# Data-Driven Marketing to Accelerate Decision Making

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**Consumer purchasing behavior is undergoing a drastic change due to the diffusion of smart devices. Companies are hurrying to introduce marketing tools to improve customer satisfaction by responding to changes in consumer purchasing behavior. However, in some cases, instead of bringing about positive effects, the introduction of marketing tools has caused customer satisfaction to decrease. Fujitsu offers FUJITSU Intelligent Data Service Domo (hereafter, Domo), a platform capable of supporting the design of a company's marketing-related indicators and centralized management of data for various tools. Domo facilitates the achievement of data-driven marketing that accelerates corporate decision-making based on data. At one customer site, the introduction of Domo has made it possible to run plan-do-check-act (PDCA) cycles several times the number before its introduction, more than doubling the number of reliable customers. This paper describes the confusion caused by the introduction of marketing tools without setting up clear objectives and Fujitsu's solution that solves this problem together with a case example of its application.**

## 1. Introduction

In recent years, the diffusion of smart devices and the rise of social media have enabled consumers to access necessary information, products, and services regardless of time and place to suit their diversifying lifestyles. As a result, consumer purchasing behavior has become complicated, and consumers have come to carefully choose companies that offer the best customer experience (CX).

Meanwhile, in response to these changes in purchasing behavior, companies are striving to improve customer satisfaction by improving the quality and amount of communication with consumers. Their techniques often advertise the provision of seamless CXs without missing consumers' micro-moments[note 1)]. However, most of them are no more than introductions of marketing tools to obtain consumer information by various means. This approach does not always work for customers. We think that this can be attributed to two reasons: inadequate systems able to appropriately monitor the results of the implementation of various measures in addition to the obscurity of the purposes of the respective operations and measures in the field of marketing.

With the focus on these two points, Fujitsu has started to provide FUJITSU Intelligent Data Service Domo (hereafter, Domo), a key performance indicator (KPI) management platform of the software as a service (SaaS) type, for supporting the organization of objectives and measures and monitoring the results of implementation of measures.[1)] Traditionally, companies have often adopted marketing that depends on precedents, past results, experience, and instinct, or marketing no better than speculation that companies are liable to fall into, which is implemented only because it is adopted by other companies. Domo has enabled us to offer support for the transformation to data-driven marketing, where decisions are made based on objective data, by departing from such marketing approaches.

This paper describes the issues faced by the marketing departments of different companies, functions

note 1) A concept proposed by Google referring to search behavior on mobile devices that takes place the moment people want something.

of the Domo platform to resolve them, an example of its application, and future directions.

## 2. Current state of digital marketing at different companies

This section describes the problems faced by many companies in implementing marketing that makes use of data.

### 2.1 Gap between companies' and customers' expectations and its causes

The results of a survey have shown that 80% of the surveyed companies believe they deliver a superior experience to their customers.[2] However, in the same survey, customers have been found to think that only 8% of the companies deliver a superior experience. The perception gap between companies and consumers like this also affects profitability.

The results of another survey have revealed that potential revenue loss for not offering adequate CX is 20% of the annual revenue on average, and the percentage of customers who switched brands due to poor CX is as high as 89%.[3]

While companies understand that offering the best CX is critical to establishing their competitive advantage, very few of them have accomplished this. Instead, customer satisfaction has decreased in some cases despite marketing staff implementing and using the marketing measures and tools that companies believe to work on a daily basis. We think that there are two main reasons for this problem.

The first is that the purposes of various marketing-related operations and the KPIs that are indicators for measuring the levels of their achievement are not set appropriately. Marketing, which may sound simple, is composed of various operations and organizations associated with them. These include demand creation based on the positioning of the company in the market, branding and building recognition, customer relationship management (CRM), and market formation. The problem is that KPIs are set only in consideration of the results in the department, and operations and KPIs are not necessarily in line with each other.

The second is that the monitoring system, in which activities are modified as appropriate while using the plan-do-check-act (PDCA) cycle to evaluate the results of marketing in order to lead to necessary decision-making, is not sufficiently developed.

### 2.2 The fate of the tool-driven approach

It is not realistic to use a manual, individualized approach to consumers' diversifying lifestyles and purchasing behavior. Accordingly, different companies are trying to implement measures for improving personalized CX by utilizing marketing tools such as e-mail delivery, advertisement delivery, content management systems (CMSs), website access analysis, and social media.

In many cases, however, tools are introduced with their purposes remaining unclear because of a failure to closely examine the causal relationships between business goals and the tools and measures introduced. A tool-driven approach like this eventually leads to a situation where the effects of investment remain permanently unknown. Companies seek returns on investment in marketing as soon as possible. However, in order to see effects on the final financial indicators, the preceding processes must function properly.

For example, processes such as the creating of interest in customers followed by the timely provision of information, the boosting of purchasing decision-making, the promotion of repurchasing after purchases, and the expansion of the fanbase need to function seamlessly. Each of these processes that may affect finance has their KPIs set individually and KPIs set across multiple processes. To set those KPIs, it is important to consider the take the connection between purpose and means into account. For example, it is a leap of logic to think that sales can be increased simply by increasing the number of people visiting a website.

### 2.3 Dispersion of data hindering monitoring

The problem faced after clarifying purpose is the dispersion of data. Individual marketing tools, which collect data, cover different areas. Therefore, the collected data as is only provide companies with discrete information against continuous purchasing behavior of consumers. This means it is difficult to have an overall idea of the entire CX.

Many companies deal with this problem by manually collecting, shaping, and integrating files output by the different tools and creating reports. However, this method requires an enormous number of man-hours, depleting human resources in the process of creating

reports, and there is a limit to the frequency in which reports can be updated. Therefore, real-time monitoring and decision-making cannot be achieved.

To solve this problem, many solution vendors supporting data utilization offer business intelligence (BI) tools that can automate reporting. This has made it possible to process a large amount of data at high speeds, but only to solve some of the problems. There are three main reasons for this:

1) Data collection issues

Collection and integration of marketing data requires the use of advanced technology to select data beforehand, which makes the introduction of BI tools difficult.

2) Data processing and visualization issues

For field users familiar with spreadsheet software and so on, BI tools feature too many functions, making them difficult to use and time-consuming to master.

3) Notification issues

Even if an indicator to be monitored shows an abnormal value, the abnormality is not recognized unless the user logs into a BI tool, meaning actions cannot be taken in a timely manner.

## 3. Fujitsu's approach

This section describes the approach adopted by Fujitsu to solve the problems facing companies.

### 3.1 Clarification of causal relationships between indicators and the building of monitoring environments

One problem is that, when companies set KPIs, they are liable to overlook logical connections between KPIs and operations and causal relationships between KPIs. To deal with this problem, Fujitsu supports the establishment of performance indicators and leading indicators[note 2)]. This facilitates clarification of the relationships between business goals and individual indicators while introducing the concept of the balanced scorecard[note 3)] and incorporating the business circumstances of customers.

Fujitsu considered that a system that realizes real-time monitoring and leads to decision-making based on the data is effective in evaluating the set indicators. Accordingly, we offer Domo, a KPI management platform that realizes this system. Use of Domo dashboard for, which is provided as SaaS, only requires an Internet-enabled device and a Web browser besides the account information. An overview of Domo is shown in **Figure 1**.

### 3.2 Differences between Domo and BI tools

Domo covers most of the standard functions of common BI tools. The biggest difference is Domo's operability and information sharing capabilities. This is derived from its design concept. Common BI tools are adept at analyzing enormous amounts of data and clarifying the strength of causality between events. One example is to find out which diagnostic item value to focus on when estimating the risk of lifestyle-related diseases.

Meanwhile, Domo is designed mainly to support decision-making. That is, it gives insight to users by showing a diagnostic item value, rather than identifying a diagnostic item, to visualize and provide information on the dashboard about who should do what according to the value. The functions derived from this design concept are automatic data collection, data processing, visualization, and alert notification, which can be handled by business users.

The difference in this design concept also manifests itself in the difference in target users. BI tools, which support advanced data analysis, are intended for engineers who are used to handling data. Domo, on the other hand, focuses on business users because it helps them with decision-making.

### 3.3 Domo functions

This subsection introduces four of Domo's functions.

1) Automatic data collection function

In order to visualize data, it is necessary to connect to the data source to acquire the data. Domo has a data collection function called Connector. Use of this feature allows for the periodical acquisition of data, such as consumers' behavior on a website, posts to social media, opening status of e-mails, and sales and inventory conditions in the in-house database. There

note 2) An indicator that fluctuates before the final results or outcomes are produced.

note 3) A framework for organizing corporate performance based on the four perspectives of "financial," "customer," "internal business processes," and "learning and growth."

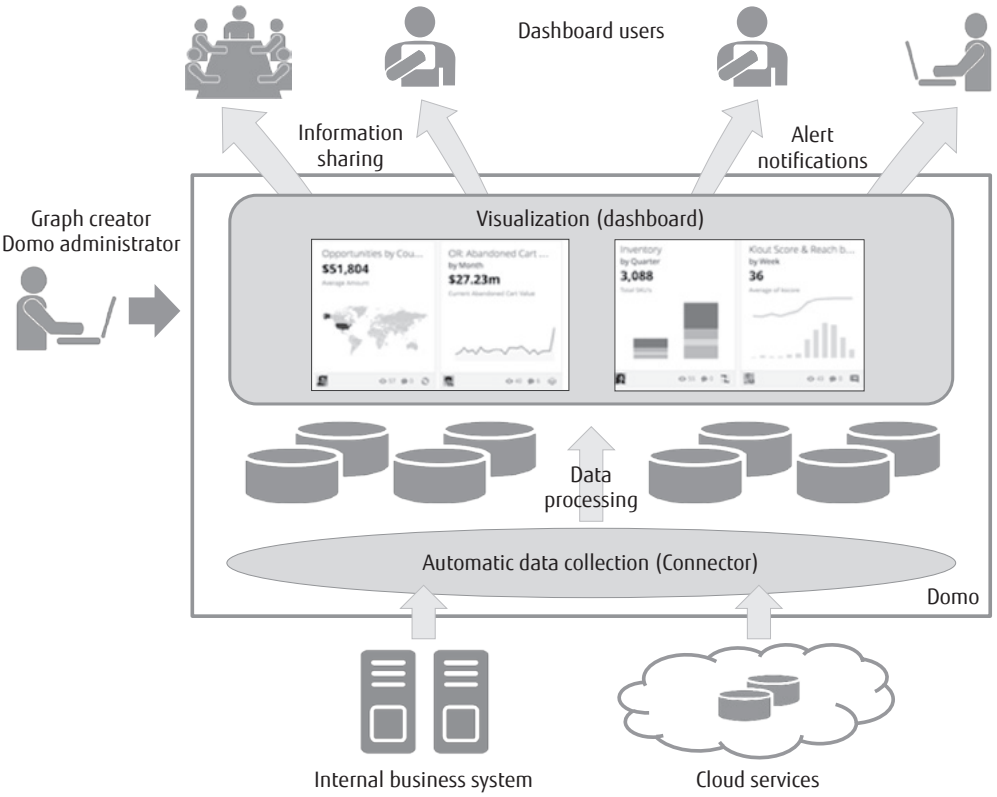


**Figure 1**
**Overview of Domo.**

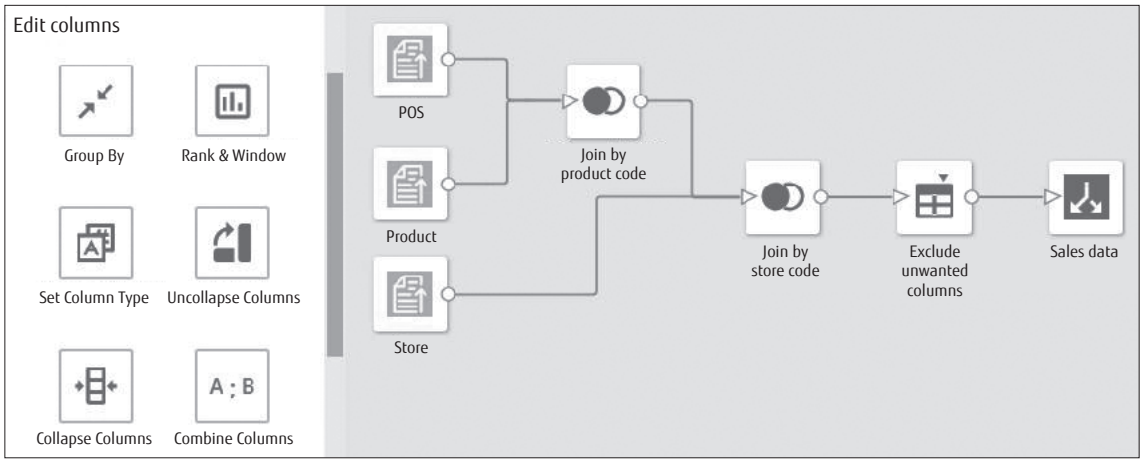


**Figure 2**
**Screenshot of Magic ETL.**

are over 500 types of Connectors, which can handle most data used in marketing.

2) Data processing function

Domo comes with a data processing feature called Magic ETL. **Figure 2** shows an example of the Magic ETL screen. Typical processing parts such as "Group By" "Collapse Columns" and "Combine Columns" are prepared in advance so that even users without

specialized knowledge can process data intuitively. By combining and arranging them on the screen like pieces of a puzzle, necessary data are generated and optimum visualization is realized.

This function is also effective in the integration of data collected from different tools. Conventionally, there was a problem where combining different types of data for analysis required a significant amount of time to obtain necessary data, which might involve asking the information system department to process the data. Magic ETL solves these problems because it allows users to generate necessary data by themselves.

3) Visualization function

With Domo, graphs that visualize data can be added easily, and these graphs can also be modified and deleted. There are more than 180 types of graphs provided as a standard feature, allowing users themselves to handle the entire process from data collection to visualization. This leads to the capability of being able to quickly modify information that should be viewed by people on the frontlines of business in response to changes in the business environment.

In addition to the standard graphs, Fujitsu offers more than 100 original templates. These have been created by taking advantage of the knowledge acquired by Fujitsu through its business with customers in various types and categories of business in the Japanese market. Domo also offers several ways to share visualized graphs among users.

4) Notification function

Many business users are busy and it is difficult for them to independently and regularly check the achievement statuses of KPIs. Frequent checks on the achievement statuses of KPIs are not necessary in the first place until a certain threshold is reached. Accordingly, it is convenient to have a function that prompts action when a threshold is reached.

To fill this need, Domo provides a notification function called Alert. With this function, thresholds and notification messages can be set for the individual graphs, and e-mails or other type of notification are sent when a threshold is exceeded. This allows necessary actions to be taken when needed.

5) Communication function

Domo also provides a dedicated chat function that allows users to communicate with each other. When the need arises to discuss or inquire about a certain graph, not only can a message be sent to the person in charge of the graph or information but also the graph itself can be attached when chatting. This allows for a decision-making system that gives consideration to the opinions of the person(s) with the most knowledge about the data as well as the data themselves.

## 4. Example of application

This section presents an example of a customer, a major entertainment company, that successfully accelerated the PDCA cycle by applying Fujitsu's approach to organize KPIs and centralize the management of various types of information into Domo.

The customer has introduced various tools to communicate with consumers through online channels. This has assisted the customer with visualization of the conditions of their marketing measures from every angle, allowing them to continuously make improvements. In the past, there was a need to log into the individual tools to monitor the conditions of marketing measures. As a result, it was necessary to extract data from each tool and manually aggregate them in order to grasp the correlation and causal relationships that could only be revealed by viewing data across tools.

Fujitsu first examined the consistency between the individual online channels and business goals and organized the KPIs. In the process, we started by confirming the purpose of each channel. In addition, we spent time discussing with the customer about what indicators should be monitored how. Based on the KPI tree organized through this examination, we constructed various graphs on the Domo dashboard (**Figure 3**). As a result, the customer's dashboard provides visualized information in line with their business goals, giving support to their decision-making.

The real-time display of information on the dashboard also contributes to the optimization of human resources. The number of times the PDCA cycle can be executed is now several times larger than in the past, and the person-hours required to create reports involving data aggregation that was carried out routinely have been significantly reduced. The time generated by this reduction of routine tasks has come to be used for creative work, on which the customer originally wanted to focus.

Through these efforts, the number of loyal customers for the customer has more than doubled since

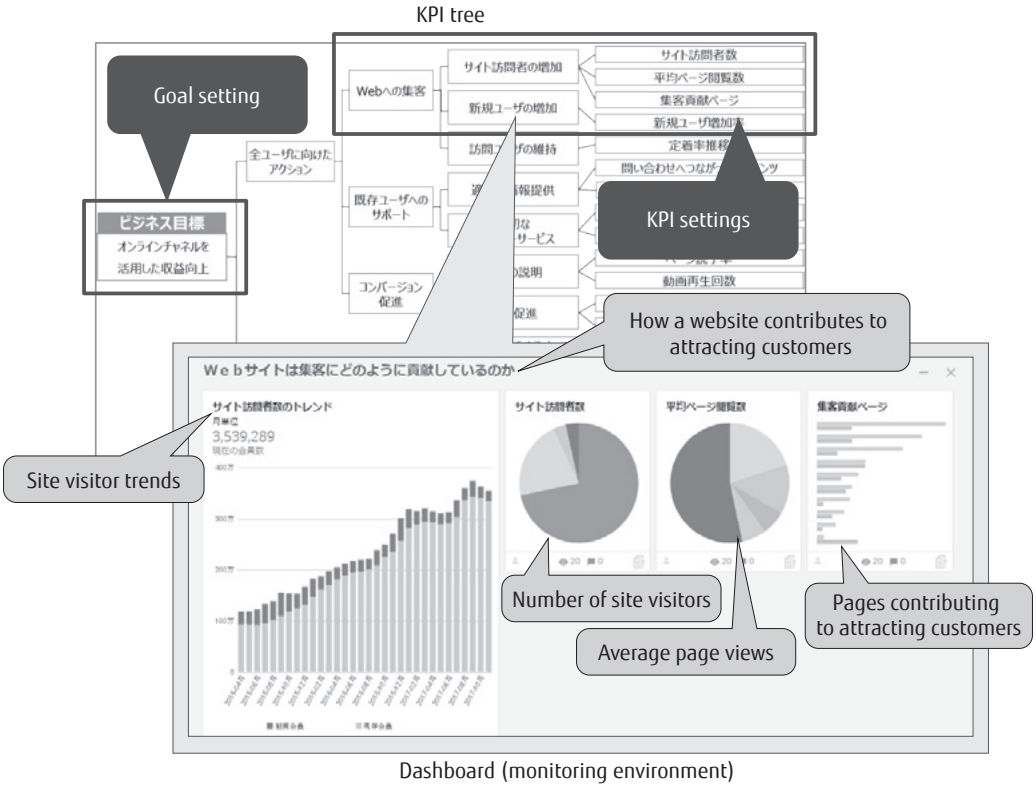


**Figure 3**
**Images of KPI tree and dashboard.**

the introduction of Domo. At present, the customer's scope of application of Domo is expanding beyond the field of marketing. A system is taking shape in which the scope of application of Domo is expanded to other countries and to other operations, with many parts of the corporate value chain available to check using the Domo dashboard, aiding decision-making.

## 5. To realize data-driven marketing

Data-driven marketing is an essential activity for establishing the competitive advantage of companies in the future, and its realization requires systematic cross-departmental activities. In the field of marketing, in particular, activities with total optimization in sight are required, such as providing the development department with customer feedback and exploring a system for seamlessly connecting digital and real contact points.

In order for these activities to take root, corporate senior management must commit themselves to data-driven marketing activities. Assumed users of Domo described in this paper include senior executives of companies. Corporate senior management themselves are expected to use the approach described above to keep an eye on the state of the value chain in the company and lead a system allowing decisions to be made based on numerical data.

## 6. Conclusion

This paper described the circumstances in which digital marketing has gained prominence in order to respond to changes in the purchasing behavior of consumers, as well as the present state in which companies are struggling to utilize digital marketing. It also presented corporate activities that should be carried out to realize data-driven marketing together with a case example of the application of Domo.

In the field of digital marketing, it is necessary to have a partner capable of understanding both business and ICT, and Fujitsu is one of the few companies that has a well-balanced knowledge of both. Together with our customers, we intend to flexibly respond to continuing environmental changes surrounding companies

and provide support for success in their businesses.

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