Chapter 9
Distributing Discretion and Designing Structural Mechanisms

Abstract The previous chapter showed how the unfolding of complexity is a useful tool to describe and design the way an organization groups (or should structure) its primary activities. In this chapter the unfolding of complexity is used to discuss the *distribution of resources and discretion* from the organization's global level to the local level of the most basic primary activities. For this purpose it uses the Recursion/Functions Table. This is a tool to discuss the centralization and decentralization of organizational resources and decision-making. Some resources may be centralized but at the same time may be functionally decentralized. Supported by multiple examples of particular transformation processes we discuss in this chapter criteria to decentralize or otherwise the organization's resources. The Table is used to give systemic meaning to business functions; are these functions regulating the inside and now of the organization or are they providing capacity to deal with the outside and then? For a primary activity to be autonomous, and viable in its own right, it needs resources and discretion to make decisions and develop its own identity. In the end this chapter offers a model for the distribution of resources, relations and information throughout the organization to support the design of its structural mechanisms. As such it is a powerful tool to map its complexity.

This chapter explains the last two steps of the Viplan Method; distributing discretion and designing structural mechanisms. In particular it offers a detailed approach to study the distribution of resources in an organization and the design of the cohesion mechanism for viability (see Chap. 6). The last chapter showed how the unfolding of complexity is a useful tool to diagnose (Mode I) and design (Mode II) the way an organization groups (or should structure) its primary activities. This is done by taking into account four perspectives from which it is possible to describe the operation of the organization-in-focus. The tools used were technological, geographical, market segmentation and time models (see Chap. 8).

The unfolding of complexity yields a diagram that enables relevant viewpoints to discuss the distribution of resources and decision-making capacity to carry out the organization's transformation. In this sense it is also a tool that helps to realize the

connection between the strategy of the organization – as stated in its mission – and its structure – in terms of defining primary activities at different structural levels.

But, in order to define with more precision the structure of an organization, it is necessary to determine the distribution of the roles and resources needed to produce its primary activities. This is the problem examined in this chapter and it is related to the common discussion between organizational centralization and decentralization (Castells 2001; Galbraith 2002; Goold and Campbell 2002; Malone 2004; Nault 1998; Seddon 2008).

It is usual to approach this discussion assuming that these terms constitute a dualism, that is, two opposite poles difficult to reconcile. As a consequence, the organization fluctuates between one pole and the other depending on which is the majority position at the time. It could be said that, in some sense, this issue is posed either as an ideological problem or as a management fad (Beer 1979, 1985).

This chapter shows an alternative position in which the issue is approached as an organizational design problem. But what exactly is the problem that is under examination?

It is clear that an inadequate centralization generates several problems like 'bottle-necks' and 'bureaucracy' in the sense of roles that do not add value to the organization. Excessive centralization is also responsible for people making decisions distant from the local action itself. This increases the chances of poor decisions.

But, on the other hand, an inadequate decentralization can produce serious problems as well. Most of them are derived from a lack of coordination among people who have the responsibility of taking local (decentralized) decisions.

In order to approach the apparent dichotomy between centralization and decentralization, we will introduce the concept of discretion.

Discretion is defined, in this context, as the (explicit or tacit) organizational agreement that managing and using particular resources is the responsibility of particular roles. In other words, a person (or group) has functional discretion if there is agreement that they control the use of the related resources. Discharging this responsibility requires the availability of resources and the competence to make use of them. Therefore, the simple agreement of where responsibility lies is not enough for a role to have discretion.

Notice that it is quite possible to agree a role's discretion in some functions or in aspects of particular functions. For example, it is possible that a manager, who has discretion to select the people working under his/her supervision, does not have the discretion to carry out the necessary staff induction, which will probably be a centralized function of the organization's human resources department.

In these terms, the problem of choosing between functional centralization and decentralization can be restated as a problem of distributing discretion over the organization's resources. This is precisely the organizational design problem that we would like to address in this chapter.

Distributing discretion helps to establish the degree of centralization/decentralization of functions in an organization. In order to do so, it is necessary to remember the difference between primary activities and regulatory/support functions that was established in earlier chapters. While the former are the organizational units

producing the products or services of the organization, the latter are the functions creating and regulating these primary activities. These are the functions deciding, managing and reconfiguring resources to achieve the organization's policies. In Chap. 8 we related primary activities with processes producing the organization's transformation and regulatory functions with processes developing, servicing and managing this transformation, that is, with *organizational processes.*

It is clear that we require resources of some kind (people, technology, infrastructure, etc.) to carry out a regulatory function. This, in turn, puts a natural question: Who should be accountable for their use? Two alternatives are possible:

1. The resources needed to fulfil the regulatory function *are not discretionary to the production process* using them but to an embedding primary activity one or more levels above it, with responsibility for their use. For instance an enterprise's accounting resources may be centralized at its corporate level at the same time that costing is necessary for all local production activities. Accounting resources, in this example, are managed centrally but *shared* by several embedded primary activities. This corresponds to a centralized framework. Similarly, in a centralized scheme, every time the information systems of the regional branches of a bank fail, they may need to request help from the Technology Support Office that is located in the headquarters of the bank.
2. The resources needed to fulfil the regulatory function *are discretionary to the primary activity itself.* This corresponds to a decentralized framework, for example, when the regional branches of the bank have their own IT specialists that support their information systems.

But, given that a regulatory function is needed to support several primary activities, which criteria can be used as guide to select the first or the second alternative? The main point is to understand the significance of the regulatory function under consideration to the primary activities that it supports. This significance can be characterized according to the following criteria:

1. The regulatory function is a *critical success factor* (Rockart 1979) for the primary activity
2. The application of the regulatory function has characteristics that are particular to the primary activity that it supports (this aspect will be illustrated with an example later on)
3. The demand for the regulatory function within the primary activity it supports is high (according to a predefined criterion such as being part of its work flow)
4. Necessary financial and specialised resources to carry out this function are available within the primary activity (i.e., are not scarce within the overall organization)
5. The resources necessary to execute the regulatory function are distributable

If these five conditions are met for a regulatory function in relation to a primary activity, then it is highly probable that the second alternative will be the best choice (that is, decentralization). In other words, discretion will be agreed for the primary activity in order to carry out the regulatory function. Conversely, if at least one of

these conditions is not fulfilled, it is quite possible that a centralized framework will be the best option. In this case, probably the resources of the regulatory function will be shared with other primary activities. For instance, in a hospital, very expensive diagnostic equipment that is critical to several or all embedded operational departments, at the same time of being particular and in high demand by all of them, may not be distributable.

The following example illustrates the use of these criteria. Let us consider two primary activities of a national institution that offers services to higher education in a country. The first activity is the *national examinations service* (NES) that is in charge of running national exams in education. The second activity is concerned with *monitoring quality services* (MQS) of universities.[1] Let us assume that the regulatory function that is being analyzed is the maintenance of information systems. With this information we have four alternatives regarding the centralization or decentralization of this function (see Fig. 9.1):
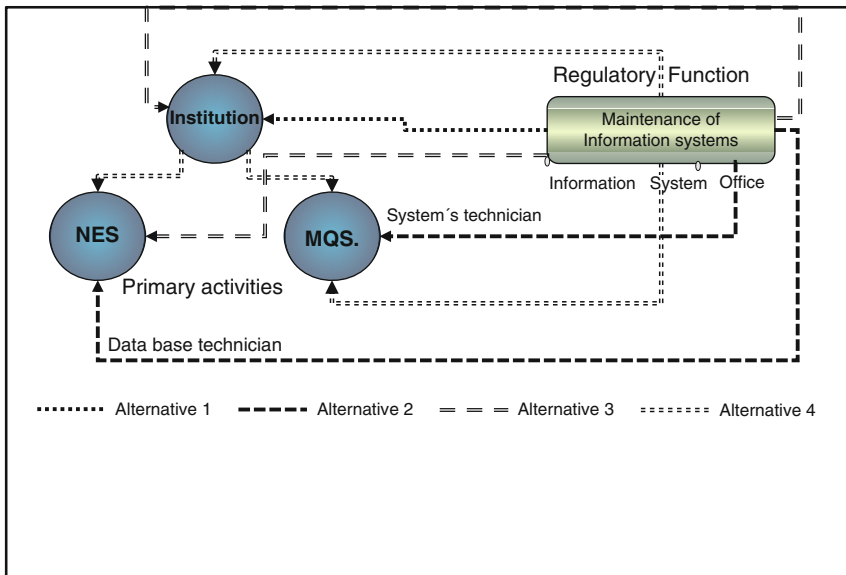
NES = National Examination Services   MQS = Monitoring the quality of services

Fig. 9.1 Distribution of discretion of a regulatory function (four alternatives)

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[1]Notice that in the larger context of the Educational System, the role of this national institution corresponds to a regulatory function. Therefore, monitoring the quality services of universities will not be a primary activity vis-à-vis this larger system-in-focus. We often call them *missionary activities* but for the sake of simplicity in this discussion we will continue to call them primary activities.

1. The regulatory function is completely centralized, that is, the Information System Office of the institution is responsible for providing the maintenance service to both primary activities
2. The regulatory function is completely decentralized, that is, both primary activities have their own resources to carry out the maintenance of their information systems
3. The regulatory function is centralized for MQS but it is decentralized for the NES. In other words, while the NES has the resources for carrying out the maintenance of their information systems, the other primary activity depends on the services provided by the Information System Office
4. The regulatory function is centralized for the NES and decentralized for MQS

Let us assume that a detailed analysis of the data gathered from the institution provided the following points:

1. The activities carried out in the NES depend fundamentally on its information systems (recording, processing, analyzing and publishing data from national tests)
2. MQS people use basic technology (personal computers, text editors and spread sheets)
3. The technological problems of the NES are mainly related to their information systems
4. The technological problems of the MQS are usually related to a partial damage of a personal computer or a misconfiguration of the word processor or the spreadsheet
5. If a failure in the information systems of the NES is not dealt with promptly the negative impact on its performance is too high, due to the time commitment to deliver the results of the national tests
6. The Information System Office gives support to every department of the institution and not only to the two operational departments carrying out the primary activities mentioned in the example
7. Historically, MQS has had many technological problems (e.g., once per week)
8. Historically, NES has had many technological problems (e.g., once per week)
9. MQS and NES are not sharing a highly specialised resource

It is easy to see that points 1 and 5 are closely related to the first criterion mentioned above, that is, are critical success factors. Similarly, point 3 is related to the second, point 8 to the third and point 9 to the fourth and fifth criteria. Therefore, it makes sense to decentralize the maintenance of information systems for the NES. In other words, the department responsible for carrying out the NES should have enough resources, such as specialised technicians, to take care of the problems arising in their information systems.

On the other hand, and regarding the relation between the regulatory function and the MQS, point 7 relates to the third criterion above but otherwise the evidence would suggest that, in this case, it is convenient to centralize this function. In other words, each time a problem occurs in the MQS primary activity, the Information System Office will assign directly one of its technicians to take care of the problem. Notice
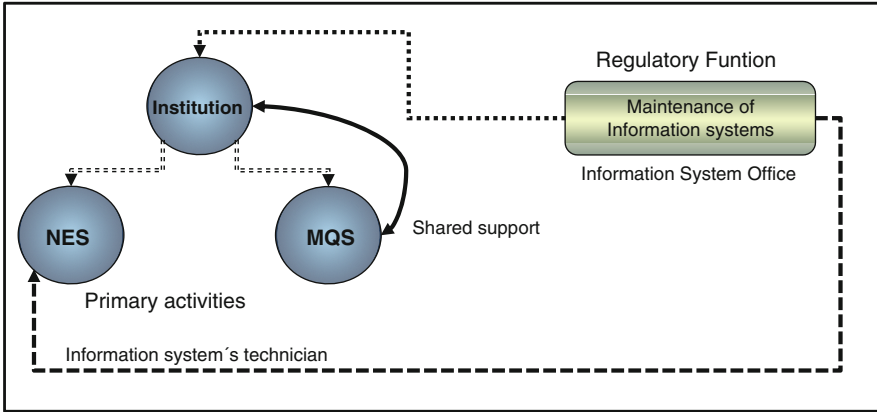
This kind of analysis allows a precise definition of the distribution of
resources (humans, technological, inputs, etc.) for regulatory activities in
all primary activities.

Fig. 9.2 Distribution of discretion of a regulatory function (a proposal)

that, in this case, delays in this service provided by this office do not generate a
significant negative impact on the performance of this primary activity (see Fig. 9.2).

It is important to highlight that having their own resources to deal with its
technical problems not only allows NES to recover faster from unexpected break-
downs but also facilitates the chances of a learning process. Indeed, technicians
may become specialized in solving the particular failures of these information
systems and, therefore, develop preventive practices.

Notice, as well, that discretion to carry out a regulatory function does not
necessarily imply increasing the staff of the primary activity. It is quite possible,
for instance, that a single person be in charge of performing several regulatory
functions in a primary activity. We will go back to this point later on.

The recursion/functions table is an appropriate tool to do an analysis of discre-
tion as the one described in the previous example. The table is used to cross an
organization's primary activities with its regulatory functions. In the table primary
activities are grouped according to the *organization's unfolding of complexity,* as
seen in the previous chapter. Figure 9.3 illustrates the unfolding of complexity for
the airline Satena (see Chap. 8).

The regulatory functions, on the other hand, methodologically can be identified
through interviews of organizational roles recognised with the support of process
maps or even organization charts (as are often available in organizations). The
primary activities are written in the first column of the recursion/functions table
preserving their structure in the unfolding of complexity. We will go back to this
point later on. The regulatory functions, in turn, are written in the columns of the
table (see Fig. 9.4).

A mark (e.g., a dot) in the cell where a regulatory function (a column) crosses
with a primary activity (a row) indicates that this primary activity has discretion to
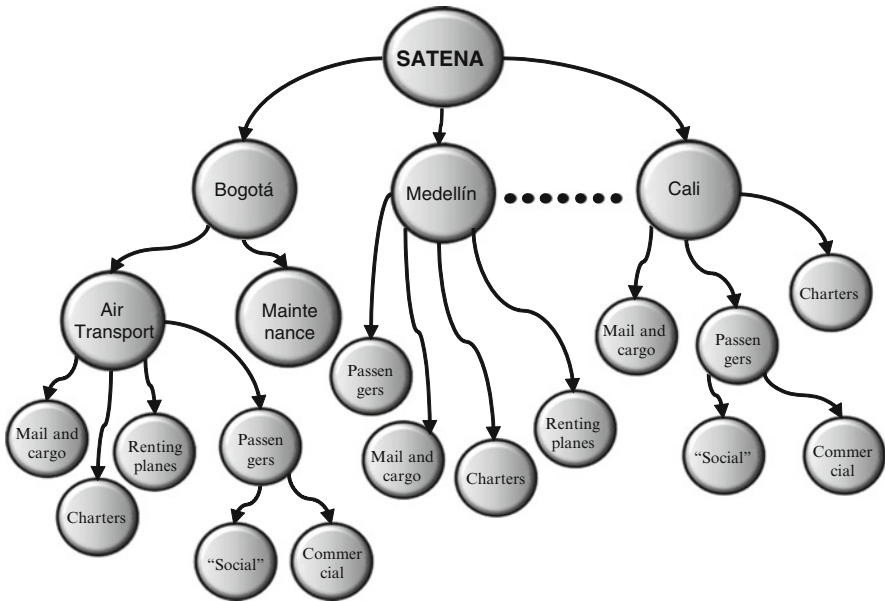
Fig. 9.3 Satena's unfolding of complexity

carry out this regulatory function. For example, in Fig. 9.5 the black dot in the cell where the *personnel* function crosses with the row called Company (i.e., the first recursion level), indicates that discretion for this regulatory function is at the organization's highest structural level. In other words, personnel management is completely centralized in this company.

On the other hand, the dots in the *training* column indicate that the resources for carrying out this function are spread throughout the company. This shows that each of the three primary activities of this organization has its own resources for training the people working in it (Fig. 9.5).

Regarding the distribution of discretion, an overview of this table indicates the following:

1. The functions of personnel management, production scheduling, process development and logistics are centralized and integrated at the company level. This fact can be expressed in three other equivalent ways:
   (a) Every one of these regulatory functions is carried out at the company's highest structural level.
   (b) There is no discretion to perform these regulatory functions in any of the three embedded primary activities.
   (c) The resources required for performing these regulatory functions are shared by the three primary activities.[2]

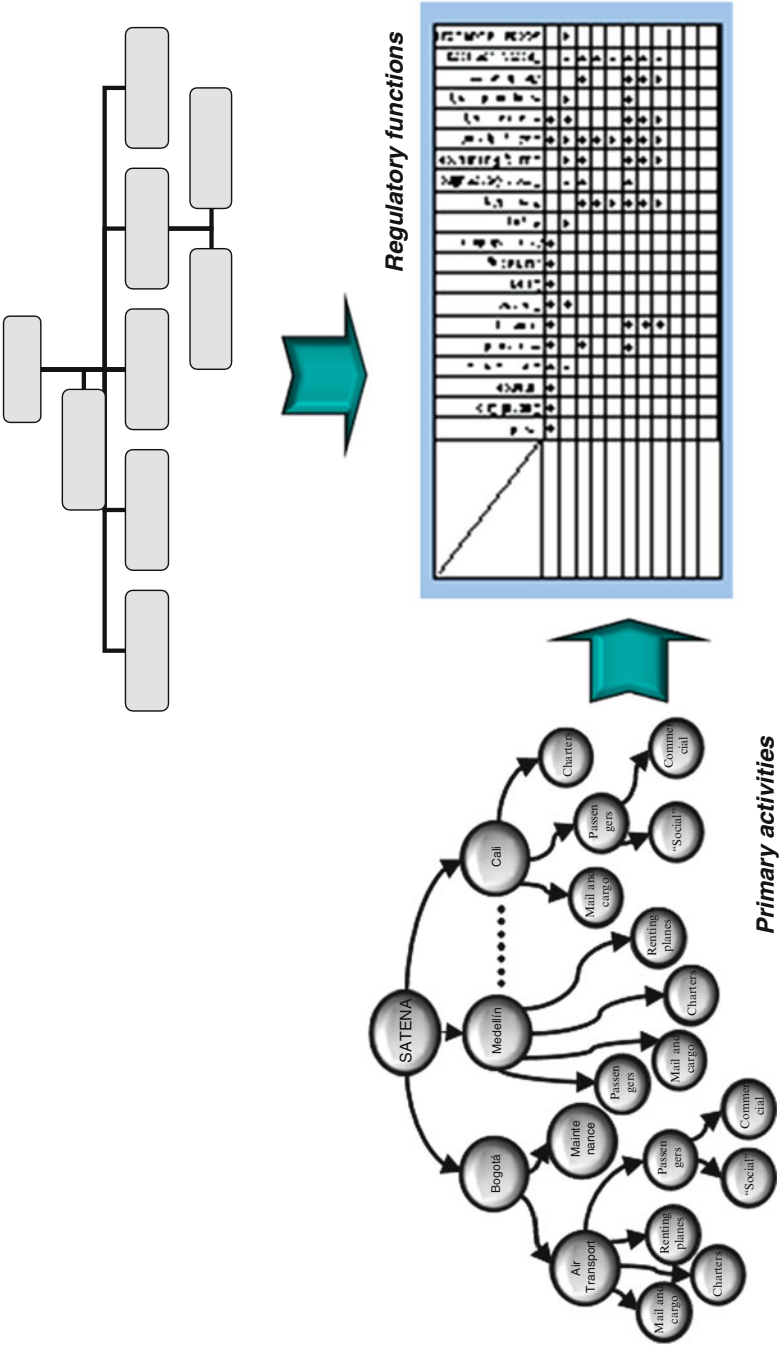[2]There is an exception to this interpretation that will be explained later on.

Fig. 9.4 Basic structure of the recursion/functions table

Regulatory functions

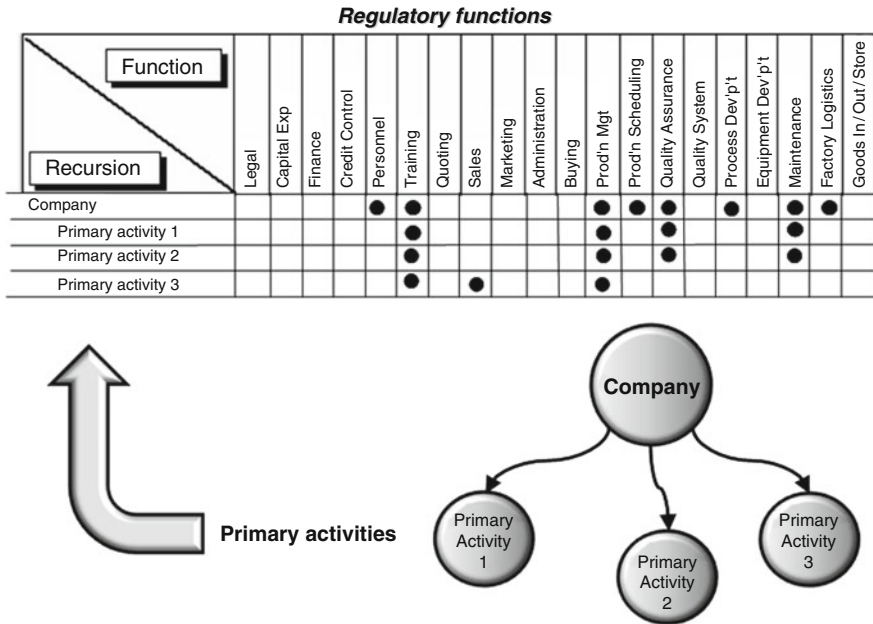| Function / Recursion	Legal	Capital Exp	Finance	Credit Control	Personnel	Training	Quoting	Sales	Marketing	Administration	Buying	Prod'n Mgt	Prod'n Scheduling	Quality Assurance	Quality System	Process Dev'p't	Equipment Dev'p't	Maintenance	Factory Logistics	Goods In/Out/Store
Company					●	●						●	●	●		●		●	●	
Primary activity 1						●						●		●				●		
Primary activity 2						●						●		●				●		
Primary activity 3						●		●				●								

Fig. 9.5 An example of a recursion/functions table

2. Training, production management, quality control and maintenance are all decentralized functions in this organization. This can also be expressed in the following equivalent statements:
   (a) These regulatory functions are carried out at all structural levels of the organization.
   (b) The three embedded primary activities have discretion to carry out these regulatory functions.
   (c) The resources required for performing these regulatory functions are distributed throughout the primary activities.

In order to show how to use the recursion/functions table as a tool to describe an organization's distribution of discretion, we will take Satena as an example. Figure 9.6 is the organization chart of this company and Fig. 9.3, as mentioned, shows its unfolding of complexity.

Figure 9.7 shows the recursion/functions table for Satena. The following points come from analysing this table:

- Human resources management, training, fees setting, bookings, acquisitions and planning and systems are all centralized functions.
- The company branches in Bogotá and Medellin have discretion to manage their own budget. On the other hand, the budget is consolidated and distributed in the central level of the company.
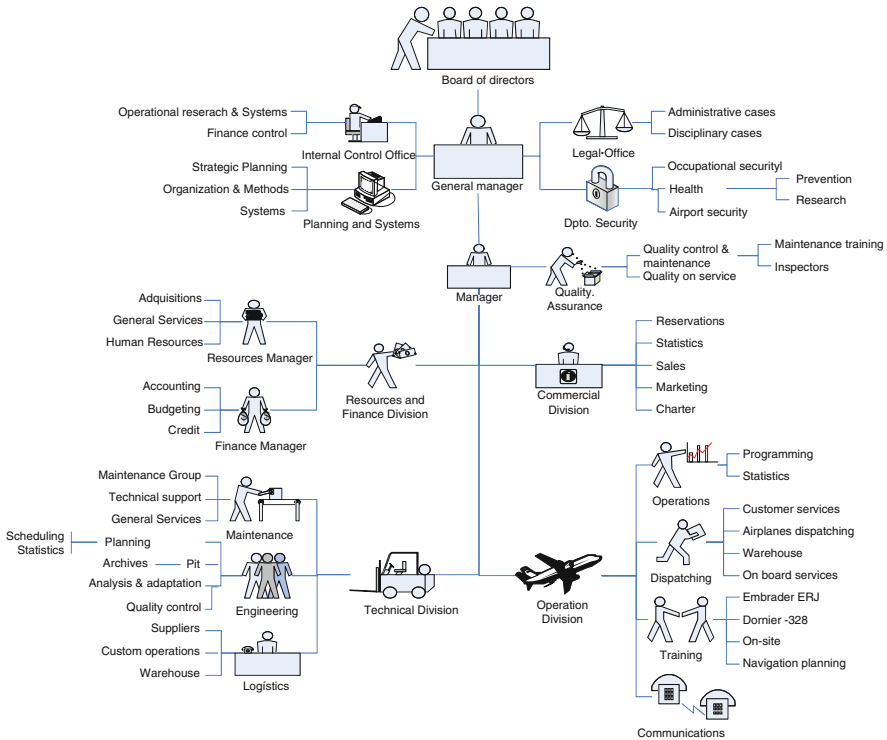
Fig. 9.6 Satena's organization chart

- Different levels in the company have discretion regarding the sales function. The primary activities with this discretion are: Satena itself; branches in Bogotá and Medellin; passengers, mail and cargo; charter flights; renting planes.
- The marketing and advertising function is executed, discretionally, in all of the company's structural levels with the exception of the following primary activities: commercial and social routes, mail and cargo, renting flights and maintenance services.
- The marketing and advertising of the commercial and social routes are carried out by the level in charge of passenger transportation.
- The level in charge of air transport is responsible for doing the marketing and advertising of mail and cargo and renting planes services as well.
- Marketing and advertising of the maintenance service is carried out directly from Bogotá.
- General services, operation control and security are functions that are distributed among the central level and the branches in Bogotá and Medellin.
- All structural levels in the company have discretion to carry out their own internal control function.

Primary activities \ Regulatory functions	Human resource managt	Budget	Training	Fees setting	Bookings	Sales	Marketing and advertising	General services	Acquisitions	Operations control	Internal control	Planning & systems	Security
Satena	•	•	•	•	•	•	•	•	•	•	•	•	•
Bogotá		•				•	•	•		•	•		•
Air transport							•				•		
Passenger transportation						•	•				•		
Commercial routes											•		
"Social" routes											•		
Mail and cargo						•					•		
Charters						•	•				•		
Renting planes						•					•		
Maintenance											•		
Medellín		•				•	•	•		•	•		•

Fig. 9.7 Recursion/functions table for Satena

Notice that the points mentioned above come from reading the table's columns. If reading the same table is focused on the rows, it is possible to describe the *functional capacity* of each primary activity of the company. The following points are inferred by analysis from Fig. 9.7.

- The Bogotá and Medellín[3] branches have capacity and resources necessary to manage the budget, sales, marketing and advertising, general services, operations control, internal control and the security of their own jurisdictions.
- The level in charge of air transport services has the competence (discretion) to handle marketing, advertising, and the internal control of its activities.
- The primary activities doing passenger transport and charter flights include resources to carry out the functions of sales, marketing, advertising and internal control.
- Mail and Cargo along with the renting of planes include their own sales and internal control functions.

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[3]Note that everything said for Bogotá and Medellín is equally applicable for all the company's branches which appear in its unfolding of complexity (see Fig. 9.3).
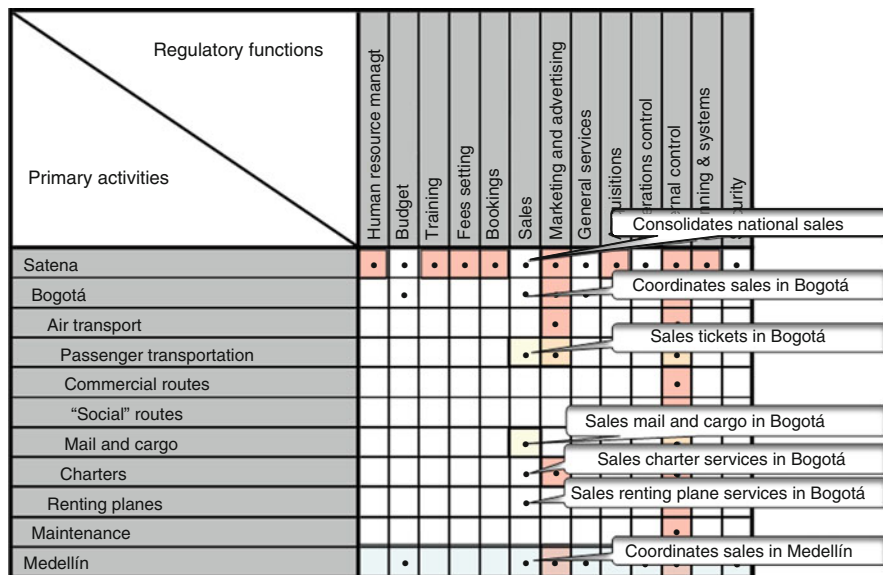
Fig. 9.8 Scope of the sales function at each recursion level that has discretion

It is very important to clarify that when a regulatory function is distributed at several structural levels, it does not mean that the same activity is being done in each one of these levels. Figure 9.8 illustrates this point for Satena's sales function.

The scope of sales differs at each of the structural levels where it is performed. Indeed, while the central level *consolidates* national sales, the company's branches *coordinate* sales at the regional level. On the other hand, passenger transport in Bogotá includes ticket sales. Similarly, Sales supports Mail and Cargo, Charters and Renting Planes in each branch. Later on, we will make a special emphasis on the proper use of verbs to delimit with precision the scope of the regulatory functions when these are distributed among several structural levels in an organization.

On the other hand, notice that from the perspective of complexity regulatory functions can be *decomposed* in a similar way to that of primary activities, except that in this case we talk about *levels of resolution* and not of recursion. For instance, human resources management can be decomposed into selection, hiring, training and evaluation. In a similar way, the information systems management function can be decomposed into design, development, maintenance and training. Figure 9.9 illustrates the decomposition of regulatory functions taking as an example a small university.

Of course, each sub-function, depending on its complexity, could be decomposed even further. When do we stop? The decomposition of a regulatory function stops when the distribution of discretion implies (sub-) functions that overlap exactly the primary activities they serve. Once this is the case, these sub-functions could be grouped under a single name (or function) and allocated to the primary

Human resources management			Management of physical, technological and library resources					Financial resources management
Welfare	Academics	Administ. Personnel	Rooms	Labs	Class support equipment	Technology		
Recreation / Sports / Culture / Health	Hiring / Evaluation / Education support (master, doctoral) / Training (pedagogy) / Work load management / Professoral track	Hiring / Evaluatioon / Training / Administrative career	Administration / Maintenance	Distribution / Administration	Distribution / Maintenance	TICs management / Hardware management	Library	Copntracts / Funding / Accounting / Budget / Audit / Treasure / Finance portfolio

Academic management			Administrative and legal support			Research management	External relations management
Students	Programs			Planning	Operation		
Admissions and registry / Registration management / Certificates / Grading management / Credits and scholarships / Grades	Quality certification / Program administration / Curricular updating / Institutional accreditation		Marketing	Strateguc planning / Monitoring / Evaluation	Communication management / Process development / Legal advice	Resources support / Groups qualification / Publications	Relations with other institutions / External scholarships / Graduate union / Interchange management / Relations with companies / Congress participation / Congress organization

Fig. 9.9 An example of the decomposition of regulatory functions in a small university

activities with which they overlap. Visually, in the recursion/functions table this is evident when the distribution of dots in the columns corresponding to these sub-functions crosses only individual primary activities.

Before explaining a method to build the recursion/functions table, it is important to mention that nowadays it is possible to centralize highly specialized resources and, simultaneously, decentralize the support they give. Modern ICTs (Information and Communication Technology) allow the development of these mechanisms. Call centres are a concrete example when they are used as an internal support of the company's primary activities. For example, specialized maintenance of software packages could be done via on-line communication through the company's intranet. In this case, the specialized resources (i.e., engineers) could be centralized while their accountability is decentralized to primary activities. The response speed and the capacity of the communication channel make this possible.

There are four steps to study discretion: (1) building the recursion/functions table; (2) study centralized regulatory functions; (3) estimate the functional capacity of

primary activities and (4) design the *cohesion mechanisms* of the decentralized regulatory functions. The result of this study is first diagnosis of the degree of functional centralization/decentralization and second proposals to improve it. Let us explain with more detail these four steps.

- *Building the recursion/functions table*: As we mentioned before, the first column of the table is filled up from the company's unfolding of complexity. Based on the functions named in interviews, and the process maps (if they exist) the names of the remaining columns are filled. These names correspond to regulatory functions and their decomposition.

  The intersection of rows and columns in the table, which indicates primary activity's discretion for each regulatory function, is obtained from interviewing the people responsible for the corresponding primary activities and regulatory functions. In Fig. 9.10, for instance, this distribution of discretion is shown for the case of the university. Regulatory functions were grouped together according to Fig. 9.9.[4]

  In the same example, primary activities are grouped into faculties, undergraduate programs, research, postgraduate courses and master programs (i.e., we are not distinguishing the different faculties, programs and so forth).

  This table shows that this university, at the moment of the study, had an organizational structure with a noticeable tendency towards the centralization of its regulatory functions. This can be inferred by observing that most of the regulatory functions in the table are carried out by central administrative units (i.e., the Xs in the table are distributed mainly on the top row above the level of

| | Human resources management | | | | | | | | | | | | | | Financial resources management | | | | | | | Academic management | | | | | | | | | |
| | Welfare | | | | Academics | | | | | | Administ. Personnel | | | | | | | | | | | Students | | | | | | Programs | | | |
	Recreation	Sports	Culture	Health	Hiring	Evaluation	Education suoport (master, doctoral)	Training (pedagogy)	Work load management	Professoral track	Hiring	Evaluatioon	Training	Administrative career	Contracts	Funding	Accounting	Budget	Audit	Treasure	Finance portfolio	Admissions and registry	Registration management	Certificates	Grading management	Credits and scholarships	Grades	Quality certification	Program administration	Curricular updating	Institutional accreditation
UNIVERSITY	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x		x	x	x	x	x	x
FACULTIES					x	x	x	x	x					x									x						x	x	
Programs																															
Research																															
Postgraduate courses																															
Master programs																															

Fig. 9.10 Distribution of discretion of a university

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[4]For the sake of simplicity we only show the distribution of discretion for three regulatory functions: human resource management, financial resources management and academic management.

faculties). On the other hand, faculties have little discretion (that is, there are fewer Xs related to faculties and none at the bottom of the table).

- *Analyzing centralized functions*: the next step identifies all the centralized regulatory functions and checks out for "bottlenecks" or similar problems (see Fig. 9.11). This perception arises from the interviews previously done. For each of these functions it is necessary to study if it is feasible to delegate them, keeping in mind the five criteria mentioned above.

In order to specify the appropriate level of discretion for a particular regulatory function it is important to involve in the discussion, in one or several workshops, the viewpoints relevant to this function. The purpose of these workshops is agreeing the level of responsibility that each primary activity is willing to have in performing the regulatory function under consideration, considering other related functions and available technology. For instance, the table in Fig. 9.12 shows the distribution of responsibility for hiring lecturers in the university. Notice that there are four central administrative units and four other units that perform aspects of this function at other levels of recursion. The degree of discretion at each level is described with the precise use of verbs. It is important that each verb delimits precisely the responsibility of carrying out the function at each level. We avoid using verbs such as *to accompany*, *to help*, *to support*, *to stimulate* or similar. It helps using verbs which recognise the accomplished function (see Fig. 9.12).

Primary activities \ Regulatory functions	Human resource managt	Budget	Training	Fees setting	Bookings	Sales	Marketing and advertising	General services	Acquisitions	Operations control	Internal control	Planning & systems	Security
Satena	•	•	•	•	•	•	•	•	•	•	•	•	•
Bogotá		•				•	•	•		•	•		•
Air transport							•						
Passenger transportation						•	•				•		
Commercial routes											•		
"Social" routes											•		
Mail and cargo						•					•		
Charters						•	•				•		
Renting planes						•					•		
Maintenance											•		
Medellín		•				•	•	•		•	•		•

Fig. 9.11 Identifying centralized regulatory functions (Satena's case study)

Roles .vs. Functions	Human Resources management	
	Academics	
	Hiring	
University		
President´s Office		
Academic Vice-President	•	Proposal of hiring policies
Registry		
Finance and Administrative Direction	•	Approves budget for hiring
Human Resources Department	•	Manages hiring process
Academic Council		
University´s Council	•	Decides hiring policies
Auditing Committee		
Dean´s Office	•	Approval of candidate
Programme Committee	•	Advertise position
Programme Direction		
Director of Special Studies	•	Short listing applicants
Director of Post Graduate Studies	•	Making offers

Fig. 9.12 A proposal for distributing discretion to hire lecturers in a faculty

Column groups — Human resources management: *Welfare* (Recreation, Sports, Culture, Health); *Academics* (Hiring, Evaluation, Education support (master, doctoral), Training (pedagogy), Work load management, Professional track); *Administ. Personnel* (Hiring, Evaluation, Training, Administrative career). Financial resources management: (Contracts, Funding, Accounting, Budget, Audit, Treasure, Finance portfolio). Academic management — *Students* (Admissions and registry, Registration management, Certificates, Grading management, Credits and scholarships, Grades); *Programs* (Quality certification, Program administration, Curricular updating, Institutional accreditation).

	Recreation	Sports	Culture	Health	Hiring	Evaluation	Education support (master, doctoral)	Training (pedagogy)	Work load management	Professional track	Hiring	Evaluation	Training	Administrative career	Contracts	Funding	Accounting	Budget	Audit	Treasure	Finance portfolio	Admissions and registry	Registration management	Certificates	Grading management	Credits and scholarships	Grades	Quality certification	Program administration	Curricular updating	Institutional accreditation
UNIVERSITY	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
FACULTIES					•	•	•	•	•	•	•	•						•				•	•		•	•				•	•
Programs					•	•	•	•	•	•	•	•	•					•				•	•						•	•	•
Research																															
Postgraduate courses					•	•			•	•								•				•								•	•
Master programs					•	•			•	•												•								•	

Fig. 9.13 Design of a new distribution of discretion for a small regional university

By running these workshops it is possible to agree the decentralization of functional discretion. Let us notice that on the left side of each verb in Fig. 9.12 there is a dot. These dots are used as a visual synthesis of the outcome of all workshops to build up a new recursion/functions table, which shows the new distribution of discretion that is desired for the organization. Figure 9.13 illustrates the outcome of this exercise to adjust the centralized structure of the small university that we are using as an example.

In this particular case we can see a new communication structure in which faculties and programs have a greater responsibility in performing different functions than before. It will be in those primary activities that the execution of most of these regulatory functions will be accomplished. Remember that each dot in this table is associated with one or several verbs specifying the scope in the execution of the corresponding regulatory function.

A row-by-row analysis in this table allows agreeing the functional capacity necessary at each structural level. This analysis is the following step of the method.

- *Estimating the functional capacity of primary activities*: rows in the recursion/ functions table show the primary activities' structural levels. Each row, as it was mentioned at the beginning of the chapter, corresponds to one of the circles of the unfolding of complexity. If we look at one of these rows, for instance, the one corresponding to the faculties in a university (Fig. 9.13), it is possible to identify the regulatory functions with discretion at this level. Indeed, by observing each of the dots from this row it can be concluded that faculties will have discretion performing the following functions: hiring, evaluation, education and training of lecturers; workload administration; academic career administration; hiring, evaluation, education and training of the faculty's administrative staff; budgeting; aspects of admission and registry processes; reception of new students; graduation; scholarships and loans administration; management and updating the curricula; and accreditation of the faculty's academic programs.

  Remember that the scope of each of these functions has been defined precisely by the verbs used to delimit responsibilities (Fig. 9.12). Comparing this proposed design with the current situation, as reflected by the recursion/functions table in Fig. 9.10, allows the participants in the design determining the profile of the roles required to assume these new responsibilities. Manuals describing these functions could also be updated based on the information derived from this table.
  Finally, the number of people required for each structural level, for instance the staff supporting the faculty in the example of the university, could be calculated in terms of the complexity of each regulatory function. This complexity is related to the demand for each function and the required resources to respond to this demand. Notice, therefore, that each dot in the table, as mentioned before, does not correspond to a single person but to a functional capacity within a process. A single person, for instance, could be in charge of performing more than one function. The outcome of this detailed analysis will be an estimation of the functional capacity required for the adjustment in the distribution of discretion in the organization.

- *Designing cohesion mechanism accounting for decentralized regulatory functions*: The need for cohesion arises when together with the organization's complexity unfolding, regulatory functions are decentralized to various primary activities. In other words, discretion and empowerment require establishing a mechanism that guarantees the cohesion between the different primary activities when performing these regulatory functions. The following story exemplifies this problem.

Cohesion is necessary for each primary activity. This implies that together with the organization's complexity unfolding, there is a need to integrate their regulatory functions in the context of their primary activity. An implication is that when functional discretion is allocated to embedded primary activities it is necessary to establish a mechanism that guarantees the cohesion between them as they perform locally these regulatory functions. An old but illustrative story exemplifies this problem.

In the mid 1980s a nationwide organization in a South American country decided to systematize all its processes. For this purpose its strategy was to decentralize Information Systems that, up to that moment, had been concentrated in a big office in the country's capital. The general office decided to create a system's office in each 1 of the 32 regional divisions of the organization; the function was delegated to the regional directors. In other words, and using the terminology presented before, the regional branches had discretion to systematize the processes that concerned them. Each office received a budget with a goal of implementing the information systems they require within the following 2 years.

Two years later, every regional branch had implemented an information system. However, when the national head office requested consolidated reports, these were almost impossible to produce; the different regional systems were incompatible. Each branch, through a bidding mechanism, had hired the most cost-effective systematization of *their* processes. Even though each regional director behaved in an honest and diligent manner, the lack of a cohesion mechanism generated the described mishap.

The cohesion mechanism has four closely related components: (see Chap. 6 and Fig. 9.14): three of them constitute the cohesion function and one the coordination function. The three constituting the cohesion function are the *resource bargaining bi-directional channel*; the *monitoring channel* and a channel issuing centralized *intervention rules*. The cohesion and coordination functions together constitute the cohesion mechanism. Each one of these will be examined next:

The channel issuing centralized rules allows the definition and divulgence of guidelines and general conditions or restrictions that are considered non-negotiable, because they are beyond the competence of the organization. For instance, an example in personnel management is minimum wages for workers. In fact, these are policies reflecting the ethos, principles and values of the organization or society and, therefore, they are non-negotiable. Other examples are: internal quality standards; gender equality when hiring new personnel; policies on environmental protection; industrial security regulations; restrictions on the use of illegal software; policies regarding the use of communication platforms, etc.

Discretion means delegation plus action capability. This implies that when an organization goes for decentralization of functions, it has to allocate the necessary resources for the proper execution of the functions. Now, because resources in an organization are always limited, a communication channel to facilitate resources bargaining becomes fundamental. But, at the same time,
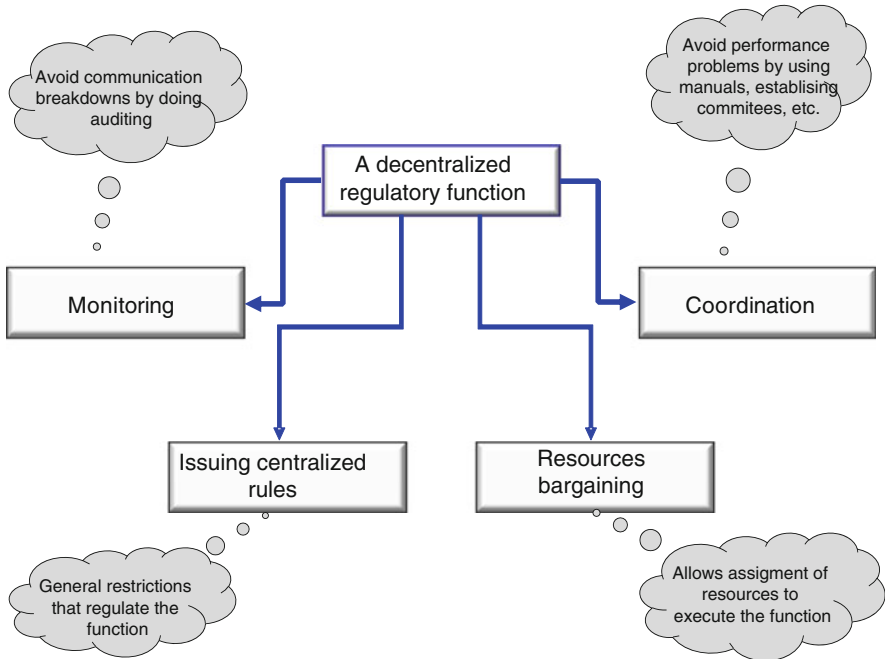
Fig. 9.14 General description of the cohesion mechanism for a decentralized function

those who undertake the responsibility to perform a decentralized function commit themselves to comply with a set of outcomes. This is part of the negotiation process.

Coordination on the other hand, has the purpose of enabling the autonomy of primary activities and also avoiding (or anticipating) any performance problems during the execution of the decentralized function. The creation of committees that gather periodically to deal with atypical cases; producing and distributing manuals, standards and formats; designing and using information systems and doing training courses are all examples of this systemic function that helps coordinate decentralized regulatory functions.

But even with coordinated activities breakdowns are relatively common in the daily execution of business functions. These breakdowns often happen because of failures in communication processes and poor alignment of interests and meanings. Another possibility is, of course, the outcome of deceitful acts. No matter the case, it is important to have a monitoring channel that ensures stability of commitments and agreements for the regulatory function under consideration. Auditing is a particular instance of this monitoring.

Coordination and the other channels must be designed and implemented for each regulatory function in which discretion has been granted. Figure 9.15 shows an example of a *cohesion mechanism* for the decentralization of information systems in the story of the public organization mentioned above.
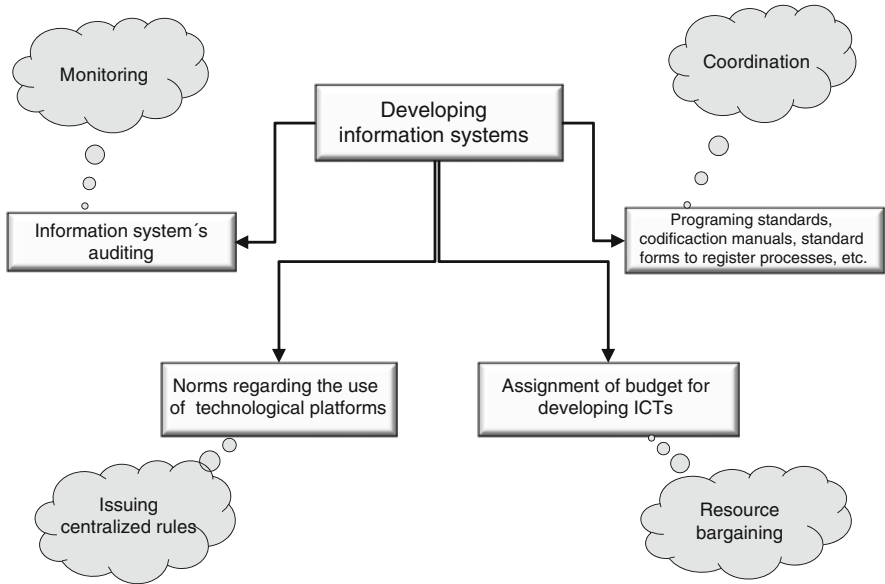
Fig. 9.15   A particular example of the cohesion mechanism for a decentralised regulatory function
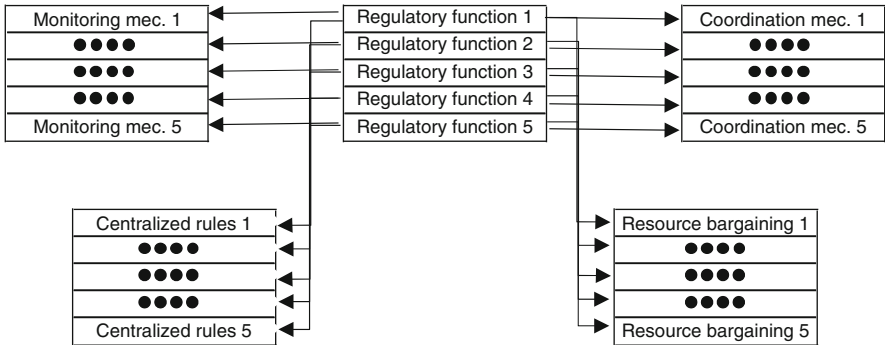
Fig. 9.16   A generic cohesion mechanism

The generic mechanism can be seen on Fig. 9.16 for all centralised and decentralised regulatory functions. By now the reader should be aware that this mechanism was explained in Chap. 6 when we presented the viable system model. Indeed, it is possible to build up the VSM for a given organization by using as a guide the recursion/functions table. Showing this, however, goes beyond the scope of this book.[5]

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[5]The interested reader could visit the page www.syncho.org to get the Viplan software where a step-by-step construction is shown.
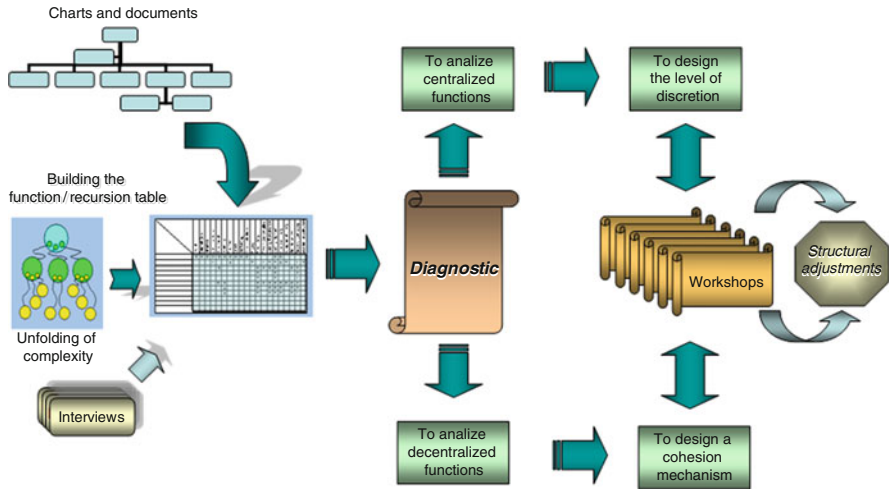
Fig. 9.17 A method to study the distribution of discretion

The outcomes of the method described in this chapter are first of all, a diagnosis of the degree of centralization/decentralization of functions in an organization, and secondly a proposal for a more effective distribution of discretion of regulatory functions. This design can help eliminating bottlenecks, speeding up the work flow of primary activities and promoting the balance between organizational autonomy and cohesion. Figure 9.17 illustrates the method.

A similar approach can be used to design an organization's adaptation mechanism. It should be kept in mind that each primary activity needs functional capacity to adapt to its surroundings and to make things happen. Conceptually this implies that we would expect that each primary activity, from the organization as a whole to the most local, will have resources embodying the five systemic functions, that is, policy, intelligence, cohesion, coordination and implementation. In practice organizations find it difficult to devolve autonomy; however this is an issue of relationships that goes beyond the scope of this chapter (see Chap. 6).

We can add that the discussions of this chapter are particularly relevant to reconfiguring an organization's resources and therefore to the development of its dynamic capabilities. New technologies – in particular ICTs – are making possible more imaginative forms of co-evolution of an organization with its environment, while more effective forms of centralization and decentralization are also a possibility (Eisenhardt and Martin 2000; Teece 2008).

Indeed, the recursion/functions table is also useful to make a connection between strategy, structure and communications in an organization. In order to show this connection it is important to add an additional distinction to the processes. So far we have distinguished between primary processes (e.g., business processes) and organizational processes (e.g., cohesion processes). The former are responsible for the value chain, the latter for its regulation. Now we need to bring forth the concept of

information processes. Notice that having discretion to perform a regulatory function implies the need to have appropriate information about its performance and adequate communication channels to manage it. Showing this connection and its implications in the design of information systems is the purpose of the following chapter.

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