To the South Korean Management Accounting Society

Target Costing and Management Accounting

～ Business Revolution via strategic management accounting ～

2012／5／17

Alta Management Corporation

1. Financial Accounting and Management Accounting

In the IFRS International Financial Accounting Reporting Standards (mandatory in Japan-US as of 2015) and the US Enterprise Reform Act (SOX Act, mandatory as of 2002), it has been found that just by making the current “Actual cost system financial accounting“standards stricter, it wasn’t possible to avoid management fraud and untoward incidents such as “Enron” or “WorldCom”, etc. With the objective of recovering faith in the stock market, “creation of financial statements via management accounting of an actual cost system, for the purpose of corporate governance” has become mandatory.

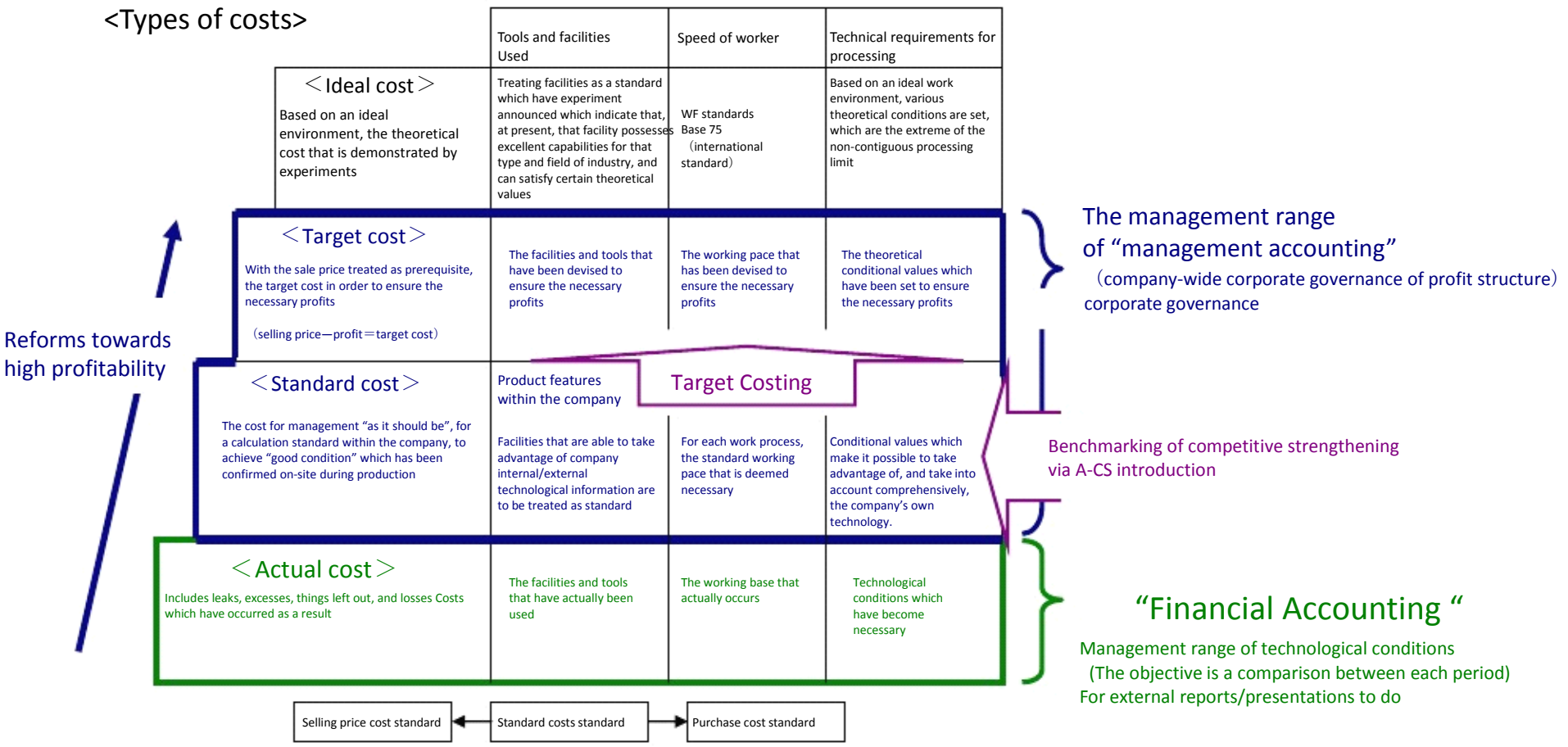
In Japan as well, there have been frequent occurrences in recent years of fraud and untoward incidents, such as “Olympus” and “AIJ Investment Advisors, K.K”. In order to obtain recovery of the stock market, “making it mandatory to create financial statements in accordance with actual cost systems management accounting” has become a pressing issue.

In the “ISO9000” revisions in the year 2000, manufacturing processes necessary for quality management systems, and a management system “technological standard and management standard strengthening” was requested. Furthermore, in relation to “risk management” as well, “actual cost system financial accounting” created from the results of calculations of income statements, balance sheets, and financial statements that include statements of retained earnings led to “a state of forestalled management which invites serious managerial crises”, along the lines of “not being able to judge without trying to produce first”, “not being able to understand without settlement”, “not understanding the actual cost which occurs at the production site” and suchlike. Excluding “managerial risks which are borne of forestalled management”, the “introduction of management accounting” which strengthens “the stock market’s transparency and reliability” and “the quality of enterprises, products and organizations” is certainly a pressing issue in terms of being part of global competition.

2. Target Costing and Management Accounting

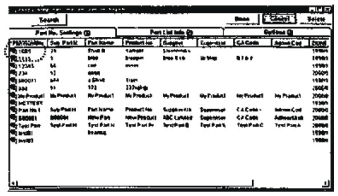
In most business enterprises, there is an excessive emphasis on “actual cost system financial accounting” based on income statements, balance sheets, statements of retained earnings and suchlike financial statements. “Unstable operations management” such as “without trying to produce it, we won’t know the actual profits”, “regardless of summing up profits based on income statements, the business is in a state of having no funds”, and “even though the previous settlement was in the black, we were unable to spot signs of bankruptcy”, and suchlike. In Japan in 2008, of 44 listed companies, twenty ended up with in-the-black bankruptcy regardless of their recent settlement periods ending in the black.

Introduction of strategic management accounting in which “target costing profit structure is centralized/governed company-wide” will actualize a “business revolution towards high profitability”.



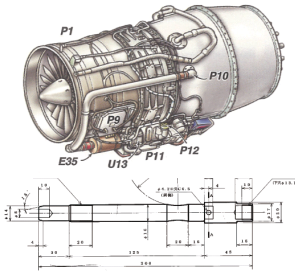
3． Target Cost Simulation System（A-CS）

STEP ①

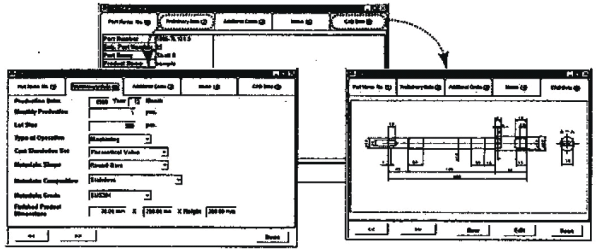


Part Loading

To begin the estimation process, first a part must be created or loaded. Clicking on a part number opens the Preliminary Data Window.



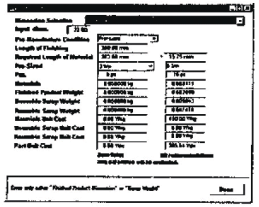
STEP ②



Preliminary Data

This window is used to edit part names and numbers, defining material shape and composition and for loading and viewing CAD drawings and photographs of the part.

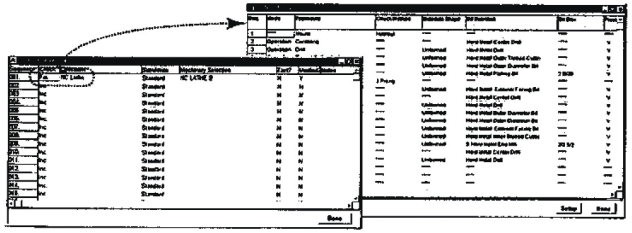
STEP ③



Materials

Edit material dimensions based on material shape and composition defined in the Preliminary Data window.

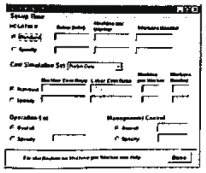
ST ④



Procedure

For accurate estimations, each procedure in the manufacturing process must be detailed.

STEP ⑤

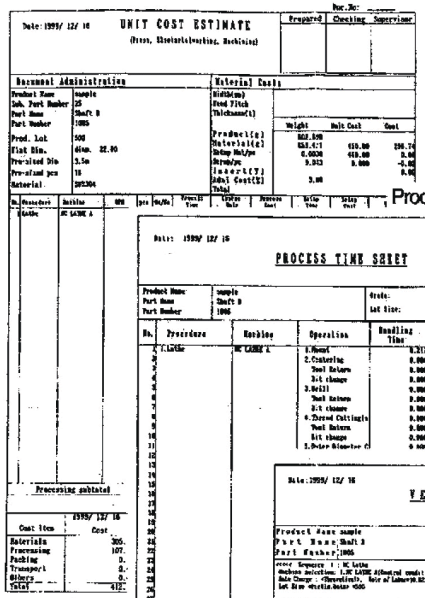


Cost/Lot Information

Optionally edit Machine Cost, Labor Cost Ratios and input Lot Information.

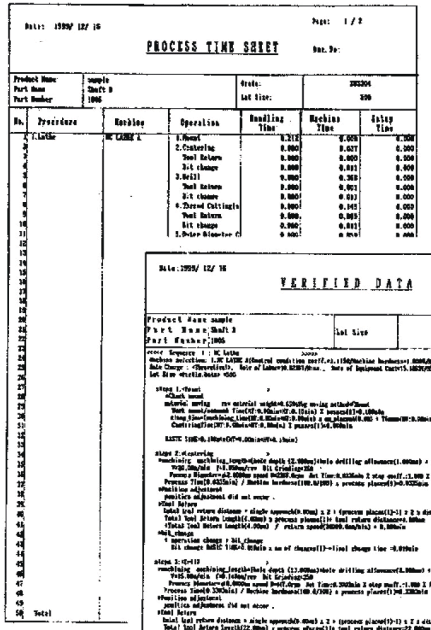
A-CS : Shaft B Flow Model

Unit Cost Estimate



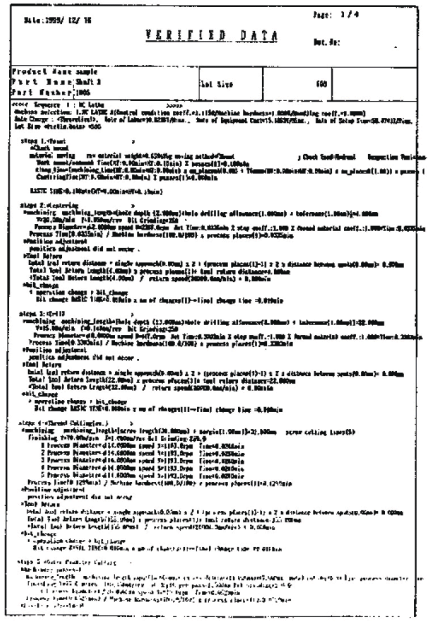
UNIT COST ESTIMATE

Process Time Sheet



PROCESS TIME SHEET

Verified Data



VERIFIED DATA

Process Sheet for Quality Control

Reference no.:

Product name:
Parts name:
Parts no.:
Lot amount: 100

<<<<Process design 1: NC Lathe>>>>

Name of equipment used: 7 NC automatic lathe A (Control requirement modulus (1.1150) / Machine rigidity modulus (1.000) / Handling-by-hand modulus (1.000)

Processing cost rate: <Environment> For Processing time: 28.1453 (yen/min) For Set up time: 60.8762 (yen/min)

Processing lot: <Common> (100 pieces)

Routing 1: <Installation>

► Chuck installation

Attaching and detaching of materials

Material weight: 0.03496 kg

Method of attaching and detaching: "Installation"

Chuck to be used: Automatic supply of materials (used for NC automatic lathe)

Inspection tool: No inspection

Attaching and detaching time of materials (0.01 min) x times (1) = 0.010 min

Clamping time: (Rotation time (0.05 min) x point A (1.00) + time (0.05 min) x point B (1.00)) x times (1) = 0.100 min

Centering time (0.00 min) x times (1) = 0.000 min

Basic time: 0.110 min

Routing 2: <External diameter & end face>

► Cutting Cutting times: 1

Cutting length: (Diameter before cutting – diameter after cutting) / 2 (4.000 mm) + margin (1.000 mm) = 5.000 mm

Total cutting depth: 1.000 mm

Finishing

V = 7.00 m/min f = 0.320 mm/rev Cutting depth: 1.000 mm/rev Cutting: 250.0

Cutting diameter = 4.0000 mm Rotation speed N = 4297.0 rpm Time = 0.0036 min.

Cutting time (0.0036 min) / machine rigidity (100.0 / 100) x cutting point (1) = 0.0036 min

► Position alignment

- Alignment time (0.01 min) x alignment times (1) x cutting point (1) = 0.010 min

► Tool return

Return distance to zero point: Return to zero point (0.00 mm) x 2 + (cutting point (1) – 1) x 2 x distance between points (0.00 mm) = 0.000 mm

Total distance of tool return: Return distance (6.00 mm) x cutting point (1) + return distance to zero point = 6.000 mm

- Total distance of tool return (6.00 mm) / return speed (20000.0 mm / min) = 0.000 min

► Tool exchange

- Process change + tool exchange

Total exchange time: Tool exchange basic time (0.010 min) x exchange times (1) = 0.010 min

Process Sheet for Quality Control

Reference no.:

Product name:
Parts name:
Parts no.:
Lot amount: 100

Routing 3: <Center hole opening>

► Cutting

Cutting length: (Hole depth (2.000 mm) + hole cutting margin (1.000 mm) + margin (1.00 mm)) = 4.000 mm

V: 20.00 m/min f: 0.050 mm/rev Cutting: 100

Cutting diameter: 2.0000 mm Rotation speed N: 954.0 rpm Cutting time: net time (0.0839 min) x step modulus (1.000) x molding compound modulus (1.000) = 0.0839 min

Cutting time (0.0839 min) / machine rigidity (100.0/100) x cutting point (1) = 0.0839 min

► Position alignment

- Alignment time (0.01 min) x alignment times (1) x cutting point (1) = 0.010 min

► Tool return

Return distance to zero point: Return to zero point (0.00 mm) x 2 + (cutting point (1) – 1) x 2 x distance between points (0.00 mm) = 0.000 mm

Total distance of tool return: Return distance (4.00 mm) x cutting point (1) + return distance to zero point = 4.000 mm

- Total distance of tool return (4.00 mm) / return speed (20000.0 mm/min) = 0.000 min

► Tool exchange

- Process change + tool exchange

Total exchange time: Tool exchange basic time (0.010 min) x exchange times (1) = 0.010 min

Routing 4: <Drilling>

► Cutting

Cutting length: (Hole depth (10.000 mm) + hole cutting margin (1.500 mm) + margin (1.00 mm)) = 12.500 mm

V: 20.00 m/min f: 0.100 mm/rev Cutting: 100

Cutting diameter: 3.0000 mm Rotation speed N: 636.0 rpm Cutting time: net time (0.1965 min) x step modulus (1.133) x molding compound modulus (1.000) = 0.2227 min

Cutting time (0.2227 min) / machine rigidity (100.0/100) x cutting point (1) = 0.2227 min

► Position alignment

- Alignment time (0.01 min) x alignment times (1) x cutting point (1) = 0.010 min

► Tool return

Return distance to zero point: Return to zero point (0.00 mm) x 2 + (cutting point (1) – 1) x 2 x distance between points (0.00 mm) = 0.000 mm

Total distance of tool return: Return distance (12.50 mm) x cutting point (1) + return distance to zero point = 12.500 mm

- Total distance of tool return (12.50 mm) / return speed (20000.0 mm/min) = 0.001 min

► Tool exchange

- Process change + tool exchange

Total exchange time: Tool exchange basic time (0.010 min) x exchange times (1) = 0.010 min

Routing 5: <Tapping>

► Cutting

Cutting length: (Screw length (8.000 mm) + hole cutting margin (0.000 mm) + margin (1.00 mm)) x

Unit Price Comparison Chart

Company"A"

	Company Name	Material Name	Materials Unit Cost	Materials Cost(Tot.)	Setup Time (min.)	Processing Time (min.)	Setup Costs	Processing Exp.	Processing Exp. Tot.	Shipping Cost	Rule Tooling Cost	Surfacing	Other	Totals
Pedal	A-CS	SUS303		¥193	25	6	¥779	¥336	¥1,115					¥1,308
	Company A	SUS303		¥450	20	60	¥1,000	¥3,000	¥4,000	¥700			¥890	¥6,040
	Company B	SUS303		¥300	35	85	¥500	¥4,250	¥4,750				¥500	¥5,550
	Company C	SUS303		¥270	30	120	¥1,900	¥7,600	¥9,500					¥9,770
									¥0					¥0
Ashtray	A-CS	A5052P		¥2,924	20	6	¥1,426	¥4,527	¥5,953					¥8,877
	Company A	A5052P		¥2,775	120	120	¥10,500	¥12,000	¥22,500	¥700			¥5,055	¥31,030
	Company B	A5052P		¥1,360		300	¥3,000	¥12,640	¥15,640				¥3,000	¥20,000
	Company C	A5052P		¥3,040	20	84	¥1,400	¥5,628	¥7,028	¥1,200				¥11,268
	Company D	A5052P		¥2,800	60	120	¥2,800	¥2,800	¥7,700					¥10,500
Bookstand	A-CS	spcc		¥23	25	4	¥2,300	¥388	¥2,688					¥2,711
	Company A	spcc		¥30	42	24	¥2,100	¥1,200	¥3,300	¥700		¥3,000	¥666	¥7,696
	Company B	spcc		¥32	96	5	¥4,370	¥287	¥4,657					¥4,689
	Company C	spcc		¥61	43	3	¥2,995	¥302	¥3,297	¥1,400				¥4,758
	Company D	spcc		¥61	53	9	¥3,445	¥1,782	¥5,227	¥1,400				¥6,688

Precision Equipment/Machine Tools Manufacturer(Ex.)

Cost Reduction：Actual Case

Company "D"

		No.of Parts	Present Unit Cost	Est. Costs	New Unit Cost	Diff.	C/D %	Achievement Ratio	Monthly C/D total	Annual C/D total
Man. Div	Press	303	785,749	320,782	621,220	164,529	20.9%	51.6%	2,060,208	24,722,496
	Cutter	123	247,907	105,003	142,906	105,001	42.4%	73.5%	131,438	477,256
	Totals	426	1,033,656	425,785	764,126	269,530	26.1%	55.7%	2,191,646	25,199,752
Man. Div	Press	204	527,251	437,462	453,938	73,313	13.9%	96.4%	808,981	9,707,772
	Cutter	45	4,644	910	908	3,736	80.4%	100.2%	179,328	2,151,936
	Totals	249	531,895	438,372	454,846	77,049	14.5%	96.4%	988,309	11,859,708
Grand Totals		675	1,565,551	864,157	1,218,972	346,579	22.1%	70.9%	3,179,955	37,059,460

★6 months later: 98% achievement rate

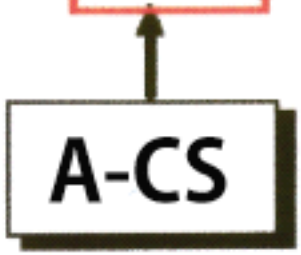
A-CS

Cost Comparison Chart

Using a 20-year veteran as the targeted labor standard, 2 employees with only 4 months experience achieved significant cost reductions.

No.	品名	Part No.	Purchasing Cost	A-CS	%	No.	品名	Part No.	Purchasing Cost	A-CS	%
1	back panel L		¥42,000	¥25,287	166%	1	suppresion board (C)		¥70	¥244	287%
2	back panel R		¥66,000	¥19,067	346%	2	suppresion board (B)		¥1,30	¥584	223%
3	side panel L2		¥65,000	¥16,068	405%	3	suppresion board (A)		¥1,50	¥640	234%
4	side panel R1		¥70,000	¥12,485	561%	4	side panel (B)		¥16,00	¥19,579	82%
5	side panel L1		¥65,000	¥9,134	712%	5	side panel (C)		¥13,60	¥14,119	96%
6	side panel R2		¥70,000	¥16,068	436%	6	adjuster (support)		¥2,90	¥788	368%
7	hinge base A		¥2,500	¥2,441	102%	7	vacuum sensor		¥70	¥1,030	68%
8	hinge base B		¥2,500	¥2,425	103%	8	rack bar		¥1,50	¥1,087	138%
9	back-side hinge base		¥4,800	¥2,668	180%	9	controller		¥2,20	¥781	282%
10	block cover		¥8,000	¥1,473	543%	10	magnetic key bar		¥80	¥352	227%
11	block panel clamp		¥7,500	¥3,582	209%	11	fixed angle cover(D)		¥45	¥636	71%
12	back panel L		¥42,000	¥25,089	167%	12	back panel block clamp		¥2,00	¥1,586	126%
13	fixed-cover angle (A)		¥450	¥111	405%	13	fixed cover angle(B)		¥40	¥408	98%
14	pin		¥350	¥1,016	34%	14	angle		¥40	¥359	111%
15	Pin installation board		¥1,900	¥1,169	163%	15	spacer		¥50	¥251	199%
16	front-bottom panel		¥9,800	¥4,230	232%	16	pin installation board		¥64	¥446	143%
17	key metal fittings(A)		¥980	¥1,044	94%	17	panel installation board		¥45	¥364	124%
18	key metal fittings (B)		¥980	¥1,044	94%	18	metal fittings (panel)		¥56	¥585	96%
19	fixed-angle cover (B)		¥450	¥373	121%	19	panel guide(A)		¥1,80	¥1,129	159%
20	magnetic spacer		¥150	¥775	19%	20	pin		¥64	¥787	81%
21	panel A(L)		¥14,520	¥6,578	221%	21					
22	fixed side door (R)		¥15,000	¥5,393	278%	22					
23	fixed side door (L)		¥15,000	¥5,439	276%	23					
24	roof panel		¥0	¥12,117	0%	24					

25	panel (D)		¥21,200	¥13,781	154%	25							
26	panel (E)		¥21,200	¥13,781	154%	26							
27	exhaust port		¥1,500	¥478	314%	27							
28	bar supporter (top)		¥5,900	¥11,849	50%	28							
29	waveguide cover		¥6,100	¥10,865	56%	29							
30	internal cover (L)		¥2,400	¥2,167	111%	30							
31	internal cover (R)		¥2,400	¥2,167	111%	31							
32	internal cover-C (L)		¥2,400	¥2,269	106%	32							
33	internal cover-C (R)		¥2,400	¥2,269	106%	33							
34	Hinge installation board (A)		¥700	¥479	146%	34							
35	Hinge installation board (B)		¥500	¥194	258%	35							
36	back panel block clasp		¥2,000	¥1,187	168%	36							
37	hinge installation board		¥900	¥664	136%	37							
38	screw		¥1,500	¥418	359%	38							
39	fixed-angle cover		¥450	¥272	165%	39							
40	magnetic catch		¥300	¥154	195%	40				¥625,770	¥283,825	220%	



(Heavy Equipment)

Purchasing Cost Reduction (Actual Case)

<Verified Data Group A>

Unit ¥/req

No.	Part No.	Part Name	Materials Cost	Process Exp.	Packing Costs	Shipping Costs	Other Costs	Totals
1	DT-128479		0	1659.1	0	0	0	1659.1
2	DT-128479-1	Pipe	22.7	751.31	0	0	0	774.01
3	DT-128479-2	Pipe	22.7	751.31	0	0	0	774.01
4	DT-128479-3	Pipe	22.7	751.31	0	0	0	774.01
5	ES55094	Pin	158.81	178.34	0	0	0	337.15
6	ES60637	Nut	113.52	264.19	0	0	0	377.71
7	E644080	Indicator	11.04	57.94	0	0	0	68.98
8	ET-476182		0	312.96	0	0	0	312.96
9	ET-476184		0	306.56	0	0	0	306.56
10	ET-514020		1196.08	4032.36	0	0	0	5227.44
11	ET-514021		206.76	5696.6	0	0	0	5902.36
	Totals		1752.31	14662	0	0	0	16414.31

Part No.	Pre-α Costs	A-CS	C/D %	Difference (1)-(2)
DT-128479	9050	4500.67	50.27%	4549.33
ES55094	864	337.15	60.98%	526.85
ES60637	325	377.71	-16.22%	-52.71
E644080	15	68.98	19.81%	16.02
ET-514020	15776	5227.44	66.91%	10548.56
ET-514021	1665	5902.36	-254.56%	-4237.36
Totals	26130	16414.3	43.53%	11370.7

<Verified Data Group B>

No.	Part No.	Part Name	Materials Cost	Process Exp.	Packing Costs	Shipping Costs	Other Costs	Totals
1	bb001		0	1705.93	0	0	0	1705.93
2	bb001-1	Base1	286.85	552.17	0	0	0	849.02
3	bb001-2	Base2	484.52	1160.19	0	0	0	1644.71
4	bb001-3	Base3	115.11	482.42	0	0	0	597.53
5	dy-42850	duct	0	14363.75	0	0	0	14363.75
6	dy-42850-1	pipe	26628.09	1350.65	0	0	0	27978.74
7	dy-42850-2	pipe	8525.35	1216.46	0	0	0	9741.81
8	dy-42850-3	flange	3420.55	2609.42	0	0	0	6029.97
9	dy-42850-4	stud	3420.55	2609.42	0	0	0	6029.97
10	dy-42850-5	nut	3420.55	2609.42	0	0	0	6029.97
11	dy-42850-6	flange	3420.55	2609.42	0	0	0	6029.97
12	es55588	panel	209.96	1088.91	0	0	0	1298.87
13	nie25177	base plating	16.47	3927.89	0	0	0	3944.36
14	nie78381		0	2424	0	0	0	2424
15	nie78381-1	purst	3106.81	4289.61	0	0	0	7394.42
16	nie78381-2	purst	32.39	0	0	0	0	32.39
17	nie78381-3	nate	0	2.57	0	0	0	2.57
18	nie1845	hex.l	614.52	3307.37	0	0	0	3921.89
	Totals		53732.37	48307.8	0	0	0	100039.97

Part No.	Pre-α Costs	A-CS	C/D %	Difference (1)-(2)
bb001	1784	8195	33.40%	9389
dy-42850	200080	76240.18	61.88%	123759.82
es55588	1126	1298.87	-15.36%	-172.87
nie25177	1264	3944.36	-207.19%	-2680.36
nie78381	12621	9873.38	21.77%	2747.62
Totals	232875	99551.79	57.26%	133083.21

Chart: Verified Data Group A

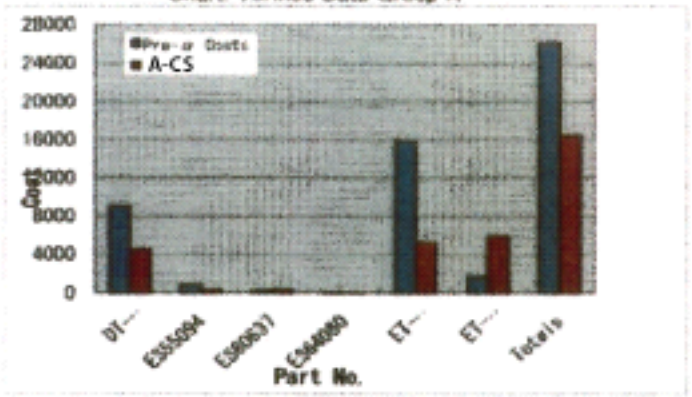
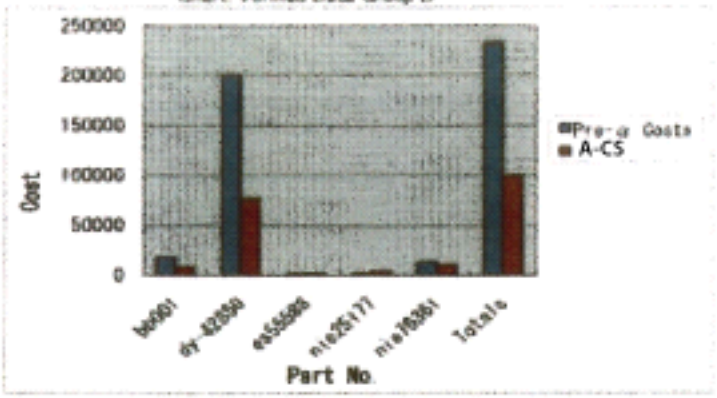


Chart: Verified Data Group B



4. Technology and cost information centralization ! (Example)

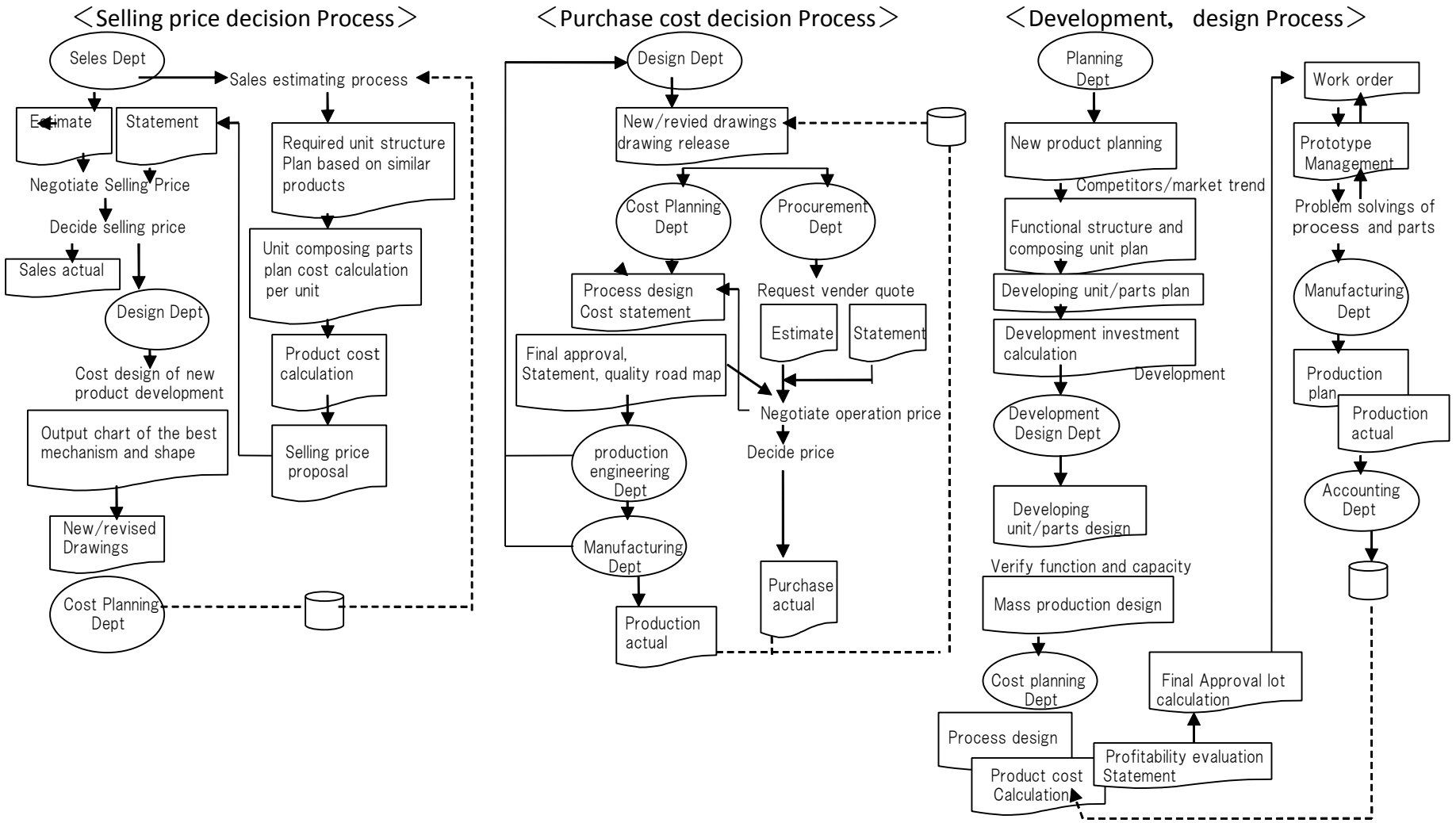
The only nations in the world with a full-scale production technology sector are Japan and Germany. With the A-CS technology cost simulation system's introduction, the "competitive strengthening benchmarking" and "management accounting system which governs the whole company's target costing profit initiatives, via centralization of technology and cost information", which have been evaluated by Germany and the Target Costing International research organization CAM-I as being a "world target costing initiative" and a "target costing best practice", has achieved top-of-the-world profitability.

<A-CS system function>

5. Business Revolution via Management Accounting(Example)

ORGANIZATION STRUCTURE

Company F had a typical standard organization process with many redundancies which caused unnecessary labor, time and coat.

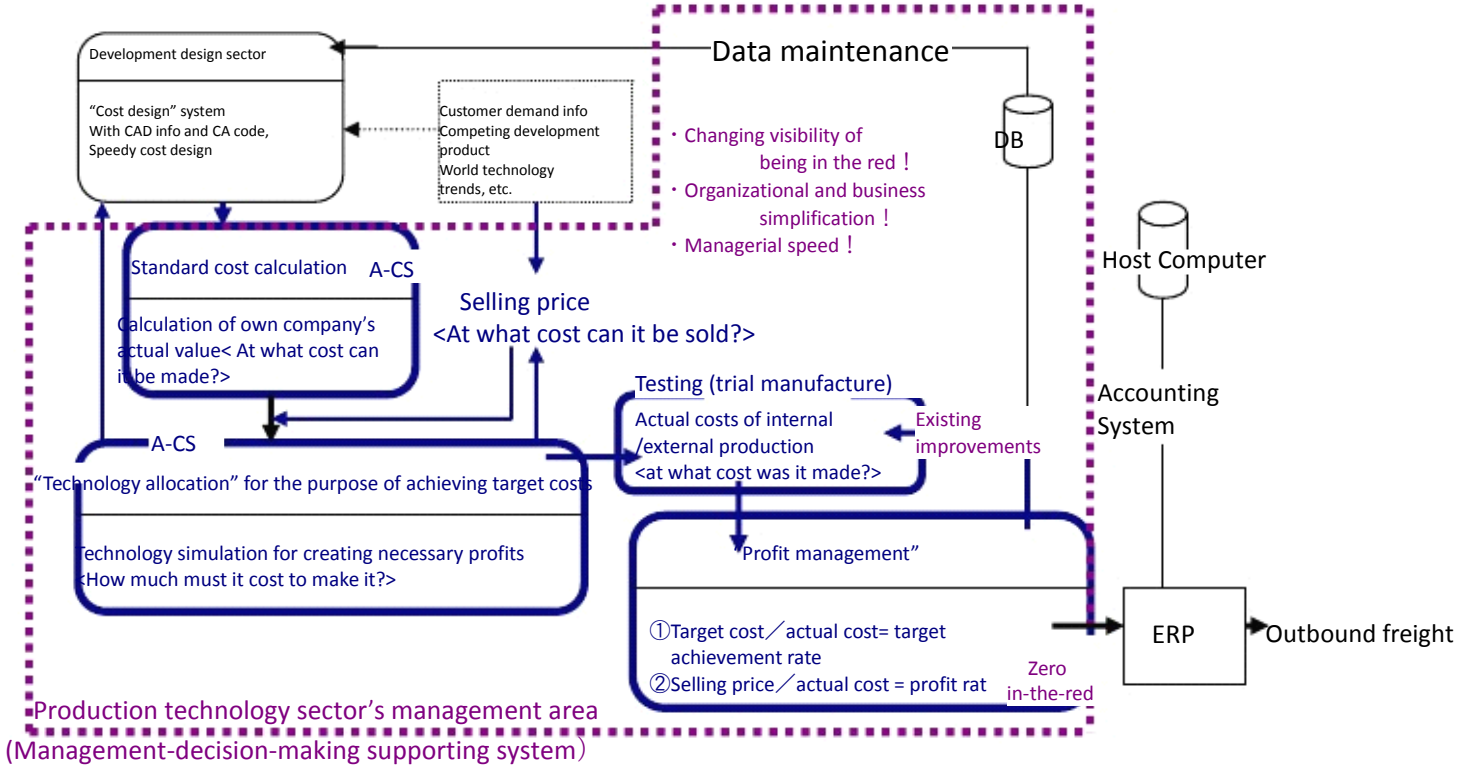


6. Reforming for high profitability ! (Example)

～ Paradigm Shift ～

Compared to the easy-to-copy “product design”, the difficult-to-transfer “production technology” is classified as the business’ operating knowhow, and accelerates differentiation on a worldwide scale. That production technology sector that is the “centre of strategy” is a “sector with responsibility in terms of quality, reliability and cost”, and in order to directly connect the results of those activities to enterprise performance results, the range of statements of the production technology sector ranges “from the production site to the enterprise planning division”,and it is the most important strategic sector in terms of holding core functions for enterprise operations. The “strategic management accounting system” for the production technology sector which centralizes/governs company-wide target costing has, since 1993, boasted the worldwide top-of-the-industry “operational simplification, speed and enterprise profitability”.
That strategic management accounting is:

①A mechanism (system and structure) of thorough “technology and cost information centralization”.
② Able to create cost plans which are well-timed, at the same time, level and extent of precision.
③ Able to quickly handle repeated design changes and process improvements, and able to thoroughly remove losses of opportunity.
④ Having cost information that is visible to anyone, and being able to contribute to cost reduction activities. etc.

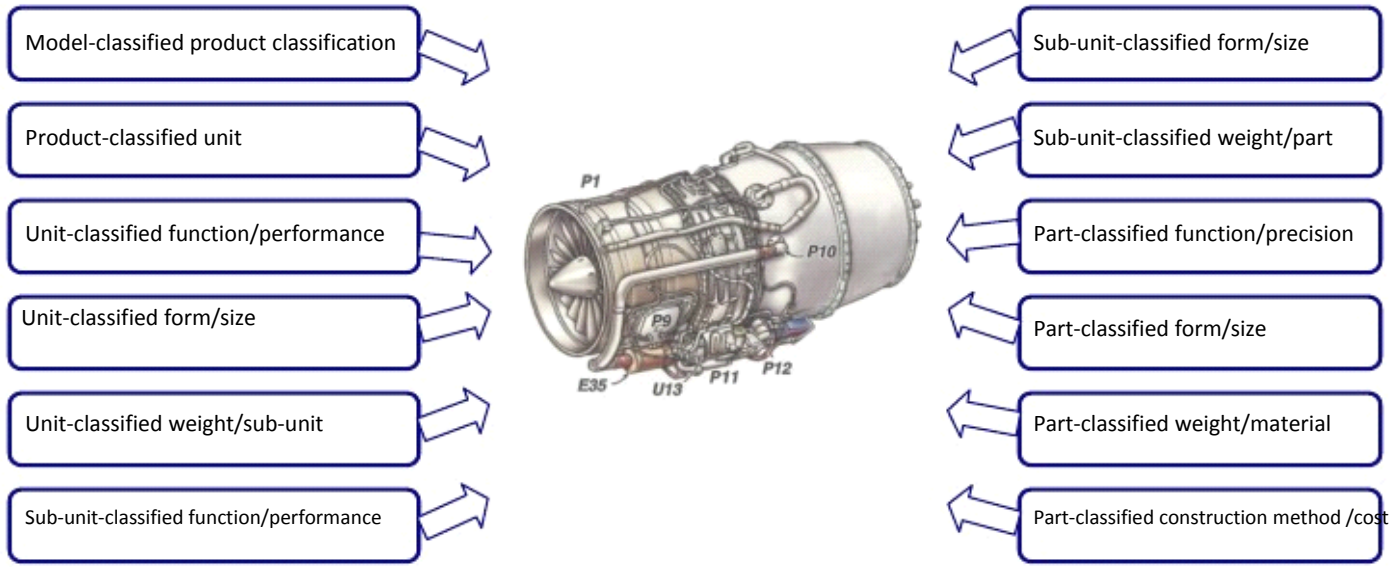


7. Improving sharing, standardization and development speed! (Example)

In the midst of constantly-repeated daily activities, ＣＡ code compilation design involves:

①With the compilation design of similar info, development hints come to the surface.
②With the compilation design of similar info, development image can be shared.
③With the compilation design of similar info, highly reliable planning developments are possible
④With the compilation design of similar info, the most economically viable new products can be developed quickly.
⑤With the compilation design of similar info, excesses, wastes, leakages, losses, malfunctions and recalls can be removed.
⑥With the compilation design of similar info, development effectiveness, simplification and improved speed can be obtained.
⑦With the compilation design of similar info, sharing, standardization and medullisation are quickly possible.
⑧With the compilation design of similar info, anyone can make an optimum process design, and quickly calculate costs.
⑨With the compilation design of similar info, ＶＥ, ＱＣ, ＩＥ improvements and suchlike can be done quickly.
⑩For product numbers that are relatively uncommon, “cost planning and management” is possible. etc.

This maximises cost reduction from a variety of standpoints which would not have been possible with conventional improvement methods and techniques.

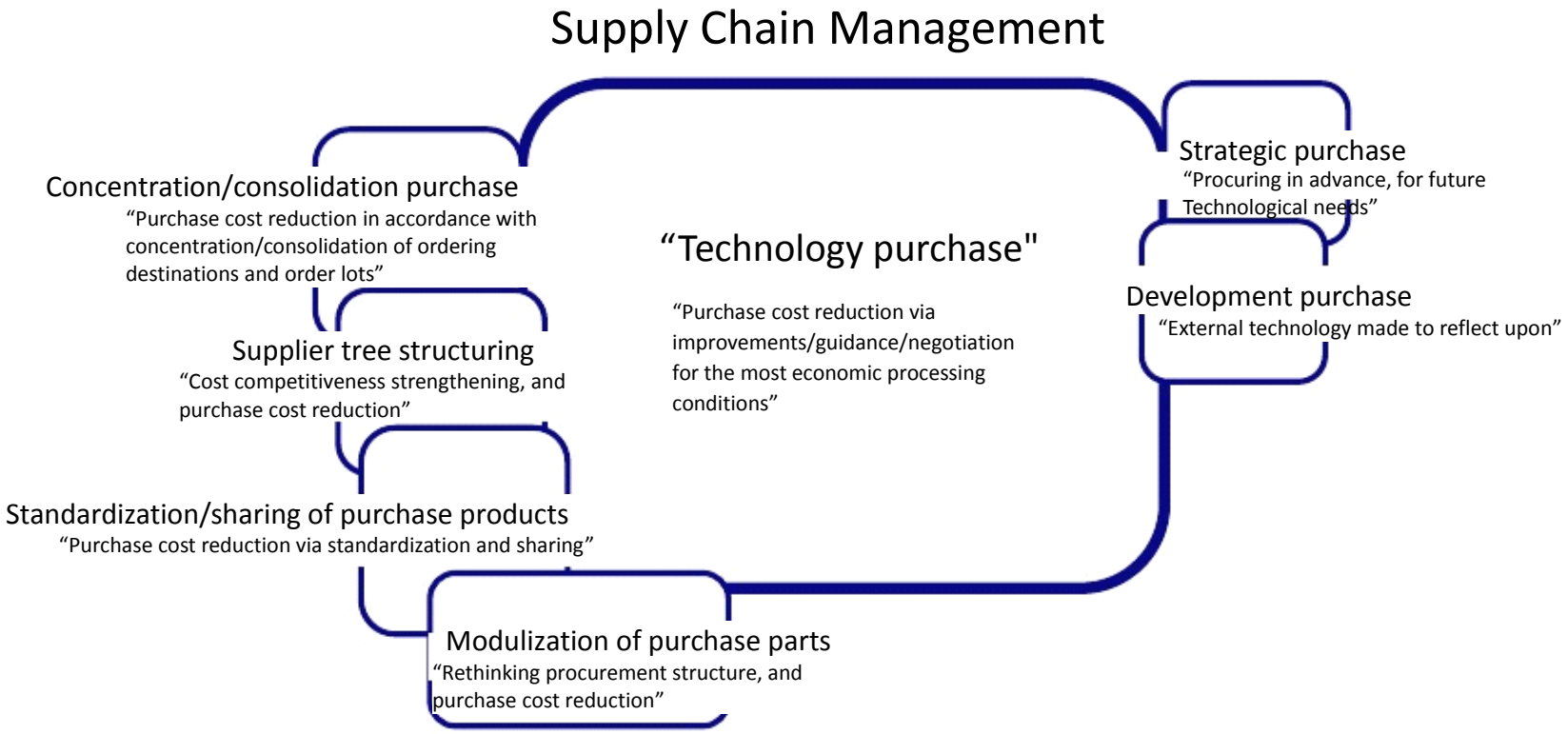


☆ＣＡis the auxiliary product number code for the management accounting system.

8. Technology purchases for the purpose of global strategy (Example)

The conventional cost table is fundamentally a “statistical value estimated from costs”, and the “cost calculated from ideal equipment processing conditions” is a different “value”. As such, in the production environment – where quality and cost is required – high cost products are created because “the required cost for the process does not meet the blueprint quality”, “the basis of the cost is ambiguous and cannot be agreed to”, “we cannot agree with providing the technology to an outsourcer”, etc. For the purchasing sector, which procures between 60 to 80 present of product cost, and “strong technology guidance and negotiation power in accordance with technology purchases” is “the most operational problem in terms of conducting global strategy”.

(Example：Ordering overall diagram for approximately 280 companies',60～80% involved purchases at high costs.)

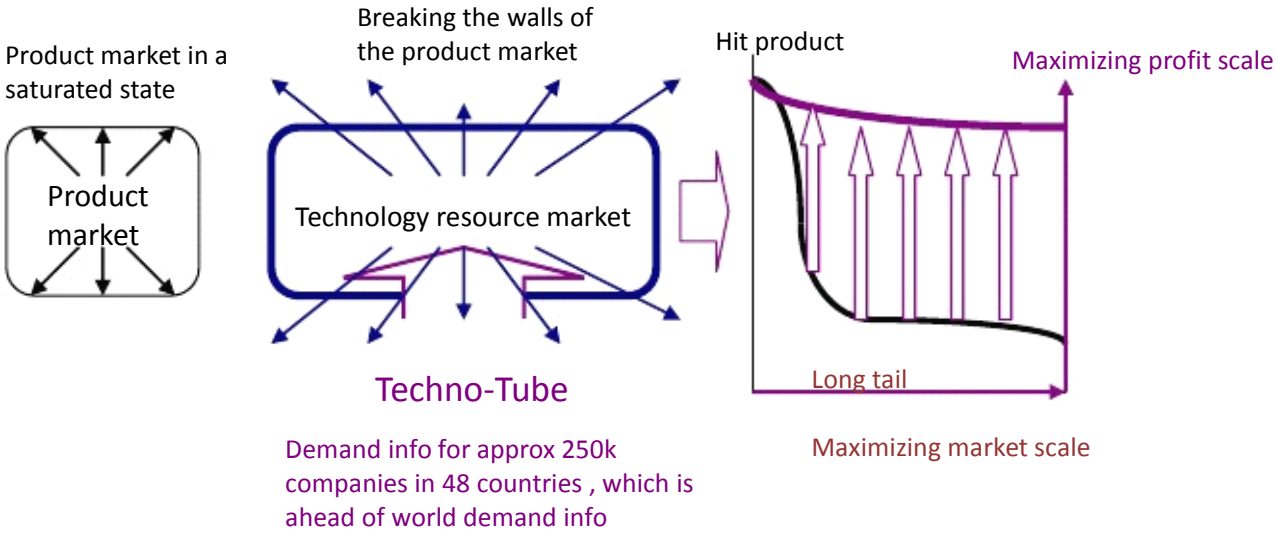


9. Maximizing corporate value！(Example)

In research development, manufacturing and marketing from the perspective of the existing “product market”, as many businesses worldwide are involved in the same initiatives, the priority is not building up, but rather being involved in destructive cost competition which can shorten product lifespans, and while handling model changes in a durable fashion and meeting high-functionality requirements, competitive opportunities on the world market are missed, and business power is exhausted. In comparison, the “dormant technology and buried technology” which natural accumulates over the years as “inconsequential technology” is not displayed on financial statements or charts of accounts, so their value is not recognized by companies.

That sort of “dormant technology and buried technology” that is not evaluated or recognized involves “demand that already exists in the world”, and “being able to meet new demand”.

The “technology website Techno-Tube”, which connects purchase manager markets for approximately 250k companies, 51 purchase groups and 48 countries, actualizes new customers, new markets, new products, new technology and new enterprise creation’s “market scale and profit scale maximization”.



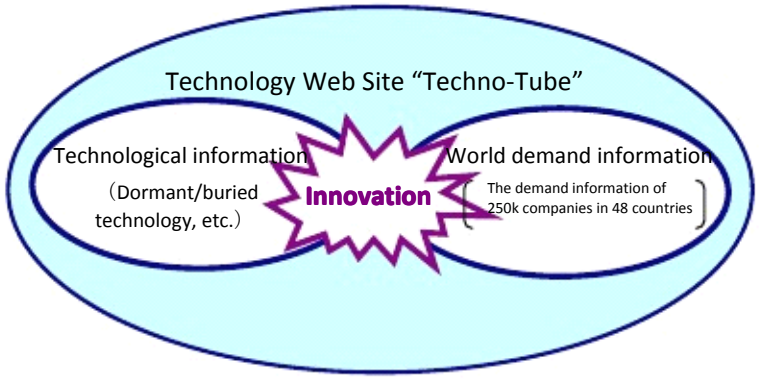
１０．　Innovation Ecosystem！

For both products and technology, the way they end up is not decided by not performance, but rather the way it will be used. Even if the values differ, the lifestyles differ, the culture differs, the climate differs or the sense of colour, feel or taste differs, there will be hit products which will match those various differences.

Furthermore, even if the type of industry is different (such as agriculture, forestries, fisheries, medicine, food products, industrial, mining, services, etc.), hit products will arise appropriately.

Even from a combination of these, it can be said that “hit products have no limits”. Accordingly, the world is prudently creating hit products even in “technology which are one or two steps behind”. (Techno-Tube examples)

Being ahead of global demand！



Regards

2012/5/17

Alta Management, K.K
CEO: Hirokatsu Hibino

"Management Accounting" Conclusion

1. "Management accounting is an enterprise profit structure" for "financial accounting".

2. Management accounting is "a business revolution towards high profitability, which provides corporate governance throughout a company, in terms of target costing profitability improvements".

3. Management accounting is a "management decision-making support system, with the objective of handling business activities as they occur", for "financial accounting for external reports/presentations", with the objective of forming a period-by-period comparison.

4. Management accounting is an enterprise strategy system, for "ensuring in-the-red visibility", "simplifying organizations and business", and "improving managerial speed", via "technology and cost information centralization".

5. In the context of management accounting, technology purchases actualize "supply chain management that is strong from the perspective of technological guidance and technological negotiation", for the purposes of global strategy.

6. The CA code of management accounting comprehensively involves "cost reduction from a wide-ranging viewpoint", which could not have been obtained via methods and techniques for improvement.

7. Use of Techno-Tube in management accounting leads to strong global strategies, via "being ahead of global demands information".

8. Management accounting involves "value-added-ness of dormant/buried technologies" and "organization/product/enterprise reforms towards high quality", which does not appear in financial statements or charts of accounts.

Regards