

Appendix B

The subsequent material is supplementary material for the finely-tuned use of the DTCN/DTC methodology.

Abstract

This supplementary material is cumulative, so readers are invited to add their supplements or applications of DTCN/DTC methodology.

Please send them to the author even if they are in the preliminary stages. After due consideration, they will be added to the revised version of this book or listed on the DTCN/DTC home page.

1. Framework Flow Chart for the Storage of Know-how and Cost Management in Enterprises
2. Creating Missions of Seeds, Needs and Mine or My Own Organization
3. Creating Customer Needs by Information Node and Concurrent Engineering Flow Chart
4. What is "Plan to Cost"?
5. Method for Cost Reduction and Improvements at Manufacturing Sites
6. Method for Effective and Proper Expediting
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Appendix B-1

Framework Flow Chart For the Storage of Know-how and Cost Management in Enterprises

Framework Flow Chart for Storage of Know-how and Cost Management in Enterprises

- (1) The storage of know-how and cost management in-house is necessary for the survival and growth of an enterprise. Fig. 1 is a flow chart showing the contents. If there is an interruption anywhere in the flow, the enterprise cannot grow. Therefore this flow chart is the basic criteria for the storage of know-how and cost management in an enterprise. The "K-card" in Fig. 1 indicates "K-card or its database of know-how and cost data."
- (2) The concept of Grade of Estimate in the left of Fig. 1 is as shown in Fig. 2. The contents of Fig. 2 can be summarized as follows. Grade of Estimate 9 means the accuracy of estimate during the phase in which "value creation" is getting started with PMD, etc. in circumstances where the matters wanted are not specialized. Grade of Estimate 7 is for the early stage of the project and is the only requirement with a wide margin of estimate. Grade of Estimate 1 corresponds to the case in which a highly precise estimate is possible because the results of man-power and reviewed result are available. Grade of Estimate 0 means the accuracy of estimate in circumstances in which production is steadily repeated because of already stabilized market needs. For example, for the same one million yen, the grade of estimate 7 may give an error of $\pm 50\%$ or so, and grade 1, very little error.
- (3) The following is an actual case. About 10 years ago, a company whose management flow chart was interrupted almost became bankrupt. The company, which was in the red, accepted a director from the parent company. At the first sales meeting he attended, the following comments were exchanged:

Head of Sales Department: We got the contract of this product for 1.2 million yen.

Director: Do you have a proper profit?

Head of Sales Department: Yes, of course.

Director: What is your judgement based on?

Head of Sales Department: I believe so because it is compatible with the manufacturing cost.

Director: Well, well. Where has the GCIP gone? (GCIP: General Cost, Interest and Profit)

Head of Sales Department: It's OK because this company's way of estimating costs differs from yours.

Director: Check it with the Accounting Department.

The next morning...

Head of Sales Department: Everything is working as you said.

Director: Why were you possessed with such an idea?

Head of Sales Department: Here is an instruction for sales.

- 1. Standard product price is manufacturing cost multiplied by 115%.**
 - 2. Custom product price for the user is manufacturing cost multiplied by 150%.**
- Custom product price for the dealer is in principle 90%.**

I thought that on the basis of this data in instruction, we could make a profit even if we sold our product at manufacturing cost

Director: The instructions are vague, don't you think? The second sentence of paragraph 2 should have been clearly expressed as paragraph 3, saying 90% of the price shown in paragraph 1 and 2. This is one reason why the company is in the red by 15% every year and why the top management of this company and the parent company have reported that subcontractors do not cooperate to pull costs down. In addition, our efforts in-house to lead cost reduction have not brought us the profit that this manufacturing cost (?) has assigned to subcontractors. A wrong assignment never brings costs down, does it?

Head of Sales Department: If the top management, who decided to sell the company because of a lack of profit, or the parent company knows about this situation, it will cause serious trouble.

Later the director reported the situation to the Head of the Administrative Department of the parent company, who quashed the report, and the executive on loan was called back to the company.

(4) Here is another similar example of a company facing a crisis. One division was always in the red. It was decided to ask volunteers to make a DTC step-list for the flow from selling to making a profit.

The following inquiries were given in the process:

A: GCIP is what % of the division?

B: 15%

A: Because the division carries out in-house product design and orders whole products from an outside supplier, it is necessary to add at least 25% of GCIP. Please check whether this is true or not.

A little while later...

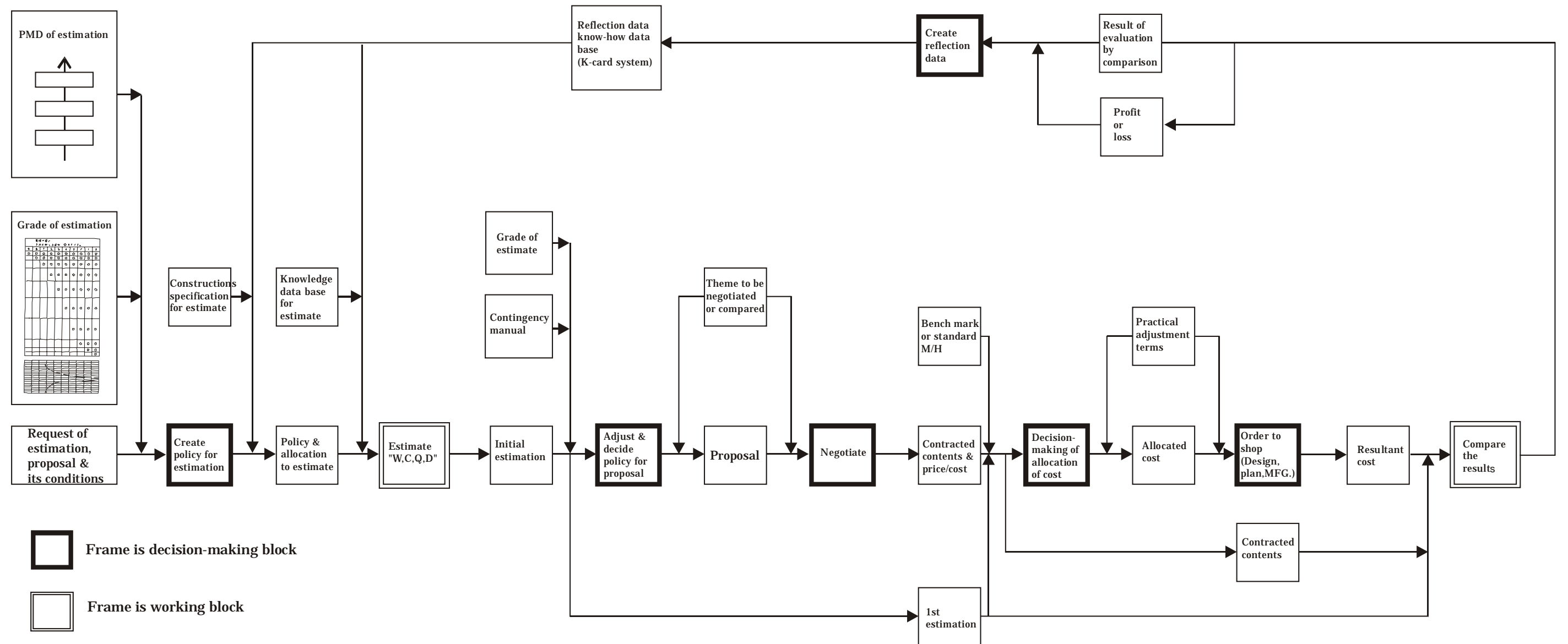
B: Terrible! The Chief of the Accounts Section became nervous when I asked him.

A: This is really the reason why we have been in the red for so many years, isn't it? The selling price, and the inside and outside assignments have been wrong all along.

B: Who should report this situation to the Division Director, and what countermeasures should we take for this?

A: There is no other way to improve the situation than to report this to the incoming Director, with whom I am friends. The present director is expected to leave.

Fig. 1 Knowledge and Cost Management Flow Chart for a Company
 Inside the company, this flow must be kept without a gap from a long range strategical stand point



- Note 1 : K-card indicates "Know-How"card.
- Note 2 : Grade of stimation is refered in next page.
- Note 3 : Flow of cost and know-how management must linked without gap.
- Note 4 : There must be feed back between blocks.

Fig.2 9-step Grade of Estimate

(We call this “9 grade of thinking or 9 grade of fuzzy as necessary)

Phase name	Data obtainable for estimation	Grade of estimate “O” mark means obtainable data																		
		9	8	7	6	5	4	3	2	1	0									
Value creation	Value creation work(0-phase PMD)																			
Customers needs creation	Needs, Sees own mission																			
Requirement definition	Basic function(In brief to do ~) Basic requirement, development plan(with sub system) etc.																			
Concept	Rough sketch, Development plan (With sub system) etc. = Concept Drawing																			
Breakdown Structurization (Optimization)	Total plan, WBS, Function tree Basic plan drawing(3 view, structure,system equipment layout) + WBS																			
Basic design	Report of basic design,Decision calculation report, Performance test plan,AEMO Plan Drawing (3view, lines structure DWG. Parts layout DWG. System DWG, Parts layout DWG. Part/Equipment spec.DWG. Jig spec.DWG. Material spec, Manufacturing facility spec, Quality assurance spec, Assembly sequence chart																			
Detail design	Manufacturing DWG.(Assembly, Installaction, Fabrication part DWG. Spec. control DWG. Circuit DWG. LayoutDWG. External identification DWG.etc.) APL(Assembly parts list), Packing and delivery spec. Spare part spec. Logistic support facility spec. Manuals(Budget estimation for mass-production), JIG DWG., Facility plan																			
Prototype	Shop order(With standard manhour), Direct material quality, Direct material purchase quantity																			
Review	Actual manhour, Data of material used corrective Actions																			
Mass-production	Stabilition by repeat production																			

