The Validity Of Advanced TMS:
A Strategic Development Marketing System - Toyota's Scientific Customer Creative Model Utilizing New JIT

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ABSTRACT

A future successful global marketer must develop an excellent quality marketing system that impresses users and continuously provides excellent, quality products in a timely manner through corporate management. In this paper, the author discusses the validity of "Advanced TMS" as a core technology "Total Marketing System, TMS" of "New JIT", which contributes to constructing a "Strategic Development Marketing System, SDMS". This paper aims to create a "Scientific Customer Creative Model, SCCM", a form of strategic marketing utilizing Advanced TMS. Concretely, the author will also introduce the effectiveness of Advanced TMS that reflects latent customer needs through scientific marketing application examples via "Toyota's Intelligent Customer Information Marketing System, T-ICIMS".

INTRODUCTION

*R*ecently, the author [1] has touched on the development of the principle of "*New JIT*" and its validity as a new management technology for 21st century manufacturing. *New JIT* innovates the business process of each division, which encompasses sales, development, and production.

In this paper, the author [2] discusses the validity of "*Advanced TMS*" as a core technology "*Total Marketing System, TMS*" of *New JIT*, which contributes to constructing a "*Strategic Development Marketing System, SDMS*". In concrete terms, a model that enables the sales, marketing and service divisions nearest the customer to systematically determine their tastes and desires is necessary. At present, however, the system for applying scientific analytical methods to customer data has not been satisfactorily established. In some cases, its importance has not even been recognized. This paper aims to create a "*Scientific Customer Creative Model, SCCM*" which a form of strategic marketing utilizing *Advanced TMS*. Concretely, the author will also introduce the effectiveness of *Advanced TMS* that reflects latent customer needs through scientific marketing application examples via "*Toyota's Intelligent Customer Information Marketing System, T-ICIMS*".

NEED FOR A MARKETING STRATEGY WHICH CONSIDERS OF MARKET TRENDS

Today's marketing activities require more than just short-term strategies, such as 4P (Product, Price, Place and Promotion) activities by the business and sales divisions. After the collapse of the bubble economy, the competitive environment in the market has drastically changed. Since then, companies that have implemented strategic marketing quickly and aggressively have been the only ones enjoying continued growth [3]. After close examination, it was said that strategic marketing activities must be conducted as company-wide, core corporate management activities that involved interactions between each divisions inside and outside of the company [4].

Therefore, a marketing management model needs to be established so that Business/Sales/Service divisions, which are carrying out development and design for appealing products projects, and which are also in the closest position to customers, can organizationally learn customers' tastes and desires by means of the continued application of objective data and scientific methodology [5,6]. However, at present, the organizational system has not yet been fully established yet in these divisions; in some cases, even the importance of this system has not been commonly realized [7].

SIGNIFICANCE OF *TMS,* THE KEY TO APPLICATION OF *NEW JIT*

To develop and provide customers with appealing products is the mission of all enterprises and the basis of their existence. Recently, the author [1] has touched on the development of the principle of "*New JIT*" and its validity as a new management technology for 21st century manufacturing. *New JIT* innovates the business process of each division, which encompasses sales, development, and production. *New JIT* includes hardware and software systems developed according to new principles to link all activities throughout a company as shown in Figure 1. The hardware system comprises three core elements: *TMS* (Toyota Marketing System), *TDS* (Toyota Development System) and *TPS* (Toyota Production System). The software system is the deployment of "*Science TQM* so called *TQM-S*" [1,8]. The core technology of *TMS* is the key to the *NEW JIT.* The aim is to promote market creation (as shown in Figure 2) and to realize quality management to be relied on by customers through scientific marketing and sales, not by sticking to conventional concepts.

As shown in the figure, in order to realize quality assurance with an emphasis on the customer, *TMS* is composed of the technological elements (a) market creation activities through collection and utilization of customer information; (b) strengthening of merchandise power based on the understanding products are supposed to have to retain their value; (c) establishment of marketing systems from the viewpoint of building bond with customers; and (d) realization of the "Customer information network" for CS (Customer Satisfaction), CD (Customer Delight) and CR (Customer Retention) elements needed for the corporate attitude (behavior norm) to enhance customer values.
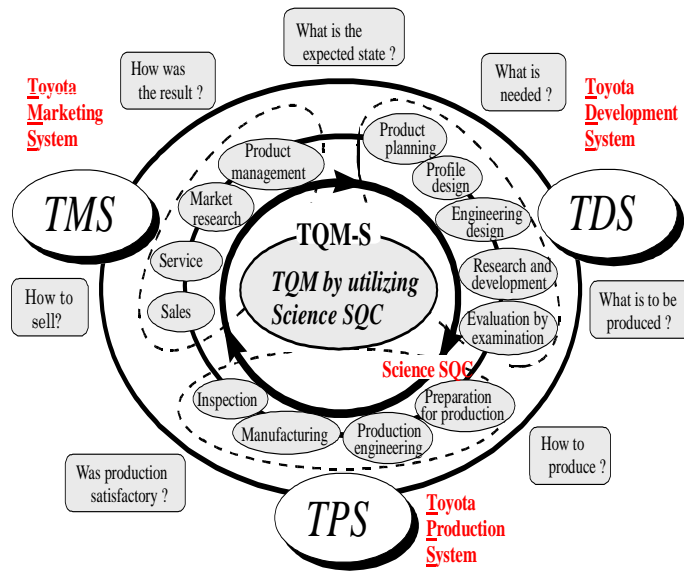

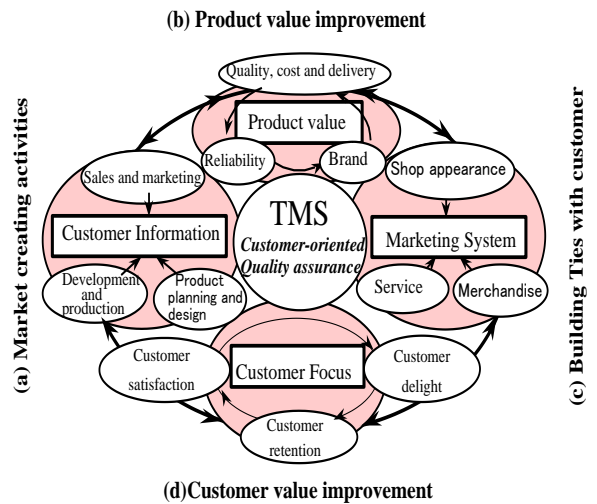**Figure 1:** *New JIT***, New Management Technology Principle**

Figure 2: *TMS***, Toyota Marketing System**

PROPOSAL OF *ADVANCED TMS*, STRATEGIC DEVELOMENT MAREKETING SYSTEM

When the author views recent changes in the marketing environment, what is needed now is to develop "Innovative business and sales activities" that are unconventional and correctly grasp the characteristics and changes of customers' tastes. "Contact with customers" has never called for more careful attention and practice and to offer an appealing, customer-oriented marketing strategy, it is important to evolve current market creation activities [1,9,10]. Therefore, the author proposes "*Advanced TMS,* Strategic Development Marketing System as   described in Figure 3, that further updates *TMS*. *Advanced TMS* is aimed at the implementation of a successful "Global Marketing Strategy" by developing "*Same Quality Worldwide, and Marketing at Optimum Locations*".

As shown in the figure, *Advanced TMS* aims to achieve " a high cycle rate for market creation activities" and is composed of four core elements (A)-(D) : Core element (A), a "new vehicle sales office image" to achieve a high cycle rate for   market creation activities by, (i) innovative bond building with the customer and (ii) shop appearance and operation, is particularly important, These constitute the basis for the innovation of (iii) business talk, (iv) after sale service, and (v) images of the employee image. At a certain stage of execution, for example, it is more important to construct and develop (B) an "Intelligent customer information network", （C）a "Rational advertisement promotion system" and a (D) an "Intelligent Sales Marketing System" that systematically improves "*Customer information software application know-how*" about users who patronize vehicles of various makes.

This information network turns customer management and service into a science by utilizing "*TMS*" according to customers' involvement with their vehicles in daily life. The strategic new marketing model which applies the proposed "*Advanced TMS*" is presented in the next chapter.
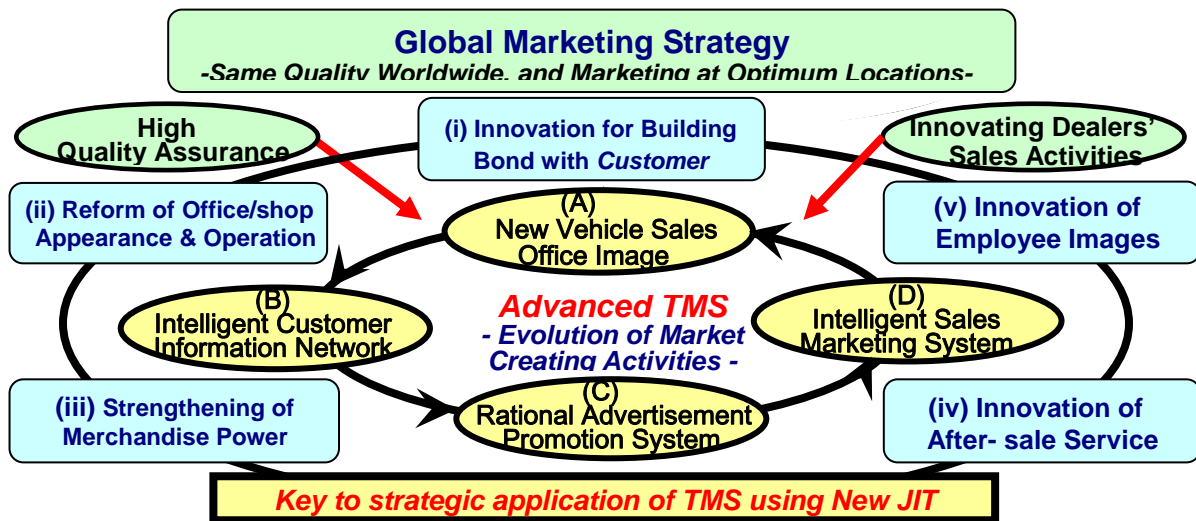

Figure 3: *Advanced TMS,* **Strategic Development Marketing System**

CREATION OF *SCIENTIFIC CUSTOMER CREATIVE MODEL* UTILIZING *ADVANCED TMS*

One vital point of the strategic marketing structure is its definition; marketing activities should be defined from "Closed marketing activities" that are limited to the Business and Sales Division to "Open marketing activities" that can be performed through steady linkage with all other divisions in a company-wide framework. The aim is for an "Evolution of Market Creating" through "High Quality Assurance and Innovating Dealers' Sales Activities" by utilizing the scientific approach of *Advanced TMS*. So, the author [11,12] present a *"Scientific Customer Creative Model, SCCM"* which takes the form of strategic marketing as shown in Figure 4. In the figure, the entire structure consists of three domains; (1) *Marketing Strategy*, (2) *Manufacturing Process* and (3) *Market and Customers*. In each domain, the key marketing items are linked by paths to show how they are associated.
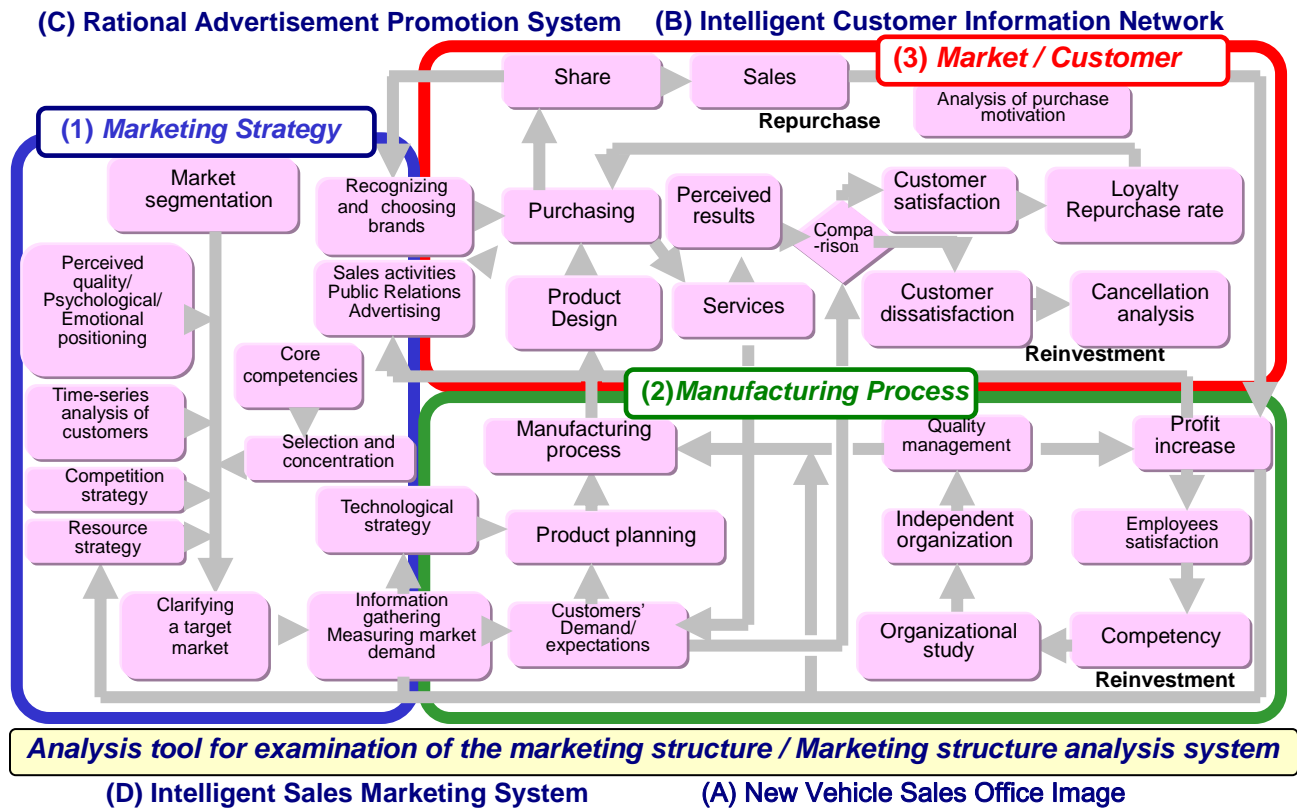
Figure 4: "Scientific Customer Creative Model, Advanced TMS-SCCM"

The outline of *SCCM* is shown in the following. First of all, in the (1) *Marketing Strategy* domain, the key point is how the market segment and the target market are determined. In general, the target market is determined based on the company's core competencies, competition strategy, and resource strategy over the medium and long term basis. By introducing a scientific analysis approach that uses IT, it clarifies a potential target market from the changing market or the customer structure analysis. Secondly, in the (2) *Manufacturing Process* domain, the key point is to collect/analyze customers' demands and expectations precisely. At this time, it is important to consider what value the customers want. When implementing information collection/analysis, customer value is described in numerical form from many different viewpoints, and a new product which is aimed at enhancing customer value is implemented through the flow of planning→ development→ production.

Furthermore, in the (3) *Market/Customer* domain, the key point is to learn the structure of the customer's motivation to buy products, customer satisfaction (CS) and loyalty. Then, it is necessary to extract the elements for customer retention (CR) from this data and utilize it for specific kaizen activities such as reflecting it in future products. It is important to develop an "analysis tool for close examination of the marketing structure" and a "marketing structure analysis system" that will support marketing activities in these three domains stated above from a strategic marketing viewpoint as shown in Figure 4.

APPLICATION-ESTABLISHMENT OF TOYOTA'S INTELLIGENT CUSTOMER / INTELLIGENT MARKETING SYSTEM, T-ICIMS-

In this chapter, the reality and effectiveness of *T-ICIMS,* which the author established recently through the application of *Advanced TMS-SCCM* will be indicated clearly. The typical execution example of *T-ICIMS* is composed of "*Toyota's Sales Marketing System*, *TSMS"* which involve the "*Customer Purchasing Behavior Model of Ad. Effect, CPBM-AE*".

Customer Purchasing Behavior Model Of Advertisement Effect For Automotive Sales

Recently, the total amount of advertising expenditure by Japanese enterprises has increased almost in-line with increases in GDP [13]. The breakdown by medium shows: TV advertisements (TV-CM, 33.9%), newspaper ads (18.8%), flyers (folders: 8.0%), magazines (7.1%), and radio (3.2%). In the case of Toyota, which has topped Japanese advertising expenditure for 7 consecutive years, the rate of advertising expenditure to operating profit is 7.3% (average).

This ratio is constantly high with a number of enterprises. According to automotive dealers' empirical knowledge, number one in rank for major mass effect is the TV-CM, but as far as the author knows, there are no examples of investigating the quantitative effects of TV-CM, etc. such as the proposed "*Customer Purchasing Behavior of Advertisement Effect Model"* [14]. The author is interested in quantitatively turning the purchasing behavior of customers who visit the dealer with intentions to buy after watching TV-CM etc, into explicit knowledge. Moreover, the visiting ratio of customers will rise and the effect of marketing and sale activities will be drastically enhanced due to an improved understanding of the effects of TV-CM as well as by the media-mix of newspaper ads, flyers, etc.

Proposing Customer Purchasing Behavior Model Of Advertisement Effect, CPBM-AE

Figure 5 shows the "*Customer Purchasing Behavioral Model of Advertisement Effect, CPBM-AE"* to prepared by the research of the authors [15,16], at the time of introduction of new cars. As background for the influential factors in the figure, the authors established a *CPBM-AE1,* starting with recognition of the vehicle name (R)→interest in the vehicle(I)→desire to visit a dealer to see the vehicle (D-1)→consider purchasing (C-1)→visiting a dealer for purchasing contract (P-1) after influence from TV-CM, newspaper ad, radio, flyer, DM/DH, or presence/business talk over approximately 2 months. From this the authors realized that a *CPBM-AE2* exists, starting from considering purchasing the vehicle (C-2)→desire to visit a dealer (D-2)→impression from actually seeing the vehicle at the dealer (I-2)→purchasing contract (P-2).

TV Advertisement Effect Introducing Two Newly Released Cars

For example, supposing that customers have their purchasing desire aroused by watching a TV-CM for a newly released car. What percentage of customers would visit their dealers? It is important for future marketing strategies to conduct a dynamic survey of customers' purchasing behavior. However, because of the enormous scale of market surveys and the limited opportunities for them, there have been no actual examples of factorial analysis up to the present [14,15]. With the help of Toyota Motor Corp., the author [16] conducted a dynamic survey of customers' purchasing behavior resulting from a TV-CM introducing two newly passenger vehicles "Japanese names: "*Funcargo / Platz*" (Refer to reference data [16]). As a result of the investigation analysis, the author could confirm a *CPBM-AE-1/2* for Customer Purchasing.

Figure 6 shows the results of analysis that applied the *CPBM-AE-1* at the time of the introduction of the new vehicle, *Funcargo*. The total mean curve indicates that 1/3 (34.6%) of customers recognize the new vehicle name (R) from the TV-CM alone. The number of customers drops by half (18.4%) at the interest stage (I), dropping by a further a half (8.1%) at the desire to visit a dealer stage（D-1）. At the considering purchase stage (C-1), the figure drops to 9.6% at best, even with the addition of D-2→I-2 as stated above. Moreover, at the visiting stage in the figure, the ratio of customers that visited a dealer fails to reach 2%. This implies the need for establishing an effective media mix

model in the future. It has been verified that this analysis has a similar dynamic trend, irrespective of the new vehicle *Platz*, sex of purchasers, age or area.

Establishment Of An Effective Media Mix Model

The author [15,16] presents the most effective media mix model (*CPBM-AE-2*) in order to increase the rate of dealer visits, in Figure 6 (the upper line graph in the middle of the figure). Compared to the effect of TV-CM alone, the media mix effect of TV-CM, newspaper ads, and radio improved vehicle name recognition (R) to 72.5%. Similarly, use of flyers and posters increased
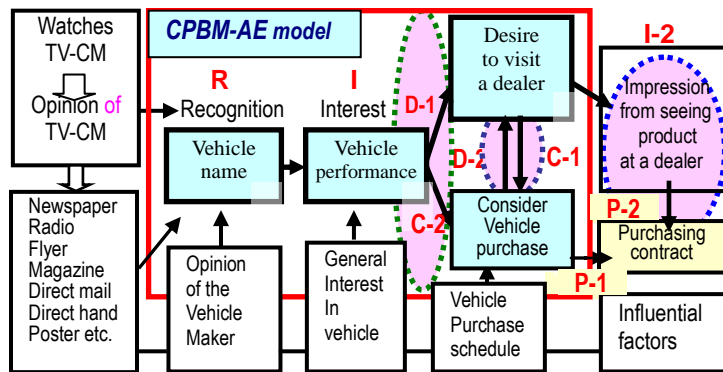

Figure 5 *Customer Purchasing Behavior Model of Advertisement Effect*, **CPBM-AE**
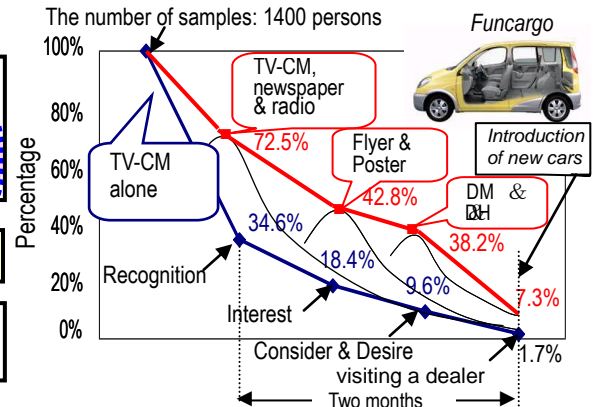
Figure 6 Reality of *CPBM-AE* of Customer Actions

interest in the vehicle (I) to 42.8%. Use of DM/DH increased the desire to visit the dealer, and also vehicle purchase consideration (D-2, C-2, I-2) to 38.2%. The cumulative effect produced an end result where the rate of dealer visits (P-2) increased greatly to 7.3%. However, the problem is to strengthen new initiatives that will lead to an even greater increase in the rate of dealer visits.

Toyota Sales Marketing System "TSMS"

The author [9] has constructed the *Toyota Sales Marketing System "TSMS",* as a way to aid sales marketing through *"innovative bond building with the customer".* This system combines IT and statistical science to make practical use of customer data in order to (i) increase the rate of customer retention, and (ii) acquire new customers. In order to increase the rate of dealer visits and vehicle purchases by current loyal users, they are stratified into high-probability, medium-probability and low-probability customers, and then a sample is taken of the marketing, sales, and service items which the customers demanded, and provided customer satisfaction (Refer to reference data [9]). The system then uses this data to enhance the daily marketing, sales, and service activities. The system can also be made use of when visiting customers, and to help acquire new customers at the time they visit a dealer. Due to the application of *TSMS* which involves the previously introduced *CPBM-AE, T-ICIMS* operation has recently contributed to an increase in the sales share of Toyota vehicles in Japan (40%/1998 to 46%/2005) [10].

CONCLUSION

In this paper, the author proposed "*Advanced TMS, Strategic Development Marketing System*" as a core technology "*TMS*" of *New JIT*, which contributes to constructing a "*Strategic Development Marketing System, SDMS*". The aim is to bring about an "Evolution of Market Creation" through "High Quality Assurance and Innovating Dealers' Sales Activities" utilizing a scientific approach.

So, the authors created a *"Scientific Customer Creative Model, SCCM"* which has the structure of strategic marketing. And further, the author introduced the effectiveness of application examples via "*Toyota's Intelligent Customer Information Marketing System, T-ICIMS*".

Figure 7
Outline of Toyota SalesMarketing System "TSMS"

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