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The relationship between mini profit-center and JIT system

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Abstract

In many Japanese manufacturing companies there are many cases that JIT production system is jointly used with the mini profit-center. Thus, the theme of this paper is to logically investigate what kinds of advantages will be mutually extended between the mini profit-center system and JIT production system. Mini profit-center system motivates people throughout the company from profit consciousness for them to utilize various JIT techniques to make continuous improvement for cost reduction. On the other hand, the income measurement system in mini profit-center is a kind of "cash-basis" accounting. In order for the income to be a cash flow during the period, there must be a prerequisite condition of mini profit-center system that it completely shortens the production lead-time applying the JIT. This is the benefit that JIT will give to mini profit-center.

Keywords: Mini profit-center; JIT; Cash-flow accounting

1. Introduction

Recently, Japanese manufacturing companies are *increasingly* adopting the mini profit-center (MPC) system. The examples are: Kyocera Corporation, Sumitomo Denki Kogyo, NEC Saitama, Sony Koda, Sony Minokamo, Sanyo Kasei, Taiyo Kogyo, Maekawa Seisakusho, 3D, etc. Such companies are also using JIT production system or Toyota production system. Therefore, it seems that both systems are mutually beneficial and fit very well each other.

Thus, in this paper the author would like to investigate what kinds of *advantages* will be earned for MPC system and JIT system when both are combined. In other words the paper logically verifies mutual impacts of MPC and JIT on each other. For this logical verification the author will use the real world example of Kyocera's MPC system as one of theoretical MPC models. In addition, NECs "line-company" system, which is another type of mini profit-center system, will be comparatively observed. There are previous literatures that explained each of JIT and MPC, respectively (for JIT see Shoneberger (1982) and Monden (1983, 1998), and for MPC see Kunitomo (1985), Hamada and Monden (1989), Cooper (1995), Nikkei Business No. 864 (1996), Inamori (1998), Mitsuya et al. (1999), Mitsuya (2000), and Fuse et al. (2000)), but no research was made to conduct the relationships between two of them. This point is the original work of this article. For this the following topics will be explored one by one:

(1) Comparison and mutual extension of benefits between JIT production system and MPC system.
(2) Income statement of MPC.
(3) JIT production system as a prerequisite for MPC profits measurement.

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2. Comparison and mutual extension of merits between JIT and MPC systems

The goals or effects of both JIT system and MPC system are similar and common in many items, but there are also many *new* goal-items in MPC system. Further the means to achieve such goals in JIT and MPC systems are also common in some items, but there are many new means in the latter. These goals and means can first be summarized in Fig. 1.

Since the goals and means of JIT production system listed in Fig. 1 are now well-known (see, for example, Monden, 1983, 1998), let the author explain mainly various aspects of MPC system in relation to JIT system in the following sections. Especially, the mutual benefits to be extended between JIT system and MPC will be explored in detail.

2.1. Motivating people of MPC through a single goal of profit

MPC system, as also called "small group's profit-center system", is to divide a company into many tiny organizational units. Each unit has about ten members and has to earn profits by their own effort like an independent company. This is why each unit is called a "mini profit-center".

Because the size of about ten members is the same as that of a vendor managed as a personal shop in a town, the management by MPC system is a kind of firm-group management that comprises so many tiny, independent companies. The leader of each MPC is similar to a president of small firm, and has to improve profit with the team members through making their various efforts.

On the other hand, JIT system also have been utilizing the continuous improvement activities by a small group called quality control (QC) circle. The number of its members and the unit in the official organizational structure are also similar to MPC. However, QC circle is different from MPC in the following points:

First, while MPC is a profit-center, QC circle is rather cost center. Further the topics or themes of QC circle are many. While cost reduction, quality assurance, timely delivery and quantity controls are basically important for QC circles, they conduct also machine-maintenance, safety, sanitary, environmental protection and moral enhancement, etc. All of these topics are handled by MPC, too. While these goals or topics will be selected or given separately in the QC circle activities, they could be integrated into a single goal of profit improvement in case of MPC. The results of achieving these various goals will be reflected on a profit figure of MPC. Since the contribution of efforts for achieving each topic can be much clearly shown in the profit figure, MPC system can motivate people stimulating their profit consciousness.

In this paper we will examine in detail the Kyocera Corporation, which has originated MPC system in Japan. First let us look at the company profile briefly. Kyocera was established in 1959, and started to produce ceramic goods of IC packages and then expanded her business into semi-conductor parts, electric parts, communication instruments and optical precision instruments. Kyocera is now one of leading companies in Japan in the fields of electronics and communication products, and is continuously enjoying higher profits every year.

Kyocera's MPC is called "Amoeba". Each amoeba is given only a single goal of "profit per hour" (more accurately, value-added per hour). To improve the actual figure of profit per hour three approaches could be taken: (a) increase of sales amount, (b) decrease of costs, and (c) decrease of time spent. Among these the sales increase includes not only enhancement of sales amount itself, but also product-quality improvement and delivery-time reduction. The decrease of time implies work-forth reduction and various other improvements in the manufacturing methods, thereby increasing the productivity.

2.2. Delegation of larger and wider authorities

2.2.1. Authority for flexible exchange of workers among various MPCs

"Amoeba" of Kyocera is a typical MPC. An amoeba may be for one kind of product if it is organized for each product variety. Amoeba can be for a single functional manufacturing process if it is organized for each variety of manufacturing processes. This is a "job-shop type" amoeba. Some amoeba may have all processes as a set, which is

	JIT system	MPC system
small group	QC circle or team for continuous improvements	Mini profit-center for continuous improvements
goals	1) Cost reduction 2) Lead-time reduction 3) Quality assurance 4) Respect for humanity	1) Profit earning 2) Cost reduction 3) Revenue increase 4) Lead-time reduction 5) Quality assurance 6) Motivation for employees
means	**(1) Means for cost & time reduction: for eliminating excess inventory and work-forth** Pull system by Kanban, Production smoothing, Small-lot production, Single-piece production, U letter form layout, Multi-functioned worker, Standard operations **(2) Means for quality assurance** Autonomous defect control ("Jidoka") **(3) Means for humanity enhance** Small group "Kaizen" activities.	**(1) Motivating people by a single goal of profit** The above five goals can be achieved when only profit goal is pursued. **(2) Delegation of larger authorities** Authority for flexible exchange of work-forth among MPCs Authorities in the market mechanism. Authorities for continuous improvement (same as JIT means (1)) **(3) Deployment of target profit**

Fig. 1. Goals and means of JIT and MPC systems.

a "product-flow type" amoeba. Kyocera has about 13,000 employees as of year 2000, and the number of amoeba is about 1200. Thus, each amoeba has 10 members in average. Although product-flow type amoeba is consistent with JIT layout concept, the readers should note that MPC also has a form of non-JIT type amoeba, which is set for functional process. This is because MPC at Kyocera was initially invented and introduced when the Toyota's JIT system was not developed and prevailed in Japan. Thus, MPC was not necessarily linked to JIT in its original form.

Amoeba also has a common feature of flexibility of any MPC in terms of member size. At Kyocera, when production volume is increased, the amoeba size will be expanded. If volume is decreased amoeba size will be shrunk. When amoeba A calls for additional workers, amoeba B will dispatch the helpers to this amoeba. Conversely amoeba B may accept workers from the other amoeba. Although both MPC and JIT systems are common in their flexible transfer of workers among centers, JIT system transfers workers based on the instruction of the production control department, while MPC system does this based on the individual and independent judgment of each MPC.

2.2.2. Authorities in the market mechanism

Among various MPCs they will have negotiations to buy and sell any intermediate product. The items for negotiation are price (i.e., transfer price), quantity and delivery time. In case of IC package, the job-shop type MPCs (based on non-JIT type layout) are formulated at Kyocera, and they will negotiate among the processes of raw materials, taping, circuit printing, heating and soldering, etc. (see Fig. 2).

Negotiation will start between the sales MPC and the soldering MPC. The orders acquired in the market by the sales MPC will be given to the soldering MPC with their price and quantity. Although the commission rate for sales PMC is predetermined at a certain % level, the order price itself will be examined by the soldering MPC if

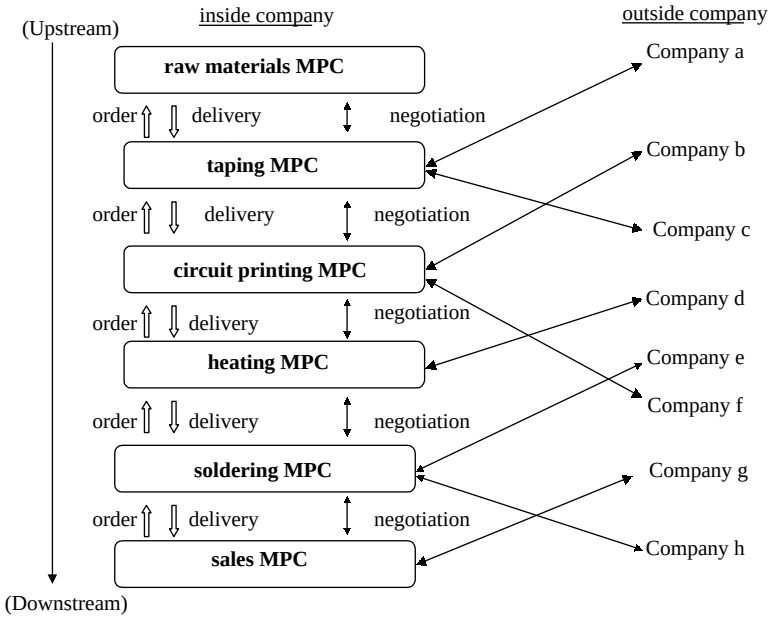

Fig. 2. Market mechanism of MPC system.

some higher price is possible and the sales MPC will be pushed to get a higher-price order in the market.

The following three decisions will be made by individual MPCs through negotiations (see also Fig. 2 for the following discussions of market-driven authorities).

2.2.2.1. Determination of transfer-price. The order for intermediate products will be given from the final process MPC to the preceding MPCs continuously, where the transfer price and quantity are also negotiated. Each MPC has an independent discretion in their negotiation. So their talk is not necessarily bilateral monopoly where the range of price negotiation is very wide and the price will be unstable in such wide range. As a result the transfer price may be determined unreasonably by the stronger power holder among individual amoeba leaders. However, the negotiation is not necessarily merely one to one, but usually the market price of the outside-market will be referred and also plural supplying processes or demanding processes will enter the negotiation. Nevertheless, when no settlement is reached through independent negotiation, their boss will intervene and umpire them for final determination. Although JIT production system also has a so-called "pull system" for intermediate products from the subsequent process to the preceding process, JIT system has no mechanism for each process to independently determine the price and quantity through negotiation.

2.2.2.2. Selection among the vendors of intermediate products. Competition among the supplying processes. If there are two processes, which manufacture the same intermediate products, the subsequent process can determine to give an order to the "better" process in terms of quality, price, delivery time and service. Since the selection authority is in hand of the subsequent process, the two supplying processes must compete in their negotiation with the buying process.

Competition among the supplying process and the outside vendor. Since MPC has the so-called "right of declination", that is the right to reject offers from the in-house supplier, they can buy the intermediate product from the market. Although the decision to buy goods from the outside market is rare, its possibility will be an implicit pressure on the supplying process, which must improve their competitive edges continuously.

Authority to sell the intermediate product to the outside market. Although the selling process cannot reject the request to sell their products to the succeeding process, they can also sell some intermediate products to the other companies in market. What kinds of actions can be taken when the corporate-wide demand is declined and thus no process can accept any excess workers? Under JIT system, the excess workers (when there is no process to be able to absorb them because of company-wide recession) will be involved in QC circle activities, conduct machine-maintenance and the in-house manufacturing of parts by stopping the subcontract manufacturing. However, the decision to conduct such activities will not be taken by any QC circle independently, but suggested by the plant managers. On the other hand, the MPC leader can go to the outside market on his own initiative to find some orders from new customers in such idle situations, and then ask the sales department to negotiate with the customer. This is the point that MPC system differs from JIT in profit enhancement. Cost reduction by JIT will be profit increase under a stable sales price even though the sales volume itself was not increased. MPC, however, could increase the sales volume itself by selling additional product to the market. This is what JIT small group was not supposed to do.

2.2.2.3. Continuous improvement of various manufacturing methods for reducing the costs: how JIT system will extend benefits to MPC system. Although MPC system was initially introduced to Kyocera under non-JIT environment as stated above, each MPC nowadays utilizes all JIT techniques listed in Fig. 1 as their means to reduce costs under JIT system. Therefore MPC system uses or incorporates JIT system as its important improvement tools. This implies JIT is giving merits to MPC. Regarding how JIT can reduce costs, see Aigbedo (2000), Funk (1989) and Miltenburg (1993), etc.

2.3. Deployment of target profit

It is a Japanese conventional way of corporate planning that the corporate-wide goals will be decomposed into various target amounts at each hierarchical level of the company. Such goal decomposition system has been called as the "policy-deployment (or "Hoshin" planning or goal deployment) in the Japanese total quality control (TQC) or total quality management (TQM). The "balanced scorecard" in the US also emphases the cause-and-effect relationship in deploying the corporate objectives (see Kaplan and Norton, 1996).

Suppose the company's organizational structure is composed as the following layers: From corporate to/from SBU to/from division to/from department to/from section to team (which is mini profit-center). The president's annual policy announced in January will be a basis for the strategic business unit (SBU) manager to prepare their annual business profit plan, which includes multi-divisional annual profit plans. Then this divisional profit plan will in turn be decomposed into the monthly profit plans of each department and sections, which belong to the division in question. These monthly plans include the following schedules:

1. monthly profit target,
2. monthly total expenses,
3. monthly value-added target,
4. monthly total labor hours,
5. monthly target value-added per hour.

The section manager in turn asks each MPC leader under his guidance to prepare the same schedules as above. MPCs planned figures must be able to achieve the sectional value-added target given in advance. The MPC leaders must incorporate various action plans for improving not only yield-rate and production volume and reducing expenses, etc., but also enhancing the sales revenues in their monthly plans. The monthly plans are usually prepared on a rolling base each month.

3. Computation formula of the MPC profit

Since MPC system treats a smallest organizational unit as a profit-center, it uses a special system of profit measurement of each MPC.

Let us again see the amoeba system of Kyocera Corporation. An example of the income statement of a certain amoeba (in this case: an assembly process of metallic instruments to be attached to the ceramics heated in the preceding process) is shown in Fig. 3.

As shown in Fig. 3 the income measurement formula of an amoeba is as follows:

Total sales = extra-company sales + intra-company sale.
Gross contribution margin = total sales − intra-company purchases.
Value-added = gross contribution margin − total expenses.
Value-added per hour = value-added ÷ total labor hours.

The most important measure among all is "value-added per hour" which should be maximized by MPC. The value-added per hour can reflect managerial efficiency of any MPC irrespective of their sizes. Because the labor costs are not subtracted from the gross contribution margin, the gross contribution margin minus total expenses is called "value-added", though it is not an added-value in a rigorous sense since the interest costs of facilities held by the amoeba is also included in the total expenses.

The reasons why the labor costs are not included in the expenses in computing the value-added per hour, are as follows: (1) The amount of salary varies among members of MPC, and thus if the MPC leader knows such salary differences he may be likely to remove members of higher wage-rate out of his MPC, or the leader may not frankly be able to transfer such members when necessary. (2) If the labor hour is known, it is enough to measure the productivity of MPC. (3) MPC should create value-added, out of which they should earn their own salary. The minimum amount of value-added per hour of MPC must be the *corporate* average wage-rate per hour (rather than average wage-rate within the MPC in question). Suppose, for instance, that the corporate average wage-rate is 2500 yen and the value-added per hour of a certain MPC is merely 1600 yen. Then it follows that the MPC is generously giving 900 yen (= 2500 − 1600) to the customer whenever they do work of one hour. In other words this MPC is loosing money of 900 yen per hour out of the company.

Total sales	A = B + C	25,000
Extra-company sales	B	5,000
Intra-company sales	C	20,000
Intra-company purchases	D	2,200
Gross contribution margin	E = A − D	22,800
Total expenses	F = a + b + c + …… + m	11,000
direct material costs	a	
tools & supplies costs	b	
subcontract processing costs	c	
maintenance costs	d	
power costs	e	
depreciation & interest costs	i	
allocated divisional overheads	j	
allocated plant-overheads	k	
intra-company tech. royalty	l	
allocated sales dep. overheads	m	
Value-added	G = E − F	11,800
Total labor hours	H = x + y + z	2,000
regular time	x	
over-time	y	
allocated time of service dept.	z	
Value-added per hour (¥/h)	I = G ÷ H	5,900
Gross contrib. margin per hour (¥/h)	J = E ÷ H	11,400

Fig. 3. Income statement of MPC (1000 yen).

Various service costs in the plant and plant office are allocated to each MPC based on the utilization grade of such services. However, the company's central administrative costs are not allocated to MPC because any reasonable allocation base cannot be found. Although activity-based costing (ABC) is not utilized, the costs incurred for the operation (i.e., activity) in each service department is measured and allocated to various manufacturing amoebas based on their utilization grade. The reader should note that the material costs in Kyocera's MPC include all the costs of "purchases" of materials. Further not only manufacturing costs but also sales and administrative costs are together put into this income statement. This accounting is so simple that everybody in amoeba could understand very easily.

In order to maximize the value-added per hour, the sales must be maximized and the expenses must be minimized, and further the labor hours should be minimized. The means for achieving such maximizations and minimizations were explained in the previous section.

4. Another type of mini profit-center

Let us see another type of mini profit-center that differs from Kyocera's in its layout and profit calculation formula. NEC's plants will show this type. NEC plants such as NEC-Saitama and NEC-Nagano are companies legally independent from NEC corporation, and make NECs electronics products. In NEC-Saitama, for example, they makes cellular phones and PHS, etc. They apply JIT production system and mini profit-center system together. Each mini profit-center is called a "line-company" that has about 20 members and forms a product-flow type layout (JIT type layout) for the similar variety series of handy phones. This layout is a kind of U-letter form popular in JIT production system and has no conveyer belt.

NEC's line-company has a special profit and loss statement (income statement), which contains the following cost items as expenses:

(1) direct labor cost and over-time cost,
(2) facility costs and floor costs,
(3) subcontracting costs of parts.

Labor costs are computed as follows. The direct labor costs is measured by [(number of regular workers $\pm$ incremental or decremented number of workers) $\times$ average labor costs per person]. The overtime cost is calculated by (total overtime $\times$ overtime wage rate per hour). Part timers' costs are by (actual number of part-timers $\times$ labor costs per person). As for the facility costs it will be counted as its reduction if some machine in the line was abolished. The floor costs are also counted as reduced if the line space was decreased. The subcontracting costs are for processing their parts by outside-companies. This will be measured by (subcontracting processing cost per unit $\times$ number of subcontracting units).

However, NEC will not introduce any direct material costs (purchased parts costs) into their income statement. Thus, they introduce merely "traceable processing costs of the line" that consist of direct labor costs, direct facility costs and direct subcontracting costs.

The sales price of each line is a kind of processing commission rate, and thus the sales amount will be [(number of completed units $\times$ standard hour per unit) $\times$ line's processing commission rate]. Since each line is a product-flow line for each series of products, the processing commission rate will be determined considering the market price of the products in question, the budgeted processing costs of the line and the break-even point number, etc. Therefore, this sales price is a kind of target cost to be recovered by the line in question. In other words, if the line could not realize the actual processing costs that are less than this amount of target cost, the line could not earn positive line-profit. This price is determined by the accounting department of the NEC-Saitama, but not by line company manager.

The control items in NEC are similar to Kyocera or many other companies that apply JIT production systems. Profits will be earned by decreasing the costs. Thus cost reduction is the main purpose of NEC mini profit-center. For this purpose the continuous improvement activities are conducted. (1) If the line's sales are decreased the

"president" of the line company in question has to reduce the number of line workers in order to earn profit. Thus income statement of the line will be a strong motivating tool to reduce work force. As is the case in Kyocera, NEC line leader also negotiates with other line managers to transfer the workers. (2) JIT promotes to eliminate wasteful conveyance-time, so that the unnecessary machines and floor space will be abandoned and their costs will be reduced. (3) The subcontracts will be replaced with an internal manufacturing. They will make this decision by comparing the subcontracting costs with the line's direct processing costs (excluding administrative and development costs), since the latter will not change wherever the parts were manufactured.

5. Local optimization and global optimization

The MPC concept seems to focus on the profit of the center, not for the coordination of the entire manufacturing process, which is an important factor for the good use of JIT. However, both systems have some schemes for coordination or global (total) optimization. In the companies like Kyocera and NEC plants they apply MRP (Material Requirement Planning) to achieve company-wide or business group-wide coordination including parts suppliers. This is a centralized coordination based on vertical communication. On the other hand, they have a horizontal communication system for the global optimization.

In JIT system the Kanban system or pull system will automatically achieve total optimization during the period. Kanban is also a kind of decentralized management system, because each process can only produce as much units as withdrawn from their store by the subsequent process without knowing any other process conditions, such that all of the processes throughout the company including suppliers can produce only necessary number of units eventually. Such autonomous coordination is made merely within a certain limited percentage of the total necessary production units determined by MRP system.

MPC system, on the other hand, has their unique approach to global optimization. (1) Each process leader can horizontally negotiate with other process leaders about transfer of workers so that the plant-wide optimal allocation of workers can be realized. (2) The internal transfer price system based on market price is used at kyocera, which utilizes a kind of price mechanism in the plants. (3) In considering "make or buy decision" or "make or subcontract decision", they do not use "full costs or absorption costs, but use merely the company-wide *incremental* costs to compare with the outsourcing costs. This incremental cost at NEC is the direct processing costs per unit of the line. Such use of incremental cost can bring company-wide optimal decision. The earliest work for such decentralized, global optimal decision has appeared in Schmalenbach (1948).

6. JIT production system as a prerequisite for MPC accounting

6.1. MPC accounting is a "cash-basis" accounting

The computational formula of value-added of MPC is deceptively simple, and it is almost the same as any household accounting, so that any body in each MPC can understand it easily. MPC will measure its value-added amount each day and each month based on the assistance of company's controller division.

It should be noted that MPC accounting will not necessarily use any traditional cost accounting in the middle of the yearly financial-accounting period, and thus they will not evaluate the materials inventory, the work-in-process inventory and the product inventory at all during the period. Such accounting system is equivalent to the "back-flush costing" coined in the US (for the back-flush costing see Horngren et al., 1997, 2000).

They regard the "cost-flow" as follows:

(a) amounts of all production factors *purchased* during a day or month = amounts of factors *used* during the same period,

(b) amounts of all production factors *used* during the period = cost of goods *manufactured* during the same period,
(c) costs of goods *manufactured* during the period = cost of goods *sold* during the same period.

In the above three formulae the exceptional case is for depreciation costs of MPCs facilities.

At the end of the financial accounting period, however, they have to evaluate the ending inventory of work-in-process and products, to conform to the generally accepted accounting standards. It is also interesting that Kyocera corporation is applying the so-called "retail-price reduction method" for evaluating these inventories. That is, the amount of inventory measured by sales price will be multiplied by a certain predetermined cost-ratio to the sales.

The above MPC accounting featured by formulae (a)–(c) could be called a "*cash-basis*" accounting of the manufacturing sites. Such cash-basis characteristics can hold only when the ideal situation of JIT production is realized. In other words, JIT system will give an enormous advantage to MPC, and it constitutes a prerequisite of MPC accounting. Because, MPC accounting is based on the following two assumptions:

(i) the lead-time of manufacturing process is very short,
(ii) the production factors used for the products that were manufactured during the period are all purchased in the same day of the sales.

These two assumptions are well satisfied by the JIT production system, which minimizes productions lead-time by the means of JIT "single piece production and conveyance", or "small lot-size and frequent delivery", and "production smoothing", etc., thus achieving three formulae of (a) (b) and (c) above described. As a result, when the depreciation cost is excluded, all amount of expenses accrued during the period is equivalent to the cash-outflow of the same period.

7. MPC accounting will give motivation to reduce excess inventory

According to the traditional absorption costing (full cost accounting), the fixed costs will be put into the product costs and be an asset in the balance sheet if there exists unsold inventory at the end of the period, thereby part of the fixed costs will not be an expense of the income statement of the period in question. This may help induce managers not to decrease the excess inventory. Such motivation will not be induced by the aforementioned MPC accounting.

Although the above demerit of absorption costing may be removed by the direct costing or variable costing, the MPC accounting will be much better than these costing in terms of inventory cutting. Because, according to MPC accounting at Kyocera the material costs included in the "cost of goods sold" is not confined to the materials of the products that were sold, but covers all of the materials purchased during the period in question. Therefore, if the MPC manager bought a material that may exceed the need for manufacturing and sales, then he must have remaining inventory at the end of the period. This ending inventory amount also get into the expense in the MPC income statement as part of expense, and as a result the expense will be larger and the profit (value-added) will be smaller compared to the MPC which purchased only necessary amount of materials. Thus, thanks to its unique accounting system MPC manager will be motivated to reduce excess material inventory.

8. Conclusion

In this paper I have explained what kinds of merits would be gained mutually if the MPC system was combined with JIT system. Fig. 1 briefly shows the goals and means of both systems comparatively. Although goals of both systems are similar, the main goal of MPC system is to increase profits by not only reducing the costs but also by improving the sales revenues, while that of JIT system is to reduce costs though it could *indirectly* increase profits.

Regarding the means to attain various goals, the MPC system makes good use of much wider authorities of MPC leader than those of JIT system. Actually MPC leader has a variety of decision authorities to be displayed in the market mechanism of a decentralized organization, while the leader of QC circle in JIT system can display his authority only in the "continuous improvement" activities for mainly reducing costs as a cost center leader.

MPC leader, however, also has to be involved in the continuous improvement ("Kaizen") for reducing the expenses, in order to improve profit (or value-added) of his MPC. In this situation the MPC leader will have good use of all the techniques of JIT system, thereby each MPC could earn "lean" financial constitution that has no excessive work-force and inventory. This is the very advantage of JIT given to the MPC system. In other words, *MPC system is a decentralized management system that motivates people from profit consciousness, and motivates to use various JIT techniques to make continuous improvements for profit maximization. Thus in short MPC gives a powerful driving force for implementing JIT system, and JIT gives a powerful tool to MPC.*

From the viewpoint of accounting, the MPC accounting system must be so simple and naïve without doing any work-in-process evaluation unlike traditional cost accounting, so that everybody in a MPC line could understand it very easily like a housekeeping accounting. This is because the main purpose of MPC system is to motivate people throughout the company to participate in management.

Therefore, the income measurement in MPC system must be "cash-basis" accounting like a cash-book (cash receipt and payment journal) in a household accounting. In order for the income measurement to be equivalent to the cash-basis accounting, there must be a prerequisite condition of MPC system that it completely shortens the production lead-time by applying the JIT. However, MPC accounting also does motivate people to remove excess inventory.

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