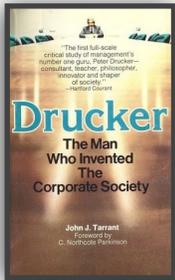


1 Making Decisions

2 by [Peter Drucker](#) in [The Practice of Management](#)



3

4

How is it possible ↓

5

to works toward horizons ↑ ↓

6

that aren't on your mental radar –

7

at the right point in time? ↓

8



Navigating
a changing world



9

↑ [larger](#)

10

[Thinking Broad and Thinking Detailed](#) ↑ ↓

11

[Intelligence, Information, Thinking](#)

12

▪ “Most of the **mistakes in thinking** are **mistakes in perception**.”

13

❖ Seeing only part of the situation – [broad](#)

14

❖ Jumping to conclusions

15

❖ Misinterpretation caused by feelings” – [Edward de Bono](#)

- 45 Those decisions may be made as a matter of routine.
- 46 Indeed, he may not even realize that he is making them.
- 47 Or they may affect the future existence of the enterprise and require years of systematic analysis.
- 48 But management is always a decision-making process. ...
- 49 The importance of decision-making in management is generally recognized.
- 50 But a good deal of the discussion tends to center on problem-solving, that is, on giving answers.
- 51 And that is the wrong focus.
- 52 Indeed, the most common source of mistakes in management decisions is the emphasis on finding the right answer rather than the right question. ...
- 53 The only kind of decision that really centers in problem-solving is the unimportant, the routine, the tactical decision.
- 54 If both the conditions of the situation and the requirements that the answer has to satisfy, are known and simple, problem-solving is indeed the only thing necessary.
- 55 In this case the job is merely to choose between a few obvious alternatives.
- 56 And the criterion is usually one of economy: the decision shall accomplish the desired end with the minimum of effort and disturbance. ...

- 57 In deciding which of two secretaries should go downstairs every morning to get coffee for the office – to take the simplest example – the one question would be: What is the prevailing social or cultural etiquette?
- 58 In deciding the considerably more complex question: Shall there be a “coffee break” in the morning, there would be two questions: Does the “break” result in a gain or in a loss in work accomplished, that is, does the gain in working energy outweigh the lost time?
- 59 And (if the loss outweighs the gain): Is it worth while to upset an established custom for the sake of the few minutes? ...
- 60 Of course, most tactical decisions are both more complicated and more important.
- 61 But they are always one-dimensional, so to speak: The situation is given and the requirements are evident.
- 62 The only problem is to find the most economical adaptation of known resources. ...
- 63 But the important decisions, the decisions that really matter, are strategic.
- 64 They involve either finding out what the situation is, or changing it, either finding out what the resources are or what they should be.
- 65 These are the specifically managerial decisions.
- 66 Anyone who is a manager has to make such strategic decisions, and the higher his level in the management hierarchy, the more of them he must make. ...
- 67 Among these are all decisions on business objectives and on the means to reach them.

- 68 All decisions affecting productivity belong here: they always aim at changing the total situation.
- 69 Here also belong all organization decisions and all major capital-expenditures decisions.
- 70 But most of the decisions that are considered operating decisions are also strategic in character: arrangement of sales districts or training of salesmen; plant layout or raw-materials inventory; preventive maintenance or the flow of payroll vouchers through an office. ...
- 71 Strategic decisions – whatever their magnitude, complexity or importance – should never be taken through problem-solving.
- 72 Indeed, in these specifically managerial decisions, the important and difficult job is never to find the right answer, it is to find the right question.
- 73 For there are few things as useless – if not as dangerous – as the right answer to the wrong question. ...
- 74 Nor is it enough to find the right answer.
- 75 More important and more difficult is to make effective the course of action decided upon.
- 76 Management is not concerned with knowledge for its own sake; it is concerned with performance.
- 77 Nothing is as useless therefore as the right answer that disappears in the filing cabinet or the right solution that is quietly sabotaged by the people who have to make it effective.
- 78 And one of the most crucial jobs in the entire decision-making process is to assure that decisions reached in various parts of the business and on various levels of management are compatible with each other, and consonant with the goals of the whole business. ...

- 79 Decision-making has five distinct phases:
- 80 Defining the problem;
- 81 analyzing the problem;
- 82 developing alternate solutions;
- 83 deciding upon the best solution;
- 84 converting the decision into effective action.
- 85 Each phase has several steps. ...
- 86 Making decisions can either be time-wasting or it can be the manager's best means for solving the problem of time utilization.
- 87 Time should be spent on defining the problem.
- 88 Time is well spent on analyzing the problem and developing alternate solutions.
- 89 Time is necessary to make the solution effective.
- 90 But much less time should be spent on finding the right solution.
- 91 And any time spent on selling a solution after it has been reached is sheer waste and evidence of poor time utilization in the earlier phases. ...

92 ***Defining the Problem***

- 93 Practically no problem in life – whether in business or elsewhere – ever presents itself as a case on which a decision can be taken.
- 94 What appear at first sight to be the elements of the problem rarely are the really important or relevant things.

- 95 They are at best symptoms.
- 96 And often the most visible symptoms are the least revealing ones. ...
- 97 Management may see a clash of personalities; the real problem may well be poor organization structure.
- 98 Management may see a problem of manufacturing costs and start a cost-reduction drive; the real problem may well be poor engineering design or poor sales planning.
- 99 Management may see an organization problem; the real problem may well be lack of clear objectives. ...
- 100 The first job in decision-making is therefore to find the real problem and to define it.
- 101 And too much time cannot be spent on this phase.
- 102 The books and articles on leadership are full of advice on how to make fast, forceful and incisive decisions.
- 103 But there is no more foolish – and no more time-wasting – advice than to decide quickly what a problem really is. ...
- 104 Symptomatic diagnosis – the method used by most managers – is no solution.
- 105 It is based upon experience rather than upon analysis, which alone rules it out for the business manager who cannot systematically acquire this experience.
- 106 We cannot put sick businesses into a clinic and exhibit them to students as we do with sick people.

- 107 We cannot test whether the manager has acquired enough experience to diagnose correctly before letting him loose on actual problems.
- 108 We can – and do – use cases to prepare men to make business decisions.
- 109 But the best of cases is still a dead specimen preserved, so to speak, in alcohol.
- 110 It is no more a substitute for the real business problem than the specimens in the anatomical museum are a substitute for the live patient in the clinical ward. ...
- 111 Moreover, symptomatic diagnosis is only permissible where the symptoms are dependable so that it can be assumed that certain visible surface phenomena pertain to certain definite diseases.
- 112 The doctor using symptomatic diagnosis can assume that certain symptoms do not, on the whole, lie (though even the physician today tries to substitute strict, analytical methods for symptomatic diagnosis).
- 113 The manager, however, must assume that symptoms do lie.
- 114 Knowing that very different business problems produce the same set of symptoms, and that the same problem manifests itself in an infinite variety of ways, the manager must analyze the problem rather than diagnose it. ...
- 115 To arrive at the definition of the problem he must begin by finding the "critical factor."
- 116 This is the element (or elements) in the situation that has to be changed before anything else can be changed, moved, acted upon. ...

- 117 A fairly large kitchenware manufacturer bent all management energies for ten years toward cutting production costs.
- 118 Costs actually did go down; but profitability did not improve.
- 119 Critical factor analysis showed that the real problem was the product mix sold.
- 120 The company's sales force pushed the products that could be sold the easiest.
- 121 And it put all its emphasis on the most obvious sales appeal: lower price.
- 122 As a result the company sold more and more of the less profitable lines where its competitors made the least efforts.
- 123 And as fast as it reduced manufacturing costs it cut its price.
- 124 It gained greater sales volume – but the gain was pure fat rather than growth.
- 125 In fact, the company became progressively more vulnerable to market fluctuations.
- 126 Only by defining the problem as one of product mix could it be solved at all.
- 127 And only when the question was asked: What is the critical factor in this situation?
- 128 could the right definition of the problem be given. ...
- 129 To find the critical factor by straight analysis of the problem is not always easy.
- 130 Often two subsidiary approaches have to be used.

- 131 Both are applications of a principle developed by the classical physicists of the eighteenth century to isolate the critical factor: the principle of "virtual motion."
- 132 One approach assumes that nothing whatever will change or move, and asks: What will then happen in time?
- 133 The other approach projects backward and asks: What that could have been done or left undone at the time this problem first appeared, would have materially affected the present situation? ...
- 134 One example of the use of these two approaches is the case of a chemical company that faced the need to replace the executive vice-president who had died suddenly.
- 135 Everybody agreed that the dead man had made the company; but everybody agreed also that he had been a bully and a tyrant and had driven out of the company all independent people.
- 136 Consequently the problem, as management saw it, seemed to be that of deciding between not filling the job at all or filling it with another strong man.
- 137 But if the first were done who would run the company?
- 138 If the second, would there not be another tyrant? ...
- 139 The question of what would happen if nothing were done revealed both that the problem was to give the company a top management, and that action had to be taken.
- 140 Without action the company would be left without top management.
- 141 And sooner or later – probably sooner – it would decline and disintegrate. ...

- 142 The question of what could have been done ten years ago then brought out that the executive vice-president, his function and his personality were not the problem at all.
- 143 The problem was that the company had a president in name but not in fact.
- 144 While the executive vice-president had had to make all the decisions and take full responsibility, final authority and its symbols were still vested in a president who guarded his rights jealously, though he had abdicated in effect.
- 145 Everything that could have been done ten years earlier to secure to the company the benefit of the dead man's strength and safeguard it against his weaknesses would have required dear establishment of the man's authority and responsibility as the top man.
- 146 Then constitutional safeguards-team organization of the top job; assignment of the objective-formulating part of the job to the vice-presidents operating as a planning committee, or federal decentralization of product businesses could have been provided.
- 147 This analysis thus revealed that removal of the president was the first thing that had to be done – and once that was done the problem could be solved. ...
- 148 The second step in the definition of the problem is to determine the conditions for its solution. ...
- 149 The objectives for the solution must be thought through. ...
- 150 In replacing the deceased executive vice-president the objectives for the solution of the problem were fairly obvious.
- 151 It had to give the company an effective top management.

- 152 It had to prevent a recurrence of one-man tyranny.
- 153 And it had to prevent the recurrence of a leaderless interregnum; it had to provide tomorrow's top managers. ...
- 154 The first objective ruled out the solution most favored by some of the vice-presidents: an informal committee of functional vice-presidents working loosely with the nominal president.
- 155 The second ruled out the solution favored by the Board chairman: recruitment of a successor to the executive vice-president.
- 156 The third objective demanded that, whatever the organization of top management, federally decentralized product businesses had to be created to train and test future top managers. ...
- 157 The objectives should always reflect the objectives of the business, should always be focused ultimately on business performance and business results.
- 158 They should always balance and harmonize the immediate and the long-range future.
- 159 They should always take into account both the business as a whole and the activities needed to run it. ...
- 160 At the same time the rules that limit the solution must be thought through.
- 161 What are the principles, policies and rules of conduct that have to be followed?
- 162 It may be a rule of the company never to borrow more than half its capital needs.

- 163 It may be a principle never to hire a man from the outside without first considering all inside managers carefully.
- 164 It may be considered a requirement of good manager development not to create crown princes in the organization.
- 165 It may be established policy that design changes must be submitted to manufacturing and marketing before being put into effect by the engineering department. ...
- 166 To spell out the rules is necessary because in many cases the right decision will require changing accepted policies or practices.
- 167 Unless the manager thinks through clearly what he wants to change and why, he is in danger of trying at one and the same time both to alter and to preserve established practice. ...
- 168 The rule is actually the value-system within which the decision has to be made.
- 169 These values may be moral; they may be cultural; they may be company goals or accepted principles of company structure.
- 170 In their entirety they constitute an ethical system.
- 171 Such a system does not decide what the course of action should be; it only decides what it should not be.
- 172 Management people often imagine that the Golden Rule of doing unto others as you would have them do unto you, is a rule of action.
- 173 They are wrong; the Golden Rule only decides what action should not be taken.
- 174 Elimination of the unacceptable courses of action is in itself an essential prerequisite to decision.

175 Without it there will be so many courses to choose from
as to paralyze the capacity to act. ...

176 **Analyzing the Problem**

177 Finding the right question, setting the objectives and
determining the rules together constitute the first phase
in decision-making.

178 They define the problem.

179 The next phase is analyzing the problem: classifying it and
finding the facts. ...

180 It is necessary to classify the problem in order to know
who must make the decision, who must be consulted in
making it and who must be informed.

181 Without prior classification, the effectiveness of the
ultimate decision is seriously endangered; for
classification alone can show who has to do what in order
to convert the decision into effective action. ...

182 The principles of classification have been discussed
earlier (see Chapter 16).

183 There are four

184 the futurity of the decision (the time-span for which it
commits 'he business to a course of action and the speed
with which the decision can be reversed);

185 the impact of the decision on other areas and functions;

186 the number of qualitative considerations that enter into it;
and

187 the uniqueness or periodicity of the decision.

- 188 This classification alone can insure that a decision really contributes to the whole business rather than solves an immediate or local problem at the expense of the whole.
- 189 For the classification proposed sorts out problems according to their correlation both with over-all business goals and with the goals of the component that the individual manager runs.
- 190 It forces the manager to see his own problem from the point of view of the enterprise. ...
- 191 "Get the facts" is the first commandment in most texts on decision-making.
- 192 But this cannot be done until the problem has first been defined and classified.
- 193 Until then, no one can know the facts; one can only know data.
- 194 Definition and classification determine which data are relevant, that is, the facts.
- 195 They enable the manager to dismiss the merely interesting but irrelevant.
- 196 They enable him to say what of the information is valid and what is misleading. ...
- 197 In getting the facts the manager has to ask: What information do I need for this particular decision?
- 198 He has to decide how relevant and how valid are the data in his possession.
- 199 He has to determine what additional information he needs and do whatever is necessary to get it. ...

- 200 These are not mechanical jobs.
- 201 The information itself needs skillful and imaginative analysis.
- 202 It must be scrutinized for underlying patterns which might indicate that the problem has been wrongly defined or wrongly classified.
- 203 In other words, "getting the facts" is only part of the job.
- 204 Using the information as a means to test the validity of the whole approach is at least as important. ...
- 205 A monthly trade magazine found itself in financial difficulties.
- 206 The problem was defined as one of advertising rates.
- 207 But analysis of the facts and figures showed something no one at the magazine had ever suspected: whatever success the magazine had had was as a source of news for its subscribers.
- 208 The subscribers were oversupplied with weighty monthlies; they lacked a smaller news publication and valued the particular magazine the more the closer it came to a news magazine in format and editorial content.
- 209 As a result of this analysis of readership figures the whole problem was redefined: How can we become a news magazine?
- 210 And the solution was: by becoming a weekly.
- 211 It was the right solution, too, as the magazine's subsequent success showed. ...
- 212 The manager will never be able to get all the facts he should have.

- 213 Most decisions have to be based on incomplete knowledge – either because the information is not available or because it would cost too much in time and money to get it.
- 214 To make a sound decision, it is not necessary to have all the facts; but it is necessary to know what information is lacking in order to judge how much of a risk the decision involves, as well as the degree of precision and rigidity that the proposed course of action can afford.
- 215 For there is nothing more treacherous – or, alas, more common – than the attempt to make precise decisions on the basis of coarse and incomplete information.
- 216 When information is unobtainable, guesses have to be made.
- 217 And only subsequent events can show whether these guesses were justified or not.
- 218 To the decision-making manager applies the old saying of doctors: “The best diagnostician is not the man who makes the largest number of correct diagnoses, but the man who can spot early, and correct right away, his own mistaken diagnosis.”
- 219 To do this, however, the manager must know where lack of information has forced him to guess.
- 220 He must define the unknown. ...

221 ***Developing Alternative Solutions***

- 222 It should be an invariable rule to develop several alternative solutions for every problem.
- 223 Otherwise there is the danger of falling into the trap of the false “either-or.”
- 224 Most people would protest were one to say to them: “All things in the world are either green or red.”

- 225 But most of us every day accept statements – and act on them – that are no whit less preposterous.
- 226 Nothing is more common than the confusion between a true contradiction – green and nongreen, for instance – which embraces all possibilities, and a contrast – green and red, for instance – which lists only two out of numerous possibilities.
- 227 The danger is heightened by the common human tendency to focus on the extremes.
- 228 All color possibilities are indeed expressed in “black or white,” but they are not contained in it.
- 229 Yet, when we say “black or white,” we tend to believe that we have stated the full range simply because we have stated its extremes. ...
- 230 The old plant of a small plumbing equipment manufacturer had become obsolete and threatened the company with the total loss of market position in a highly competitive and price-conscious industry.
- 231 Management rightly concluded that it had to move out of the plant.
- 232 But because it did not force itself to develop alternate solutions, it decided that it had to build a new plant.
- 233 And this decision bankrupted the company.
- 234 Actually nothing followed from the finding that the old plant had become obsolete but the decision to stop manufacturing there.
- 235 There were plenty of alternative courses of action: to subcontract production, for instance, or to become a distributor for another manufacturer not yet represented in the territory.

- 236 Either one would have been preferable, would indeed have been welcomed by a management that recognized the dangers involved in building a new plant.
- 237 Yet, management did not think of these alternates until it was too late. ...
- 238 Another example is that of a big railroad which, in the postwar years, experienced a sharp increase in traffic volume.
- 239 It was clear that facilities had to be expanded.
- 240 The bottleneck seemed to be the company's biggest classification yard.
- 241 Situated halfway between the main terminal points the yard handled all freight trains, breaking them up and rearranging them.
- 242 And the jam in the yard had become so bad that trains were sometimes backed up for miles outside either end and had to wait twenty-four hours before they could even get in.
- 243 The obvious remedy was to enlarge the yard.
- 244 And this was accordingly done at a cost running into many millions.
- 245 But the company has never been able to use the enlarged facilities.
- 246 For the two subsidiary yards that lie between the main yard and the two terminals, north and south respectively, simply could not handle such additional loads as would be imposed on them were the new facilities put to use.
- 247 Indeed it speedily became dear that the real problem all along had been the limited capacity of the subsidiary yards.

- 248 The original main yard would have been able to handle a good deal more traffic if only the subsidiary yards had been larger and faster.
- 249 And the enlargement of these two yards would have cost less than a fifth of the sum that was wastefully invested in enlarging the main yard. ...
- 250 These cases reveal how limited most of us are in our imagination.
- 251 We tend to see one pattern and to consider it the right if not the only pattern.
- 252 Because the company has always manufactured its own goods, it must keep on manufacturing.
- 253 Because profit has always been considered the margin between sales price and manufacturing costs, the only way to raise profitability is cutting production costs.
- 254 We do not even think of subcontracting the manufacturing job or of changing the product mix. ...
- 255 Alternative solutions are the only means of bringing our basic assumptions up to the conscious level, forcing ourselves to examine them and testing their validity.
- 256 Alternative solutions are no guarantee of wisdom or of the right decision.
- 257 But at least they prevent our making what we would have known to be the wrong decision had we but thought the problem through. ...
- 258 Alternative solutions are in effect our only tool to mobilize and to train the imagination.

- 259 They are the heart of what is meant by the "scientific method."
- 260 It is the characteristic of the really first-class scientist that he always considers alternative explanations, no matter how familiar and commonplace the observed phenomena. ...
- 261 Of course, searching for and considering alternatives does not provide a man with an imagination he lacks.
- 262 But most of us have infinitely more imagination than we ever use.
- 263 A blind man, to be sure, cannot learn to see.
- 264 But it is amazing how much a person with normal eyesight does not see, and how much he can perceive through systematic training of the vision.
- 265 Similarly, the mind's vision can be trained, disciplined and developed.
- 266 And the method for this is the systematic search for, and development of, the alternative solutions to a problem. ...
- 267 What the alternatives are will 'vary with the problem.
- 268 But one possible solution should always be considered: taking no action at all. ...
- 269 To take no action is a decision fully as much as to take specific action.
- 270 Yet, few people realize this.
- 271 They believe that they can avoid an unpleasant decision by not doing anything.

- 272 The only way to prevent them from deceiving themselves in this way is to spell out the consequences that will result from a decision against action. ...
- 273 Action in the enterprise is always of the nature of a surgical interference with the living organism.
- 274 It means that people have to change their habits, their ways of doing things, their relationship to each other, their objectives or their tools.
- 275 Even if the change is slight there is always some danger of shock.
- 276 A healthy organism will withstand such shock more easily than a diseased one; indeed, "healthy" with respect to the organization of an enterprise means the ability to accept change easily and without trauma.
- 277 Still it is the mark of a good surgeon that he does not cut unless necessary. ...
- 278 The belief that action on a problem has to be taken may in itself be pure superstition. ...
- 279 For twenty years a large shipping company had difficulty filling one of its top jobs.
- 280 It never had anyone really qualified for the position.
- 281 And whoever filled it soon found himself in trouble and conflict.
- 282 But for twenty years the job was filled whenever it became vacant.
- 283 In the twenty-first year a new president asked: What would happen if we did not fill it?

- 284 The answer was: Nothing.
- 285 It then turned out that the position had been created to perform a job that had long since become unnecessary. ...
- 286 It is particularly important in all organization problems that one consider the alternative of doing nothing.
- 287 For it is here that traditional ways of doing things and positions reflecting past rather than present needs have their strongest hold on management's vision and imagination.
- 288 There is also the danger of the almost automatic growth of layers and levels of management which will be continued unless the decision not to fill a vacant job is always considered as part of the decision how to fill it. ...

289 ***Finding the Best Solution***

- 290 Only now should the manager try to determine the best solution. ...
- 291 If he has done an adequate job, he will either have several alternatives to choose from each of which would solve the problem, or he will have half a dozen or so solutions that all fall short of perfection but differ among themselves as to the area of shortcoming.
- 292 It is a rare situation indeed in which there is one solution, and one alone, in fact, wherever analysis of the problem leads to this comforting conclusion, one may reasonably suspect the solution of being nothing but a plausible argument for a preconceived idea. ...

293 There are four criteria for picking the best from among the possible solutions. ...

294 1. The risk.

295 The manager has to weigh the risks of each course of action against the expected gains.

296 There is no riskless action nor even riskless non-action.

297 But what matters most is neither the expected gain nor the anticipated risk but the ratio between them.

298 Every alternative should therefore contain an appraisal of the odds it carries. ...

299 2. Economy of effort.

300 Which of the possible lines of action will give the greatest results with the least effort, will obtain the needed change with the least necessary disturbance of the organization? ...

301 Far too many managers pick an elephant gun to chase sparrows.

302 Too many others use slingshots against forty-ton tanks. ...

303 3. Timing.

304 If the situation has great urgency, the preferable course of action is one that dramatizes the decision and serves notice on the organization that something important is happening.

305 If, on the other hand, long, consistent effort is needed, a slow start that gathers momentum may be preferable.

- 306 In some situations the solution must be final and must immediately lift the vision of the organization to a new goal.
- 307 In others what matters most is to get the first step taken.
- 308 The final goal can be shrouded in obscurity for the time being. ...
- 309 Decisions concerning timing are extremely difficult to systematize.
- 310 They elude analysis and depend on perception.
- 311 But there is one guide.
- 312 Wherever managers must change their vision to accomplish something new, it is best to be ambitious, to present to them the big view, the completed program, the ultimate aim.
- 313 Wherever they have to change their habits it may be best to take one step at a time, to start slowly and modestly, to do no more at first than is absolutely necessary. ...
- 314 4. Limitations of resources.
- 315 The most important resource whose limitations have to be considered, are the human beings who will carry out the decision.
- 316 No decision can be better than the people who have to carry it out.
- 317 Their vision, competence, skill and understanding determine what they can and cannot do.
- 318 A course of action may well require more of these qualities than they possess today and yet be the only right program.

319 Then efforts must be made – and provided for in the decision – to raise the ability and standard of the people.

320 Or new people may have to be found who have what it takes.

321 This may sound obvious; but managements every day make decisions, develop procedures, or enact policies without asking the question: Do we have the means of carrying these things out?

322 and do we have the people? ...

323 The wrong decision must never be adopted because people and the competence to do what is right are lacking.

324 The decision should always lie between genuine alternates, that is, between courses of action every one of which will adequately solve the problem.

325 And if the problem can be solved only by demanding more of people than they are capable of giving, they must either learn to do more or be replaced by people who can.

326 It is not solving a problem to find a solution that works on paper but fails in practice because the human resources to carry it out are not available or are not in the place where they are needed. ...

327 ***Making the Decision Effective***

328 Finally, any solution has to be made effective in action. ...

329 A great deal of time is spent today on “selling” solutions.

330 It is wasted time.

- 331 To attempt to sell a solution is both too little and too much.
- 332 It implies that all is well if only people will "buy."
- 333 However, it is of the essence of a manager's decision that other people must apply it to make it effective.
- 334 A manager's decision is always a decision concerning what other people should do.
- 335 And for this it is not enough that they buy it.
- 336 They must make it their own. ...
- 337 To speak of "selling" also implies that what is the right decision be subordinated to what the "customer" wants; but this is poisonous and dishonest doctrine.
- 338 What is right is decided by the nature of the problem; the wishes, desires and receptivity of the "customers" are quite irrelevant.
- 339 If it is the right decision, they must be led to accept it whether at first they like it or not. ...
- 340 If time has to be spent on selling a decision, it has not been made properly and is unlikely to become effective.
- 341 Presentation of the final results should never be a great concern, though, in line with the oldest and most basic rule of rhetoric, a decision should always be presented to people in language they use and understand. ...
- 342 Though it is a questionable term the emphasis on "selling" the decision points up an important fact: it is the nature of the managerial decision to be made effective through the action of other people.

- 343 The manager who "makes" the decision actually does no such thing.
- 344 He defines the problem.
- 345 He sets the objectives and spells out the rules.
- 346 He classifies the decision and assembles the information.
- 347 He finds the alternative solutions, exercises judgment and picks the best.
- 348 But for the solution to become a decision, action is needed And that the decision-making manager cannot supply.
- 349 He can only communicate to others what they ought to be doing and motivate them to do it.
- 350 And only as they take the right action is the decision actually made. ...
- 351 To convert a solution into action requires that people understand what change in behavior is expected of them, and what change to expect in the behavior of others with whom they work.
- 352 What they have to learn is the minimum necessary to make them able to act the new way.
- 353 It is poor decision-making to present a decision as if it required people to learn all over again or to make themselves over into a new image.
- 354 The principle of effective communication is to convey only the significant deviation or exception – and that in clear, precise and unambiguous form.
- 355 It is a problem in economy and precision. ...

- 356 But motivation is a problem in psychology and therefore stands under different rules.
- 357 It requires that any decision become “our decision” to the people who have to convert it into action.
- 358 This in turn means that they have to participate responsibly in making it. ...
- 359 They should not, to be sure, participate in the definition of the problem.
- 360 In the first place, the manager does not know who should participate until the definition and classification are done; only then does he know what impact the decision will have and on whom.
- 361 Participation is unnecessary – and usually undesirable – in the information gathering phase.
- 362 But the people who have to carry out the decision should always participate in the work of developing alternatives.
- 363 Incidentally, this is also likely to improve the quality of the final decision, by revealing points that the manager may have missed, spotting hidden difficulties and uncovering available but unused resources. ...
- 364 Precisely because the decision affects the work of other people, it must help these people achieve their objectives, assist them in their work, contribute to their performing better, more effectively and with a greater sense of achievement.
- 365 It cannot be a decision designed merely to help the manager perform better, do his job more easily or obtain greater satisfaction from it. ...

366 ***The New Tools of Decision-Making***

367 Nothing I have said so far about decision-making is new; on the contrary, it only repeats what has been known for thousands of years.

368 But while many managers use the decision-making method well, few understand clearly what they are doing.

369 Two new developments, however, make it important that every manager understand the process.

370 In the first place, a whole new battery of tools to help in decision-making has become available.

371 These are powerful and valuable tools; but they cannot be used unless the manager understands their purpose.

372 Secondly, the new technology is rapidly shifting the balance between tactical and strategic decisions.

373 Many decisions that have always been tactical, if not routine, are rapidly becoming strategic decisions containing a high degree of futurity, a great impact and a large number of qualitative considerations; they are becoming decisions of a high order, in other words.

374 And they can only be taken successfully and effectively if the manager knows what he is doing and does it systematically.

375 The new tools have been introduced under the rather confusing name of "Operations Research."

376 They are neither "operations" nor "research."

377 They are the tools of systematic, logical and mathematical analysis and synthesis.

- 378 Actually it is not even correct to say that the tools are new; they differ very little from the tools used by the medieval symbolical logician, such as St. Bonaventure.
- 379 The only new things are a few mathematical and logical techniques. ...
- 380 It is not sufficient therefore to train people in using the new tools and then turn management decisions over to them.
- 381 Management decisions still have to be made by the manager.
- 382 And they are still decisions based on judgment.
- 383 But the new tools can help greatly in some phases of decision-making. ...
- 384 In any new tool it is important to say first what it cannot do.
- 385 Operations Research and all its techniques – mathematical analysis, modern symbolical logic, mathematical information theory, the "Theory of Games," mathematical probability and so on – cannot help in defining what the problem is.
- 386 They cannot determine what is the right question.
- 387 They cannot set objectives for the solution.
- 388 Nor can they set rules.
- 389 Similarly, the new tools cannot make the decision concerning the best solution; they cannot by themselves make a decision effective.
- 390 Yet these are the most important phases in decision-making. ...

- 391 But the new tools can be of great help in the two middle stages: analyzing the problem and developing alternatives.
- 392 They can find and bring out the underlying patterns in the behavior of the business and in its environment, including those that have hitherto lain beyond the manager's field of vision or range of imagination.
- 393 They can thus bring out alternative courses of action.
- 394 They can show which factors are relevant (that is, facts) and which are irrelevant (that is, mere data).
- 395 They can show the degree of reliability of the available data and what additional data are required to arrive at sound judgment.
- 396 They can show what resources will be needed in any of the alternative courses of action, and what contribution from each component or function would be required.
- 397 They can be used to show the limitations of each available course of action, its risks and its probabilities.
- 398 They can show what impact a given action would have on other areas, components and functions, the relationship between input and output and the location and nature of bottlenecks.
- 399 They can tie together the work and contribution of each function or component with those of all others and show this total impact on the behavior and results of the entire business. ...
- 400 The new tools are also not without danger.
- 401 In fact, unless properly used they can become potent means for making the wrong decisions.
- 402 Precisely because they make possible concrete and specific analysis of problems which hitherto could only be roughly defined or sensed, the new tools can be abused

to “solve” the problems of one small area or of one function at the expense of other areas or functions or of the entire business.

- 403 They can be abused, as the technician calls it, to “sub-optimize.”
- 404 And it is important to stress that practically all the problems which are given in the literature so far as illustrations of Operations Research are problems which should never be solved by themselves as such a solution inevitably results in serious “sub-optimization.”
- 405 In fact proper use of these tools is possible only if they are first applied to the analysis and definition of the characteristics of the whole business.
- 406 Only then can they be profitably used for the analysis of individual problems and for the improvement of individual decisions. ...
- 407 Finally, the new tools promise help in making others understand what action is required of them and what to expect from associates.
- 408 Mathematical information theory is still in its infancy.
- 409 But it is likely to produce tools capable of identifying the relevant and new deviation in an action pattern and defining it in precise symbols. ...
- 410 All these things have been done for generations by imaginative people.
- 411 What the new tools do is to bring this accomplishment within everybody’s reach.
- 412 They arm the imagination, develop it, guide it. ...

- 413 In essence these are tools of information, and of information-processing, not of decision-making.
- 414 As tools of information, they are the best.
- 415 In fact, it is not too fanciful to expect that within ten or twenty years these new tools of logical and mathematical analysis will have superseded the traditional financial accounting methods with which we are so familiar today. ...
- 416 For the new tools raise the question of what underlies the phenomena, rather than merely describing them.
- 417 They focus on action, showing what alternative courses of action there are and what each implies.
- 418 They therefore make possible decisions with a high degree of rationality in respect to futurity, risk and probability.
- 419 This is the kind of information each manager needs to set his objectives so as to contribute the most to the business, and to control himself.
- 420 Accounting will still be needed for financial reporting to stockholders, tax work and custodial work.
- 421 Management information, however, will increasingly be mathematical and logical. ...
- 422 The manager may not have to be able to work these tools personally (even though their use for a great many applications does not require greater mathematical skill than is required for the reading of sales charts today).
- 423 But it is essential that he understand them, know when to call in a specialist in their use, and know what to demand of the specialist. ...

- 424 But, above all, he must understand the basic method involved in making decisions.
- 425 Without such understanding he will either be unable to use the new tools at all, or he will overemphasize their contribution and see in them the key to problem-solving which can only result in the substitution of gadgets for thinking, and of mechanics for judgment.
- 426 Instead of being helped by the new tools, the manager who does not understand decision-making as a process in which he has to define, to analyze, to judge, to take risks, and to lead to effective action, will, like the Sorcerer's Apprentice, become the victim of his own bag of tricks. ...

427 ***The Greater Importance of Decision-Making***

- 428 At the same time the manager – whatever his function or level – will have to make more and more strategic decisions.
- 429 Less and less will he be able to rely on his ability to make intuitively the right tactical decision. ...
- 430 Tactical adjustments will, of course, always be needed.
- 431 But they will have to be made within a framework of basic strategic decisions.
- 432 No amount of skill in making tactical decisions will free tomorrow's manager from the necessity of making strategic decisions.
- 433 Even the manager who today gets by without any knowledge of, or insight into, the decision-making method will tomorrow have to understand it, to know it and to use it.