented change was higher by about 10 percentage points for the areas of "change capabilities" and "change mechanisms," by about 15 percentage points for the area of "value governance" and by 15

Table 5. Rates of companies implementing change among those that reviewed their business strategies

(Unit: %)

Percentage of companies implementing change		Reviewed business strategy area				All responses
		Markets and customers	Industry and competition	Company strengths	Marketing mix	
Products or services	Improvement level	32.2	33.8	31.5	26.9	21.3
	Reform level	10.4	9.1	17.8	15.4	5.5
	Creation level	6.1	7.8	11.0	11.5	5.7
Processes	Improvement level	31.3	32.5	34.2	28.8	18.1
	Reform level	11.3	10.4	16.4	15.4	5.3
	Creation level	3.5	5.2	6.8	5.8	3.0
Business models	Improvement level	17.4	18.2	19.2	23.1	12.2
	Reform level	7.8	10.4	9.6	13.5	4.2
	Creation level	6.1	6.1	8.2	9.6	3.2
		N = 115	*N* = 77	*N* = 73	*N* = 52	*N* = 526

Note: Dark shaded portions: Most notable figures, light shaded portions: notable figures.
Source: "Survey on the Actual Status of the Use of IT by User Companies" conducted by Nomura Research Institute in 2011.

Table 6. Rates of companies implementing change management among those that reviewed their business strategies

(Unit: %)

Area for which management is implemented	Reviewed business strategy area				All responses
	Markets and customers	Industry and competition	Company strengths	Marketing mix	
Value governance	26.1	23.4	31.5	30.8	12.9
Change capabilities	31.3	29.9	28.8	36.5	15.2
Change mechanisms	22.6	26.0	26.0	34.6	13.3
Procurement of change resources	20.9	19.5	21.9	26.9	8.6
	N = 115	*N* = 77	*N* = 73	*N* = 52	*N* = 526

Source: "Survey on the Actual Status of the Use of IT by User Companies" conducted by Nomura Research Institute in 2011.

Table 7. Rates of companies that implemented change among those that implemented change management

(Unit: %)

Percentage of companies that implemented change		Area of implemented change management				All responses
		Value governance	Change capabilities	Change mechanisms	Procurement of change resources	
Products or services	Improvement level	41.2	38.8	30.0	51.1	21.3
	Reform level	20.6	16.3	15.7	26.7	5.5
	Creation level	19.1	16.3	15.7	24.4	5.7
Processes	Improvement level	42.6	38.8	37.1	57.8	18.1
	Reform level	22.1	18.8	17.1	26.7	5.3
	Creation level	10.3	10.0	11.4	17.8	3.0
Business models	Improvement level	30.9	26.3	27.1	35.6	12.2
	Reform level	13.2	11.3	14.3	20.0	4.2
	Creation level	13.2	11.3	10.0	13.3	3.2
		N = 68	*N* = 80	*N* = 70	*N* = 45	*N* = 526

Source: "Survey on the Actual Status of the Use of IT by User Companies" conducted by Nomura Research Institute in 2011.

to 20 percentage points for the area of "procurement of change resources" (Table 7).

Consequently, responding companies that reviewed their business strategies, implemented change and implemented change management have benefited from substantial financial effects.

- In the survey, for the financial effects brought about by change such as cost reduction and/or increased revenue, the responses were given on a scale of 1 to 5 points, with 5 points meaning "very effective" and 1 point meaning "not effective," based on which the average was taken. The average of all responses was 3.18. Relative to this value, the average of responding companies that reviewed their business strategies in any of the four areas (markets and customers, industry and competition, company strengths and marketing mix) was around 3.5, which was higher than the average of all responses (Table 8).
- Responding companies that implemented change for any of three targets (products or services, processes, or business models) have achieved more substantial financial effects (3.67 – 4.35 points) than the average of all responses. In particular, companies that implemented change at the "reform level" or "creation level" for "processes" or "business models" have achieved effects scoring substantially higher points (4.13 – 4.35 points) than the average of all responses (Table 9).
- Responding companies that implemented change management in any of the four areas (value governance, change capabilities, change mechanisms or procurement of change resources) have achieved

Table 8. Financial effects brought about by change according to the extent to which business strategy was reviewed

(*N* = 526, unit: points)

	Reviewing	Reviewing to some extent	Can't say either way	Not much reviewing	Not reviewing
Markets and customers	3.49	3.18	2.93	3.03	2.93
Industry and competition	3.52	3.27	3.10	2.76	2.75
Company strengths	3.36	3.37	3.06	2.75	3.00
Marketing mix	3.60	3.21	3.14	2.90	3.00

Notes: 1) Change effects (financial effects): 5 points for "effective," 4 points for "appears to be effective, 3 points for "can't say either way," 2 points for "appears not to be effective and 1 point for "not effective." 2) The average value of all samples was 3.18.
Source: "Survey on the Actual Status of the Use of IT by User Companies" conducted by Nomura Research Institute in 2011.

Table 9. Financial effects of companies "implementing" change

(Unit: points)

Financial effects of companies "implementing" change			
	Improvement level	Reform level	Creation level
Products or services	3.67	4.07	3.69
Processes	3.78	4.35	4.13
Business models	3.87	4.14	4.13

Financial effects of companies in which implementation of change is "somewhat insufficient"			
	Improvement level	Reform level	Creation level
Products or services	3.16	3.39	3.34
Processes	3.23	3.40	3.42
Business models	3.22	3.30	3.43

Financial effects of companies in which implementation of change is "insufficient"			
	Improvement level	Reform level	Creation level
Products or services	2.68	2.85	3.02
Processes	2.59	2.91	2.97
Business models	2.76	2.93	2.97

Note: Change effects (financial effects): 5 points for "effective," 4 points for "appears to be effective, 3 points for "can't say either way," 2 points for "appears not to be effective and 1 point for "not effective."
Source: "Survey on the Actual Status of the Use of IT by User Companies" conducted by Nomura Research Institute in 2011.

more substantial financial effects than the average of all responses. The average points of these companies are 3.62 – 3.86 points. In particular, responding companies that implemented "value governance" (3.82 points) and "procurement of change resources" (3.86 points) scored high (Table 10).

3 IT can still be used to a great extent as a means of achieving major change

To some extent, companies have become aware of IT as a means of influencing change in business strategy or as a means of achieving desired change. However, in overall terms, IT can still be used to a great extent as a means of achieving desired change.

- Not many companies consider that IT influences change in business strategy. Among the relatively small number of responding companies that consider that IT influences change in business strategy, the largest number (17.1 percent) consider that IT influences the area of "markets and customers," followed by "marketing mix" (14.3 percent). This finding suggests that these companies are aware of the influence that progress in the method of using IT has on customers. Nevertheless, if the responding companies that selected "influencing to some extent" are included, more than half consider that IT exerts some influence on change in business strategy, excluding the area of "company strengths." As such, IT has had an influence on the overall areas of business strategy (Table 11).
- The use of IT for change implementation is prominent in the area of process change. In particular, IT is frequently used for the change of "production and supply processes" (31.9 percent) and "after-sales service processes" (19.0 percent). The percentage of responding companies that "frequently use" IT for change in the areas of "products or services" and "business models" is on the order of 10 percent. This result indicates that IT is primarily used for supply chain change. Nevertheless, if the responding companies that selected "sometimes using" are included, nearly half of the responding companies are using IT for change implementation, excluding the area of "business models." Accordingly, many companies are at the stage where IT is used to some extent for change implementation, but there is still substantial room for the increased use of IT (Table 12).

While many companies consider that the use of IT for change management is effective, actual use is yet to start.

- IT is not so frequently used for change management. While the use is limited, a slightly higher percentage (21.9 percent) of responding companies "frequently use" IT as a communication tool for the

Table 10. Financial effects brought about by change according to the extent to which change management is implemented

(*N* = 526, unit: points)

	Fully implementing	Sometimes implementing	Previously implemented but now ceased	Plan to implement	Never implemented
Value governance	3.82	3.23	2.89	3.01	2.77
Change capabilities	3.62	3.24	3.40	3.03	2.65
Change mechanisms	3.69	3.25	3.29	3.03	2.69
Procurement of change resources	3.86	3.30	3.14	3.12	2.66

Note: Change effects (financial effects): 5 points for "effective," 4 points for "appears to be effective, 3 points for "can't say either way," 2 points for "appears not to be effective and 1 point for "not effective."
Source: "Survey on the Actual Status of the Use of IT by User Companies" conducted by Nomura Research Institute in 2011.

Table 11. Influence of IT on the review of business strategy

(*N* = 526, unit: %)

	Influencing	Influencing to some extent	Can't say either way	Not much influencing	Not influencing	Don't know
Markets and customers	17.1	36.9	18.1	18.4	8.4	0.4
Industry and competition	12.2	35.4	25.1	19.0	5.9	1.7
Company strengths	9.5	24.9	33.5	22.6	7.2	1.5
Marketing mix	14.3	38.4	24.1	14.3	6.7	1.5

Source: "Survey on the Actual Status of the Use of IT by User Companies" conducted by Nomura Research Institute in 2011.

Table 12. Use of IT for change implementation

(*N* = 526, unit: %)

	Frequently using	Sometimes using	Previously used but now ceased	Plan to use	Never used	Don't know
Products or services	16.7	30.0	1.7	10.8	24.0	14.4
Planning and development processes	15.8	34.4	1.0	12.4	18.6	15.6
Production and supply processes	31.9	30.6	1.7	10.8	11.6	11.2
After-sales service process	19.0	30.6	1.3	15.8	15.0	16.3
Business models	11.8	27.8	2.5	16.7	17.9	21.5

Source: "Survey on the Actual Status of the Use of IT by User Companies" conducted by Nomura Research Institute in 2011.

Table 13. Use of IT for change management

(*N* = 526, unit: %)

	Frequently using	Sometimes using	Previously used but now ceased	Plan to use	Never used	Don't know
Value governance	8.7	30.4	2.1	12.7	31.4	12.5
Change capabilities	21.9	34.6	1.5	14.1	18.1	7.8
Change mechanisms	15.0	31.6	3.0	16.7	23.2	8.7
Procurement of change resources	10.6	29.7	2.5	15.4	24.9	15.0

Source: "Survey on the Actual Status of the Use of IT by User Companies" conducted by Nomura Research Institute in 2011.

Table 14. Effectiveness of IT for change management

(*N* = 526, unit: %)

	Effective	Effective to some extent	Can't say either way	Not so effective	Not effective	Don't know
Value governance	32.9	15.0	29.3	8.0	1.7	10.1
Change capabilities	46.4	16.7	23.4	5.3	1.3	4.2
Change mechanisms	44.9	16.7	25.1	4.6	1.1	4.8
Procurement of change resources	34.2	18.4	27.6	6.7	2.7	7.8

Source: "Survey on the Actual Status of the Use of IT by User Companies" conducted by Nomura Research Institute in 2011.

management of "change capabilities." Also notable is that 15.0 percent "frequently use" IT as an environment to develop "change mechanisms." For other management areas, only around 10 percent of responding companies use IT (Table 13).

- Many companies recognize the effectiveness of the use of IT for change management. The proportion of responding companies that consider that IT is "effective" is higher by about 20 percentage points than that of companies that "frequently use" IT for change implementation in all four management areas. This result reveals a situation in which, while many companies recognize the effectiveness of IT use, they are unable to spend much of their resources for IT as a management tool for change and, therefore, only use IT occasionally (Table 14).

V Status of Companies that Have Not Reviewed Their Business Strategy

1 Companies that "recognize the need for the review of their business strategy, but have not done so" face obstacles to change

The survey revealed that many companies that reviewed their business strategy have implemented some sort of change and conducted management for such change. Now, the question is about the situation of companies that have not reviewed their business strategy.

Among the responding companies, 157 companies "reviewed one or more areas of business strategy." While 194 companies selected "review of strategy is necessary, but have not done so" (companies that selected "reviewed to some extent" were included), 180 companies selected "review of strategy is not necessary" for all three areas of business strategy.

Compared to companies that "have reviewed one or more areas of business strategy," companies that selected "review of strategy is necessary, but have not done so" or "review of strategy is not necessary" constituted lower rates in terms of both the implementation of change and change management. The rates of those companies using IT for change were also lower.

- In terms of the percentages of companies implementing change, companies that selected "review of strategy is necessary, but have not done so" constituted lower rates as compared to companies that selected "review of strategy is not necessary" for many change target areas. Relative to companies that selected "review of strategy is necessary, but have not done so," a larger proportion of companies that selected "review of strategy is not necessary" implemented change at the "reform level" and "creation level" for "products or services," at all three levels for "processes," and at the "improvement level" and "creation level" for "business models" (Table 15).
- In terms of the percentages of companies implementing change management, companies that selected either "review of strategy is necessary, but have not done so" or "review of strategy is not necessary" constituted low rates. However, for "value governance" and "change capabilities," companies that selected "review of strategy is necessary, but have not done so" constituted the lowest rates (Table 16).

Table 15. Difference in rates of companies implementing change depending on whether business strategy was reviewed

(Unit: %)

Implemented change		Whether business strategy was reviewed			All responses
		Reviewed one or more areas of strategy	Review of strategy is necessary, but have not done so	Review of strategy is not necessary	
Products or services	Improvement level	29.9	19.1	16.7	21.3
	Reform level	10.2	2.6	5.6	5.5
	Creation level	7.0	4.1	6.7	5.7
Processes	Improvement level	28.7	12.9	15.0	18.1
	Reform level	10.2	2.1	4.4	5.3
	Creation level	3.2	2.6	3.3	3.0
Business models	Improvement level	17.2	7.7	13.3	12.2
	Reform level	7.0	3.6	2.2	4.2
	Creation level	5.1	1.6	3.3	3.2
		N = 157	*N* = 194	*N* = 180	*N* = 526

Source: "Survey on the Actual Status of the Use of IT by User Companies" conducted by Nomura Research Institute in 2011.

Table 16. Difference in rates of companies implementing change management depending on whether business strategy was reviewed

(Unit: %)

Area of implemented management	Whether business strategy was reviewed			All responses
	Reviewed one or more areas of strategy	Review of strategy is necessary, but have not done so	Review of strategy is not necessary	
Value governance	22.9	8.8	9.4	12.9
Change capabilities	26.8	9.3	11.7	15.2
Change mechanisms	20.4	12.4	8.9	13.3
Procurement of change resources	17.2	5.7	4.4	8.6
	N = 157	*N* = 194	*N* = 180	*N* = 526

Source: "Survey on the Actual Status of the Use of IT by User Companies" conducted by Nomura Research Institute in 2011.

- In terms of the percentages of companies that frequently use IT for change, companies that selected "review of strategy is necessary, but have not done so" constituted lower rates relative to companies that selected "reviewed one or more areas of strategy." The rates of companies that selected "review of strategy is not necessary" were the lowest (Table 17).

The above comparison suggests that companies that "recognize the need for the review of their business strategy, but have not done so" face serious obstacles to change in that although some of these companies are using IT for change, the number of companies implementing change management is limited, leading to being unable to implement change.

2 Why does a company refrain from reviewing its business strategy?

How should this situation be construed? To begin with, selecting the response of "review of business strategy is not necessary" does not necessarily mean that companies are in a bad situation. Companies that currently have a suitable business strategy with no need for a major review are not required to take on any drastic change and therefore have no need to introduce IT for such purposes. In this sense, actions taken by companies selecting "review of strategy is not necessary" are considered reasonable.

Some companies are active in improving existing products and developing new products even without reviewing their business strategy based on a top-down decision. Similarly, some companies continue to improve "processes" and "business models" with the initiative taken by employees engaging in on-site business activities. Because these companies have already exhibited operational excellence, they possess sufficient "change capabilities." IT is not necessarily needed for such already existing continuous improvements.

On the other hand, companies that feel "the need for reviewing business strategy" but that are unable to take on such a review face obstacles to change. For companies in which on-site employees are less enthusiastic about taking the lead in making improvements in daily activities, the first barrier they face to embarking on any major change is the fact that "change capabilities" that support such change has not been fully established. For example, because of stiff resistance by on-site organizations to making any change, employees are unwilling to participate in any change project. Other cases include that a company lacks leadership or the ability to implement change.

Furthermore, if the decision-making process or the change-implementation management process that is required to put a top-down change policy into specific effect is not in place, a company will be unable to see "value governance" work to achieve the desired change.

In the case of a company facing such a situation, the CIO as well as corporate executives would have no choice but to refrain from reviewing business strategy. Because the survey was aimed at CIOs, they made the responses, not corporate executives. However, because a CIO is responsible for developing information systems that support change, it is reasonable to assume that a CIO objectively understands the situation facing his or her company. A company about which its CIO selected "review of strategy is necessary, but have not done so" is assumed to be facing the above-mentioned difficulties.

VI Guidelines for Business Change and the Use of IT

1 Scenario assumed between "business strategy," "change implementation" and "change management"

The next question is what preparations corporate executives and CIOs must make for an upcoming change of

Table 17. Difference in rates of companies frequently using IT for change depending on whether business strategy was reviewed

(Unit: %)

Target area for which IT is frequently used	Whether business strategy was reviewed			All responses
	Reviewed one or more areas of strategy	Review of strategy is necessary, but have not done so	Review of strategy is not necessary	
Products or services	29.3	15.5	8.3	16.7
Plan and development processes	29.3	10.8	10.6	15.8
Production and supply processes	47.8	29.4	23.3	31.9
After-sales service process	32.5	16.5	11.1	19.0
Business models	21.7	10.8	5.6	11.8
	N = 157	N = 194	N = 180	N = 526

Source: "Survey on the Actual Status of the Use of IT by User Companies" conducted by Nomura Research Institute in 2011.

business strategy. In other words, this issue relates to what should be done prior to or in parallel with change implementation with respect to change management and information systems that are necessary to achieve the desired change in strategy.

In this paper, the traditional theory that there is a strategy that is suitable for each stage of a business life cycle[26] is adopted to make a clearer correlation among business strategy, business change and change management. However, the business cycle assumed here is not one in which each of the stages progresses in one direction, but is one made of a loop structure consisting of startup, growth, maturity, crisis and renewal through trial and error.[27] This paper adopts a unique business life cycle consisting of the following six stages.

A company's business is considered to follow a life cycle consisting of six stages: (1) startup, (2) growth, (3) maturity, (4) integration, (5) differentiation and (6) trial and error. These stages do not occur in a predetermined order. When a company shifts from one stage to another, it might go through the trial and error stage. The scenario that a company should follow to achieve the desired change varies depending on each stage (Table 18).

To begin with, the area of business strategy that should be reviewed differs according to each stage of the business life cycle.

- At the "startup" stage, where a company launches a new business, all four areas of business strategy (markets and customers, industry and competition, company strengths and marketing mix) must be defined. After making such definitions, a company should go on to the next stage.
- At the "growth" stage, market expansion and customer acquisition are primarily important. Accordingly, focus is placed on "markets and customers."

Table 18. Scenario for change at each stage of business life cycle

Business life cycle	Startup stage	Growth stage	Maturity stage	Integration stage	Differentiation stage	Trial and error stage
Area of change in business strategy						
• Markets and customers	Launch	Expansion	Saturation	Competition	Specialization	Transformation
• Industry and competition		Occurrence of competition	Intensification of competition	Oligopoly	Differentiation	Pursuing own path
• Company strengths	Birth	Expansion	Establishing definite strengths	Becoming commonplace	Redefinition	Regeneration
• Marketing mix	Product	Product and place	Price and promotion	Price and promotion	Product and place	Reassembling 4Ps
Change target						
• Products or services	Creation	Improvement	Improvement	Improvement	Improvement and reform	Reform and creation
• Processes	Creation	Improvement	Improvement	Improvement	Improvement and reform	Reform
• Business models	Creation			Improvement	Improvement	Reform and creation
Area of change management						
• Value governance		Investment priority	Cost effectiveness	Overall optimization	Selection and concentration	Withdrawal and regeneration
• Change capabilities	Founder	Leader driving growth	Improvement group	Integration project	Leader driving reorganization	Leader driving regeneration
• Change mechanisms	Designing mechanisms	Building mechanisms	Adjusting mechanisms	Integrating mechanisms	Connecting mechanisms	Reassembling mechanisms
• Procurement of change resources		Enhancing internal resources	Selecting internal resources	Outsourcing	Establishing partnerships	Collaboration
Use of IT for change						
• Products or services	Introducing IT	Enhancing functions	Simplifying functions	Standardizing functions	Creating modules	Renewal
• Processes		Automation	Improving efficiency	Integrating processes	Reuse	Renewal
• Business models	Introducing business models				Re-make	Renewal

Note: 4Ps = product, price, place and promotion.

- At the "maturity" stage, the market becomes mature, and competition intensifies within the industry. Therefore, stress is given to "markets and customers" and "industry and competition."
- At the "integration" stage, companies struggle for a greater share of the limited market, which will eventually lead to an oligopolistic market. As such, importance is also given to "markets and customers" and "industry and competition."
- At the "differentiation" stage, a company concentrates on specialized markets, differentiates itself from competitors and strengthens core competence. Accordingly, focus is placed on "company strengths."
- At the "trial and error" stage, a company redirects its efforts towards new markets, pursues its own path that is distinct from competitors, and regenerates its new strengths. It becomes important to reassemble the "marketing mix."

At each stage of the business life cycle, a company implements a different change and manages the change in a different way.

- At the "growth" stage, improvements are required for "products or services" and "processes" in order to continue growing. To this end, it is important to develop leaders who can drive growth and enhance internal resources.
- At the "maturity" stage, current "products or services" and "processes" must be improved. What is important for this purpose includes the ability of the improvement group and the selection of appropriate internal resources.
- At the "integration" stage, current "products or services," "processes" and "business models" must be improved. What is required for this purpose includes the ability of the integration project team, the integration of reform mechanisms and the use of resources available through outsourcing.
- At the "differentiation" stage, major change must be made to "products or services" and "processes." For this purpose, "value governance" plays an important role in the selection and concentration of management resources. In addition, without expanding in-house resources such as personnel and mechanisms to achieve the desired change, resources must be procured from outside partners ("procurement of change resources").
- At the "trial and error" stage, all-out transformation is required for "products or services," "processes" and "business models." To this end, all employees working towards achieving the desired change must combine their efforts under the leader who is driving regeneration. In addition, utmost efforts must be made in all four management areas (value governance, change capabilities, change mechanisms and procurement of change resources).

IT should be used to achieve the desired change to which focus is given at each stage of the business life cycle.

- At the "growth" stage, IT should be used to enhance "products or services" functions and to automate "processes."
- At the "maturity" stage, IT should be used to simplify "products or services" functions and to improve the efficiency of "processes."
- At the "integration" stage, IT should be used to standardize "products or services" functions and to integrate "processes."
- At the "differentiation" stage, IT should be used to create "products or services" function modules and to reuse "processes."
- At the "trial and error" stage, IT should be used to renew all three change targets—"products," "processes" and "business models."

2 Companies implementing change are acting as assumed in the scenario

An analysis was conducted of the 157 companies that responded with "reviewed one or more areas of business strategy" in the survey. Many of those companies reviewed their business strategy in multiple areas. The following combination patterns were seen among a relatively large number of responding companies.

- Thirty-five companies reviewed only "markets and customers."
- Eighteen companies reviewed "markets and customers" and "industry and competition."
- Fourteen companies reviewed only "company strengths."
- Fourteen companies reviewed "markets and customers," "industry and competition" and "company strengths."
- Twenty-two companies reviewed "markets and customers," "industry and competition," "company strengths" and "marketing mix."

The area(s) of business strategy a company reviewed indicates the stage of the business life cycle where the company finds itself.

- Fifty-two companies reviewed "marketing mix." These 52 companies are at the "trial and error" stage.
- Other than the companies that reviewed "marketing mix," 43 companies reviewed "company strengths." These 43 companies are at the "differentiation" stage.
- Other than the companies that reviewed "marketing mix" and "company strengths," 27 companies reviewed "industry and competition." These 27 companies are at the "maturity and integration" stage.

- Thirty-five companies that reviewed only "markets and customers" are at the "growth" stage (Table 19).

Recalculation of the rates of the responding companies that implemented change and change management for each stage of the business life cycle as identified above clarified the characteristics of change at each stage of growth, maturity and integration, differentiation or trial and error. The analytical results prove that the companies are actually acting as assumed in the change scenario.

The rates of companies that implemented change for any of three target areas (products or services, processes and business models) to which focus was given at each stage of the business life cycle, were higher than were

Table 19. Combination of areas where business strategy was reviewed

Area of business strategy reviewed	Markets and customers	Industry and competition	Company strengths	Marketing mix	Number of choices	Business life cycle
Selected combination pattern	○				35	Growth stage
		○			9	Maturity and integration stage
	○	○			18	
		○	○		6	Differentiation stage
	○	○	○		14	
			○		14	
	○		○		9	
		○	○	○	0	Trial and error stage
			○	○	4	
	○		○	○	4	
	○	○		○	4	
		○		○	4	
				○	5	
	○			○	9	
	○	○	○	○	22	
Total (companies)	115	77	73	52	157	
Growth stage	35 (30.4%)				35	
Maturity and integration stage	18 (15.7%)	27 (35.1%)			27	
Differentiation stage	23 (20.0%)	20 (26.0%)	43 (58.9%)		43	
Trial and error stage	39 (33.9%)	30 (38.9%)	30 (41.1%)	52 (100.0%)	52	

Source: "Survey on the Actual Status of the Use of IT by User Companies" conducted by Nomura Research Institute in 2011.

Table 20. Rates of companies implementing change at each stage of business life cycle

(Unit: %)

Area of implemented change		Stage of business life cycle as assumed based on area where strategy was reviewed				All responses
		Growth	Maturity and integration	Differentiation	Trial and error	
Products or services	Improvement level	28.6	33.3	32.6	26.9	21.3
	Reform level	2.3	0.0	16.3	15.4	5.5
	Creation level	0.0	3.7	9.3	11.5	5.7
Processes	Improvement level	22.9	25.9	34.9	28.8	18.1
	Reform level	5.7	0.0	14.0	15.4	5.3
	Creation level	0.0	0.0	4.7	5.8	3.0
Business models	Improvement level	5.7	18.5	18.6	23.1	12.2
	Reform level	0.0	7.4	4.7	13.5	4.2
	Creation level	0.0	0.0	7.0	9.6	3.2
		$N = 35$	$N = 27$	$N = 43$	$N = 52$	$N = 526$

Source: "Survey on the Actual Status of the Use of IT by User Companies" conducted by Nomura Research Institute in 2011.

Table 21. Rates of companies implementing change management at each stage of business life cycle

(Unit: %)

Area of implemented management	Stage of business life cycle as assumed based on area where strategy was reviewed				All responses
	Growth	Maturity and integration	Differentiation	Trial and error	
Value governance	14.3	7.4	30.2	30.8	12.9
Change capabilities	22.9	29.6	16.3	36.5	15.2
Change mechanisms	8.6	22.2	14.0	34.6	13.3
Procurement of change resources	11.4	11.1	14.0	26.9	8.6
	N = 35	*N* = 27	*N* = 43	*N* = 52	*N* = 526

Source: "Survey on the Actual Status of the Use of IT by User Companies" conducted by Nomura Research Institute in 2011.

those of all responses. At the "growth" and "maturity and integration" stages, relative to all responses, a greater rate of companies implemented change for both "products or services" and "processes" at the improvement level. At the "differentiation" stage, a greater rate of companies implemented change for "products or services" at all three levels (improvement, reform and creation) as well as for "processes" at the improvement and reform levels. At the "trial and error" stage, a greater rate of companies implemented change for "products or services" and "processes," as well as for business models" at the improvement and reform levels. At the "trial and error" stage, a greater rate of responding companies implemented change at the creation level for all three change targets, as compared to other stages (Table 20).

Similarly, the rate of responding companies that implemented change management for the area(s) to which focus was given was high. At the "growth" and "maturity and integration" stages, a greater rate of companies implemented management in the area of "change capabilities." At the "maturity and integration" stage, in addition to "change capabilities," companies that developed "change mechanisms" constituted a greater rate. At the "differentiation" stage, many companies established "value governance." At the "trial and error" stage, many companies implemented change management in all four areas (value governance, change capabilities, change mechanisms and procurement of change resources). Companies that implemented management in the area of "procurement of change resources" constituted a greater rate at all four stages than the average rate of all responding companies. In particular, the figure is leading at the "trial and error" stage (Table 21).

VII A Future Vision Based on the Stage of the Business Life Cycle at Which a Company Finds Itself

Faced with the need for reviewing its business strategy, a company must determine the area in which change will be implemented and must undertake change management in the area(s) that is necessary to achieve the desired change in accordance with the determined scenario based on the stage of the business life cycle at which the company finds itself, as outlined in Table 18. In order to speed up the implementation of change and its management and to conduct such activities more efficiently, IT should be used to a greater extent for the focused areas. The author believes that the scenario for corporate change and the use of IT that was created based on the survey of companies that are moving ahead of others in terms of implementing change will serve as a guideline for companies planning to embark on change.

Although many companies recognize the need for reviewing business strategy, they are actually unable to start the implementation of necessary change. While IT can help companies achieve the desired change and can speed up the implementation of such change, introducing advanced IT tools unilaterally will not necessarily lead to achieving these goals. Corporate executives and CIOs must have common understanding concerning the stage of the business life cycle at which the company now finds itself and the required change in its business strategy. Based on the identified goals, the company should have a future vision for the management of required change and the use of IT. Having such a vision will be useful for overcoming the obstacles to change.

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