Chapter 3 Trends and Dynamics of Strategic University Management in Ibero-American Higher Education

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Abstract This article seeks to examine if there are significant differences in the strategic management processes that may identify positive or negative conditions for improving these processes. A survey is carried out in the context of HEIs in Ibero-American countries, and focusing on the concern with strategic planning, this study analyses how the nature of strategising in universities interacts with the governance-level policies of the higher education system and a particular modelling of the strategy process. Therefore, a critical examination of the strategy modelling in different countries is addressed, highlighting how particular experiences might be instructive for better strategising in universities.

Keywords Strategising • Strategic planning • Strategy process modelling • Higher education

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3.1 Introduction

The higher education landscape within most countries around the world has changed as a result of institutions' growing diversification. Many of the 'new' providers have been built on the foundations of earlier models with limited research traditions (e.g. teaching and technical schools) and have a 'specifically regional mission' (OECD 2007, p. 36). The development of alternatives to universities within the higher education sector has been criticised for the highly segmented nature of these options, their varying quality and the professional relevance of the programmes. Other problems may include institutional instability, lack of orientation, excessive heterogeneity, lacklustre internal organisation of the system, saturation of areas of study and the disproportionate number of institutions (Bernasconi 2006; Castro and Levy 1997; De Wit et al. 2005). These features and problems are particularly relevant when analysing the higher education system in many Ibero-American countries, especially in the context of Latin America.

The recent Organisation for Economic Co-operation and Development (OECD) report on higher education investment in the Ibero-American region (OECD 2013) acknowledges that an increasingly globalised higher education landscape puts competitive pressure on institutions faced with the need to improve their performance in order to attract students and meet their international standards. Also, part of the main challenges of higher education in the region remains unsolved, mainly those related to the quality, pertinence and access to higher education. Additionally, one of the main debates around higher education in this region is related to its financing. Within this context, it is unquestionable that higher education has gained importance on national agendas, as it generates both economic and noneconomic benefits for societies as a whole and for individuals. Therefore, in an increasingly knowledge-based economy and society, higher education plays a decisive role in the creation and dissemination of high-level knowledge, as well as in putting it to use for the benefit of society.

Nonetheless, the question posed here is how the management of universities can ensure achieving these outstanding objectives either at a more macroeconomic perspective (decisive role in the upgrading and diversification of the economic structure) or an individual perspective (endows individuals with better training and more sophisticated skills). These questionings cannot be debated without taking into account the influential role of the national governments in developing particular governance models, policies and strategies. Therefore, the main objective of this article is to contribute to the debate about how HEIs define their strategies and what the impact of their choice may be.

This encompasses how they carry out their tasks of strategic analysis, selection, implementation, review and change in order to create value and sustain their advantages. Accordingly, much attention on the study of strategy derives from a search for models of better strategy, for the transference of strategic success from one organisation to another (Buckland 2009). In consequence, this study examines the models of applicability of strategy for universities in different countries of Ibero-America, addressing whether this comparative analysis may offer convergent elements of positive and negative conditions that take place in strategy making or whether this comparative analysis may deliver practical implications for institutions across those countries.

Therefore, the following research question guided this study:

What are the types of strategic management processes at the Ibero-American HEIs?

This study seeks to examine if there are significant differences in the strategic management processes that may identify positive or negative conditions for improving these processes. In the next section, a review on the development of strategy process and strategic planning in universities is elaborated, particularly addressing studies within the context of HEIs in Ibero-American countries. Furthermore, focusing on the concern with strategic planning, this study analyses how the nature of strategising in universities interacts with the governance-level policies of the higher education system and a particular modelling of the strategy process.

Next, the methodological approach used in this research project and the analysis process being applied are described. Consequently, this study explored strategy making experiences across 15 countries in the Ibero-American region: Argentina, Bolivia, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Spain, Mexico, Panama, Paraguay, Peru, Portugal, Uruguay and Venezuela. In subsequent sections, a critical examination of the strategy modelling in different countries is addressed, highlighting how particular experiences might be instructive for better strategising in universities, taking into account convergent and divergent variables concerning the enhancement of strategy process.

3.2 Strategising in Universities: Strategy Modelling and Its Relationship with Governance-Level Policies

The current debate in the higher education sector acknowledges that in an environment characterised by systematic changes and increasing competition, it is imperative for HEIs to align their resources and capacities with the requirements of context in order to support them in achieving their mission and institutional goals, which should be embedded in a framework of efficiency, effectiveness and quality (e.g. Amaral and Magalhães 2001; Amaral 2009; Rodríguez-Ponce and Pedraja-Rejas 2009). From the empirical perspective, studies that have addressed how HEIs strategise shed light on how the design and implementation process of the strategy in universities have significant flaws, suggesting avenues for improvement in order to achieve high levels of institutional quality (Machado et al. 2004; Taylor 2007; Rodríguez-Ponce and Pedraja-Rejas 2009).

According to Hardy and Fachin (1990), managing universities means striving for ambiguous objectives, involving various electoral groups, relatively ill-defined

technologies and highly specialised core professionals (or professors) and working in an exposed and vulnerable environment. Correspondingly, university management has to incorporate such factors and to develop an approach with an appropriately matching style. Frequently, questions of shared governance, the role of leadership and the changeover from bureaucratic management to a more professional approach have been of major concern. Particularly focusing on the role of governance and leadership in managing universities, Burquel (2012, p. 4) argues that current reforms in the higher education sector worldwide offer many opportunities for HEIs to rethink themselves and to exercise more fully the autonomy gained in increasing numbers from the State, though many institutions seem unable to do so. One of the main reasons for this is the lack of strong institutional capacity, leadership and management to make strategic choices based on institutional strengths, to build a strategic position and to communicate adequately with society and play a key role in addressing the increasing problems of society.

Consequently, many national European governments are reviewing the overall higher education landscape, questioning the number and types of institutions needed at a national level to serve public agendas and reach a critical mass. This is increasingly leading to institutional mergers, alliances and strategic partnerships. Specifically, in the European case, new forms of multilevel and multi-actor governance are emerging, and according to van Vught (2009, p. 18), higher education and research institutions cannot ignore the effects of the multilevel processes that govern them. They need to design and implement institutional strategies that allow them to play their own roles in the new system dynamics of EU higher education and research. Within this context, Burquel (2012) contends that while the degree of autonomy that universities enjoy from state control is generally increasing in European countries, there are still many constraints placed by the State. This impacts the capacity of HEIs to manage complex sets of strategic developments, to define appropriate policies and organisational arrangements and to find the right mix of human and financial strategies to support their overall vision to help address all challenges of society.

Traditionally, university governance and decision-making processes were based on collegial arrangements involving the whole academic community (OECD 2003, 2008). The general trend now is towards increasing the level of autonomy for HEIs. For instance, De Boer and File (2009, p. 13) posit that the widening of institutional autonomy has also led to the strengthening of institutions as organisations and the rearrangement of authorities and responsibilities across different levels resulting in stronger leadership now located at the top of the university. In the particular case of countries in the Ibero-American region, Brunner (2011) in his study of trends in higher education governance noted that higher education systems in Latin America have two peculiar characteristics if compared to most of the OECD countries and in particular with European countries. On the one hand, there is the concept of institutional autonomy understood as institutional autarchy against the weak or powerless national governments in higher education matters, and on the other, there is an explosive growth of private higher education.

Concerning the public sector, Brunner (2011) contends that most of the Latin American public universities present a collegial model of university governance, with a strong emphasis on a co-democratic government and bureaucratic management structures which are weakened by politicisation. Consequently, the decision-making processes are slow, people in management positions have no professional training, and academic managers do not have authority to make strategic decisions (Schwartzman 1996). Within this context, Brunner (2011) argues that Latin American public universities are over-administered with a sense of a fractional and paralysing bureaucracy, and they are also submanaged if we consider the entrepreneurship characteristics contended by Clark (1998) and Shattock (2003). As a consequence of these particularities, a number of organisational pathologies can emerge: an institutional vision not aligned with academic management or resources, an academic management decoupled from the environmental and contextual needs and demands, a purely inertial resource allocation as well as an academic management that does not take into account administrative and financial restrictions, which ends up being impossible to count with a strategic planning process (Samoilovich 2008).

Regarding the Latin American private sector, there are some characteristics that may explain its role in the region. On the one hand, as a consequence of the explosive growth of public institutions, governments across many countries have introduced new programmes and regulation in order to regulate the sector. On the other, specialised agencies were established in order to assess and accredit the public and private institutions. Therefore, at the governance level, some advances such as the creation of units of institutional analysis, the development of strategic planning and the use of performance indicators as well as the elaboration of improvement programmes (Brunner 2011). Additionally, governments started to partially change the benevolent funding schemes of public institutions, structuring it on the basis of inputs not only conditioned by performance and results but using a range of market-type tools and mechanisms for allocating public resources (Brunner 2009). Taken together, these dynamic changes and impacts from the regulatory environment in Latin America may be the subject of conflicting interpretations.

3.2.1 Strategic Management Development in Higher Education: Dynamic and Problematic

In recent years, a large number of studies have tried to analyse the use of strategic planning in HEIs attempting to correlate the current efforts of the university with the emergent environmental changes (Tsiakkiros and Pashiardis 2002). Several studies have focused on tools that have supported the strategy design. For instance, Dyson (2004) explored the Warwick University strategies by means of SWOT and its relation with scenario planning and resource-based planning. Also, Gill and

Lashine (2003) probed the potential of business schools in satisfying the needs of society and industry examining the positioning strategies of management education, business school staffing, accommodations and teaching method strategies. Often strategic management is seen and modelled in a logical, systematic and objective way to make decisions in the organisation, by the use of qualitative and quantitative information. The modelling of the process often follows three main concepts: (1) strategic analysis, (2) strategic choice and (3) strategic implementation (David 1997).

Concerning the strategy analysis, some studies explored the necessity of strategic environmental analysis in HEIs' strategic planning (Kettunen 2006; Brock 1997; Luby 1996). Analytical tools from various approaches are chosen according to the environmental characteristics of the industry by understanding the priorities and strategic aims of that industry. According to Buckland (2009), the development of universities' strategising has been largely devoid of the incorporation and analysis of context and process - known from private sector studies to be vital in the effectiveness of strategic analysis. Another concern according to Buckland lies with the centrality of leadership to the formation, choice and implementation of strategy. The management of university leadership has, of course, varied widely across systems. On the other hand, the importance of contingency is another concern in university strategising. Strategies are not merely contextual in their management; they are contextual in their formation, relevance and impact. Contingency, indeed, might be what sets strategy apart from mere decision: the 'higher level' consists of the influence that a strategic decision has upon future opportunities and choices, its determination of later fields of potential action and its effects on attitudes and on competitor behaviour.

Additionally, several studies have explored the dynamic and problematic way universities are managed. The studies of Tierney (2001) and Machado et al. (2004) also point out some of the problems related to changing the way HEIs are managed, including: the lack of consensus on what the actual problems are, who is responsible for them and how to achieve this, the lack of compliance with deadlines for problem resolution in extensive and complicated processes, the lack of good evaluation processes due to the need to meet deadlines, ineffective internal communication systems, bureaucratic rigidity and the lack of believing that the change processes are going to work for the better.

In this vein, Rosa and Amaral (2007) explored relevant barriers in the modernisation of higher education management, such as insufficiently explicit institutional priorities and objectives, lack of a clear definition of stakeholder needs and expectations, lack of a clear identification of the participants in higher education and the definition of priorities, problematic teamworking and high levels of individualism, lack of a fundamental need of what and how to measure the results, lack of efficient communication channels and the bureaucracy impacting decision-making. Finally, leadership is a crucial factor when adopting a professional management approach.

3.2.2 Ibero-American Higher Institutions' Relationship with Strategic Management

Nevertheless, there are a few studies that have specifically examined the advancements of institutional strategic management in the context of the previously described governance models and political strategies. An earlier study (CINDA 2007) explored institutional experiences of strategic management for quality purposes from 16 institutions from Latin America such as Chile, Colombia, Ecuador and Peru and also experiences from Spain. The study highlighted the relatively recent use of the strategic planning tool for most of the analysed universities. For these institutions, the coexistence within the institutional management of academics (mostly derived from knowledge areas not related to management) and nonacademic professionals did not facilitate the incorporation of a systematic management system. On the other hand, the HEIs' cultural rooting, especially the public sector, was another factor that did aid the adoption of advanced strategic management approaches, especially concerning strategic change intents.

According to CINDA's study (2007), some specific factors emerged as improvement aspects in the analysed strategic planning processes. Such factors were associated with the need of mapping the primary stakeholders, the need of developing the corporate social responsibility integrating it within the institutional strategy, the necessity of adopting prospective techniques in order to elaborate strategic scenarios and debating alternative strategic options, the relevance of identifying the "core competencies" associated with a competitive advantage, the importance of counting strategic communication of the strategic planning as well as the need for placing more emphasis on monitoring and assessing the formulated strategy.

In a comparative perspective of the strategic management process of institutions in Ibero-American countries, Rodríguez-Ponce and Pedraja-Rejas (2009) explored experiences from 16 institutions, noting that the majority of them carried out an appropriate analysis of their overall environment. However, most of them presented significant deficiencies in the definition of the institutional mission, in the analysis of the competitive environment, in the examination of resources and capacities and in the design as well as in the implementation of the strategy. This study suggested that the analysis of resources and capacities was a key determinant of success and the strategy design was the fundamental determinant for successful strategy implementation. Particular studies with emphasis in specific countries, for instance, the study of Machado et al. (2004), explored the status of strategic planning in Portuguese institutions, arguing that there was a problematic concern for the implementation of the strategic planning processes, noting that the number of institutions that could legitimately be classified as strategic planners was incongruent with the self-reported findings of the data. A further study (Machado and Taylor 2010) on the strategic management of Portuguese institutions argued that the concept of strategic planning within the Portuguese HEIs was only beginning to evolve. While some sincere efforts were found, they were accompanied by naive misunderstandings, inflated self-reporting and fragmented implementation in many cases.

In Spain, a similar study explored the usefulness of strategic management tools (Llinàs-Audet et al. 2011). Strategic planning was the most popular management tool adopted by Spanish universities, and these institutions showed an improvement within the decision-making process as well as an enhancement in key institutional process. However, many institutions reported methodological concerns, specifically concerning the complexity of managing and integrating all relevant stakeholders in the strategic project. In Chile, explored the relationships between the design and implementation phases of the strategy and institutional quality, showing that the definition of the institutional mission and the analysis of the competitive sector and of relevant resources and capabilities were the main determinants of the design and implementation of corporate strategy. Even if studies have tried to explore the advancement of the strategic management in the Ibero-American region, no exhaustive comparative analysis on this subject exists.

3.3 Design of the Study

3.3.1 Strategic Management-Specific Research Model Variables

The literature provided the theoretical background for defining the variables of the strategic management process as well as the factors influencing this process. These variables are operationalised within a specific research model based on theoretical assumptions from empirical evidence. This model can be seen in Fig. 3.1.



Fig. 3.1 Higher education strategy management specific research model

The variables within layer 1 comprise the theoretical assumptions for antecedents of strategic management in higher education research. In layer 2, some context variables of the strategic management process were conceptualised on the basis of the following assumption: because universities in different countries may be heterogeneous organisations and present different structures, not all institutions might be subjected to the same contextual factors. Thus, dimensions can be conceptualised on which process variables are convergent or differ from institution to institution and country by country and which contextual factors influencing the process in a positive or negative way might differ from institution to institution.

3.3.2 Sampling Strategy and Data Analysis

The empirical study focused on obtaining data that reflected the national situation regarding the use of strategic management techniques. In some cases, certain types of institutions were aimed at, focusing mainly on public and private universities. Given that the questionnaire is a consensual tool to develop a structured data collection process, it gathered information related to the variables embedded in the research model (Fig. 3.1). Thus, the questionnaire contained a series of theoretically structured questions and therefore allows for obtaining unbiased information in order to meet the objectives of this research. Specifically, the questionnaire has been divided into two parts: the first, intended to collect information on the process of strategy development. This first part was then structured into four sections, including questions that tried to address the different aspects of the strategy development process (e.g. strategic thinking, strategic choice, strategic implementation and strategic monitoring and learning). The second part contained variables about the organisational aspects of the institutions participating in this study.

Accordingly, the design process has followed very rigorous steps to ensure the success of the study. Firstly, the questionnaire was submitted to an expert review. Secondly, given that this study has been administered in different countries, an adaptation of the text in each context, in terms of language style and concepts, was conducted in order to ensure adequate understanding of its content. Finally, the questionnaire was submitted to a comprehension test (Hernández Sampieri et al. 2003). This last step provided relevant information that allowed for improvements before implementation.

Consequently, all the variables of process and context (Fig. 3.1) were operationalised in the questionnaire using multiple choice and open-ended questions, enabling information to be gathered on the institutions' strategic management systems by applying scales of 'yes' and 'no' or a five-point scale (Likert scale) ranging from 'very high' to 'very poor'. This design aimed at facilitating the subsequent quantitative analysis, while leaving room for respondents to also express their opinions and enrich the analysis through perspectives and insights. Although the study did not divide the quantitative analysis according to the public or private sectors of the HEIs surveyed, it is important to highlight the participation of both types since this has enabled us to identify significant differences between the two groups of institutions.

The implementation of the survey was conducted electronically via a web form and consisted of a nonrandom sample of mainly public and private universities across 15 Ibero-American countries: Argentina, Bolivia, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Spain, Mexico, Panama, Paraguay, Peru, Portugal, Uruguay and Venezuela. The target population for this study consisted of one representative in a managerial position (chancellors, vice chancellors, directors and/or quality technicians) at the aforementioned universities. Only one questionnaire per institution was administered and thus only one response per institution.

These countries were selected due to the fact that the study has been implemented in the framework of a partnership of universities belonging to these respective countries – contacts that have facilitated the survey application across the universities within the mentioned countries. Quota sampling (Groves et al. 2009), which is a type of stratified sampling, was applied in which selection within the strata is nonrandom. Based on the information from the ministry and authorities responsible for coordinating higher education in those countries, the approximate total of recognised public and private universities was 3,596 (data corresponded to 2011/2012 period). Therefore, applying a confidence level of 99 %, with an expected rate of 50 % and an accuracy of 1 %, the strata to be used were established as the higher education coverage rate. Based on that, a total of 1,065 survey packages were mailed during the academic years of 2010–2011/2011–2012, and a total of 431 responses were received. Table 3.1 gives an overview of the response rate in each country.

The data collected from the survey responses were entered into the SPSS and analysed using software package SPSS version 20.0. Descriptive statistics for all variables in this study were examined using SPSS frequencies. Results of the study are followed by each research question according to the research model variables.

3.4 Results

The first aspect to be described is the answer to the research question explored by this study:

What are the types of strategic management processes in Ibero-American HEIs?

As such, the variables used to address this question were related to the process: strategic thinking and choice, implementation and learning. Also, context variables were used to help interpret the identification and description of the types of strategic management processes in place across the analysed countries. Furthermore, a comparison of the frequencies of each variable for process and context was conducted

| | | | Criteria of sample represen | ntativeness |
|-----------------------------------|--|---|------------------------------|----------------------------|
| Country | Population | Sample | No. of HEIs | Coverage rate ^a |
| Argentina (AR) | 87 universities | 14 | 16.09 % | 1 |
| Bolivia (BO) | 59 universities | 27 | 45.7 % | 75.4 % |
| Chile (CL) | 60 HEIS | 18 | 30 % | 41.01 % |
| Colombia (CO) | 115 (university institution/technology school) | 19 (university institution/ technology school) | 16.6 % | 24 % |
| | 80 (universities) | 58 (universities) | 73 % | <i>%</i> 69 |
| Costa Rica (CR) | 15 (selected) | 12 | 80 % | 97.8 % |
| Ecuador (EC) | 68 (universities and polytechnic schools) | 13 | 19 % | 22.2 % |
| El Salvador (SV) | 78 (24 universities, 15 institutes – technology and | 32 | 68.8 % universities | 68.8% |
| | specialised) | | 18.8 % specialised inst. | |
| | | | 12.5 % technology inst. | |
| Spain (ES) | 74 | 60 | 81 % | 89.5 % |
| Mexico (MX) | 176 HEIs | 80 | 45.5 % | 60.9 % |
| Panama (PA) | 40 universities | 27 | 67.5 % | 79.4 % |
| Paraguay (PY) | 45 | 7 | 15.5 % | 43 % |
| Peru (PE) | 15 universities | 14 | 93.3 % | 13 % |
| Portugal (PO) | 87 HEIS | 14 | 16 % | 40 % |
| Uruguay (UY) | 15 universities | 15 | 100% | 100 ~% |
| Venezuela (VE) | 51 universities | 21 | 41.1 % | 96.7 % (public) |
| | | | | 3.21 % (private) |
| ^a The coverage rate is | the percentage of the capacity of the educational syst | em to enrol students in a specific leve | el of education. We used dat | a from the higher |

Table 3.1 Sample distribution according to country demographics (higher education coverage strata)

education coverage rate, published by the regulatory authorities for the higher education system in the different countries, as a basis for calculating the sample's representativeness in terms of the coverage of students enrolled to determine quota sampling. In certain countries, they are separately stratified, specified by types of institution of higher education (universities, institutes, etc.), and always in accordance with the institutions' relevance in their contribution to the country's student enrolments across countries in order to provide evidence for examining the communalities of elements in the strategic management processes that may identify positive or negative conditions for improving these processes.

3.4.1 Strategic Thinking and Choice Process Variables

3.4.1.1 Adoption of Strategic Management Processes

We made an initial observation of the existence of institutional strategy at HEIs. In this respect, the survey led to a clear conclusion: the existence of a culture of strategy formulation in most of the countries studied. This variable (mission definition) was explored by asking the institutions about the existence of an established process for the development and revision of the institutional policy and strategy, in accordance with a mission and formalisation (M=4.47; SD±0.586 on a 1–5 scale; see Table 3.2).

According to the overall mean observed in the table, the university responded with strongly agree on having a systematisation process to develop their institutional strategy. Additionally, it can be noted that three countries (Spain, Peru and Portugal) were below the overall average; however, their individual means do not present a relevant disparity if compared to the overall mean. Therefore, if compared to overall data, participation rates and responses are similar.

| | Existence of | f a process for strat | tegy definition a | nd revision | |
|-------------|--------------|-----------------------|-------------------|------------------|------------------------|
| Country | F | % | $\mu_{ m i}$ | $\sigma_{\rm i}$ | μ_{Total} |
| Spain | 52(54) | 96.30 | 3.90 | 1.09 | 4.47 |
| Paraguay | 6(6) | 100.00 | 5.00 | 0.00 | |
| Costa Rica | 12(12) | 100.00 | 5.00 | 0.00 | |
| Uruguay | 5(7) | 71.4 | 5.00 | 0 | |
| Chile | 16(18) | 88.89 | 5.00 | 0.00 | |
| Argentina | 14(21) | 66.6 | 4.00 | 0.63 | |
| Bolivia | 25(27) | 92.59 | 4.16 | 0.37 | |
| Panama | 24(27) | 88.89 | 4.00 | 0.78 | |
| Peru | 14(20) | 70.00 | 3.86 | 0.77 | |
| El Salvador | 28(32) | 87.50 | 4.29 | 0.46 | |
| Ecuador | 13(13) | 100.00 | 5.00 | 0 | |
| Venezuela | 17(21) | 80.95 | 4.35 | 0.49 | |
| Mexico | 80(80) | 100.00 | 4.53 | 0.75 | |
| Colombia | 77(77) | 100.00 | 5.00 | 0.00 | |
| Portugal | 13(13) | 100.00 | 3.62 | 0.65 | |

 Table 3.2 HEIs with strategic projects distributed by country

(n°) Number of institutions per country

(p) Missing values

3.4.1.2 Environmental and Competitive Analysis

For diagnostic analysis, we asked the institutions how the environmental and competitive analyses were approached when carrying out their strategic thinking process. On the one hand, we have examined if a systematic analysis process exists based on economic resources, environment, competitors, internal indicators and previous planning results.

As seen in Table 3.3, not all the participating institutions in the analysed countries provided quantitative data for this variable. Some countries had qualitative comments which are included here. The first aspect taken into account is the data showing the countries that use a more robust strategic diagnostic analysis, that is, when carrying out this process, they considered different sources of information. Spain, Uruguay, Panama, Peru and El Salvador reported conducting a systematic analysis based on economic resources, environment, competitors and also specific results of previous planning. Their systematic analysis was additionally supported by the inclusion of results in the overall institutional self-assessment and internal indicators. Within these countries, it is also possible to observe some slight differences. For instance, Spain and El Salvador had a lower number of institutions using a more systematic strategic analysis diagnostic process, but the differences were again not very meaningful. Furthermore, there is a second group of countries (Costa Rica, Bolivia and Colombia) who established a systematic approach for conducting a strategic diagnostic analysis, however without specific establishment of internal indicators or results of institutional self-assessment. And the final group with two examples, one in Mexico, where institutions did not provide evidence of counting with a systematic strategic diagnostic dynamic, however were working to build a system of internal indicators as the basis of strategy development. Second, in Portugal, the institutions are using the results of their institutional self-assessment exercises.

On the other hand, some countries did not provide responses to this specific variable: Paraguay, Chile, Argentina, Ecuador and Venezuela. In the case of Argentina, Paraguay and Chile, the universities did not mention that they specifically used internal indicators or self-assessment exercises, but when formulating their strategy, they used some forms of strategic tools such as building scenarios, market analysis or conducting SWOT analysis. The responses were not informative on the use of these tools in a systematic way, during the formulation nor in revision of their institutional strategy. Similarly, in the case of Ecuador, the use of SWOT analysis, building scenarios as well as market analysis was mentioned; however, using performance indicators, which the universities in this country called 'success indicators', was associated with specific strategic areas defined by the CONEA (National Assessment and Accreditation of Higher Education body) for the institutions' accreditation process. Finally, in the case of Venezuela, the use of strategic analytic tools (SWOT, market analysis and scenarios) was also reported, but universities, in most cases public institutions, systematically utilise the results of previous planning, even though no information about how this process is conducted was provided.

| | Elements t | that are pr | eviously | taken in | to accour | nt when pre- | paring the | formula | tion and | revision | of the instit | utional str | ategy and | l policy | |
|---------------|------------------------|-------------|---------------|----------|------------------------|--------------|-------------|---------------|----------------|------------------------|-----------------------|------------------------|----------------------|-------------------------|------------------------|
| | | | | | | Results of | the institu | utional se | Aff-assess | ment | Systematic resources, | c analysis environm | based on ent comp | economic etitors and | 0.9 |
| | Internal in | ndicators | | | | exercise | | | | | results of] | previous p | lanning | | |
| Country | F | % | $\mu_{\rm i}$ | σ | μ_{Total} | F | % | $\mu_{\rm i}$ | σ _i | μ_{Total} | F | % | $\mu_{\rm i}$ | $\sigma_{\rm i}$ | μ_{Total} |
| Spain | 30(54) | 55.6 | 5.00 | 0.00 | 4.17 | 29(54) | 53.7 | 4.69 | 0.87 | 3.96 | 51(54) | 94.4 | 3.71 | 1.33 | 3.84 |
| Paraguay | 6(p) | I | | | | 6(p) | 1 | | | | 6(p) | I | | | |
| Costa Rica | 12(p) | I | | | | 12(p) | I | | | | 12(12) | 100.0 | 3.83 | 1.03 | |
| Uruguay | (<i>L</i>) <i>L</i> | 100.0 | 4.00 | 0.58 | 1 | 7(7) | 100.0 | 3.43 | 0.98 | 1 | (<i>L</i>) <i>L</i> | 100.0 | 3.14 | .378 | |
| Chile | 18(p) | I | | | | 18(p) | I | | | | 18(p) | I | | | |
| Argentina | 14(p) | 1 | | | 1 | 14(p) | 1 | | | 1 | 14(p) | 1 | | | |
| Bolivia | 27(p) | I | | | 1 | 27(p) | I | | | | 27(27) | 100.0 | 4.33 | .784 | |
| Panama | 27(27) | 100.0 | 3.93 | 0.92 | I | 27(27) | 100.0 | 3.93 | 0.92 | 1 | 27(27) | 100.0 | 3.93 | .958 | |
| Peru | 11(14) | 78.6 | 3.36 | 1.36 | 1 | 11(14) | 78.6 | 3.36 | 1.36 | 1 | 14(14) | 100.0 | 3.21 | 0.80 | |
| El Salvador | 20(32) | 62.5 | 4.40 | 0.50 | [| 20(32) | 62.5 | 4.30 | 0.47 | 1 | 31(32) | 96.9 | 4.23 | 1.055 | |
| Ecuador | 13(p) | 1 | | | | 13(p) | 1 | | | | 13(p) | I | | | |
| Venezuela | 21(p) | Ι | | | | 21(p) | Ι | | | | 21(p) | I | | | |
| Mexico | 66(80) | 82.5 | 4.44 | 0.50 | | 80(p) | Ι | | | | 80(80) | I | | | |
| Colombia | 77(p) | I | | | | 77(p) | 1 | | | | 77(p) | 100.0 | 4.33 | .839 | |
| Portugal | 13(13) | 100.0 | 4.08 | 0.28 | | 13(13) | 100.0 | 4.08 | 0.28 | | 13(p) | 1 | | | |
| (n°) Number o | f institutions lues | s per coun | try | | | | | | | | | | | | |

Table 3.3 Trends for strategic diagnostic process

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| | General id | leas and | guideli | nes | | Explicit st periodical | trategy de lly | veloped | 1 | |
|-------------|------------|----------|---------------|------------------|----------------------|---------------------------|-------------------|---------------|------------------|----------------------|
| Country | F | % | $\mu_{\rm i}$ | $\sigma_{\rm i}$ | μ_{Total} | F | % | $\mu_{\rm i}$ | $\sigma_{\rm i}$ | μ_{Total} |
| Spain | 14(54) | 25.9 | 5.00 | 0.00 | 4.42 | 39(54) | 72.2 | 5.00 | 0.00 | 4.42 |
| Paraguay | 6(6) | 100.0 | 5.00 | 0.00 | | 6(6) | 100.0 | 5.00 | 0.00 | |
| Costa Rica | 1(12) | 8.3 | 5.00 | 0.00 | | 10(12) | 83.3 | 5.00 | 0.00 | |
| Uruguay | 5(7) | 71.4 | 5.00 | 0.00 | | 2(7) | 28.6 | 5.00 | 0.00 | |
| Chile | 18(18) | 100.0 | 3.00 | 0.00 | | 18(18) | 100.0 | 4.77 | 0.65 | |
| Argentina | 2(14) | 14.3 | 5.00 | 0.00 | | 12(14) | 85.7 | 4.58 | 0.51 | |
| Bolivia | 27(p) | - | - | - | | 27(27) | 100.0 | 4.00 | 0.55 | |
| Panama | 5(27) | 18.5 | 5.00 | 0.00 | | 14(27) | 51.9 | 4.50 | 0.52 | |
| Peru | 4(14) | 28.6 | 5.25 | 0.50 | | 5(14) | 35.7 | 4.40 | 0.54 | |
| El Salvador | 4(32) | 12.5 | 4.00 | 0.00 | | 26(32) | 81.3 | 4.31 | 0.47 | |
| Ecuador | 13(p) | - | - | - | | 13(p) | - | - | - | |
| Venezuela | 6(21) | 28.6 | 4.50 | 0.54 | | 11(21) | 52.4 | 4.50 | 0.52 | |
| Mexico | 10(80) | 12.5 | 4.00 | 0.00 | | 22(80) | 27.5 | 4.00 | 0.00 | |
| Colombia | 77(p) | - | - | - | | 77(p) | - | - | - | |
| Portugal | 6(13) | 46.2 | 2.38 | 0.65 | | 12(13) | 92.3 | 3.07 | 0.64 | |

Table 3.4 Trends on strategy processes characteristics (formality vs. informality)

(p) Missing values

3.4.1.3 Formalising the Institutional Strategy

In terms of systematising strategy formulation processes, the HEIs were asked if they periodically define their strategies: as a result of a formal process or strategic directions characterised by general ideas and or guidelines. According to Table 3.4, HEIs involved in planning processes were either formal or more informal. Indeed, most HEIs claimed to have formal, periodic strategy formulation processes.

Moreover, a very low rate of missing data as well as the high participation rate, reaching up to 51 %, for the two main strategic process formulation characteristics allowed us to conduct more concrete comparative observations. The countries with a lower rate of response for the variable 'strategy seen as general ideas and guide-lines' were Costa Rica, Argentina, Panama, El Salvador and Mexico, with participation rates below 20 %. Concerning the variable 'strategy is explicit and formulated periodically', Uruguay and Mexico had a participation rate lower than 30 %. The average responses for each variable reveal a systematic approach to the strategy formulation across the countries as most were above the overall average. More specifically, in Portugal, the universities seem to not agree with the variables, that is, the individual mean is below the overall average.

In most countries, the institutions responded affirmatively to both variables providing evidence of a broader approach when conducting the strategy formulation process rooted in general guidelines, but also embedded into a more formal process. In the specific case of Chile, previous studies have demonstrated that the HEIs initially tended to have more strategic general directions than strategic plans (Cáceres 2007), which supports answering affirmatively in most cases for both variables. In the case of Chile, the variable 'strategy seen as a general guideline', even though the mean value was not strong enough (=3), it is still possible to suggest an affirmative response associated with this variable. With Portugal, universities were more divided when trying to provide evidence on the formalisation of their strategy process, as the individual mean for both variables is below the overall average. A uniformity of responses can be seen when observing the standard deviations. In all cases for both variables (strategy as a general guideline and strategy as a formal process), the deviations are below 1. If we only analyse the standard deviations for the first variable (strategy as a general guideline), only Peru, Venezuela and Portugal are between 0.5 and 0.7, with the rest of the countries around 0 suggesting no significant differences in terms of responses mostly ranging between 3 and 5.

Furthermore, we see a somewhat different case with Uruguay, who reported a higher frequency associated with developing the definition of strategy based on general definitions developed and revised on a regular basis, but some institutions provided evidence of conducting a more systematic and formal process of strategic planning. Ecuador and Colombia were the only countries that did not provide quantitative response for these variables. In Ecuador, HEIs commented that the organic law that regulates higher education, approved in 2000, obliges all institutions to establish an institutional development plan or strategic plan. This sine qua non condition is requested both for the establishment of new institutions and for the accreditation process. This suggests that all institution have some form of strategic planning process as a result of a formal mandatory procedure. If we take into account the standard deviations for both variables, there is a generalised trend in the formalisation of a strategy within a process, as most of the institutions across the countries answered four or above.

3.4.1.4 Temporary Nature of Strategy Planning Processes

Regarding the continuity in the strategy development overtime, the questionnaire explored two main aspects of the temporary nature of the dynamic strategy process present in the HEIs: the number of planning cycles being developed and the timeline embedded in this planning (Table 3.5).

For 'number of planning cycles', in all of the countries, except from Venezuela and Chile, the trend was around two or three cycles. Approximately, in 50 % of the analysed countries, the institutions developed three planning cycles or more. Overall, a very diverse picture across the countries emerges. For instance, the institutions in Chile and Venezuela, according to their mean 3.28 and 3.0, suggest a long history of developing strategic planning. Specifically, in the case of Venezuela, a uniformity in the institutions' responses was observed as the standard deviation is around 0 in contrast with Chile which is around 0.46.

The overall average percentage of the countries reveals a response rate of 89 %, which provides evidence to support the uniformity of responses among the analysed

| | Planning cycles | | | | | | Planning horizon | | | | | |
|------------|--------------------|--------|------|---------------|------------------|------------------------|--------------------------|--------------|-------|---------------|----------------|------------------------|
| | | | | | | | Years covering the | | | | | |
| Country | Number of cycles | F | % | $\mu_{\rm i}$ | $\sigma_{\rm i}$ | μ_{Total} | strategy planning period | F | % | $\mu_{\rm i}$ | σ _i | μ_{Total} |
| Spain | 2 cycles | 20(54) | 37.0 | 1.47 | 0.73 | 2.49 | 3-5 years | 34(54) | 63.0 | 2.15 | 0.432 | 2.75 |
| | 3 cycles | 6(54) | 11.1 | | | | 6-8 years | 4(54) | 7.4 | | | |
| | More than 3 cycles | 4(54) | 7.4 | | | | Others (flexible) | 1(54) | 1.9 | | | |
| Paraguay | 2 cycles | 1(6) | 16.7 | 2.83 | 1.32 | | Others (flexible) | (9)9 | 100.0 | 4.00 | 0.00 | |
| | 3 cycles | 2(6) | 33.3 | | | | | | | | | |
| | Others | 3(6) | 50.0 | | | | | | | | | |
| Costa Rica | 2 cycles | 1(12) | 8.3 | 3.25 | 1.05 | | Others (flexible) | 12(12) | 100.0 | 4.00 | 0.00 | |
| | 3 cycles | 2(12) | 16.7 | | | | | | | | | |
| | More than 3 cycles | 2(12) | 16.7 | | | | | | | | | |
| | Others | 7(12) | 58.3 | | | | | | | | | |
| Uruguay | 2 cycles | 1(7) | 14.3 | 2.57 | 1.13 | | Others (flexible) | (<i>L</i>) | 100.0 | 4.00 | 0.00 | |
| | 3 cycles | 3(7) | 42.9 | | | | | | | | | |
| | More than 3 cycles | 1(7) | 14.3 | | | | | | | | | |
| | Others | 2(7) | 28.6 | | | | | | | | | |
| Chile | More than 3 cycles | 13(18) | 72.2 | 3.28 | 0.46 | | 6-8 years | 6(18) | 33.0 | 3.00 | 0.00 | |
| | Others | 5(18) | 27.8 | | | | | | | | | |
| Argentina | 2 cycles | 9(14) | 64.3 | 1.71 | 1.14 | | 2 years | 5(14) | 35.7 | 2.00 | 1.04 | |
| | 3 cycles | 2(14) | 14.3 | | | | 3-5 years | 6(14) | 42.9 | | | |
| | More than 3 cycles | 1(14) | 7.1 | | | | 6-8 years | 1(14) | 7.1 | | | |
| | Others | 2(14) | 14.3 | | | | Others (flexible) | 2(14) | 14.3 | | | |
| Bolivia | 2 cycles | 14(27) | 51.9 | 1.58 | 0.70 | | 3-5 years | 18(27) | 66.7 | 2.00 | 0.00 | |
| | 3 cycles | 9(27) | 33.3 | | | | | | | | | |
| | More than 3 cycles | 3(27) | 11.1 | | | | | | | | | |

Table 3.5 Strategy process maturity and horizon

(continued)

| , | ` | | | | | | | | | | | |
|-------------|--------------------|----------------|-----------|------|------|----------|-------------------------|--------|------------|------|------|----------------|
| | Planning cycles | | | | | | Planning horizon | | | | | |
| Constant | Number of avoles | 2 | ci, | | l | | Years covering the | L. | 67 | | ų | : |
| COULITY | TAUTION OF CALCS | L. | <i>9/</i> | hi | ö | pd Total | suarcey prairing periou | | 0/ | hi | i i | µ Total |
| Panama | 2 cycles | 16(27) | 59.3 | 1.89 | 1.18 | | 2 years | 10(27) | 37.0 | 2.11 | 1.12 | |
| | 3 cycles | 2(27) | 7.4 | | | | 3-5 years | 9(27) | 33.3 | | | |
| | More than 3 cycles | 5(27) | 18.5 | | | | 6-8 years | 3(27) | 11.1 | | | |
| | Others | 4(27) | 14.8 | | | | Others (flexible) | 5(27) | 18.5 | 1 | | |
| Peru | 2 cycles | 4(14) | 28.6 | 2.20 | 1.03 | | 2 years | 1(14) | 7.1 | 3.31 | 1.11 | |
| | More than 3 cycles | 6(14) | 42.9 | | | | 3-5 years | 3(14) | 21.4 | 1 | | |
| El Salvador | 2 cycles | 8(32) | 25.0 | 2.41 | 1.12 | | 2 years | 1(32) | 3.1 | 2.24 | 0.74 | |
| | 3 cycles | 7(32) | 21.9 | | | | 3-5 years | 24(32) | 75.0 | | | |
| | More than 3 cycles | 8(32) | 25.0 | | | | Others (flexible) | 4(32) | 12.5 | 1 | | |
| | Others | 6(32) | 18.8 | | | | | - | | | | |
| Ecuador | 2 cycles | 6(13) | 46.2 | 2.31 | 1.32 | | 2 years | 2(13) | 15.4 | 2.00 | 0.71 | |
| | More than 3 cycles | 4(13) | 30.8 | | | | 3-5 years | 10(13) | 76.9 | 1 | | |
| | Others | 3(13) | 23.1 | | | | Others (flexible) | 1(13) | <i>T.T</i> | | | |
| Venezuela | More than 3 cycles | 17(21) | 81.0 | 3.00 | 0.00 | | 3-5 years | 5 | 23.8 | 3.41 | 0.91 | |
| | | | | | | | Others (flexible) | 12 | 57.1 | | | |
| Mexico | 2 cycles | 20(80) | 25.0 | 3.24 | 1.31 | | 2 years | 10(80) | 12.5 | 2.34 | 1.03 | |
| | Others | 59(80) | 73.8 | | | | 3-5 years | 38(80) | 47.5 | | | |
| | | | | | | | Others (flexible) | 16(80) | 20.0 | | | |
| Colombia | 1 cycle | T(77) | 9.1 | 2.81 | | | (p). | I | I | | | |
| | 2 cycles | 10(77) | 12.9 | | | | | | | | | |
| | 3 cycles | 9(<i>TT</i>) | 11.7 | | | | | | | | | |
| | Others | 16(77) | 20.8 | | | | | | | | | |
| Portugal | 2 cycles | 5(13) | 38.5 | 2.85 | 1.52 | | 3-5 years | 13(13) | 100.0 | 2.00 | 0.00 | |
| | Others | 8(13) | 61.5 | | | | | | | | | |

Table 3.5 (continued)

(n°) Number of institutions per country (p) Missing values

institutions. Furthermore, most of the universities have an average of 2 cycles. For the countries marked 'others', most mentioned carrying out their first path in a formal strategic planning process. The countries with the highest number of institutions developing their first strategic planning programmes were Costa Rica, Paraguay and Ecuador. Portugal was similar in that most public HEIs indicated completing only one cycle, also suggesting the recent use of the strategic plan by these institutions. The countries with the most experience in planning were El Salvador, Mexico, Spain, Venezuela and Peru given the number of HEIs carrying out more planning cycles.

For the timeframe of strategy formulation, on average, the HEIs report planning within 3–5 years, but there are cases, which present a broader timeframe (between 6 and 8 years). The countries that diverge most from the overall mean were Paraguay, Costa Rica and Uruguay with an average of 4, meaning these institutions have considered different timeframes but still fit within the two previous broader horizons (between 3 and 5/between 6 and 8). Furthermore, the emergence of short horizon planning was more evident in Panama but also in countries such as Peru, El Salvador, Ecuador, Argentina and Mexico. On the other extreme, Costa Rica, Venezuela, Mexico and Panama reported periods of up to 8 years. In the cases of Mexico and Panama, these countries had trends in both short and long planning timeframes.

Ensuring a robust analysis, the response rate reached an average of 83.46 %. Individually, Chile, Peru and Bolivia had less participation with 33, 66.6 and 28.5 %, respectively. The rest of the countries exceeded 70 %. Lastly, this overview analysis suggests an average of 3–5 years for planning timeframe.

3.4.1.5 Degree of Professionalisation in Management and the Role of External Consultancies

Generally, the involvement of members from outside the university community in the formulation of strategy has occurred in the initial planning cycles, gradually decreasing as the continuity of the plans is established. Meanwhile, the need for external consultancies is generated by the governance features of HEIs. According to the comments provided by the institutions, changes in leadership teams highlight the need for more training for the academic staff taking on these management roles and the need for external consultancies. The countries that generally used a higher degree of these consultancy services were El Salvador and Colombia (Table 3.6).

Given the overall mean of this variable, the average use of external consultancy is moderate around 3. Furthermore, the universities do not count higher levels of professionalisation of their internal staff. If we analyse this value by country, the institutions reporting high external consultancy were Chile, Peru, El Salvador and Portugal. If we analyse the deviations of each country, the responses are heterogeneous and the values relatively high, i.e. more variable answers. Bolivia and Portugal

| | Use of external c | onsultancy | | | |
|-------------|-------------------|------------|--------------|-----------------|------------------------|
| Country | F | % | $\mu_{ m i}$ | $\sigma_{ m i}$ | μ_{Total} |
| Spain | 38(54) | 70.4 | 2.47 | 1.95 | 3.00 |
| Paraguay | 6(6) | 100.0 | 2.33 | 2.06 | |
| Costa Rica | 12(12) | 100.0 | 2.66 | 2.06 | |
| Uruguay | 7(7) | 100.0 | 2.14 | 1.95 | |
| Chile | 18(18) | 100.0 | 3.00 | 2.06 | |
| Argentina | 13(14) | 92.9 | 1.61 | 1.50 | |
| Bolivia | 22(27) | 81.5 | 1.72 | 0.98 | |
| Panama | 27(27) | 100.0 | 2.07 | 1.43 | |
| Peru | 14(14) | 100.0 | 3.07 | 1.14 | |
| El Salvador | 31(32) | 96.9 | 3.80 | 1.17 | |
| Ecuador | 13(13) | 100.0 | 2.69 | 1.31 | |
| Venezuela | 12(21) | 57.00 | 5.00 | 0.00 | |
| Mexico | 45(80) | 56.00 | 4.26 | 0.73 | |
| Colombia | 77(77) | 100.0 | 5.00 | 0.00 | |
| Portugal | 13(13) | 100.0 | 3.31 | 0.85 | |

 Table 3.6
 Professionalisation degree and use of external consultancy

(p) Missing values

were more homogeneous with deviations below 1. In this case, the responses of universities were more similar and hence there is greater consistency between institutions on the use of external consultancy. These findings are supported by the high degree of responsiveness of institutions in most countries.

The qualitative comments revealed that the institutions in El Salvador heavily used external consultancy participation to support strategy formulation more common among specialised institutes as they have advanced less in the formality of planning processes. In the case of Venezuela, the institutions that counted more external support from a specialised consultancy were the private universities. On the other hand, the case of Portugal reveals institutions had a lower degree of professionalisation, due to the level of participation of external consultants, and was more prominent among universities than within the institutes, according to qualitative comments provided.

3.4.1.6 Elements of the Institutional Strategy (Primary Elements)

The analysis of institutional strategy formulation was aimed at determining whether the HEIs surveyed in the various countries include the necessary elements to formulate an effective strategy such as questioning the very principles of the institution when it comes to defining their mission, a vision that implies a challenge for the future, values, internal and external diagnostics, strategic objectives, action plans and leadership roles, etc. With respect to the formal elements of strategy formulation, HEIs claim to include in a very significant percentage (Table 3.7) the definition of 'what are we and where are we going?' (mission, vision and values) when formulating their strategy.

| | Mission | | | | | Values | | | | |
|-------------|---------|-------|---------------|-----------------|------------------------|--------|---------|--------------|-----------------|----------------------|
| Country | F | % | $\mu_{ m i}$ | $\sigma_{ m i}$ | μ_{Total} | F | % | $\mu_{ m i}$ | $\sigma_{ m i}$ | μ_{Total} |
| Spain | 53(54) | 98.1 | 4.09 | 1.54 | 4.44 | 53(54) | 98.1 | 3.79 | 1.42 | 4.36 |
| Paraguay | 6(6) | 100.0 | 4.33 | 1.03 | 1 | 6(6) | 100.0 | 4.33 | 1.03 | 1 |
| Costa Rica | 12(12) | 100.0 | 5.00 | 0.00 | | 12(12) | 100.0 | 4.83 | 0.58 | |
| Uruguay | 7(7) | 100.0 | 4.71 | 0.76 |] | 7(p) | - | - | - | |
| Chile | 18(18) | 100.0 | 5.00 | 0.00 |] | 17(18) | 94.4 | 5.00 | 0.00 | |
| Argentina | 14(14) | 100.0 | 3.86 | 1.10 | | 14(14) | 100.0 | 3.71 | 1.38 | |
| Bolivia | 27(27) | 100.0 | 3.96 | 1.34 | 1 | 27(27) | 100.0 | 4.26 | 1.06 | |
| Panama | 27(27) | 100.0 | 3.96 | 1.09 | | 27(27) | 100.0 | 3.96 | 1.09 | |
| Peru | 14(14) | 100.0 | 4.36 | 0.74 | 1 | 14(14) | 100.0 | 4.00 | 0.88 | 1 |
| El Salvador | 30(32) | 93.8 | 4.30 | 0.47 | | 29(32) | 90.6 | 4.28 | 0.45 | |
| Ecuador | 13(p) | - | - | - | | 13(p) | - | - | - | |
| Venezuela | 14(21) | 66.7 | 4.21 | 0.43 |] | 15(21) | 71.4 | 4.13 | 0.35 | |
| Mexico | 78(80) | 97.5 | 4.86 | 0.35 | | 71(80) | 88.8 | 4.90 | 0.30 | |
| Colombia | 58(77) | 76.0 | 5.00 | 0.00 | 1 | 49(77) | 64 % | 5.00 | 0.00 | |
| Portugal | 13(13) | 100.0 | 4.54 | 0.52 | | 13(13) | 100.0 | 4.54 | 0.52 | |
| | Vision | | | | | SWOT a | nalysis | | | |
| Country | F | % | $\mu_{\rm i}$ | $\sigma_{ m i}$ | μ_{Total} | F | % | $\mu_{ m i}$ | $\sigma_{ m i}$ | μ_{Total} |
| Spain | 53(54) | 98.1 | 3.91 | 1.47 | 4.39 | 53(54) | 98.1 | 4.65 | 0.68 | 3.51 |
| Paraguay | 6(6) | 100.0 | 4.33 | 1.03 | | 4(6) | 66.7 | 5.00 | 0.00 | |
| Costa Rica | 12(12) | 100.0 | 4.83 | 0.58 | | 10(12) | 83.3 | 5.00 | 0.00 | |
| Uruguay | 7(7) | 100.0 | 4.57 | 0.79 | | 4(7) | 57.1 | 1.00 | 0.00 | |
| Chile | 16(18) | 88.9 | 5.00 | 0.00 | | 15(18) | 83.3 | 5.00 | 0.00 | |
| Argentina | 14(14) | 100.0 | 3.93 | 1.14 | | 10(14) | 71.4 | 1.30 | 0.48 | |
| Bolivia | 27(27) | 100.0 | 3.78 | 0.80 | | 23(27) | 85.2 | 5.00 | 0.00 | |
| Panama | 27(27) | 100.0 | 3.96 | 1.09 | | 21(27) | 77.8 | 5.00 | 0.00 | |
| Peru | 14(14) | 100.0 | 4.14 | 0.66 |] | 9(14) | 64.3 | 3.51 | 1.01 | |
| El Salvador | 30(32) | 93.8 | 4.30 | 0.47 | | 28(32) | 87.5 | 5.00 | 0.00 | |
| Ecuador | 13(p) | - | - | - | | 13(p) | - | - | - | |
| Venezuela | 14(21) | 66.7 | 4.36 | 0.50 |] | 14(21) | 66.7 | 1.86 | 0.36 | |
| Mexico | 78(80) | 97.5 | 4.86 | 0.35 | | 69 | 86.3 | 1.97 | 0.17 | |
| Colombia | 55(77) | 71.00 | 5.00 | 0.00 | | 77(p) | - | - | - | |
| Portugal | 13(13) | 100.0 | 4.54 | 0.52 | | 13(13) | 100 | 1.00 | 0.00 | |

Table 3.7 Trends in the incorporation of primary institutional strategy elements

(continued)

| | Strategic | axes | | | | Strategic | objectiv | res | | |
|-------------|-----------|-------|---------------|------------------|----------------------|-----------|----------|---------------|------------------|----------------------|
| Country | F | % | $\mu_{\rm i}$ | $\sigma_{\rm i}$ | μ_{Total} | F | % | $\mu_{\rm i}$ | $\sigma_{\rm i}$ | μ_{Total} |
| Spain | 53(54) | 98.1 | 3.55 | 1.54 | 4.41 | 53(54) | 98.1 | 4.26 | 1.26 | 4.44 |
| Paraguay | 6(6) | 100.0 | 5.00 | 0.00 | | 6(6) | 100.0 | 5.00 | 0.00 | |
| Costa Rica | 12(12) | 100.0 | 4.58 | 1.00 | | 12(12) | 100.0 | 4.58 | 1.00 | |
| Uruguay | 7(p) | - | - | - | | 7(7) | 100.0 | 4.71 | 0.49 | |
| Chile | 15(18) | 83.3 | 5.00 | 0.00 | | 15(18) | 83.3 | 5.00 | 0.00 | |
| Argentina | 14(14) | 100.0 | 3.79 | 1.31 | | 14(14) | 100.0 | 3.79 | 1.31 | |
| Bolivia | 27(27) | 100.0 | 4.33 | 1.07 | | 27(27) | 100.0 | 4.52 | 1.09 | |
| Panama | 27(27) | 100.0 | 3.96 | 1.09 | | 27(27) | 100.0 | 3.96 | 1.09 | |
| Peru | 14(p) | - | - | - | | 14(14) | 100.0 | 4.00 | 0.88 | |
| El Salvador | 28(32) | 87.5 | 4.25 | 0.44 | | 28(32) | 87.5 | 4.25 | 0.44 | |
| Ecuador | 13(p) | - | - | - | | 13(p) | - | - | - | |
| Venezuela | 15(21) | 71.4 | 4.33 | 0.49 | | 15(21) | 71.4 | 4.33 | 0.49 | |
| Mexico | 75(80) | 93.8 | 4.77 | 0.42 | | 80(80) | 100.0 | 4.77 | 0.42 | |
| Colombia | 61(77) | 79.00 | 5.00 | 0.00 | | 58(77) | 76.00 | 5.00 | 0.00 | |
| Portugal | 13(p) | - | - | - | | 13(13) | 100.0 | 4.08 | 0.28 | |

 Table 3.7 (continued)

(p) Missing values

The results are very similar. In terms of the techniques for strategic analysis and the formalisation of the action plan, which is rolled out in a series of defined objectives, strategic pillars and goals, there is a significant percentage of HEIs that include these elements. With regard to the tools supporting the strategic analysis, the SWOT analysis is suggested to be the less employed element, evidenced by an overall average of 3.51. In Uruguay, Argentina, Venezuela, Mexico and Portugal, the mean does not exceed 2, suggesting that a low number of institutions use this tool to support the development of their institutional strategy.

The rest of the elements that comprise this variable present very similar results, both in mean values as well as in the values taken as the average response rates. Finally, the strategic axes represent one of the lowest shares if we consider the missing values of Uruguay, Peru, Ecuador, Colombia and Portugal. Concerning the rest of the elements, the tools are used proportionately in the same way between the institutions of the countries surveyed, except the case of SWOT, which is stated as the least used.

Although these overall percentages are high, it is particularly striking that the mission and vision are not considered by some institutions, which raises doubts about the quality of the processes conducted. This is the case in countries such as Ecuador, Venezuela or Colombia where some institutions give less priority to this element. If we specifically observe the 'mission' element, the data are very clear. The average value of 4.4 may suggest that most institutions across the countries

have included this philosophical element into their institutional strategy. This can be better observed if we analyse the individual means which do not fall below 3.8. The uniformity between institutions can be evidenced by the relatively small standard deviation values.

3.4.1.7 Elements of the Institutional Strategy (Sociological and Structural)

With respect to considerations of sociological and structural elements that constitute the institutional context, the overall analysis shown in Table 3.8 reveals a similar level of inclusion of these elements supported by the values ranging between 3.75 and 4.32.

Examining the variables closely, the distribution of responsibilities and leadership is recognised as an element of the structure supporting the strategy; also, according to the standard deviation, the degree of convergence between the institutions is high. Within the table, we may observe the case of Panama, which presents a 0.5 deviation, suggesting institutions diverge most concerning the distribution of responsibilities. Concerning the use of technologies and supporting structures, the response rates are higher, presenting an average of up to 90 %. Concerning the uniformity of responses and standard deviation values, there is heterogeneity of results, specifically visible in the cases of Spain, Paraguay and Panama.

Furthermore, a closer look at the 'leadership' aspect reveals it is considered in most contexts, with the exception of Ecuador, Colombia and Paraguay, and the participation responses of some countries were relatively insufficient to provide evidence of the consideration of this element as an important aspect of their strategy development, as in the cases of Spain and Mexico. At the same time, we can see that in most countries these sociological and structural elements are included less often than the formal elements (vision, mission and values) taken into account in the strategy formulation process. This reflects an imbalance in many contexts between the main elements of the strategy and those that provide a complementary structure, whether physical (i.e. reporting systems) or social (i.e. leadership). Also, elements that constitute the organisational structure of support which lay the groundwork for subsequently implementing the formulated strategy are not covered with the same intensity in several contexts, and there were countries where institutions did not mention this element (El Salvador, Ecuador and Colombia).

3.4.1.8 Elements of the Institutional Strategy (Control)

Regarding the inclusion of control elements, universities were asked if they foresee in their strategy programmes monitoring components exerting some control over the strategy advancements gathering feedback on the process. The descriptive table shows that almost all the universities answered affirmatively for the inclusion of monitoring mechanisms (Table 3.9).

| | Distribu | tion of res | nonsihi | lities | | Leaders | nin | | | |
|------------------------|----------|-------------|-----------|-----------------|----------------------|----------|----------|---------------|------------------|----------------------|
| Country | F | | | | | F | 0% | | 6 | |
| Crain | 52(54) | 00.1 | μ_i | 1.59 | ^µ Total | 2(54) | 56 | μ_i | | ^µ Total |
| <u>Spain</u> | 55(54) | 98.1 | 3.00 | 1.38 | 4.20 | 3(34) | 3.0 | 5.00 | 0.00 | 4.52 |
| Paraguay Casta Disa | 0(0) | 100.0 | 4.55 | 1.05 | _ | 2(0) | 33.3 | 5.00 | 0.00 | - |
| Costa Rica | 12(12) | 100.0 | 4.67 | 0.78 | _ | 10(12) | 83.3 | 5.00 | 0.00 | - |
| Uruguay | 7(p) | - | - | - | _ | 4(7) | 57.1 | 4.00 | 0.00 | - |
| Chile | 16(18) | 88.9 | 4.00 | 0.00 | _ | 15(18) | 83.3 | 3.00 | 0.00 | - |
| Argentina | 14(14) | 100.0 | 3.78 | 0.80 | | 10(14) | 71.4 | 4.00 | 0.00 | - |
| Bolivia | 16(27) | 61.00 | 5.00 | 0.00 | | 23(27) | 85.2 | 4.22 | 0.42 | |
| Panama | 27(27) | 100.0 | 3.63 | 1.21 | | 21(27) | 77.8 | 4.43 | 0.50 | |
| Peru | 14(14) | 100.0 | 3.21 | 0.89 | | 9(14) | 64.3 | 4.00 | 0.00 | |
| El Salvador | 23(32) | 71.9 | 4.35 | 0.49 | | 28(32) | 87.5 | 4.21 | 0.42 | |
| Ecuador | 13(p) | - | - | - | | 13(p) | - | - | - | |
| Venezuela | 16(21) | 76.2 | 4.19 | 0.40 | | 15(21) | 71.4 | 4.00 | 0.00 | |
| Mexico | 43(80) | 53.00 | 4.55 | 0.50 | 1 | 25(80) | 31.3 | 5.02 | 0.24 | 1 |
| Colombia | 53(77) | 69.00 | 5.00 | 0.00 | 1 | 77(p) | - | - | - | |
| Portugal | 13(13) | 100.0 | 4.08 | 0.28 | | 13(p) | - | - | _ | |
| | Use of I | СТ | | | | Supporti | ng struc | tures | | |
| Country | F | % | μ_{i} | $\sigma_{ m i}$ | μ_{Total} | F | % | $\mu_{\rm i}$ | $\sigma_{\rm i}$ | μ_{Total} |
| Spain | 53(54) | 98.1 | 2.94 | 1.46 | 3.9 | 53(54) | 98.1 | 2.75 | 1.39 | 3.75 |
| Paraguay | 6(6) | 100.0 | 4.33 | 1.03 | | 6(6) | 100.0 | 4.00 | 1.10 | |
| Costa Rica | 12(12) | 100.0 | 4.83 | 0.58 | | 12(12) | 100.0 | 2.42 | 0.67 | - |
| Uruguay | 7(7) | 100.0 | 3.86 | 0.69 | | 7(7) | 100.0 | 4.86 | 0.38 | |
| Chile | 14(18) | 77.8 | 4.00 | 0.00 | 1 | 13(18) | 72.2 | 4.00 | 0.00 | 1 |
| Argentina | 14(14) | 100.0 | 3.00 | 0.96 | | 14(14) | 100.0 | 2.86 | 0.86 | |
| Bolivia | 19(27) | 70.4 | 4.36 | 0.50 | 1 | 17(27) | 63.0 | 5.00 | 0.00 | 1 |
| Panama | 27(27) | 100.0 | 3.37 | 1.39 | 1 | 27(27) | 100.0 | 3.81 | 1.21 | 1 |
| Peru | 14(14) | 100.0 | 3.07 | 1.00 | 1 | 14(14) | 100.0 | 2.64 | 1.01 | |
| El Salvador | 17(32) | 53.1 | 4.29 | 0.47 | 1 | 32(p) | - | - | - | 1 |
| Ecuador | 13(p) | - | - | - | | 13(p) | - | - | - | |
| Venezuela | 12(21) | 57.1 | 4.17 | 0.39 | 1 | 10(21) | 47.6 | 4.20 | 0.42 | 1 |
| Mexico | 68(80) | 85.0 | 4.43 | 0.50 | 1 | 59(80) | 73.8 | 4.42 | 0.50 | 1 |
| Colombia | 77(p) | - | - | - | 1 | 77(p) | - | - | - | 1 |
| Portugal | 13(13) | 100.0 | 3.62 | 0.65 | 1 | 13(13) | 100.0 | 4.08 | 0.28 | 1 |

Table 3.8 Trends in the incorporation of sociological and structural institutional strategy elements

(p) Missing values

Spain, Paraguay, Argentina, Panama and Peru had a higher dissimilarity of responses with the mean value below 4. Venezuela presented the lowest percentage of participation when assessing this variable. Ecuador and Colombia only provided qualitative comments when assessing these elements. Specifically in the case of Colombia, planning systems follow the trends of the other countries analysed; they comprise the mission, vision, objectives and strategies, including the setting of

| | Econom | ic impact | data | | | Monitor | ing mecha | nisms | | |
|-------------|--------|-----------|---------------|------------------|----------------------|---------|-----------|---------------|-----------------|------------------------|
| Country | F | % | $\mu_{\rm i}$ | $\sigma_{\rm i}$ | μ_{Total} | F | % | $\mu_{\rm i}$ | $\sigma_{ m i}$ | μ_{Total} |
| Spain | 51(54) | 94.44 | 3.27 | 1.48 | 3.77 | 53(54) | 98.15 | 3.55 | 1.62 | 3.86 |
| Uruguay | 6(6) | 100.00 | 2.83 | 1.17 | | 6(6) | 100.00 | 3.17 | 0.98 | |
| Costa Rica | 12(12) | 100.00 | 4.58 | 1.00 | | 12(12) | 100.00 | 4.83 | 0.58 | |
| Paraguay | 7(7) | 100.00 | 4.57 | 0.53 | | 7(7) | 100.00 | 3.14 | 1.46 | |
| Chile | 14(18) | 77.78 | 4.00 | 0.00 | | 16(18) | 88.89 | 4.00 | 0.00 | |
| Argentina | 14(14) | 100.00 | 3.29 | 0.99 | | 14(14) | 100.00 | 3.00 | 1.04 | |
| Bolivia | 17(27) | 62.96 | 4.00 | 0.00 | | 21(27) | 77.78 | 4.52 | 0.51 | |
| Panama | 27(27) | 100.00 | 3.48 | 1.48 | _ | 27(27) | 100.00 | 3.70 | 1.41 | |
| Peru | 14(14) | 100.00 | 2.93 | 1.14 | | 14(14) | 100.00 | 3.07 | 1.14 | |
| El Salvador | 9(32) | 28.13 | 4.33 | 5.00 | | 24(32) | 75.00 | 4.38 | 0.49 | |
| Ecuador | 13(p) | - | _ | - | | 13(p) | - | _ | - | 1 |
| Venezuela | 6(21) | 28.57 | 4.17 | 0.41 | | 9(21) | 42.86 | 4.22 | 0.44 | |
| Mexico | 59(80) | 73.75 | 4.42 | 0.50 | | 68(80) | 85.00 | 4.56 | 0.50 | |
| Colombia | 77(p) | - | - | - | 1 | 77(p) | - | - | - | 1 |
| Portugal | 12(13) | 92.31 | 3.15 | 0.55 | 1 | 12(13) | 92.31 | 4.08 | 0.28 | 1 |

Table 3.9 Trends in the incorporation of strategy control mechanisms

(p) Missing values

goals and indicators. In the case of Ecuadorian universities, they make very little use of the balanced scorecard, although on most occasions consideration is given to the use of performance indicators, as well as the inclusion of strategic pillars normally linked to the four main areas laid down in the institutional self-evaluation: academic, research, ties with the community and institutional management.

Moreover, the economic impact that universities were willing to measure and to what extent the economic impact data were taken into account to measure the strategy advancement were assessed. For financial aspects, Ecuador and Colombia did not provide data for this item, and there were some slight disparities of responses. Countries that took it most into account were Paraguay, Chile, Bolivia and Mexico with a mean value above 4. In the rest of the countries, the dissimilarity of responses among institutions was higher making it difficult to draw a clear pattern.

3.4.1.9 Tools and Techniques Used for Strategic Analysis and Strategic Choices

Another element that helps clarify how the process of strategic management is carried out involves the identification of tools and techniques used by the various HEIs to formulate their strategy. Given that the process of gathering and analysing information for strategic decision-making is a major undertaking, the real challenge is integrating and organising the data for effective and efficient analysis. Reviewing the overall analysis of the tools and techniques used by the institutions (Table 3.10), trends in the use of tools emerge according to the level of importance given by the institutions based on the mean value. However, the particular cases of the balance scorecard, the indicator systems, the critical success factor analysis and the

| | SWOT an | nalysis | | | | Market r | esearch | | | |
|-------------|-----------|-----------|--------------------|------------------|------------------------|-----------|---------|---------------|-----------------|------------------------|
| Country | F | % | $\mu_{\rm i}$ | $\sigma_{\rm i}$ | μ_{Total} | F | % | $\mu_{\rm i}$ | $\sigma_{ m i}$ | μ_{Total} |
| Spain | 39(54) | 72.22 | 5.00 | 0.00 | 4.17 | 39(54) | 72.22 | 2.62 | 1.73 | 3.58 |
| Paraguay | 6(6) | 100.00 | 4.33 | 1.03 | 1 | 6(6) | 100.00 | 2.83 | 1.17 | |
| Costa Rica | 12(12) | 100.00 | 4.33 | 1.56 | 1 | 12(12) | 100.00 | 3.83 | 1.75 | - |
| Uruguay | 7(7) | 100.00 | 3.71 | 1.60 | 1 | 7(7) | 100.00 | 4.43 | 1.51 | |
| Chile | 17(18) | 94.44 | 4.59 | 0.51 | 1 | 18(p) | - | | | 1 |
| Argentina | 14(14) | 100.00 | 3.29 | 1.64 | | 14(14) | 100.00 | 2.43 | 1.22 | |
| Bolivia | 27(27) | 100.00 | 4.15 | 0.66 | 1 | 27(27) | 100.00 | 3.56 | 1.22 | 1 |
| Panama | 27(27) | 100.00 | 3.85 | 1.17 | | 27(27) | 100.00 | 3.44 | 1.48 | |
| Peru | 14(14) | 100.00 | 4.29 | 0.47 | | 14(14) | 100.00 | 2.86 | 1.35 | |
| El Salvador | 28(32) | 87.50 | 4.43 | 0.50 | | 19(32) | 59.38 | 4.26 | 0.45 | |
| Ecuador | 13(13) | 100.00 | 4.15 | 0.69 | | 4(13) | 30.77 | 4.25 | 0.50 | |
| Venezuela | 17(21) | 80.95 | 4.35 | 0.49 | 1 | 18(21) | 85.71 | 4.33 | 0.58 | 1 |
| Mexico | 67(80) | 83.75 | 4.40 | 0.49 | | 48(80) | 60.00 | 4.38 | 0.49 | |
| Portugal | 13(13) | 100.00 | 3.54 | 0.52 | 1 | 13(13) | 100.00 | 3.31 | 0.85 | 1 |
| | Balance s | scorecard | | | | Strategic | e maps | | | |
| Country | F | % | μ_{i} | $\sigma_{\rm i}$ | μ_{Total} | F | % | $\mu_{\rm i}$ | $\sigma_{ m i}$ | μ_{Total} |
| Spain | 38(54) | 70.37 | 3.82 | 1.72 | 2.39 | 38(54) | 70.37 | 3.13 | 1.71 | 3.46 |
| Paraguay | 6(6) | 100.00 | 2.50 | 0.55 | | 6(6) | 100.00 | 2.33 | 0.82 | |
| Costa Rica | 12(12) | 100.00 | 1.67 | 0.65 | | 12(12) | 100.00 | 4.17 | 1.59 | |
| Uruguay | 7(7) | 100.00 | 1.57 | 0.53 | 1 | 7(7) | 100.00 | 1.57 | 1.51 | 1 |
| Chile | 18(p) | - | | | | 8(18) | 44.44 | 4.50 | 0.53 | |
| Argentina | 14(p) | - | | | 1 | 14(14) | 100.00 | 2.07 | 1.33 | |
| Bolivia | 27(p) | - | | | | 27(27) | 100.00 | 3.70 | 0.82 | |
| Panama | 27(p) | - | | | | 27(27) | 100.00 | 3.19 | 1.33 | |
| Peru | 14(p) | - | | | 1 | 14(14) | 100.00 | 2.93 | 0.92 | |
| El Salvador | 32(p) | - | | | | 9(32) | 28.13 | 4.56 | 0.53 | |
| Ecuador | 13(p) | - | | | | 2(13) | 15.38 | 4.50 | 0.71 | |
| Venezuela | 21(p) | - | | | | 1(21) | 4.76 | 4.00 | 0.00 | |
| Mexico | 80(p) | - | | |] | 44(80) | 55.00 | 4.34 | 0.48 | |
| Portugal | 13(p) | - | | | | 13(13) | 100.00 | 3.46 | 0.52 | |

Table 3.10 Trends in tools and techniques used to formulate the institutional strategy

(continued)

| | Stakehol | ders' analy | /sis | | | Scenario | building | | | |
|-------------|------------|-------------|---------------|------------------|----------------------|----------|-------------|---------------|------------------|------------------------|
| Country | F | % | $\mu_{\rm i}$ | $\sigma_{\rm i}$ | μ_{Total} | F | % | $\mu_{\rm i}$ | $\sigma_{\rm i}$ | μ_{Total} |
| Spain | 39(54) | 72.22 | 3.44 | 1.76 | 2.86 | 38(54) | 70.37 | 2.08 | 1.19 | 3.73 |
| Paraguay | 6(6) | 100.00 | 2.50 | 0.84 | _ | 6(6) | 100.00 | 5.00 | 0.00 | _ |
| Costa Rica | 12(12) | 100.00 | 1.92 | 0.79 | 1 | 12(12) | 100.00 | 4.33 | 1.56 | |
| Uruguay | 7(7) | 100.00 | 3.00 | 0.00 | | 7(7) | 100.00 | 4.43 | 1.51 | |
| Chile | 18(p) | - | | | | 10(18) | 55.56 | 4.30 | 0.48 | |
| Argentina | 14(p) | - | | | | 14(14) | 100.00 | 2.29 | 1.20 | |
| Bolivia | 27(p) | - | | | | 27(27) | 100.00 | 3.63 | 0.69 | |
| Panama | 27(p) | - | | | 1 | 27(27) | 100.00 | 3.07 | 1.41 | 1 |
| Peru | 14(p) | - | | | _ | 14(14) | 100.00 | 2.79 | 0.89 | _ |
| El Salvador | 32(p) | - | | | 1 | 11(32) | 34.38 | 4.27 | 0.47 | |
| Ecuador | 13(p) | - | | | | 5(13) | 38.46 | 4.40 | 0.55 | |
| Venezuela | 21(p) | - | | | | 14(219 | 66.67 | 4.43 | 0.53 | |
| Mexico | 80(p) | - | | | | 58(80) | 72.50 | 4.31 | 0.47 | |
| Portugal | 13(13) | - | | | | 13(13) | 100.00 | 2.85 | 0.55 | |
| | Critical s | uccess fac | tor ana | lysis | | Competi | tive positi | oning a | analysis | 8 |
| Country | F | % | $\mu_{\rm i}$ | $\sigma_{\rm i}$ | μ_{Total} | F | % | $\mu_{\rm i}$ | $\sigma_{\rm i}$ | μ_{Total} |
| Spain | 39(54) | 72.22 | 2.79 | 1.63 | 2.51 | 38(54) | 70.37 | 2.97 | 1.67 | 2.60 |
| Paraguay | 6(6) | 100.00 | 2.33 | 0.82 | | 6(6) | 100.00 | 2.50 | 0.84 | |
| Costa Rica | 12(12) | 100.00 | 1.92 | 0.90 | | 12(12) | 100.00 | 1.92 | 0.79 | |
| Uruguav | 7(7) | 100.00 | 3.00 | 0.00 | | 7(7) | 100.00 | 3.00 | 0.00 | |

Table 3.10 (continued)

(p) Missing values

stakeholder analysis coupled with missing values make it difficult to achieve robust results, therefore restricting overall strong comparative conclusions.

Despite this, the tools can be arranged into two groups: on the one hand, those with an overall average of less than 3 and, on the other, those equal to three or above. Thus, this clustering revealed that the first group (mean > 3) is formed by the tools most valued by universities: the SWOT analysis, market research, strategic maps and building scenarios. In the second group, the tools less employed were the balance scorecard, the critical success factor analysis, the stakeholder analysis and the competitive positioning analysis. It is important to observe that this group of tools had a lower rate of response; therefore, due to the fact that most institutions did not value these specific tools, we may not be able to ensure that these tools are not really used in the region; however, it is possible to argue that considering the institutions that have participated in the study, this second group of tools were considered less important.

For the first group of tools (SWOT analysis, market research, strategic maps and building scenarios), we may suggest that these tools are the most used across the countries with the fewest missing values and highest response rates. Specifically, in Chile and Colombia, higher missing values were seen. Overall, if we examine in detail the degree of uniformity of the responses according to their standard deviation, in the case of the SWOT analysis, there were countries whose institutions have been very consistent in their responses, as the standard deviation was very small (between 0 and 0.69): Spain, Chile, Bolivia, El Salvador, Ecuador, Venezuela, Mexico and Portugal. On the other hand, the rest of the countries were less uniform with standard deviations above 1. In this respect, we can say that Spain was the most consistent with a deviation of 0 implying that all Spanish institutions responded with option 5, indicating higher importance for the use of SWOT analysis. For the use of market analysis, similar outcomes are noted along with some countries maintaining uniformity regardless of the analysed tools (SWOT or market analyses): El Salvador, Ecuador, Venezuela, Mexico and Portugal.

In the case of Ecuador, although not detailed in the quantitative analysis, some qualitative comments revealed the use of other tools such as the logical framework approach and the theory of constraints. We also see that the use of more customised tools to define a vision for the future, such as the development of strategy maps (to document goals for the future and define an action plan focusing on the adaptation of processes and resources) and scenario building (to evaluate the strategic alternatives used to predict the future evolution of the institution and its environment depending on the path taken) are less frequently used tools. Other tools, such as structural analysis of an industry or value chain analysis (to gain insight into what the core business is and enable repositioning), were not observed as alternatives or used to complement those previously discussed.

3.4.1.10 Leadership and Participation in the Process

According to the results of previous case studies in HEIs, the strategy formulation phase should generally be a participatory process with the majority of the organisation involved. In certain respects, participation in the process of strategy development and deployment is a key to facilitating the subsequent implementation of that strategy. This topic deserves further reflection, given that much of the criticism surrounding strategic planning has to do with the rigidity and slowness of the processes. Depending on the structure or organisation type, achieving a significant impact on the participation of all staff (or at least the key agents) requires an increased bureaucratisation and duration of the process, in contrast to the dynamisation that the future vision planning should include. Therefore, when it comes to defining institutional priorities and implementing best practices in governance and the system of incentives for the organisation, the leadership of the vice chancellor is suggested as a critical success factor in the strategic plans of institutions. These conditions are especially important for implementing the formulated strategy particularly when managing the organisational change; otherwise, there would be a risk of the executive bodies and the university community not being engaged with the actions required (Cáceres 2007).

In this respect, as shown in Tables 3.11 and 3.12, strategy and interlinking of the strategic plan by selecting approaches, models and techniques are carried out mostly by the shared leadership of the vice chancellors and top management teams (TMT),

| | Top management team | | | | | Council of government | | | | |
|-------------|---------------------|---------|--------------|------------------|------------------------|-----------------------|--------|---------------|------------------|------------------------|
| Country | F | % | $\mu_{ m i}$ | $\sigma_{\rm i}$ | μ_{Total} | F | % | μ_{i} | $\sigma_{\rm i}$ | μ_{Total} |
| Spain | 39(54) | 72.2 | 4.77 | .485 | 4.3 | 39(54) | 72.2 | 4.56 | .598 | 4.1 |
| Paraguay | 2(6) | 33.3 | 5.0 | 0.0 | | 1(6) | 16.7 | 5.0 | 0.0 | |
| Costa Rica | 12(12) | 100.0 | 4.33 | .985 | | 12(12) | 100.0 | 3.67 | .985 | |
| Uruguay | 7(7) | 100.0 | 4.29 | 1.496 | | 7(7) | 100.0 | 4.00 | 1.528 | |
| Chile | 18(18) | 100.0 | 4.72 | .461 | | 2(18) | 11.1 | 5.00 | 0.000 | |
| Argentina | 14(14) | 100.0 | 3.86 | .949 | | 14(14) | 100.0 | 3.21 | 1.311 | |
| Bolivia | 27(27) | 100.0 | 4.11 | .751 | | 27(27) | 100.0 | 4.22 | .934 | |
| Panama | 6(27) | 14.8 | 4.33 | .516 | | 27(p) | - | - | - | |
| Peru | 14(14) | 100.0 | 3.57 | .756 | | 14(p) | - | - | - | |
| El Salvador | 23(32) | 71.9 | 4.48 | .511 | | 20(32) | 62.5 | 4.30 | .470 | |
| Ecuador | 7(13) | 53.8 | 5.00 | 0.000 | | 13(13) | 100.0 | 4.54 | .519 | |
| Venezuela | 9(21) | 42.9 | 4.44 | .527 | | 21(p) | - | - | - | |
| Portugal | 13(13) | 100.0 | 3.15 | 2.075 | | 13(13) | 100.0 | 2.38 | .650 | |
| | General | manager | • | | | Social c | ouncil | | | |
| Country | F | % | $\mu_{ m i}$ | $\sigma_{\rm i}$ | μ_{Total} | F | % | $\mu_{\rm i}$ | $\sigma_{ m i}$ | μ_{Total} |
| Spain | 38(54) | 70.4 | 3.53 | .979 | 3.1 | 39(54) | 72.2 | 4.21 | 1.056 | 3.2 |
| Uruguay | 7(7) | - | - | - | | 7(7) | 100.0 | 4.29 | 1.113 | |
| Argentina | 14(14) | 100.0 | 2.50 | 1.454 | | 14(14) | 100.0 | 2.07 | .997 | |
| Bolivia | 27(p) | - | - | - | | 27 | 100.0 | 3.37 | .492 | |
| Peru | 14(14) | 100.0 | 3.36 | .633 | | 14(14) | 100.0 | 3.14 | .535 | |
| Portugal | 13(p) | - | - | - | | 13(13) | 100.0 | 2.38 | .650 | |

Table 3.11 Trends in formulation of strategy leadership

while the role of other actors in different contexts may vary. In the table, for other variables analysed, only countries that provided responses are included.

Observing the analysed variables, TMT and the council of government presented approximately the same mean: 4.3 and 4.1, respectively. This might suggest that the leadership in the process of strategy formulation across these different countries is mostly in charge of the top level. In the specific case of TMT, Paraguay and Ecuador have a deviation of 0 indicating that institutions provide the same answer to this question. On the contrary, Uruguay and Portugal yielded less uniformity of responses. As for the second item (council of government), Paraguay and Chile had a standard deviation of 0, while at the other end, Uruguay and Argentina had less uniformity of responses. The other countries for the two examined items presented similar values.

Concerning the other two items, general manager and social council, similar results were also observed, except in the case of mean values; the answers were less conclusive because the values ranged between 3.1 and 3.2. This might indicate that these groups of people (technical and more external driven profiles) take a less clear role in leading the process of defining the strategy. We have to note that these values have been calculated for fewer countries as compared with TMT and council of government variables, and therefore under normal responses (all institutions respond to the answer), these values could vary positively or negatively. For this reason, we cannot be conclusive given the missing values.

| | | μ_{Total} | 3.41 | | | | | | | μ_{Total} | 4.03 | | | | | |
|-----------------|-------------|------------------------|-------|----------|------------|---------|-------|---------|-------------|------------------------|-------|----------|------------|---------|-------|---------|
| | | $\sigma_{\rm i}$ | .966 | | 1.357 | 1.512 | .826 | | | $\sigma_{\rm i}$ | 606. | | | | 699. | |
| | ative staff | $\mu_{\rm i}$ | 3.26 | | 3.25 | 3.43 | 3.72 | | anager | $\mu_{\rm i}$ | 4.34 | | | | 3.72 | |
| | Administr | % | 72.2 | | 100.0 | 100.0 | 100.0 | | General m | % | 70.4 | | | | 100.0 | |
| | | μ_{Total} | 3.98 | | | | | | | μ_{Total} | 3.96 | | | | | |
| | | $\sigma_{\rm i}$ | .933 | 0.000 | 1.168 | .976 | .786 | .483 | | $\sigma_{\rm i}$ | 1.079 | 0 | | | | .488 |
| | | $\mu_{\rm i}$ | 3.32 | 5.00 | 3.50 | 3.57 | 4.17 | 4.30 | mmunities | $\mu_{\rm i}$ | 2.58 | 5.00 | | | | 4.29 |
| | Faculty | % | 70.4 | 50.0 | 100.0 | 100.0 | 100.0 | 76.9 | External co | % | 66.7 | 100.0 | | | | 53.8 |
| mulation | | μ_{Total} | 3.11 | | | | | | | μ_{Total} | 3.63 | | | | | |
| ion in its for | | $\sigma_{\rm i}$ | 1.214 | | | | | | | $\sigma_{\rm i}$ | 1.079 | 0.000 | 1.545 | 1.414 | .840 | .535 |
| sy participat | cil | $\mu_{\rm i}$ | 3.11 | | | | | | | $\mu_{\rm i}$ | 2.61 | 5.00 | 2.75 | 3.00 | 4.00 | 4.43 |
| ids in strateg | Social coun | % | 66.7 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | Students | % | 70.4 | 66.7 | 100.0 | 100.0 | 100.0 | 53.8 |
| Table 3.12 Trei | | Country | Spain | Paraguay | Costa Rica | Uruguay | Chile | Ecuador | | Country | Spain | Paraguay | Costa Rica | Uruguay | Chile | Ecuador |

| | mulatic |
|---|---------------|
| , | for |
| | Ħ |
| | Ξ. |
| • | participation |
| | strategy |
| | Ξ |
| ļ | Trends |
| | Table 3.12 |

| | Executive t | team | | | Governme | nt council | | | Others | | | |
|-------------|----------------------|-----------|------------------|------------------------|----------|---------------|------------------|------------------------|--------|---------------|------------------|------------------------|
| Country | $c_0^{\prime\prime}$ | μ_{i} | $\sigma_{\rm i}$ | μ_{Total} | % | $\mu_{\rm i}$ | $\sigma_{\rm i}$ | μ_{Total} | % | $\mu_{\rm i}$ | $\sigma_{\rm i}$ | μ_{Total} |
| Spain | 72.2 | 4.72 | .510 | 4.58 | 70.4 | 3.55 | .978 | 4.04 | | | | |
| Paraguay | 100.0 | 5.00 | 0.000 | | | | | | | | | |
| Costa Rica | | | | | | | | | | | | |
| Uruguay | 100.0 | 4.29 | 1.496 | | 100.0 | 4.29 | .756 | | | | | |
| Chile | 100.0 | 4.44 | .705 | | 100.0 | 4.28 | 699. | | | | | |
| Ecuador | 100.0 | 4.46 | .519 | | | | | | | | | |
| Argentina | | | | | | | | | 21.4 | 5.00 | 0.000 | 4.30 |
| Bolivia | | | | | | | | | 33.3 | 4.00 | 0.000 | |
| Panama | | | | | | | | | 14.8 | 4.00 | 0.000 | |
| Peru | | | | | | | | | 42.9 | 4.33 | .516 | |
| El Salvador | | | | | | | | | 46.9 | 4.20 | .414 | |
| Venezuela | | | | | | | | | 52.4 | 4.55 | .522 | |
| 0 1 1 10 VO | | | | | | | | | | | | |

(n°) Number of institutions per country(p) Missing values

3 Trends and Dynamics of Strategic University Management...

Meanwhile, examining the level of participation by different members of the university community, we see little involvement by other actors. However, it is important to highlight that there was a large number of countries whose institutions did not respond. Accordingly, drawing upon the countries that provided data, in all cases, the average exceeds the value of 3 indicating that institutions agree, strongly agree or totally agree that these groups participate in the strategy formulation. Among the actors that received higher assessments were the executive team, the government council and the general managers rated with averages of 4.58, 4.04 and 4.03. The participation levels among middle managers, deans, academics, administration and service staff, students, alumni and external agents were not highly considered, as no specific data was collected on the percentage and level of participation of all the different groups outside the upper level. This would suggest that 'thinking' about the strategy is intrinsically tied to the senior management of HEIs, although middle managers are included for implementation.

The data analysed here once again underlines the complexity of the issue of participation in the strategy formulation process, where the challenge revolves around identifying the maximum degree of involvement that must be achieved to reach a strategic consensus about the strategy formulated by senior management in order to be a reference for all activities determining the necessary level of involvement of the external community through representation in decision-making bodies of the HEIs' organisational structure. The participation aspect brings up another element involving how to get people to have a shared vision of the fundamental purposes defined in the strategy.

In this regard, some authors suggest that achieving participation in strategic planning – at least to the extent that the individuals would be responsible for reaching certain goals contained in the plan – is a decisive factor when designing the mechanisms for participation in the formulation process. This fact could be related to the particular nature of the governance model that dictates the type of academic leadership in management processes, as well as decision-making systems, which are mostly top-down due to the lack of data that ensures the participation of different actors in the strategy development phase.

As such, a balanced combination of key agents in the strategy formulation process, the participation of those responsible and the alignment of a shared vision might be a positive contribution to the improved governance of institutions. Indeed, according to the survey results, this aspect constitutes a challenge and an important aspect needing improvement in most countries.

3.5 Strategic Implementation Process Variables

3.5.1 Degree of Strategy Implementation

To gain more insight into strategy implementation in internal units (administrative and academic), the survey asked how the institutional strategy became operational. Two perspectives have been explored: on the one hand, the existence of strategy formulation at the level of units and, on the other, the scope of the implementation of the institutional corporate strategy at institutional levels. The feedback revealed that implementation of the institutional strategy in internal units as well as the existence of internal initiatives varies considerably from one country to the next, as well as within each country (Table 3.13).

| | Strategy f initiatives | formulatio | on insti | tutional | units | The inst operatio | itutional s nalised at | trategy the uni | is not ts | |
|---|--|--|---|---|-----------------------------------|---|---|---|--|---|
| Country | F | % | $\mu_{ m i}$ | $\sigma_{ m i}$ | μ_{Total} | F | % | $\mu_{ m i}$ | $\sigma_{ m i}$ | μ_{Total} |
| Spain | 39(54) | 72.2 | 1.82 | 0.389 | 1.35 | 37(54) | 68.52 | 2.70 | 0.81 | 2.75 |
| Paraguay | 6(6) | 100 | 1.53 | 0.516 | | 6(p) | 100.00 | - | - | |
| Costa Rica | 12(12) | 100 | 1.15 | 0.09 | | 12(p) | 100.00 | - | - | |
| Uruguay | 7(p) | 100 | - | - | | 7(7) | 100.00 | 3.57 | 0.98 | |
| Chile | 18(p) | 100 | - | - | 1 | 18(p) | 100.00 | - | - | 1 |
| Argentina | 14(p) | 100 | - | - | | 14(p) | 100.00 | - | - | |
| Bolivia | 27(27) | 100 | 1.14 | 0.093 | 1 | 27(p) | 100.00 | - | - | |
| Panama | 5(27) | 18.5 | 2 | 0 | | 27(27) | 100.00 | 5.00 | 0.00 | 1 |
| Peru | 7(14) | 50 | 1.2 | 0 | | 14(14) | 100.00 | 1.00 | 0.00 |] |
| El Salvador | 25(32) | 78.1 | 1.17 | 0.075 | | 32(p) | 100.00 | - | - | |
| Ecuador | 10(13) | 76.9 | 1.2 | 0 | | 13(p) | 100.00 | - | - | |
| Venezuela | 17(21) | 81 | 1.2 | 0 | | 21(p) | 100.00 | - | - | 1 |
| Mexico | 68(80) | 85 | 1.2 | 0 | - | 80(p) | 100.00 | _ | - | |
| Colombia | 77(p) | 100 | - | - | 1 | 77(p) | 100.00 | - | - | |
| Portugal | 13 | 100 | 1.18 | 0.055 | 1 | 13(13) | 100.00 | 1.46 | 0.52 | |
| 0 | | | | | | - (-) | | | 0.02 | |
| | The instit at the leve | utional st el of some | rategy e units | is forma | lised | The inst formalis | itutional s ed at the l | strategy level of | is all the | units |
| Country | The instit at the leve F | utional st el of some % | rategy e units μ_i | is forma $\sigma_{\rm i}$ | lised μ_{Total} | The inst formalis | itutional s ed at the 1 % | strategy level of μ_i | is all the σ_i | units μ_{Total} |
| Country Spain | The instit at the leve F 37(54) | utional st el of som % 68.52 | rategy e units μ_i 3.84 | is forma σ_i 1.19 | lised μ_{Total} 3.76 | The inst formalis F 38(54) | itutional s ed at the % 70.37 | strategy level of μ_i 3.61 | is all the σ_i 1.37 | units μ_{Total} 4.06 |
| Country Spain Paraguay | The instit at the leve <i>F</i> 37(54) 6(p) | utional st el of some % 68.52 100.00 | rategy e units μ_i 3.84 - | is forma σ_i 1.19 - | lised μ_{Total} 3.76 | The inst formalis F 38(54) 6(p) | itutional s ed at the % 70.37 100.00 | strategy level of μ_i 3.61 - | is all the σ_i 1.37 | units μ_{Total} 4.06 |
| Country Spain Paraguay Costa Rica | The instit at the level F 37(54) 6(p) 12(p) | utional st el of some % 68.52 100.00 100.00 | rategy e units μ_i 3.84 - | is forma σ _i 1.19 | lised μ_{Total} 3.76 | F 38(54) 6(p) 12(p) | itutional s ed at the % 70.37 100.00 100.00 | trategy level of μ_i 3.61 - | is all the σ_i 1.37 - | units μ_{Total} 4.06 |
| Country Spain Paraguay Costa Rica Uruguay | The instit at the leve <i>F</i> 37(54) 6(p) 12(p) 7(7) | utional st el of somo % 68.52 100.00 100.00 100.00 | rategy e units μ_i 3.84 - - 5.00 | is forma σ _i 1.19 - - 0.00 | lised μ_{Total} 3.76 | F 38(54) 6(p) 12(p) 2(7) 2(7) | itutional s ed at the % 70.37 100.00 100.00 28.57 | trategy level of μ_i 3.61 - 5.00 | is all the σ_i 1.37 - 0.00 | units μ_{Total} 4.06 |
| Country Spain Paraguay Costa Rica Uruguay Chile | The instit at the leve <i>F</i> 37(54) 6(p) 12(p) 7(7) 18(18) | utional st el of some % 68.52 100.00 100.00 100.00 100.00 | rategy e units μ_i 3.84 - 5.00 4.00 | is forma σ _i 1.19 - 0.00 0.00 | lised μ_{Total} 3.76 | F 38(54) 6(p) 12(p) 2(7) 15(18) | itutional s ed at the % 70.37 100.00 100.00 28.57 83.33 | strategy level of μ_i 3.61 - 5.00 4.47 | σ_{i} all the σ_{i} 1.37 - 0.00 0.52 | units μ_{Total} 4.06 |
| Country Spain Paraguay Costa Rica Uruguay Chile Argentina | The instit at the leve <i>F</i> 37(54) 6(p) 12(p) 7(7) 18(18) 14(p) | utional st el of some % 68.52 100.00 100.00 100.00 100.00 100.00 | rategy e units μ_i 3.84 - - 5.00 4.00 - | is forma σ _i 1.19 - 0.00 0.00 - | lised μ_{Total} 3.76 | F 38(54) 6(p) 12(p) 2(7) 15(18) 14(p) 14(p) | with the set of the s | strategy level of μ_i 3.61 - 5.00 4.47 - | σ_{i} all the σ_{i} 1.37 - 0.00 0.52 - | units μ_{Total} 4.06 |
| Country Spain Paraguay Costa Rica Uruguay Chile Argentina Bolivia | The instit at the leve <i>F</i> 37(54) 6(p) 12(p) 7(7) 18(18) 14(p) 27(p) | utional st el of some % 68.52 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 | rategy e units μ_i 3.84 - - 5.00 4.00 - - | σ _i 1.19 - 0.00 0.00 - - | $\frac{\mu_{\text{Total}}}{3.76}$ | F 38(54) 6(p) 12(p) 2(7) 15(18) 14(p) 27(p) | with the set of the s | trategy level of μ_i 3.61 - 5.00 4.47 - | σ_{i} all the σ_{i} 1.37 - - 0.00 0.52 - - | <u>μ_{Total}</u> 4.06 |
| Country Spain Paraguay Costa Rica Uruguay Chile Argentina Bolivia Panama | The instit at the leve F 37(54) 6(p) 12(p) 7(7) 18(18) 14(p) 27(p) 13(27) | utional st el of some % 68.52 100.00 100.00 100.00 100.00 100.00 100.00 48.15 | rategy e units μ_i 3.84 - 5.00 4.00 - - 3.54 | σ _i 1.19 - 0.00 0.00 - 0.00 0.66 | lised μ_{Total} 3.76 | The inst formalis <i>F</i> 38(54) 6(p) 12(p) 2(7) 15(18) 14(p) 27(p) 15(27) | with the set of the s | $ \begin{array}{c} \mu_{i} \\ \mu_{i} \\ 3.61 \\ - \\ 5.00 \\ 4.47 \\ - \\ 4.25 \\ \end{array} $ | σ_{i} all the σ_{i} 1.37 - 0.00 0.52 - - 0.45 | units <u>µ_{Total}</u> 4.06 |
| Country Spain Paraguay Costa Rica Uruguay Chile Argentina Bolivia Panama Peru | The instit at the leve F 37(54) 6(p) 12(p) 7(7) 18(18) 14(p) 27(p) 13(27) 13(14) | utional st el of some % 68.52 100.00 100.00 100.00 100.00 100.00 100.00 48.15 92.86 | rategy e units μ_i 3.84 - - 5.00 4.00 - - 3.54 3.15 | σ_i 1.19 - 0.00 0.00 - 0.66 0.99 | lised μ_{Total} 3.76 | The inst formalis <i>F</i> 38(54) 6(p) 12(p) 2(7) 15(18) 14(p) 27(p) 15(27) 14(14) | with the set of the s | $\begin{array}{c} \mu_{i} \\ \mu_{i} \\ 3.61 \\ - \\ - \\ 5.00 \\ 4.47 \\ - \\ 4.25 \\ 2.86 \end{array}$ | σ_{i} all the σ_{i} 1.37 - 0.00 0.52 - 0.45 1.29 | units <u> <u> <u> </u> <u> <u> </u> </u></u></u> |
| Country Spain Paraguay Costa Rica Uruguay Chile Argentina Bolivia Panama Peru El Salvador | The instit at the leve F 37(54) 6(p) 12(p) 7(7) 18(18) 14(p) 27(p) 13(27) 13(27) 13(14) 32(p) | witional state of some % 68.52 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 92.86 100.00 | rategy e units μ_i 3.84 - - 5.00 4.00 - - 3.54 3.15 - | σ _i 1.19 - 0.00 0.00 - 0.66 0.99 | μ _{Total} 3.76 | The inst formalis <i>F</i> 38(54) 6(p) 12(p) 2(7) 15(18) 14(p) 27(p) 15(27) 14(14) 32(p) | with the set of the s | $\begin{array}{c} \mu_{i} \\ \mu_{i} \\ 3.61 \\ - \\ - \\ 5.00 \\ 4.47 \\ - \\ 4.25 \\ 2.86 \\ - \end{array}$ | $ \begin{array}{c} \text{is} \\ \text{is} \\ \text{all the} \\ \hline \sigma_i \\ \hline 1.37 \\ - \\ - \\ 0.00 \\ 0.52 \\ - \\ - \\ 0.45 \\ 1.29 \\ - \end{array} $ | units μ_{Total} 4.06 |
| Country Spain Paraguay Costa Rica Uruguay Chile Argentina Bolivia Panama Peru El Salvador Ecuador | The instit at the leve <i>F</i> 37(54) 6(p) 12(p) 7(7) 18(18) 14(p) 27(p) 13(27) 13(14) 32(p) 13(p) | utional st of some % 68.52 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 48.15 92.86 100.00 100.00 | rategy e units μ_i 3.84 - - 5.00 4.00 - - 3.54 3.15 - - | σ_i 1.19 - 0.00 0.00 - 0.66 0.99 - - | lised μ_{Total} 3.76 | The inst formalis F 38(54) 6(p) 12(p) 2(7) 15(18) 14(p) 27(p) 15(27) 14(14) 32(p) 13(p) | with the set of the s | $\begin{array}{c} \mu_{i} \\ \mu_{i} \\ 3.61 \\ - \\ - \\ 5.00 \\ 4.47 \\ - \\ 4.25 \\ 2.86 \\ - \\ - \\ - \\ - \end{array}$ | σ_{i} all the σ_{i} 1.37 - - 0.00 0.52 - - 0.45 1.29 - - | units <u> <u> </u> <u> <u> </u> <u> </u></u></u> |
| Country Spain Paraguay Costa Rica Uruguay Chile Argentina Bolivia Panama Peru El Salvador Ecuador Venezuela | The instit at the leve F 37(54) 6(p) 12(p) 7(7) 18(18) 14(p) 27(p) 13(27) 13(14) 32(p) 13(p) 21(p) | wtional st el of some % 68.52 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 | rategy e units μ_i 3.84 - - 5.00 4.00 - - 3.54 3.15 - - - | σ _i 1.19 - 0.00 0.00 - 0.66 0.99 - - - | μ _{Total} 3.76 | The inst formalis F 38(54) 6(p) 12(p) 2(7) 15(18) 14(p) 27(p) 15(27) 14(14) 32(p) 13(p) 21(p) | with the second secon | $\begin{array}{c} \mu_{i} \\ \mu_{i} \\ 3.61 \\ - \\ - \\ 5.00 \\ 4.47 \\ - \\ 4.25 \\ 2.86 \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ $ | $ \begin{array}{c} \text{is} \\ \text{is} \\ \text{all the} \\ \hline \sigma_i \\ 1.37 \\ - \\ - \\ 0.00 \\ 0.52 \\ - \\ - \\ 0.45 \\ 1.29 \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ $ | units μ _{Total} 4.06 |
| Country Spain Paraguay Costa Rica Uruguay Chile Argentina Bolivia Panama Peru El Salvador Ecuador Venezuela Mexico | The instit at the leve F 37(54) 6(p) 12(p) 7(7) 18(18) 14(p) 27(p) 13(27) 13(27) 13(14) 32(p) 13(p) 21(p) 80(p) | witional step el of some % 68.52 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 | rategy e units μ_i 3.84 - - 5.00 4.00 - - 3.54 3.15 - - - - - | σ _i 1.19 - 0.00 0.00 - 0.66 0.99 - - - - - 0.66 0.99 - - - | lised μ_{Total} 3.76 | The inst formalis F 38(54) 6(p) 12(p) 2(7) 15(18) 14(p) 27(p) 15(27) 14(14) 32(p) 13(p) 21(p) 71(80) | with the second secon | $\begin{array}{c} \mu_{i} \\ \mu_{i} \\ 3.61 \\ - \\ - \\ 5.00 \\ 4.47 \\ - \\ 4.25 \\ 2.86 \\ - \\ - \\ - \\ 4.32 \end{array}$ | σ_{i} all the σ_{i} 1.37 - - 0.00 0.52 - - 0.45 1.29 - - - 0.45 | units <u> <u> <u> </u> <u> <u> </u> </u></u></u> |
| Country Spain Paraguay Costa Rica Uruguay Chile Argentina Bolivia Panama Peru El Salvador Ecuador Venezuela Mexico Colombia | The instit at the leve F 37(54) 6(p) 12(p) 7(7) 18(18) 14(p) 27(p) 13(27) 13(27) 13(14) 32(p) 13(p) 21(p) 80(p) 77(p) | utional st el of some % 68.52 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 | rategy e units μ_i 3.84 - - 5.00 4.00 - - 3.54 3.15 - - - - - - - - - | σ _i 1.19 - 0.00 0.00 - 0.666 0.99 - - - - 0.666 0.99 - - - - - - - - - - - - - - - | μ _{Total} 3.76 | The inst formalis F 38(54) 6(p) 12(p) 2(7) 15(18) 14(p) 27(p) 15(27) 14(14) 32(p) 13(p) 21(p) 77(p) | with the second secon | $\begin{array}{c} \mu_{i} \\ \mu_{i} \\ 3.61 \\ - \\ - \\ 5.00 \\ 4.47 \\ - \\ - \\ 4.25 \\ 2.86 \\ - \\ - \\ - \\ 4.32 \\ - \\ \end{array}$ | σ_{i} all the σ_{i} 1.37 - - 0.00 0.52 - - 0.45 1.29 - - 0.45 1.29 - - 0.47 - | units µ _{Total} 4.06 |

 Table 3.13
 Scope of strategy implementation

(n°) Number of institutions per country

(p) Missing values

Starting from the aspect of the deployment of the strategy level, that is, to what extent the strategy definition and elaboration goes further than the corporate level, and what is the breadth of internal initiatives across the countries, measured on a scale of 1 and 2, Spain and Panama (1.82 and 2) are the countries where the medium suggests that there were more institutions with a tendency for initiatives of developing the strategy in their units.

On the other hand, the overall mean suggests that across the countries there is a trend associated with a strategy formulation centred mostly at the institutional corporate level. However, the results concerning the rate of the institutional strategy deployment are diverse. From the total mean, we can discern two groups of variables that are below 3 and those above it. We should note that the participation rate for these variables was not consistent across the countries, which might restrict conclusions.

Nevertheless, if we do analyse the results of the trends in the institutional strategy deployment, we can verify that the countries achieving a higher degree of strategy formalisation in internal units are more evident in Chile, Spain and Panama. It would be interesting to analyse in greater depth what communication tools and specific methodologies were used in these settings to achieve a greater or lesser degree of formalisation within HEIs. The analysis is conducted on the following points related to the process of communication and methodologies applied.

3.5.2 Communication Processes

In most studies, the aspect of communication involves strategy implementation and alignment, although it could be considered a universal component of the entire planning process. Communication is closely related to one of the strategy's social elements: leadership. Also needed is a set of triggers to make an impact on the members of the university community when it comes to communication. The use of these different triggers by the process leaders implies achieving an understanding and commitment on the part of the university community to step out of its current position, which is generally a comfortable one, and move towards a desired future situation.

Thus, for the process of conveying the institutional strategy, one important aspect to analyse is the degree of knowledge about the functions and responsibilities of individuals at the institution in relation to the fulfilment of the strategy. Table 3.14 shows the analysis concerning the degree of knowledge about the responsibilities and functions of the various agents involved in the strategy implementation process.

There is a very high response rate, with a minimum percentage of 62 % and a maximum of 100 % with an average response rate of nearly 92 %. Specifically, the countries acknowledging the functions and responsibilities were not well set and

| | The roles an well underst | d responsibilities ood and assumed | s of individuals 1 | within the institu | ution are |
|-------------|---------------------------|---------------------------------------|-----------------------|--------------------|------------------------|
| Country | F | % | μ_{i} | $\sigma_{ m i}$ | μ_{Total} |
| Spain | 39(54) | 72.2 | 3.90 | .552 | 3.9 |
| Paraguay | 6(p) | _ | - | - | |
| Costa Rica | 12(p) | _ | _ | _ | |
| Uruguay | 7(7) | 100.0 | 4.00 | .816 | |
| Chile | 18(18) | 100.0 | 4.11 | .758 | |
| Argentina | 12(14) | 85.7 | 2.83 | .835 | |
| Bolivia | 27(27) | 100.0 | 3.89 | .577 | |
| Panama | 27(27) | 100.0 | 3.74 | 1.196 | |
| Peru | 14(14) | 100.0 | 4.50 | .535 | |
| El Salvador | 24(32) | 75.0 | 4.29 | .690 | |
| Ecuador | 13(p) | _ | _ | - | |
| Venezuela | 13(21) | 61.9 | 4.38 | .506 | |
| Mexico | 66(80) | 82.5 | 4.33 | .475 | |
| Colombia | 77(p) | - | - | - | |
| Portugal | 13(13) | 100.0 | 2.54 | .519 | |

Table 3.14 Degree of knowledge about the responsibilities and functions

(p) Missing values

understood when it comes to implementing the strategy were Argentina and Portugal, with a mean value inferior to the total mean average of 2.83 and 2.54, respectively. The rest of the countries presented a mean value above 3, which indicates that the institutions report the responsibilities and functions as well understood when preparing to implement the strategy. This is supported by the overall mean of 3.9. Regarding the uniformity of responses, there were countries in which institutions vary in their approach to this aspect, as was the case of Panama with a standard deviation of 1.196.

One important aspect in analysing this variable is to verify that there is an effective two-way communication process in place to ensure proper dissemination of the defined strategy, because if communication fails, it may be difficult to secure the commitment of stakeholders, which in turn makes it difficult to align the institutional efforts. Therefore, the study identified the existence of systematised processes of communication, and depicted in Table 3.15, not all countries provided explicit answers for this variable in the cases of Paraguay, Costa Rica, Argentina, Ecuador and Colombia.

In contrast, the response rate is very high for each country. With the exception of Venezuela at 38.1 %, in the rest of the countries, the average participation was above 70 %. The overall response rate is around 91 %. Together with a total mean of 3.8, the institutions report effective communication systems. The institutions providing responses to this variable mostly scored around 4, as the individual country mean

| | Two-way co transmissior | mmunication pro | cess that allows within the institu | s and ensures the ation | ; |
|-------------|----------------------------|-----------------|-------------------------------------|-------------------------|------------------------|
| Country | F | % | $\mu_{ m i}$ | $\sigma_{ m i}$ | μ_{Total} |
| Spain | 39(54) | 72.2 | 3.59 | .818 | 3.8 |
| Paraguay | 6(p) | - | | | |
| Costa Rica | 12(p) | - | | | |
| Uruguay | 7(7) | 100.0 | 4.00 | 1.000 | |
| Chile | 18(18) | 100.0 | 4.11 | .832 | |
| Argentina | 14(p) | - | | | |
| Bolivia | 27(27) | 100.0 | 3.04 | 1.480 | |
| Panama | 27(27) | 100.0 | 3.70 | 1.103 | |
| Peru | 14(14) | 100.0 | 3.00 | .877 | |
| El Salvador | 25(32) | 78.1 | 3.84 | .898 | |
| Ecuador | 13(p) | - | | | |
| Venezuela | 8(21) | 38.1 | 4.38 | .518 | |
| Mexico | 63(80) | 78.8 | 4.43 | .530 | |
| Colombia | 77(p) | - | | | |
| Portugal | 13(13) | 100.0 | 3.46 | .519 | |

Table 3.15 Trends in developing a two-way communication system

(p) Missing values

values support. Regarding standard deviation, we may note the specific case of Bolivia with less uniformity of responses as well as Panama and Uruguay. The analysis of this variable cannot be generalised across countries due to high missing values.

At the same time, while the previous table highlighted the existence of communicative processes, it is interesting to link this to another relevant dimension of the communication process, namely, its evaluation (Table 3.16). It is important to note that when these processes are subject to validation, based on the existence of any feedback processes to ensure that the conveyed concepts are understood, we can see that there is some variability between countries. As for the previous case, a third of the data is missing, however, in the countries that provided data; the level of participation is high around 89 %. These data suggest that the parallel or integrated process of communicating and evaluating the communicated strategy can be a challenge when it comes to aligning the institutional strategy and the impact of its results.

The countries with lower participation were Venezuela (28.6 %) and Mexico (42.5 %), but these countries also presented more positive evidence on the existence of mechanisms to assess the communication process restricting further conclusions. Overall, in the rest of the countries, the evidence being provided is more consistent, due to the higher level of participation, and also the mean is above 3, in the cases of

| | Establishme | nt of a process to | assess the level | of identification | of units |
|-------------|--------------|--------------------|------------------|-------------------|---------------------|
| | and individu | als with the corpo | orate strategy | | |
| Country | F | % | $\mu_{ m i}$ | $\sigma_{ m i}$ | $\mu_{	ext{Total}}$ |
| Spain | 39(54) | 72.2 | 2.97 | 1.038 | 3.31 |
| Paraguay | 6(p) | 100.0 | - | - | |
| Costa Rica | 12(p) | 100.0 | - | - | |
| Uruguay | 7(7) | 100.0 | 2.71 | 1.254 | |
| Chile | 18(18) | 100.0 | 3.28 | 1.127 | |
| Argentina | 14(p) | 100.0 | - | - | |
| Bolivia | 27(27) | 100.0 | 3.07 | 1.517 | |
| Panama | 27(27) | 100.0 | 3.56 | 1.251 | |
| Peru | 14(14) | 100.0 | 2.57 | .938 | |
| El Salvador | 28(32) | 87.5 | 3.68 | 1.249 | |
| Ecuador | 13(p) | 100.0 | - | - | |
| Venezuela | 6(21) | 28.6 | 4.17 | .408 | |
| Mexico | 34(80) | 42.5 | 4.26 | .448 | |
| Colombia | 77(p) | 100.0 | | | |
| Portugal | 13(13) | 100.0 | 2.85 | .555 | |

Table 3.16 Trends in assessing the strategy communication

(p) Missing values

Chile, Bolivia, Panama and El Salvador. Concerning the uniformity of responses, the countries with more consistency were Peru, Venezuela and Mexico, with a standard deviation below 1.

In general, although specific data were not obtained from every country, the HEIs analysed in terms of their communication processes associated with the implementation of strategic plans evoke significant criticism and in many contexts are considered insufficient, raising doubts as to whether or not the communicated strategic plans have effectively mobilised the different actors involved. In most countries, we can see the existence of communication plans associated with the strategic plan, although the processes for evaluating them are problematic.

3.5.3 Alignment of the Institutional Strategy

The implementation of a new strategic undertaking should bring about coherent and integrated change throughout the organisation; as such, alignment of the factors and elements comprising the management systems in HEIs is a relevant factor in the implementation process. Alignment of the elements and systems that enable the institution to be managed by the strategy is also a symptom of how HEIs materialise their strategy. In assessing the trends in institutional elements aligned with the institutional strategy (Table 3.17), in the majority of the cases, the different elements included the annual budget, the personal policy, ICT and information systems, process and quality management as well as monitoring systems, evidenced by the individual mean comparison with an overall mean of 3.99.

| | Annual b | oudget | | | | Personne | el policy | | | |
|-------------|----------|--------|---------------|------------------|------------------------|----------|------------|---------------|------------------|----------------------|
| Country | F | % | $\mu_{\rm i}$ | $\sigma_{\rm i}$ | μ_{Total} | F | % | $\mu_{\rm i}$ | $\sigma_{\rm i}$ | μ_{Total} |
| Spain | 33(54) | 61.11 | 5.00 | 0.00 | 4.21 | 30(54) | 55.56 | 5.00 | 0.00 | 4.03 |
| Paraguay | 4(6) | 66.67 | 5.00 | 0.00 | | 3(6) | 50.00 | 5.00 | 0.00 | |
| Costa Rica | 12(12) | 100.00 | 4.17 | 1.03 | | 12(12) | 100.00 | 4.00 | 1.04 | |
| Uruguay | 7(7) | 100.00 | 4.71 | 0.49 | | 7(7) | 100.00 | 3.57 | 0.98 | |
| Chile | 18(18) | 100.00 | 4.33 | 0.84 | | 18(18) | 100.00 | 3.94 | 0.80 | |
| Argentina | 14(14) | 100.00 | 3.71 | 1.14 | | 14(14) | 100.00 | 3.36 | 1.28 | |
| Bolivia | 27(27) | 100.00 | 3.78 | 0.75 | | 27(27) | 100.00 | 3.78 | 0.80 | |
| Panama | 27(27) | 100.00 | 3.96 | 0.94 | | 27(27) | 100.00 | 4.11 | 0.51 | |
| Peru | 14(14) | 100.00 | 3.43 | 0.94 | | 14(14) | 100.00 | 3.00 | 0.96 | |
| El Salvador | 28(32) | 87.50 | 4.29 | 0.76 | | 28(32) | 87.50 | 4.14 | 0.80 | |
| Ecuador | 13(p) | - | - | - | | 13(p) | _ | | | |
| Venezuela | 12(21) | 57.14 | 4.25 | 0.45 | | 10(21) | 47.62 | 4.20 | 0.42 | |
| Mexico | 74(80) | 92.50 | 4.23 | 0.54 | | 74(80) | 92.50 | 4.38 | 0.63 | |
| Colombia | 77(p) | - | - | - | | 77(p) | - | | | |
| Portugal | 13(13) | 100.00 | 3.92 | 0.28 | | 13(13) | 100.00 | 3.92 | 0.28 | |
| | ICT poli | су | | | | Informat | ion systen | ns | | |
| Country | F | % | $\mu_{ m i}$ | $\sigma_{\rm i}$ | μ_{Total} | F | % | $\mu_{\rm i}$ | $\sigma_{ m i}$ | μ_{Total} |
| Spain | 25(54) | 46.30 | 5.00 | 0.00 | 3.99 | 21(554) | 38.89 | 5.00 | 0.00 | 3.99 |
| Paraguay | 3(6) | 50.00 | 5.00 | 0.00 | | 4(6) | 66.67 | 5.00 | 0.00 | |
| Costa Rica | 12(12) | 100.00 | 3.67 | 0.98 | | 12(12) | 100.00 | 4.00 | 1.04 | |
| Uruguay | 7(p) | - | | | | 7(7) | 100.00 | 3.57 | 0.98 | |
| Chile | 18(18) | 100.00 | 3.89 | 0.76 | | 18(18) | 100.00 | 4.06 | 0.80 | |
| Argentina | 14(14) | 100.00 | 3.07 | 1.54 | | 14(14) | 100.00 | 3.43 | 0.76 | |
| Bolivia | 27(27) | 100.00 | 3.85 | 0.82 | | 27(27) | 100.00 | 3.67 | 0.48 | |
| Panama | 27(27) | 100.00 | 4.00 | 0.92 | | 27(27) | 100.00 | 3.96 | 0.98 | |
| Peru | 13(14) | 92.86 | 3.31 | 1.32 | | 13(14) | 92.86 | 2.85 | 1.07 | |
| El Salvador | 27(32) | 84.38 | 4.15 | 0.77 | | 26(32) | 81.25 | 4.19 | 0.80 | |
| Ecuador | 13(p) | - | | | | 13(p) | - | | | |
| Venezuela | 10(21) | 47.62 | 4.18 | 0.40 | | 12(21) | 57.14 | 4.33 | 0.49 | |
| Mexico | 73(80) | 91.25 | 4.18 | 0.69 | | 75(80) | 93.75 | 4.17 | 0.67 | |
| Colombia | 77(p) | - | | | | 77(p) | - | | | |
| Portugal | 13(13) | 100.00 | 3.62 | 0.65 | | 13(13) | 100.00 | 3.62 | 0.65 | |

 Table 3.17
 Trends in institutional elements aligned with the institutional strategy

(continued)

| | Process | manageme | ent | | | Monitor | ing system | IS | | |
|---|---|--|---|--|-----------------------------------|--|---|---|--|-----------------------------------|
| Country | F | % | $\mu_{\rm i}$ | $\sigma_{\rm i}$ | μ_{Total} | F | % | μ_{i} | $\sigma_{\rm i}$ | μ_{Total} |
| Spain | 21(54) | 38.89 | 5.00 | 0.00 | 3.99 | 26(54) | 48.15 | 5.00 | 0.00 | 3.94 |
| Paraguay | 3(6) | 50.00 | 5.00 | 0.00 | | 3(6) | 50.00 | 5.00 | 0.00 | |
| Costa Rica | 12(p) | - | | | | 12(12) | 100.00 | 3.33 | 1.67 | |
| Uruguay | 7(p) | - | | | | 7(p) | - | | | |
| Chile | 18(18) | 100.00 | 4.06 | 0.80 | | 18(18) | 100.00 | 4.17 | 0.71 | |
| Argentina | 14(14) | 100.00 | 2.79 | 1.05 | | 14(14) | 100.00 | 2.71 | 1.27 | |
| Bolivia | 27(27) | 100.00 | 3.96 | 0.76 | | 27(27) | 100.00 | 3.96 | 0.76 | |
| Panama | 27(27) | 100.00 | 4.07 | 0.73 | | 27(27) | 100.00 | 4.11 | 0.75 | |
| Peru | 13(14) | 92.86 | 2.69 | 0.95 | | 13(14) | 92.86 | 2.77 | 1.17 | |
| El Salvador | 26(32) | 81.25 | 4.27 | 0.83 | | 26(32) | 81.25 | 4.04 | 0.77 | |
| Ecuador | 13(p) | - | | | | 13(p) | - | | | |
| Venezuela | 9(21) | 42.86 | 4.11 | 0.33 | | 11(21) | 52.38 | 4.36 | 0.50 | |
| Mexico | 75(80) | 93.75 | 4.33 | 0.60 | | 65(80) | 81.25 | 4.43 | 0.53 | |
| Colombia | 77(p) | - | | | | 77(p) | - | | | |
| Portugal | 13(13) | 100.00 | 3.62 | 0.65 | | 13(13) | 100.00 | 3.38 | 0.51 | |
| - | | | | | | | | | | |
| | Quality 1 | manageme | ent | | | Corpora | te social re | esponsil | oility | |
| Country | Quality I F | manageme % | ent μ_i | σi | μ_{Total} | Corpora F | te social re % | esponsit μ_i | oility σ_i | μ_{Total} |
| Country Spain | Quality 1 <i>F</i> 34(54) | manageme % 62.96 | μ_{i} 5.00 | $\sigma_{\rm i}$ 0.00 | $\frac{\mu_{\text{Total}}}{3.94}$ | Corpora <i>F</i> 16(54) | te social re % 29.63 | esponsit μ_i 5.00 | $ \begin{array}{c} \text{oility} \\ \sigma_{i} \\ 0.00 \end{array} $ | μ _{Total} 3.83 |
| Country Spain Paraguay | Quality 1 F 34(54) 2(6) | manageme % 62.96 33.33 | $\begin{array}{c} \mu_{i} \\ 5.00 \\ 5.00 \end{array}$ | $\sigma_{\rm i}$ 0.00 0.00 | μ _{Total} 3.94 | Corpora <i>F</i> 16(54) 3(6) | te social re % 29.63 50.00 | esponsit μ_i 5.00 5.00 | $ \begin{array}{c} \text{oility} \\ \sigma_{i} \\ 0.00 \\ 0.00 \end{array} $ | $\frac{\mu_{\text{Total}}}{3.83}$ |
| Country Spain Paraguay Costa Rica | Quality 1 F 34(54) 2(6) 12(12) | manageme % 62.96 33.33 100.00 | ent μ _i 5.00 5.00 3.67 | σ_{i} 0.00 0.00 1.56 | μ _{Total} 3.94 | Corpora <i>F</i> 16(54) 3(6) 12(12) | te social re % 29.63 50.00 100.00 | $ \begin{array}{c} \mu_i \\ 5.00 \\ 5.00 \\ 4.00 \end{array} $ | $ \begin{array}{c c} $ | μ _{Total} 3.83 |
| Country Spain Paraguay Costa Rica Uruguay | Quality 1 F 34(54) 2(6) 12(12) 7(7) | manageme % 62.96 33.33 100.00 100.00 | μi 5.00 5.00 3.67 3.86 | σ_i 0.00 0.00 1.56 0.69 | μ _{Total} 3.94 | Corpora <i>F</i> 16(54) 3(6) 12(12) 7(7) | te social re % 29.63 50.00 100.00 100.00 | $ \begin{array}{c} \mu_{i} \\ 5.00 \\ 5.00 \\ 4.00 \\ 3.57 \end{array} $ | $ \begin{array}{c c} $ | μ _{Total} 3.83 |
| Country Spain Paraguay Costa Rica Uruguay Chile | Quality 1 F 34(54) 2(6) 12(12) 7(7) 18(18) | manageme % 62.96 33.33 100.00 100.00 100.00 | $ \begin{array}{c} \mu_{i} \\ 5.00 \\ 5.00 \\ 3.67 \\ 3.86 \\ 3.83 \end{array} $ | σ_{i} 0.00 0.00 1.56 0.69 0.79 | μ _{Total} 3.94 | Corpora F 16(54) 3(6) 12(12) 7(7) 18(18) | te social re % 29.63 50.00 100.00 100.00 100.00 | $ \begin{array}{c} \mu_{i} \\ 5.00 \\ 5.00 \\ 4.00 \\ 3.57 \\ 4.06 \\ \end{array} $ | | μ _{Total} 3.83 |
| Country Spain Paraguay Costa Rica Uruguay Chile Argentina | Quality 1 F 34(54) 2(6) 12(12) 7(7) 18(18) 14(14) | manageme % 62.96 33.33 100.00 100.00 100.00 100.00 100.00 | $\begin{array}{c} \mu_{i} \\ \hline \\ 5.00 \\ 5.00 \\ \hline \\ 3.67 \\ \hline \\ 3.86 \\ \hline \\ 3.83 \\ \hline \\ 3.07 \end{array}$ | σ_i 0.00 0.00 1.56 0.69 0.79 1.07 | μ _{Total} 3.94 | Corpora F 16(54) 3(6) 12(12) 7(7) 18(18) 14(14) | te social re % 29.63 50.00 100.00 100.00 100.00 100.00 100.00 | | | μ _{Total} 3.83 |
| Country Spain Paraguay Costa Rica Uruguay Chile Argentina Bolivia | Quality 1 F 34(54) 2(6) 12(12) 7(7) 18(18) 14(14) 27(27) | manageme % 62.96 33.33 100.00 100.00 100.00 100.00 100.00 100.00 | $\begin{array}{c} \mu_{i} \\ \hline \mu_{i} \\ 5.00 \\ 5.00 \\ 3.67 \\ 3.86 \\ 3.83 \\ 3.07 \\ 3.63 \end{array}$ | σ _i 0.00 0.00 1.56 0.69 0.79 1.07 0.49 | μ _{Total} 3.94 | Corpora F 16(54) 3(6) 12(12) 7(7) 18(18) 14(14) 27(27) | te social re % 29.63 50.00 100.00 100.00 100.00 100.00 100.00 | $\begin{array}{c c} \mu_{i} \\ \hline \mu_{i} \\ \hline 5.00 \\ \hline 5.00 \\ 4.00 \\ \hline 3.57 \\ 4.06 \\ \hline 2.14 \\ \hline 3.70 \end{array}$ | Dility \$\sigma_i\$ 0.00 0.00 1.60 0.98 0.80 1.51 0.78 | μ _{Total} 3.83 |
| Country Spain Paraguay Costa Rica Uruguay Chile Argentina Bolivia Panama | Quality 1 F 34(54) 2(6) 12(12) 7(7) 18(18) 14(14) 27(27) 27(27) | manageme % 62.96 33.33 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 | $\begin{array}{c} \mu_{i} \\ \mu_{i} \\ 5.00 \\ 5.00 \\ 3.67 \\ 3.86 \\ 3.83 \\ 3.07 \\ 3.63 \\ 3.89 \end{array}$ | | μ _{Total} 3.94 | Corpora F 16(54) 3(6) 12(12) 7(7) 18(18) 14(14) 27(27) 27(27) | te social re % 29.63 50.00 100.00 100.00 100.00 100.00 100.00 100.00 | $\begin{array}{c} \mu_{i} \\ \mu_{i} \\ 5.00 \\ 5.00 \\ 4.00 \\ 3.57 \\ 4.06 \\ 2.14 \\ 3.70 \\ 3.96 \end{array}$ | | μ _{Total} 3.83 |
| Country Spain Paraguay Costa Rica Uruguay Chile Argentina Bolivia Panama Peru | Quality 1 F 34(54) 2(6) 12(12) 7(7) 18(18) 14(14) 27(27) 27(27) 13(14) | manageme % 62.96 33.33 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 92.86 | $\begin{array}{c} \mu_{i} \\ \hline \mu_{i} \\ \hline 5.00 \\ \hline 5.00 \\ \hline 3.67 \\ \hline 3.86 \\ \hline 3.83 \\ \hline 3.07 \\ \hline 3.63 \\ \hline 3.89 \\ \hline 2.92 \end{array}$ | $\begin{array}{c} \sigma_{\rm i} \\ 0.00 \\ 0.00 \\ 1.56 \\ 0.69 \\ 0.79 \\ 1.07 \\ 0.49 \\ 0.80 \\ 1.19 \end{array}$ | μ _{Total} 3.94 | Corpora F 16(54) 3(6) 12(12) 7(7) 18(18) 14(14) 27(27) 27(27) 13(14) | te social re % 29.63 50.00 100.00 100.00 100.00 100.00 100.00 100.00 92.86 | $\begin{array}{c} \mu_{i} \\ \hline \mu_{i} \\ 5.00 \\ 5.00 \\ 4.00 \\ 3.57 \\ 4.06 \\ 2.14 \\ 3.70 \\ 3.96 \\ 2.62 \end{array}$ | $\begin{array}{c c} \text{bility} & \\ \hline \sigma_i & \\ 0.00 & \\ 0.00 & \\ 1.60 & \\ 0.98 & \\ 0.80 & \\ 1.51 & \\ 0.78 & \\ 0.81 & \\ 1.19 & \end{array}$ | μ _{Total} 3.83 |
| Country Spain Paraguay Costa Rica Uruguay Chile Argentina Bolivia Panama Peru El Salvador | Quality 1 F 34(54) 2(6) 12(12) 7(7) 18(18) 14(14) 27(27) 27(27) 13(14) 27(32) | manageme % 62.96 33.33 100.00 100.00 100.00 100.00 100.00 92.86 84.38 | $\begin{array}{c} \mu_{i} \\ \hline \mu_{i} \\ \hline 5.00 \\ \hline 5.00 \\ \hline 3.67 \\ \hline 3.86 \\ \hline 3.83 \\ \hline 3.07 \\ \hline 3.63 \\ \hline 3.63 \\ \hline 3.89 \\ \hline 2.92 \\ \hline 4.11 \end{array}$ | $\begin{array}{c} \sigma_{\rm i} \\ 0.00 \\ 0.00 \\ 1.56 \\ 0.69 \\ 0.79 \\ 1.07 \\ 0.49 \\ 0.80 \\ 1.19 \\ 0.93 \end{array}$ | μ _{Total} 3.94 | Corpora F 16(54) 3(6) 12(12) 7(7) 18(18) 14(14) 27(27) 27(27) 13(14) 26(32) | te social re % 29.63 50.00 100.00 100.00 100.00 100.00 100.00 100.00 92.86 81.25 | $\begin{array}{c} \mu_{i} \\ \hline \mu_{i} \\ 5.00 \\ 5.00 \\ 4.00 \\ 3.57 \\ 4.06 \\ 2.14 \\ 3.70 \\ 3.96 \\ 2.62 \\ 3.81 \end{array}$ | $\begin{array}{c c} \text{bility} \\ \hline \sigma_i \\ \hline 0.00 \\ 0.00 \\ \hline 1.60 \\ 0.98 \\ 0.80 \\ \hline 1.51 \\ 0.78 \\ 0.81 \\ \hline 1.19 \\ 0.85 \end{array}$ | μ _{Total} 3.83 |
| Country Spain Paraguay Costa Rica Uruguay Chile Argentina Bolivia Panama Peru El Salvador Ecuador | Quality 1 F 34(54) 2(6) 12(12) 7(7) 18(18) 14(14) 27(27) 27(27) 13(14) 27(32) 13(p) | manageme % 62.96 33.33 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 92.86 84.38 | μi 5.00 5.00 3.67 3.86 3.83 3.07 3.63 3.89 2.92 4.11 | σ _i 0.00 0.00 1.56 0.69 0.79 1.07 0.49 0.80 1.19 0.93 | μ _{Total} 3.94 | Corpora F 16(54) 3(6) 12(12) 7(7) 18(18) 14(14) 27(27) 27(27) 13(14) 26(32) 13(p) | te social re % 29.63 50.00 100.00 100.00 100.00 100.00 100.00 92.86 81.25 - | $\begin{array}{c c} \mu_i \\ \mu_i \\ \hline 5.00 \\ 5.00 \\ 4.00 \\ 3.57 \\ 4.06 \\ 2.14 \\ 3.70 \\ 3.96 \\ 2.62 \\ 3.81 \end{array}$ | $\begin{array}{c c} \text{bility} & \\ \hline \sigma_i & \\ 0.00 & \\ 0.00 & \\ 1.60 & \\ 0.98 & \\ 0.80 & \\ 1.51 & \\ 0.78 & \\ 0.81 & \\ 1.19 & \\ 0.85 & \\ \end{array}$ | μ _{Total} 3.83 |
| Country Spain Paraguay Costa Rica Uruguay Chile Argentina Bolivia Panama Peru El Salvador Ecuador Venezuela | Quality 1 F 34(54) 2(6) 12(12) 7(7) 18(18) 14(14) 27(27) 27(27) 13(14) 27(32) 13(p) 9(21) | manageme % 62.96 33.33 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 92.86 84.38 - 42.86 | $\begin{array}{c} \mu_i \\ \mu_i \\ 5.00 \\ 5.00 \\ 3.67 \\ 3.86 \\ 3.83 \\ 3.07 \\ 3.63 \\ 3.89 \\ 2.92 \\ 4.11 \\ \hline \\ 4.22 \end{array}$ | | μ _{Total} 3.94 | Corpora F 16(54) 3(6) 12(12) 7(7) 18(18) 14(14) 27(27) 27(27) 13(14) 26(32) 13(p) 10(21) | te social re % 29.63 50.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 92.86 81.25 - 47.62 | $\begin{array}{c} \mu_{i} \\ \mu_{i} \\ 5.00 \\ 5.00 \\ 4.00 \\ 3.57 \\ 4.06 \\ 2.14 \\ 3.70 \\ 3.96 \\ 2.62 \\ 3.81 \\ \hline \\ 4.30 \end{array}$ | $\begin{array}{c} \text{bility} \\ \hline \sigma_i \\ \hline 0.00 \\ 0.00 \\ 1.60 \\ 0.98 \\ 0.80 \\ 1.51 \\ 0.78 \\ 0.81 \\ 1.19 \\ 0.85 \\ \hline 0.48 \end{array}$ | μ _{Total} 3.83 |
| Country Spain Paraguay Costa Rica Uruguay Chile Argentina Bolivia Panama Peru El Salvador Ecuador Venezuela Mexico | Quality 1 F 34(54) 2(6) 12(12) 7(7) 18(18) 14(14) 27(27) 27(27) 13(14) 27(32) 13(p) 9(21) 68(80) | manageme % 62.96 33.33 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 92.86 84.38 - 42.86 85.00 | $\begin{array}{c} \mu_i \\ \mu_i \\ 5.00 \\ 5.00 \\ 3.67 \\ 3.86 \\ 3.83 \\ 3.07 \\ 3.63 \\ 3.89 \\ 2.92 \\ 4.11 \\ \hline \\ 4.22 \\ 4.47 \end{array}$ | | μ _{Total} 3.94 | Corpora F 16(54) 3(6) 12(12) 7(7) 18(18) 14(14) 27(27) 27(27) 13(14) 26(32) 13(p) 10(21) 59(80) | te social re % 29.63 50.00 100.00 100.00 100.00 100.00 100.00 100.00 92.86 81.25 - 47.62 73.75 | | $\begin{array}{c} \text{bility} \\ \hline \sigma_i \\ \hline 0.00 \\ 0.00 \\ 1.60 \\ 0.98 \\ 0.80 \\ 1.51 \\ 0.78 \\ 0.81 \\ 1.19 \\ 0.85 \\ \hline 0.48 \\ 0.50 \\ \end{array}$ | μ _{Total} 3.83 |
| Country Spain Paraguay Costa Rica Uruguay Chile Argentina Bolivia Panama Peru El Salvador Ecuador Venezuela Mexico Colombia | Quality 1 F 34(54) 2(6) 12(12) 7(7) 18(18) 14(14) 27(27) 27(27) 13(14) 27(32) 13(p) 9(21) 68(80) 77(p) | manageme % 62.96 33.33 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 92.86 84.38 - 42.86 85.00 - | $\begin{array}{c} \text{ent} \\ \mu_i \\ 5.00 \\ 5.00 \\ 3.67 \\ 3.86 \\ 3.83 \\ 3.07 \\ 3.63 \\ 3.89 \\ 2.92 \\ 4.11 \\ \\ 4.22 \\ 4.47 \end{array}$ | | μ _{Total} 3.94 | Corpora F 16(54) 3(6) 12(12) 7(7) 18(18) 14(14) 27(27) 27(27) 13(14) 26(32) 13(p) 10(21) 59(80) 77(p) | te social re % 29.63 50.00 100.00 100.00 100.00 100.00 100.00 100.00 92.86 81.25 - 47.62 73.75 - | | | μ _{Total} 3.83 |

 Table 3.17 (continued)

(p) Missing values

For the standard deviation per country, the uniformity of responses is high. Moreover, the participation rate is also higher, which might provide more robustness to the conclusions. We should acknowledge that the countries with a higher consistency between the responses were Spain (46.3 %) and Paraguay (50 %), and the level of standard deviation supports that the institutions mostly responded

choosing the superior degree of accordance (5). Regarding the alignment of the strategy with the institutional annual budget and personnel policies, Colombia and Ecuador did not provide data for any of the variables being analysed. Among the countries that presented responses, Argentina, Peru and Bolivia had less uniformity and lower means for the alignment of the budget and institutional policies within their strategies.

Regarding the alignment of ICT policy and information systems, Argentina and Peru again were less affirmative in relation to these elements. Observing the aspects of the process and quality management and monitoring systems, Peru, Argentina and Costa Rica had less uniformity of responses concerning the agreement on alignment of these aspects as well as the social corporate responsibility for strategy.

3.5.4 Methodologies Used for Supporting the Implementation of the Institutional Strategy

Another aspect explored in this study was the use of different tools to support the institutions in their strategy implementation (Table 3.18). The three main tools mentioned by the institutions across countries are the use of the balanced scorecard, the development of improvement groups and management by objectives. The mean values, which in all cases exceed 3 (agreed to use the tool), support this claim but some institutions did not select other options, leaving blank spaces (missing values).

Therefore, the most frequently used tool was management by objectives. However, the other tools showed a value close to 4, and accordingly, the institutions across the countries reported a certain balance in the use of these tools. Regarding service catalogues, even if the mean value is very close to 4 (3.9), the number of missing values suggests that this tool was not used in all contexts. Spain had a higher number of institutions agreeing with using this tool, followed by Bolivia. Regarding participation rates, except in the case of service catalogues, the remaining three tools were very similar, ranging between 71 and 85 %. The uniformity of responses, based on the standard deviation, is very high.

In the case of the balance scorecard and management by objectives, Spain had less uniformity among the participating institutions. On the other hand, the countries with a higher level of uniformity were Paraguay, Costa Rica and Ecuador, with participation rates averaging 50 %. For balance scorecard, Uruguay had a higher participation rate and suggested they do not use this tool. Furthermore, in the case of management by objectives and improvement groups, we see that Paraguay and Costa Rica, followed by Spain and Chile, made uniform use of these tools.

| | Balanced | l scorecard | ł | | | Manager | nent by ol | ojective | s (MBC | D) |
|---|---|--|---|--|----------------------------|---|---|---|--|----------------------------|
| Country | F | % | $\mu_{ m i}$ | $\sigma_{\rm i}$ | μ_{Total} | F | % | $\mu_{\rm i}$ | $\sigma_{\rm i}$ | μ_{Total} |
| Spain | 54(54) | 100.00 | 2.41 | 2.52 | 3.55 | 54(54) | 100.00 | 2.50 | 2.52 | 4.07 |
| Paraguay | 1(6) | 16.67 | 5.00 | 0.00 | | 3(6) | 50.00 | 5.00 | 0.00 | |
| Costa Rica | 5(12) | 41.67 | 5.00 | 0.00 | | 10(12) | 83.33 | 5.00 | 0.00 | |
| Uruguay | 7(7) | 100.00 | 1.00 | 0.00 | | 7(7) | 100.00 | 3.86 | 1.95 | |
| Chile | 11(18) | 61.11 | 4.36 | 0.50 | | 14(18) | 77.78 | 4.36 | 0.50 | |
| Argentina | 14(14) | 100.00 | 2.50 | 0.76 | | 14(14) | 100.00 | 3.43 | 1.50 | |
| Bolivia | 27(27) | 100.00 | 3.63 | 0.74 | | 27(27) | 100.00 | 3.85 | 0.72 | |
| Panama | 27(27) | 100.00 | 4.00 | 0.73 | | 27(27) | 100.00 | 4.15 | 0.60 | |
| Peru | 13(14) | 92.86 | 2.69 | 1.11 | | 13(14) | 92.86 | 3.46 | 1.20 | |
| El Salvador | 12(32) | 37.50 | 4.42 | 0.51 | | 18(32) | 56.25 | 4.39 | 0.50 | |
| Ecuador | 3(13) | 23.08 | 4.00 | 0.00 | | 6(13) | 46.15 | 4.33 | 0.50 | |
| Venezuela | 9(21) | 42.86 | 4.25 | 0.45 | | 12(21) | 57.14 | 4.25 | 0.45 | |
| Mexico | 41(80) | 51.25 | 4.46 | 0.50 | | 67(80) | 83.75 | 4.48 | 0.50 | |
| Colombia | 77(p) | - | - | - | | 77(p) | - | - | - | |
| Portugal | 13(13) | 100.00 | 1.92 | 0.28 | | 13(13) | 100.00 | 3.92 | 0.28 | |
| | Improve | ment grou | ns | | | Service of | ratalogues | | | |
| | - | 0 | Po | | | ber thee c | Juniogues | | | |
| Country | F | % | μ_{i} | $\sigma_{ m i}$ | μ_{Total} | F | % | $\mu_{\rm i}$ | $\sigma_{\rm i}$ | μ_{Total} |
| Country Spain | <i>F</i> 54(54) | % 100.00 | μ_{i} 5.00 | $\sigma_{ m i}$ 0.00 | μ_{Total} 3.85 | <i>F</i> 54(54) | % 100.00 | μ _i 5.00 | $\sigma_{ m i}$ 0.00 | μ _{Total} 3.90 |
| Country Spain Paraguay | <i>F</i> 54(54) 3(6) | % 100.00 50.00 | μ_{i} 5.00 5.00 | $\sigma_{\rm i} = 0.00 = 0.00$ | μ _{Total} 3.85 | F 54(54) 1(6) | % 100.00 16.67 | μ _i 5.00 5.00 | $\sigma_{ m i} = 0.00 = 0.00$ | μ _{Total} 3.90 |
| Country Spain Paraguay Costa Rica | F 54(54) 3(6) 5(12) | % 100.00 50.00 41.67 | $ \begin{array}{c c} \mu_{i} \\ 5.00 \\ 5.00 \\ 5.00 \end{array} $ | $\sigma_{\rm i}$ 0.00 0.00 0.00 | μ _{Total} 3.85 | F 54(54) 1(6) 1(12) | % 100.00 16.67 8.33 | μ_{i} 5.00 5.00 5.00 | $\sigma_{ m i}$ 0.00 0.00 0.00 | μ _{Total} 3.90 |
| Country Spain Paraguay Costa Rica Uruguay | F 54(54) 3(6) 5(12) 7(7) | % 100.00 50.00 41.67 100.00 | $\begin{array}{c} \mu_{i} \\ 5.00 \\ 5.00 \\ 5.00 \\ 2.71 \end{array}$ | σ_{i} 0.00 0.00 0.00 1.60 | μ _{Total} 3.85 | F 54(54) 1(6) 1(12) 7(p) | % 100.00 16.67 8.33 - | $ \mu_i $ 5.00 5.00 5.00 | $\sigma_{\rm i}$ 0.00 0.00 0.00 | μ _{Total} 3.90 |
| Country Spain Paraguay Costa Rica Uruguay Chile | F 54(54) 3(6) 5(12) 7(7) 8(18) | % 100.00 50.00 41.67 100.00 44.44 | $\begin{array}{c} \mu_{i} \\ 5.00 \\ 5.00 \\ 5.00 \\ 2.71 \\ 4.00 \end{array}$ | $\sigma_{\rm i}$ 0.00 0.00 0.00 1.60 0.00 | μ _{Total} 3.85 | F 54(54) 1(6) 1(12) 7(p) 6(18) | % 100.00 16.67 8.33 - 33.33 | $ \mu_i $ 5.00 5.00 5.00 4.50 | σ_{i} 0.00 0.00 0.00 0.55 | μ _{Total} 3.90 |
| Country Spain Paraguay Costa Rica Uruguay Chile Argentina | F 54(54) 3(6) 5(12) 7(7) 8(18) 14(14) | % 100.00 50.00 41.67 100.00 44.44 100.00 | $\begin{array}{c} \mu_{i} \\ 5.00 \\ 5.00 \\ 5.00 \\ 2.71 \\ 4.00 \\ 2.50 \end{array}$ | $ \begin{array}{c} \sigma_{\rm i} \\ 0.00 \\ 0.00 \\ 1.60 \\ 0.00 \\ 1.02 \\ \end{array} $ | μ _{Total} 3.85 | F 54(54) 1(6) 1(12) 7(p) 6(18) 14(14) | % 100.00 16.67 8.33 - 33.33 100.00 | $ \mu_i $ 5.00 5.00 5.00 4.50 2.14 | σ_{i} 0.00 0.00 0.00 0.55 0.36 | μ _{Total} 3.90 |
| Country Spain Paraguay Costa Rica Uruguay Chile Argentina Bolivia | F 54(54) 3(6) 5(12) 7(7) 8(18) 14(14) 27(27) | % 100.00 50.00 41.67 100.00 44.44 100.00 100.00 | $\begin{array}{c} \mu_{i} \\ 5.00 \\ 5.00 \\ 5.00 \\ 2.71 \\ 4.00 \\ 2.50 \\ 3.33 \end{array}$ | | μ _{Total} 3.85 | F 54(54) 1(6) 1(12) 7(p) 6(18) 14(14) 27(27) | % 100.00 16.67 8.33 - 33.33 100.00 100.00 | $\begin{array}{c} \mu_{i} \\ 5.00 \\ 5.00 \\ 5.00 \\ 4.50 \\ 2.14 \\ 3.15 \end{array}$ | σ _i 0.00 0.00 0.00 0.55 0.36 | μ _{Total} 3.90 |
| Country Spain Paraguay Costa Rica Uruguay Chile Argentina Bolivia Panama | F 54(54) 3(6) 5(12) 7(7) 8(18) 14(14) 27(27) 27(27) | % 100.00 50.00 41.67 100.00 44.44 100.00 100.00 100.00 | μ _i 5.00 5.00 2.71 4.00 2.50 3.33 3.85 | | μ _{Total} 3.85 | F 54(54) 1(6) 1(12) 7(p) 6(18) 14(14) 27(27) 27(27) | % 100.00 16.67 8.33 - 33.33 100.00 100.00 100.00 | $\begin{array}{c} \mu_{i} \\ 5.00 \\ 5.00 \\ 5.00 \\ 4.50 \\ 2.14 \\ 3.15 \end{array}$ | σ _i 0.00 0.00 0.00 0.00 0.55 0.36 | μ _{Total} 3.90 |
| Country Spain Paraguay Costa Rica Uruguay Chile Argentina Bolivia Panama Peru | F 54(54) 3(6) 5(12) 7(7) 8(18) 14(14) 27(27) 27(27) 13(14) | % 100.00 50.00 41.67 100.00 44.44 100.00 100.00 100.00 92.86 | $\begin{array}{c} \mu_{i} \\ 5.00 \\ 5.00 \\ 5.00 \\ 2.71 \\ 4.00 \\ 2.50 \\ 3.33 \\ 3.85 \\ 2.31 \end{array}$ | $\begin{array}{c} \sigma_{\rm i} \\ 0.00 \\ 0.00 \\ 1.60 \\ 0.00 \\ 1.02 \\ 0.48 \\ 0.66 \\ 0.63 \end{array}$ | μ _{Total} 3.85 | F 54(54) 1(6) 1(12) 7(p) 6(18) 14(14) 27(27) 27(27) 13(14) | % 100.00 16.67 8.33 - 33.33 100.00 100.00 100.00 92.86 | $\begin{array}{c} \mu_{i} \\ 5.00 \\ 5.00 \\ 5.00 \\ 4.50 \\ 2.14 \\ 3.15 \\ 2.08 \end{array}$ | σ _i 0.00 0.00 0.00 0.00 0.55 0.36 0.36 0.28 | μ _{Total} 3.90 |
| Country Spain Paraguay Costa Rica Uruguay Chile Argentina Bolivia Panama Peru El Salvador | F 54(54) 3(6) 5(12) 7(7) 8(18) 14(14) 27(27) 27(27) 13(14) 22(32) | % 100.00 50.00 41.67 100.00 44.44 100.00 100.00 100.00 92.86 68.75 | $\begin{array}{c} \mu_{i} \\ 5.00 \\ 5.00 \\ 5.00 \\ 2.71 \\ 4.00 \\ 2.50 \\ 3.33 \\ 3.85 \\ 2.31 \\ 4.36 \end{array}$ | $\begin{array}{c} \sigma_{\rm i} \\ 0.00 \\ 0.00 \\ 1.60 \\ 0.00 \\ 1.02 \\ 0.48 \\ 0.66 \\ 0.63 \\ 0.49 \end{array}$ | μ _{Total} 3.85 | F 54(54) 1(6) 1(12) 7(p) 6(18) 14(14) 27(27) 27(27) 13(14) 32(p) | % 100.00 16.67 8.33 - 33.33 100.00 100.00 100.00 92.86 | μ _i 5.00 5.00 4.50 2.14 3.15 2.08 | σ _i 0.00 0.00 0.00 0.55 0.36 0.36 0.28 | μ _{Total} 3.90 |
| Country Spain Paraguay Costa Rica Uruguay Chile Argentina Bolivia Panama Peru El Salvador Ecuador | F 54(54) 3(6) 5(12) 7(7) 8(18) 14(14) 27(27) 27(27) 13(14) 22(32) 4(13) | % 100.00 50.00 41.67 100.00 44.44 100.00 100.00 100.00 92.86 68.75 30.77 | $\begin{array}{c} \mu_{i} \\ 5.00 \\ 5.00 \\ 5.00 \\ 2.71 \\ 4.00 \\ 2.50 \\ 3.33 \\ 3.85 \\ 2.31 \\ 4.36 \\ 4.00 \end{array}$ | $\begin{array}{c} \sigma_{\rm i} \\ 0.00 \\ 0.00 \\ 1.60 \\ 0.00 \\ 1.60 \\ 0.00 \\ 1.02 \\ 0.48 \\ 0.66 \\ 0.63 \\ 0.49 \\ 0.00 \end{array}$ | μ _{Total} 3.85 | F 54(54) 1(6) 1(12) 7(p) 6(18) 14(14) 27(27) 27(27) 13(14) 32(p) 13(p) | % 100.00 16.67 8.33 - 33.33 100.00 100.00 100.00 100.00 - - - - - - - - - - - - - | $\begin{array}{c} \mu_{\rm i} \\ 5.00 \\ 5.00 \\ \hline \\ 4.50 \\ 2.14 \\ 3.15 \\ \hline \\ 2.08 \\ \hline \end{array}$ | σi 0.00 0.00 0.00 0.55 0.36 0.28 | μ _{Total} 3.90 |
| Country Spain Paraguay Costa Rica Uruguay Chile Argentina Bolivia Panama Peru El Salvador Ecuador Venezuela | F 54(54) 3(6) 5(12) 7(7) 8(18) 14(14) 27(27) 27(27) 13(14) 22(32) 4(13) 11(21) | % 100.00 50.00 41.67 100.00 44.44 100.00 100.00 100.00 92.86 68.75 30.77 52.38 | $\begin{array}{c} \mu_{i} \\ 5.00 \\ 5.00 \\ 5.00 \\ 2.71 \\ 4.00 \\ 2.50 \\ 3.33 \\ 3.85 \\ 2.31 \\ 4.36 \\ 4.00 \\ 4.20 \end{array}$ | $\begin{array}{c} \sigma_{\rm i} \\ 0.00 \\ 0.00 \\ 1.60 \\ 0.00 \\ 1.02 \\ 0.48 \\ 0.66 \\ 0.63 \\ 0.49 \\ 0.00 \\ 0.42 \end{array}$ | μ _{Total} 3.85 | F 54(54) 1(6) 1(12) 7(p) 6(18) 14(14) 27(27) 27(27) 13(14) 32(p) 13(p) 21(p) | % 100.00 16.67 8.33 - 33.33 100.00 100.00 100.00 92.86 - - - | μ _i 5.00 5.00 4.50 2.14 3.15 2.08 | σ _i 0.00 0.00 0.00 0.55 0.36 0.28 | μ _{Total} 3.90 |
| Country Spain Paraguay Costa Rica Uruguay Chile Argentina Bolivia Panama Peru El Salvador Ecuador Venezuela Mexico | F 54(54) 3(6) 5(12) 7(7) 8(18) 14(14) 27(27) 27(27) 13(14) 22(32) 4(13) 11(21) 47(80) | % 100.00 50.00 41.67 100.00 44.44 100.00 100.00 100.00 92.86 68.75 30.77 52.38 58.75 | $\begin{array}{c} \mu_{i} \\ \hline \\ 5.00 \\ 5.00 \\ 5.00 \\ 2.71 \\ 4.00 \\ 2.50 \\ 3.33 \\ 3.85 \\ 2.31 \\ 4.36 \\ 4.00 \\ 4.20 \\ 4.43 \end{array}$ | $\begin{array}{c} \sigma_{\rm i} \\ 0.00 \\ 0.00 \\ 1.60 \\ 0.00 \\ 1.02 \\ 0.48 \\ 0.66 \\ 0.63 \\ 0.49 \\ 0.00 \\ 0.42 \\ 0.50 \end{array}$ | μ _{Total} 3.85 | F 54(54) 1(6) 1(12) 7(p) 6(18) 14(14) 27(27) 27(27) 13(14) 32(p) 13(p) 21(p) 12(80) | % 100.00 16.67 8.33 - 33.33 100.00 100.00 100.00 92.86 - - 15.00 | $\begin{array}{c} \mu_{i} \\ 5.00 \\ 5.00 \\ \hline \\ 4.50 \\ 2.14 \\ 3.15 \\ \hline \\ 2.08 \\ \hline \\ 4.33 \end{array}$ | σ _i 0.00 0.00 0.55 0.36 0.28 0.28 0.49 | μ _{Total} 3.90 |
| Country Spain Paraguay Costa Rica Uruguay Chile Argentina Bolivia Panama Peru El Salvador Ecuador Venezuela Mexico Colombia | F 54(54) 3(6) 5(12) 7(7) 8(18) 14(14) 27(27) 27(27) 13(14) 22(32) 4(13) 11(21) 47(80) 77(p) | % 100.00 50.00 41.67 100.00 44.44 100.00 100.00 100.00 92.86 68.75 30.77 52.38 58.75 - | $\begin{array}{c} \mu_{i} \\ \hline \\ 5.00 \\ 5.00 \\ 5.00 \\ 2.71 \\ 4.00 \\ 2.50 \\ 3.33 \\ 3.85 \\ 2.31 \\ 4.36 \\ 4.00 \\ 4.20 \\ 4.43 \\ - \end{array}$ | $\begin{array}{c} \sigma_{\rm i} \\ 0.00 \\ 0.00 \\ 1.60 \\ 0.00 \\ 1.02 \\ 0.48 \\ 0.66 \\ 0.63 \\ 0.49 \\ 0.00 \\ 0.42 \\ 0.50 \\ - \end{array}$ | μ _{Total} 3.85 | F 54(54) 1(6) 1(12) 7(p) 6(18) 14(14) 27(27) 27(27) 13(14) 32(p) 13(p) 21(p) 12(80) 77(p) | % 100.00 16.67 8.33 - 33.33 100.00 100.00 100.00 92.86 - - 15.00 | $\begin{array}{c} \mu_{i} \\ 5.00 \\ 5.00 \\ \hline \\ 4.50 \\ 2.14 \\ 3.15 \\ \hline \\ 2.08 \\ \hline \\ 4.33 \\ \end{array}$ | σ _i 0.00 0.00 0.55 0.36 0.36 0.28 0.28 0.49 | μ _{Total} 3.90 |

 Table 3.18
 Trends in the use of different methodologies when implementing the institutional strategy

(p) Missing values

3.5.5 Obstacles and Keys to Success for Strategic Implementation

The study also explored the problems and challenges faced by HEIs when implementing their strategic planning processes. We have grouped these variables together (barriers and key factors) and have not analysed each country separately in order

| Barriers | $\mu_{\rm i}$ | $\mu_{\rm i}$ | Drivers |
|---|---------------|---------------|---|
| Partial vision of the institutional strategy | 3.53 | 4.16 | Shared strategic vision |
| Resistance to change | 3.54 | 3.88 | Remarkable integration of teams and individuals |
| Little methodological support to manage the process | 3.66 | 3.75 | Information systems mechanisms that are useful for supporting strategic decision-making |
| | - | 4.58 | Committed leadership |
| | - | 3.91 | Completed deployment |
| Poor commitment | 3.32 | 4.07 | Clearly identified commitment of people |
| Infrequent monitoring | 3.46 | 3.92 | Permanent monitoring |
| Poor alignment | 3.6 | 3.93 | Total alignment |
| Inefficient communication processes | 3.71 | 3.79 | Effective communication |

Table 3.19 Trends associated with key successful strategy implementation factors and barriers faced

to try to specify the most convergent elements across the region when facing the challenges imposed by the strategy implementation. Table 3.19 presents the integration of the overall mean value that resulted from the individual country analysis.

Moreover, in the case of barriers, the mean values do not exceed 3.75 points. This indicates that institutions agree that the factors analysed are viewed as a barrier. On the other hand, the positive factors have an average starting point of 3.75 indicating stronger responses. In all cases, the mean of the barriers is lower compared to the positive elements, although in some cases the difference is minimal as in the case of communication.

Overall, the countries coincide a great deal with the existence of similar barriers faced when implementing their strategic programmes. When it comes to launching the strategy and keeping it alive every day, the most common and problematic barrier to overcome is the gap between policy-making and implementation. The issues of greatest concern, seen as opportunities for improvement, are the existence of partial visions of the strategy, lack of commitment, ineffective communication and reporting mechanisms that are more descriptive than truly strategic in nature. On the other hand, the most valued key factors for ensuring successful implementation were achieving a shared vision of the institutional strategy and the boost of committed leadership upon the process and clear identification and implication of the people involved within the process. The other factors presented similar values.

In general, the aspects emerging as barriers influencing the process might be consequence of deficiencies in the processes of communicating the defined strategy but might also be linked with the need to develop systems and utilise methods that make it possible to verify the level of understanding, ownership and alignment of the strategy for the different levels of people, teams and units.

3.6 LEARNING: Control, Evaluation and Review of Strategic Management at HEIs

The monitoring and control phase continues to emerge as a requirement that affects the success of the strategic project. This stage is also very important for effectively and efficiently implementing the strategy as changes that often cause resistance begin to emerge. Also, this requirement oftentimes can give rise to inefficiencies in rehabilitation and learning systems. The monitoring, control and evaluation phase is lengthy, in parallel to the implementation, which typically has little effect in the short term; these aspects underline the difficulty in the strategic process. The monitoring and control process can be more successful insofar as the formulated strategic objectives are formalised and integrated into institutional management systems. Accordingly, this study explored the elements and characteristics of the monitoring systems that are employed and used by the institutions in different countries.

3.6.1 Monitoring the Strategic Implementation

Table 3.20 presents the results of the existence of a formal procedure for monitoring strategy implementation within the institutions.

Among the countries with explicit data, the universities agreed that they develop efforts to conduct the monitoring of their strategic planning processes with an overall mean around or above 4. Participation rates were higher (above 70 %); however, some countries such as Spain and Venezuela had less participation. Uniformity of

| Country | F | % | $\mu_{ m i}$ | $\sigma_{ m i}$ | μ_{Total} |
|-------------|--------|--------|--------------|-----------------|----------------------|
| Spain | 5(54) | 9.26 | 4.49 | 1.35 | 3.92 |
| Paraguay | 6(6) | 100.00 | 3.67 | 2.07 | |
| Costa Rica | 12(12) | 100.00 | 4.00 | 1.81 | |
| Uruguay | 7(7) | 100.00 | 3.57 | 1.27 | |
| Chile | 13(18) | 72.22 | 4.46 | 0.52 | |
| Bolivia | 27(27) | 100.00 | 3.78 | 0.70 | |
| Panama | 27(27) | 100.00 | 3.81 | 0.96 | |
| Peru | 13(14) | 92.86 | 3.15 | 0.80 | |
| El Salvador | 27(32) | 84.38 | 4.00 | 0.83 | |
| Venezuela | 11(21) | 52.38 | 4.18 | 0.40 | |
| Mexico | 65(80) | 81.25 | 4.46 | 0.50 | |
| Portugal | 13(13) | 100.00 | 3.46 | 0.52 | |

 Table 3.20
 Establishment of a formal dynamic monitoring of the implementation of the defined strategy

(n°) Number of institutions per country

| | Strategic level | e monitori | ng at th | e institı | utional | Strategy monitoring at the level of units | | | | | |
|-------------|--------------------|------------|--------------|-----------------|----------------------|---|--------|--------------|-----------------|----------------------|--|
| Country | F | % | $\mu_{ m i}$ | $\sigma_{ m i}$ | μ_{Total} | F | % | $\mu_{ m i}$ | $\sigma_{ m i}$ | μ_{Total} | |
| Spain | 28 | 51.85 | 5.00 | 0.00 | 4.24 | 16(54) | 29.63 | 5.00 | 0.00 | 4.09 | |
| Paraguay | 3(6) | 50.00 | 5.00 | 0.00 | 1 | 3(6) | 50.00 | 5.00 | 0.00 | | |
| Uruguay | 7(7) | 100- | 4.29 | 0.49 | | 7(7) | 100.00 | 3.57 | 0.98 | | |
| Chile | 16(18) | 88.89 | 4.50 | 0.52 | | 15(18) | 83.33 | 4.20 | 0.68 | | |
| Argentina | 14(14) | 100.00 | 3.71 | 1.68 | | 14(27) | 100.00 | 2.79 | 1.37 | | |
| Panama | 17(27) | 62.96 | 4.29 | 0.47 | | 9(27) | 33.33 | 4.33 | 0.50 | | |
| Peru | 13(14) | 92.86 | 3.08 | 1.19 | | 13(14) | 92.86 | 3.46 | 1.05 | | |
| El Salvador | 24(32) | 75.00 | 4.38 | 0.65 | | 21(32) | 65.63 | 4.19 | 0.68 | | |
| Venezuela | 9(21) | 42.86 | 4.33 | 0.50 | | 8(21) | 38.10 | 4.75 | 0.46 | | |
| Mexico | 60(80) | 75.00 | 4.43 | 0.50 | | 60(80) | 75.00 | 4.43 | 0.50 | | |
| Portugal | 13(13) | 100.00 | 3.62 | 0.65 | | 13(13) | 100.00 | 3.31 | 0.85 | | |

Table 3.21 Trends associated with strategy monitoring process

responses varied with Paraguay, Costa Rica and Spain having less uniformity. Argentina, Ecuador and Colombia did not provide specific responses to this variable, but other variables supporting monitoring tools and levels of monitoring were acknowledged (Tables 3.21 and 3.22). This variable examined the rate of the formalisation of strategy monitoring. Accordingly, with the exception of Spain with low participation, most of the countries have formalised strategic monitoring. Furthermore, in some contexts, this monitoring and control exhibits a relative balance between the corporate level and internal units.

With an overall participation rate below 25 %, the degree of response uniformity is quite homogeneous for both variables. Argentina and Peru had higher divergence as the institutions in these countries reported higher disagreement concerning both variables (strategic level monitoring). In the other countries, the institutions reported a fairly similar level of acceptance with standard deviations ranging between 0 and 0.68. Some countries did not respond to this variable (i.e. Costa Rica, Colombia, Bolivia and Ecuador); therefore, we are not able to generalise the comparison across all countries. Moreover, in general, we can see among the countries providing data HEIs carry out monitoring actions at the executive level, although when it came to the strategy monitoring at the level of units (i.e. academic and technical units), we observe a decrease in the participation responses, as well as a drop in level of acceptance.

3.6.2 Support Tools for Monitoring

When exploring the tools the HEIs used to support the monitoring of their strategic programmes (Table 3.22), the cited tools valued above 3 indicate that the institutions apply some form of tools to guide them in this phase. The lowest total mean was 3.85, which corresponds to the balanced scorecard.

| | Balanced | scorecard | | | | Annual re | ports | | | | | Indicator | systems | | |
|----------------|----------------|-------------|---------------|----------------|------------------------|------------|--------|---------------|----------------|------------------------|--------|-----------|---------------|------------------|------------------------|
| Country | F | % | $\mu_{\rm i}$ | σ _i | μ_{Total} | F | % | $\mu_{\rm i}$ | σ _i | μ_{Total} | F | % | $\mu_{\rm i}$ | $\sigma_{\rm i}$ | μ_{Total} |
| Spain | 24(54) | 44.44 | 5.00 | 0.00 | 3.85 | 30(54) | 55.56 | 5.00 | 0.00 | 4.23 | 28(54) | 51.85 | 5.00 | 0.00 | 4.04 |
| Paraguay | 1(6) | 16.67 | 5.00 | 0.00 | | 4(6) | 66.67 | 5.00 | 0.00 | | 3(6) | 50.00 | 5.00 | 0.00 | |
| Costa Rica | 7(12) | 58.33 | 5.00 | 0.00 | 1 | 7(12) | 58.33 | 5.00 | 0.00 | | 10(12) | 83.33 | 5.00 | 0.00 | |
| Uruguay | 7(7) | 100.00 | 3.14 | 1.07 | | (L) (L) | 100.00 | 3.57 | 1.51 | | 7(7) | 100.00 | 2.71 | 0.76 | - |
| Chile | 13(18) | 72.22 | 4.00 | 0.71 | | 12(18) | 66.67 | 4.58 | 0.51 | | 15(18) | 83.33 | 4.20 | 0.56 | |
| Argentina | 14(14) | 100.00 | 1.71 | 1.27 | 1 | 14(14) | 100.00 | 3.50 | 1.40 | | 14(14) | 100.00 | 3.14 | 0.95 | 2 |
| Bolivia | 12(27) | 44.44 | 4.83 | 0.39 | | 13(27) | 48.15 | 4.31 | 0.48 | | 16(27) | 59.26 | 4.13 | 0.96 | |
| Panama | 27(27) | 100.00 | 3.41 | 0.64 | | 27(27) | 100.00 | 3.33 | 0.68 | | 27(27) | 100.00 | 3.52 | 0.70 | |
| Peru | 12(14) | 85.71 | 2.25 | 1.06 | | 12(14) | 85.71 | 3.58 | 1.31 | | 13(14) | 92.86 | 3.00 | 1.00 | - |
| El Salvador | 14(32) | 43.75 | 4.29 | 0.47 | | 19(32) | 59.38 | 4.16 | 0.37 | | 17(32) | 53.13 | 4.18 | 0.39 | |
| Ecuador | 5(13) | 38.46 | 4.00 | 0.00 | | 10(13) | 76.92 | 4.40 | 0.52 | | 10(13) | 76.92 | 4.30 | 0.48 | - |
| Venezuela | 5(21) | 23.81 | 4.40 | 0.55 | | 10(21) | 47.62 | 4.40 | 0.52 | | 3(21) | 14.29 | 4.33 | 0.58 | |
| Mexico | 37(80) | 46.25 | 4.46 | 0.51 | | 60(80) | 75.00 | 4.50 | 0.50 | | 62(80) | 77.50 | 4.39 | 0.49 | |
| Portugal | 13(13) | 100.00 | 2.38 | 0.65 | | 13(13) | 100.00 | 3.92 | 0.28 | | 13(13) | 100.00 | 3.62 | 0.65 | |
| (n°) Number oi | f institution: | s per count | ry | | | | | | | | | | | | |

Table 3.22 Trends in the use of methodologies to support strategy monitoring

| | Deployn institutio | nent of ino mal level | dicator s | system a | t the | Deployn at the un | Deployment of the indicator system at the unit levels | | | | |
|----------------|-----------------------|--------------------------|----------------|------------------|-----------------------------------|---|---|--------------|------------------|------------------------|--|
| Country | F | % | $\mu_{ m i}$ | $\sigma_{ m i}$ | μ_{Total} | F | % | $\mu_{ m i}$ | $\sigma_{ m i}$ | μ_{Total} | |
| Spain | 53(54) | 98.15 | 3.58 | 1.36 | 3.77 | 53(54) | 98.15 | 3.42 | 1.39 | 3.65 | |
| Paraguay | 6(6) | 100.00 | 3.00 | 0.00 | | 6(6) | 100.00 | 3.00 | 0.00 | | |
| Costa Rica | 12(12) | 100.00 | 3.00 | 0.00 | | 12(12) | 100.00 | 3.00 | 0.00 | | |
| Uruguay | 7(7) | 100.00 | 4.71 | 0.49 | | 7(7) | 100.00 | 4.00 | 1.41 | | |
| Argentina | 14(14) | 100.00 | 3.71 | 1.49 | | 14(14) | 100.00 | 3.21 | 1.19 | | |
| Bolivia | 13(27) | 48.15 | 5.00 | 0.00 | | 9(27) | 33.33 | 5.00 | 0.00 | | |
| Panama | 12(27) | 44.44 | 4.42 | 0.51 | | 4(27) | 14.81 | 4.25 | 0.50 | | |
| Peru | 12(14) | 85.71 | 2.58 | 1.31 | | 13(14) | 92.86 | 3.00 | 0.91 | | |
| Venezuela | 4(21) | 19.05 | 4.25 | 0.50 | | 4(21) | 19.05 | 4.00 | 0.00 | | |
| Mexico | 57(80) | 71.25 | 4.47 | 0.50 | | 63(80) | 78.75 | 4.46 | 0.50 | | |
| Portugal | 13(13) | 100.00 | 2.77 | 1.09 | | 13(13) | 100.00 | 2.85 | 1.14 | | |
| | Conduct institutio | ing a com mal progr | parison ess | of the | Establish specially monitor | Establishment of an indicator system specially designed for the strategy monitoring | | | | | |
| Country | F | % | $\mu_{\rm i}$ | $\sigma_{\rm i}$ | μ_{Total} | F | % | μ_{i} | $\sigma_{\rm i}$ | μ_{Total} | |
| Spain | 30(54) | 55.56 | 1.40 | 0.50 | 3.65 | 34(54) | 62.96 | 1.03 | 0.17 | 2.84 | |
| Chile | 18(p) | - | - | - | | 14(18) | 77.78 | 4.36 | 0.50 | 1 | |
| Bolivia | 27(27) | 100.00 | 3.78 | 0.75 | | 13(27) | 48.15 | 1.00 | 0.00 | | |
| Panama | 27(27) | 100.00 | 3.85 | 1.17 | | 20(27) | 74.07 | 1.15 | 0.37 | | |
| Peru | 14(p) | - | - | - | | 13(14) | 92.86 | 3.00 | 1.00 | | |
| El Salvador | 23(32) | 71.88 | 4.35 | 0.83 | | 32(p) | - | - | - | | |
| Venezuela | 9(21) | 42.86 | 4.33 | 0.50 | | 8(21) | 38.10 | 4.25 | 0.46 | | |
| Mexico | 63(80) | 78.75 | 4.51 | 0.50 | | 63(80) | 78.75 | 4.46 | 0.50 | | |
| Portugal | 13 | 100.00 | 3.31 | 0.85 | | 13(13) | 100.00 | 3.46 | 0.52 | | |

Table 3.23 Trends in the scope of the monitoring systems

(p) Missing values

The participation rate is more regular; Colombia was the only country to not respond. The participation rate was 62 % for the first variable and 74 % for the two remaining variables. The level of uniformity of responses is quite similar across countries; only Argentina, Uruguay and Peru had standard deviations above 1 for the balanced scorecard and annual reports. Additionally, the study further explored the use of an indicator system across the different institutional levels (Table 3.23).

Chile, El Salvador, Ecuador and Colombia did not provide data concerning the scope of strategy deployment. Among the participating institutions, the average participation varied from 15 % in Panama and 19 % in Venezuela. Uniformity of responses was very high with exceptions of Peru (1.31), Spain (1.36 and 1.39) and Uruguay (1.41). The overall mean values in the two cases (strategy deployment scopes) are high.

Concerning the tendency of conducting a comparison of the institutional progress by identifying the possible bias in the realisation of the strategic project, we observe a mean value around 3.7, which might reflect that the institutions do agree with this issue. Specifically, the case of Spain is particularly striking as HEIs presented a higher level of disagreement, as the individual mean was 1.40. The rest of the deviations are low revealing high homogeneity with the exception of Panama. Regarding the establishment of an indicator system specially designed for the strategy monitoring, the mean around 2.84 indicates that institutions do not quite agree with this aspect. Unlike the previous variable, very similar averages around 1 were found in Spain, Bolivia and Panama. The uniformity of responses is higher, and only in the case of Peru was the deviation 1.

3.6.3 Systems of Feedback and Organisational Learning

Closely related to the effective use of monitoring tools, the processes of feedback and organisational learning are both key for improving the defined strategy itself and achieving an integral culture of planning, evaluation and management of quality. Having a periodic review procedure for plans and strategic directions is aimed at detecting whether the external scenario may have undergone significant changes and whether the internal environment contains factors making it easier or harder to attain certain objectives. In this context, the survey identified that HEIs in different countries conduct a periodic review of their strategic planning programmes (Table 3.24)

| | Existence strategy d | e of a peric levelopme | odic revi nt | iew of t | he | How often the strategy is revised or updated | | | | |
|-------------|-------------------------|---------------------------|-----------------|-----------------|------------------------|--|--------|--------------|-----------------|----------------------|
| Country | F | % | $\mu_{\rm i}$ | $\sigma_{ m i}$ | μ_{Total} | F | % | $\mu_{ m i}$ | $\sigma_{ m i}$ | μ_{Total} |
| Spain | 38(54) | 70.37 | 3.76 | 1.05 | 3.91 | 39(54) | 72.20 | 2.05 | 0.86 | 2.21 |
| Paraguay | 6(6) | 100.00 | 3.67 | 2.07 | | 4(6) | 66.70 | 1.50 | 1.00 | |
| Costa Rica | 12(p) | - | - | - | | 12(12) | 100.00 | 1.92 | 1.00 |] |
| Uruguay | 7(7) | 100.00 | 4.29 | 0.49 | | 7(7) | 100.00 | 1.71 | 0.45 | |
| Chile | 15(18) | 83.33 | 4.60 | 0.51 | | 15(18) | 83.30 | 2.33 | 0.72 | |
| Argentina | 14(14) | 100.00 | 3.21 | 0.80 | | 13(14) | 92.90 | 2.15 | 0.90 | |
| Bolivia | 27(27) | 100.00 | 3.89 | 0.80 | | 17(27) | 63.00 | 2.53 | 1.51 | |
| Panama | 27(27) | 100.00 | 3.89 | 0.85 | | 18(27) | 66.70 | 2.00 | 1.33 | |
| Peru | 9(14) | 64.29 | 3.78 | 0.83 | | 13(14) | 92.90 | 2.77 | 0.93 | |
| El Salvador | 23(32) | 71.88 | 4.22 | 0.42 | | 24(32) | 75.00 | 2.00 | 0.89 | |
| Ecuador | 10(13) | 76.92 | 4.40 | 0.52 | | 2(13) | 15.40 | 1.36 | 0.51 | |
| Venezuela | 11(21) | 52.38 | 4.18 | 0.40 | | 11(21) | 52.40 | 4.09 | 1.04 | |
| Mexico | 77(80) | 96.25 | 4.13 | 0.92 | | 63(80) | 78.80 | 1.81 | 0.97 | |
| Portugal | 13(13) | 100.00 | 2.85 | 0.55 | | 13(13) | 100.00 | 2.69 | 0.86 | |

 Table 3.24
 Periodicity in the strategy revision processes

(n°) Number of institutions per country

(p) Missing values

| | As a resu institutio opportun | lt of syst ns are ab ities | ematic le to suf | monitorii fficiently | ng, the seize | Degree of satisfaction with the monitoring and learning system | | | | | |
|-----------|-------------------------------------|----------------------------------|---------------------|-------------------------|------------------------|--|-------|------|----------|----------------------|--|
| Country | F | % | μ | σ | μ_{Total} | F | % | μ | σ | μ_{Total} | |
| Spain | 39(54) | 72.2 | 3.44 | .912 | 3.79 | 37(54) | 68.5 | 3.59 | .832 | 3.67 | |
| Uruguay | 7(7) | 100.0 | 3.86 | .378 | | 7(7) | 100.0 | 3.57 | .787 | | |
| Chile | 15(18) | 83.3 | 4.20 | .561 | | 18(p) | - | - | - | | |
| Argentina | 14(14) | 100.0 | 2.71 | 1.326 | | 14(14) | 100.0 | 2.86 | .770 | | |
| Bolivia | 18(27) | 66.7 | 4.00 | 0.000 | | 12(27) | 44.4 | 4.00 | 0.000 | 1 | |
| Panama | 15(27) | 55.6 | 4.27 | .799 | | 15(27) | 55.6 | 3.87 | .516 | | |
| Peru | 13(14) | 92.9 | 2.85 | .899 | | 13(14) | 92.9 | 2.69 | .630 | 1 | |
| El | 24(32) | 75.0 | 4.21 | .833 | | 24(32) | 75.0 | 4.33 | .816 | | |
| Salvador | | | | | | | | | | | |
| Venezuela | 7(21) | 33.3 | 4.29 | .488 | | 21(p) | - | - | | | |
| Mexico | 75(80) | 93.8 | 4.08 | .941 | | 50(80) | 62.5 | 4.48 | .505 | | |

 Table 3.25
 Satisfaction with monitoring systems and degree of utilisation of the improvements identified

(p) Missing values

where the institutions have responded with an average value of 3.91 suggesting overall agreement with maintaining a periodic review of the strategy development.

Moreover, individual mean values reveal uniformity with a minimum of 2.85 in the case of Portugal and a maximum of 4.6 in the case of Chile. Uniformity of responses across institutions was high with the exceptions of Paraguay (deviation of 2.07) followed by Spain (1.05) and Mexico (0.92). In other countries, uniformity is more regular with deviations between 0.42 and 0.85. According to these results, there is a trend of conducting a periodic review of the strategy programmes in the institutions of the region.

Regarding periodicity of revisions, institutions conduct the review process with a frequency between 1 and 2 years among 5 possible periods (between 1 semester and 1 year, between 2 and 5 years, more than 5 years and others). Venezuela responded with a mean value of 4.09, thus reviewing their strategy with a frequency of more than 5 years. Regarding uniformity of responses, countries were less uniform as seen in Bolivia (1.51), Panama (1.33) and Venezuela (1.04). In the remaining countries, deviations were smaller (except Uruguay to 0.45) and thus more uniform in the individual analysis of each country. The data provided insights suggesting that the trends in periodicity of strategy revisions are done in a short-medium term that comprises overall periods between 1 and 2 years.

Furthermore, the study sought to examine if the institutions effectively use the results of the revisions for improving the strategic development process as well as their satisfaction about the feedback process (Table 3.25).

About a third of the institutions surveyed did not answer these two questions. Moreover, with the sample of the institutions that responded, the level of responses was high with an average for both variables around 4, indicating that institutions agreed upon the degree of satisfaction about the utilisation of feedback being gathered. As for the uniformity of the responses, some countries were more scattered when examining the usage of monitoring results as was the case for Spain, Argentina and Mexico. On the other hand, a slight dissimilarity of responses for the degree of satisfaction with the feedback systems was observed in Spain and El Salvador. Furthermore, more uniformity was observed for the degree of satisfaction as the standard deviation does not exceed, in any case, 0.9. Examining the satisfaction rate in relation to monitoring systems and usage level for review processes in the implementation of the identified opportunities for improvement, we can infer that in many countries the level of satisfaction varies but highlights the need to employ more effective tools to more accurately and effectively identify opportunities for improvement and capitalise on them.

Meanwhile, change management and learning about the strategy process are not as obvious for many of the HEIs analysed in the various countries. Some of these review systems simply collect data and do not provide an overall perspective of the impact of the process on the institution; they also hinder improvement in strategic decision-making and organisational learning.

3.7 Discussion and Conclusion

A central objective of this study was to provide insights into the types of strategic management processes in Ibero-American HEIs, acknowledging differences and similarities that might be present across the analysed countries. The discussion of the findings and further implications for practice and theory are presented in light of the research model used to support the analysis (Fig. 3.1). In order to exploit the strategic management types, the research model developed research variables addressing the process of the strategic management: 'process variables'. Moreover, aiming to contextualise the way the strategic management process might be influenced by different aspects, the research model developed 'context variables' in order to delve into this contextualisation. Accordingly, the discussion is divided into three main parts (strategic thinking and choice, strategy implementation and strategy learning) interplaying with the contextual elements identified, focusing on the specific aspects integrated with the research conceptual model.

3.7.1 Strategic Thinking and Choice

Regarding the analysis on how strategy formulation is carried out at HEIs, the main points of convergence involve the existence of a culture of strategic planning in the development of strategic projects. As noted, the vast majority of the analysed institutions have a systematic process to formulate their policies and institutional strategies. From the descriptive statistics, universities across the region have mostly established strategic management processes. Existence of the process was considered positive with very strong ratings (>4). Regarding the components of these processes, conducting a comprehensive strategic diagnostic is more clearly identified in some specific countries, due to the fact that not all countries provided evidence about the way the strategic thinking and choices are drawn from the environmental analysis. Countries that positively viewed the build-up of a systematic analysis based on economic resources, environment, competitors and results of previous planning were Colombia, Bolivia and El Salvador (ratings >4), followed by Uruguay, Panama and Peru (ratings >3). These results support the problems found in the literature when conducting a comprehensive strategic design process: there is the need of integrating prospective techniques to elaborate better strategic scenarios and visualisation of alternative strategic options as well as identifying the primary stakeholders (CINDA 2007).

Likewise, strategising in universities has largely been devoid of the incorporation and analysis of context and process (Buckland 2009). The results of the inclusion and elaboration of this systematic analysis identify problems present in the region, as most of the countries did not respond positively to this variable. Moreover, a positive trend does emerge if we consider that half of the countries responded positively (>3) to this variable, but at the same time, the other half did not respond positively. Previous studies have considered strategic analysis as a key factor for a successful strategic design and furthermore considered strategic design as a key factor in strategy implementation (Rodríguez-Ponce and Pedraja-Rejas 2009). Correspondingly, the results of this comparative study highlight the need to heighten the strategic analysis dynamics presented across most of the countries in order to be able to make strategic choices based on institutional strengths and capacities, coinciding with the arguments proposed by Burquel (2012). Therefore, if strategic analysis is a key factor of successful strategic thinking and implementation (Rodríguez-Ponce and Pedraja-Rejas 2009), important flaws in this dynamic were seen in the results, fostering further important challenges.

Furthermore, by analysing the supporting tools used, we obtained better insights into the strategic analysis and choice dynamics. The results were divided into two groups: (1) popular tools (>3) and (2) less used and isolated tools (<3). The first case comprised tools such as the SWOT analysis (>4), market research, strategic scenarios planning and strategic maps (>3). As for the trends across countries, statistics showed that SWOT analysis (Hill and Westbrook 1997) was the mostly employed tool, as most institutions across all the countries rated it positively (>3). Concerning the other tools, we might see less uniformity in their usage. For instance, the use of scenario planning (Chermack 2005) was more pronounced in Paraguay, Chile, Bolivia, Venezuela and Mexico, and likewise, the development of strategic maps (Kaplan and Norton 2004) was also considered positively by institutions in Mexico and Bolivia, as well as in Portugal. The use of market research (McFadden 1986) presented a divergent perspective of responses across the countries, where some institutions considered its practice positively: El Salvador, Venezuela, Mexico and Portugal.

With reference to the second cluster of tools, we see the use of competitor positioning analysis (Porter 2008), stakeholder analysis (Savage et al. 1991), critical success factor analysis (Boynlon and Zmud 1984) and the construction of balanced scorecards (Kaplan and Norton 1996b); however, this latter tool was associated more with supporting implementation yet also mentioned in the design stage by institutions in Spain. In this second group of tools, we observe fewer responses, as few countries acknowledge its use. The case of Uruguay is the only country with a positive rating (=3) concerning the use of critical factor analysis, positioning analysis and stakeholder analysis. The overall results show a trend that the HEIs across the regions might draw their strategic analysis based on the implementation of the SWOT analysis and in some cases complementing it with other tools; however, a deeper analysis of the competitive analysis or the stakeholders' needs is still challenging. This might be associated with the results of Buckland (2009) arguing that universities might focus on a clear definition of stakeholders' needs and expectations and clarify who should take part in the definition of priorities. Therefore, an improvement of the strategic analysis dynamic would be an important issue in offering improvements to this problem.

The use of strategic plans is quite popular in many of the analysed contexts explored by the temporary nature of the strategy planning processes. As such, strategic planning appears to be the main management tool used by HEIs in the region in their strategy formulation, which follows a trend explored in the literature (Dooris et al. 2004). We may observe that this practice is more mature in one group of countries, given the longevity of their planning programmes. The results suggest three groups of countries based on the development of their planning cycles: (1) more established experience, (2) in the process of being established and (3) recent initiatives.

The first group with more established experiences where many institutions (>50 %) have completed more than three planning cycles included Ecuador, Mexico, Chile and Venezuela. Many of these countries, as well as those in the second group in the process of establishing their strategic management processes (i.e. countries that have completed two or three cycles), appear to have made achievements in certain areas of the institution reporting that strategic planning helped them to improve different areas of the university management. However, there is no clear indication of the direct impact of the consecutive plans on institutional improvement. One question that should be asked is: what significant, tangible progress has been made by institutions in countries with more experience? This aspect has been explored in terms of how HEIs conduct dynamic monitoring of strategic developments and how the strategy and decision-making processes receive feedback and how learning takes place. As for the third group of countries (recent initiatives -2cycles or less, >50 %), we might observe the cases of Panama, Bolivia, Argentina and Portugal. Comparatively, when contemplating the factors that may have affected the continuity of cycles using the contextual variables (open questions), points of convergence among public HEIs (in countries from the three groups) relate to government funding, quality accreditation and institutional recognition. The continuity of the cycles at private institutions could converge in some of these dynamics, although their influences are less visible and more individualised.

Moreover, previous studies identified that decision processes in HEIs are slow and people in management positions have no professional training (Schwartzman 1996). Bearing in mind that most of the countries in the Ibero-American region account for a collegial model of governance (Brunner 2011), the results have shown that this may lead to the use of external consultancies when formulating strategic programmes. Given the comments provided, the management positions are seen within the collegial model as a temporary position, therefore not professionalised. Accordingly, the top management team, when assuming its mandate, has the option of hiring external consultants to support the strategic design and choice process. This trend was more clearly identified by the positive ratings (>3) in the cases of Venezuela, Mexico, Colombia and Portugal.

The trend for governance over universities revealed strong leadership at the top level of the institutions (De Boer and File 2009). This tendency is also observed across the countries analysed. Most of the institutions reported strong ratings (>4) when considering the leadership of the top management team in strategy formulation, design and choice. The participation of other stakeholders, such as faculty, representatives of external community or representative of students, was lower or not mentioned. This may put forward the problems found in the literature that when exploring strategies in universities, the institutional vision is not aligned with academic management and resources and academic management is decoupled with environmental and contextual needs and demands (Samoilovich 2008). These results put forward the challenge faced on two fronts: the enhancement of contextual analysis for better strategic positioning and choice and the superior improvement of stakeholders' identification and definition of participation in strategy design.

In this respect, creativity and flexibility are necessary to realise the vision, which also necessitates new tools, ideas and ways of doing things. Although the concept of innovation is not frequently mentioned in the various national studies, it requires a level of thought and learning that challenges the idea of being consistent with the past (continue what we already do well), as could be said of the current practice of strategic management in many contexts. Hence, an exhaustive analysis should take into account the competitive advantage, in connection with the institution-specific resources and capabilities.

3.7.2 Strategy Implementation

The aspects measured for implementation explored issues of shared governance and teamworking, operationalisation of strategy, leadership role, supporting tools and communication systems. One aspect examined was the operationalisation of institutional strategy within the institutions. The statistics revealed that few institutions across the countries recognised that strategy is operationalised in their internal units. For instance, only two countries (Spain and Panama) reported clear positive ratings for this question. This raises one important aspect of the planning process within collegial governance institutions regarding the issue of legitimisation

(Caulfield and Minnery 1994; Gordon et al. 2009). Previous studies in public organisations acknowledge that in order to be able to understand change, it must be connected to issues of power and legitimacy.

The very aspect of legitimacy is relevant for understanding planning in this context. Moreover, one aspect of the concept of autonomy in HEI governance (mostly collegial models) is the legitimisation of strategic plans using increased participation of the university community in general, recognising the need for consensusbased, transparent decisions. Nonetheless, statistics showed that strategic plans are usually formulated by a group of senior executives that in many cases do not involve other participants in the process and cannot or fail to properly communicate the plan. So, results suggest that the leadership of strategy is centrally managed and top-down, with few initiatives taking place in an emergent participatory approach. Therefore, using the planning system as legitimisation of the strategic choice seems to put forward challenging perspectives across the countries when dealing with implementation improvements from the perspective of legitimising strategy choices and change. This challenge may be tackled with different forms of consultation and practical applications in managing the strategic process that must capture the visions and objectives aimed at shifting the focus from the development of strategic plans to the design of the innovative strategy (Martinez and Wolverton 2009).

On the other hand, when examining the distribution of responsibilities and the degree of knowledge about the authorities and functions of people involved in strategising at the different institutions, a positive trend was seen as most of the institutions reported strong positive ratings (>4) for the functions and responsibilities being well set and understood. A group of countries did not provide data for this aspect (Paraguay, Costa Rica, Ecuador and Colombia), and two countries rated it negatively (>3, Argentina and Portugal). However, the rest of the analysed countries provided overall positive ratings. Previous studies put forward that collegial models of governance normally imply the existence of co-democratic governments and bureaucratic management structures (Brunner 2011). The results showed that the responsibilities within the strategy activity seemed to be well set with a positive trend within these co-democratic structures; however, from the analysis of the participatory levels and the operationalisation of the strategy among the institutional units, some relevant flaws emerge in the strategy implementation as well as the clear need to clarify who the stakeholders are and emphasise legitimisation.

Moreover, strategy communication and legitimisation were treated as key factors when examining the strategy implementation process within the institutions across countries. Previous studies have explored the importance of strategic leadership in communicating the strategy to achieve an effective strategic planning process (Morrill 2010). The results of the present study supported a positive trend across most of the countries for concern in establishing a two-way communication process to promote their strategic programmes. However, it was only rated strongly positively (>4) in Chile and Mexico and some countries did not provide answers to this variable (Paraguay, Costa Rica, Argentina, Ecuador and Colombia).

Furthermore, in trying to get more insights into these communication systems initiatives, the study explored its evaluation from the perspective of the institutions.

As such, the participation rates decreased and, when considering only the responses that reached a participation rate >50 %, most of the countries did not reach positive ratings (<3) with dissimilarity of responses. Therefore, these overall results put forward that the universities are concerned with establishing communication initiatives; however, there is less concern for assessing if it has been effectively conducted.

One aspect that might be associated with the strategy communication problem is the research field that has dealt with implication and motivation of the middle management position (Guth and Macmillan 1986; Wooldridge and Floyd 1990). This issue has not been extensively studied in the context of HEIs, but considering the co-democratic government and pluralistic contexts that characterise the universities, this is a relevant aspect to be further explored. Accordingly, the study examined the supporting tools that aimed at both yielding the strategy across the organisation and identifying academic managers in different organisational roles.

The statistics showed that the use of management by objectives was overall strongly positively rated (>4), with the exception of Spain and Colombia. Institutions mostly coincided in integrating different tools such as the constitutions of improvement groups (except in Uruguay, Colombia, Argentina and Peru, >3) and balanced scorecard (except in Spain, Uruguay, Argentina, Peru, Colombia and Portugal). The trend in the use of improvement groups was mainly associated with quality management programmes in many of the countries analysed; the common trend was to include quality groups as part of the organisational strategy; however, the study did not explore the impact of these tools in fostering better communication impacting different academic managers at various organisational levels – a suggestion for future research.

Furthermore, the study explored the main drivers and barriers for successful strategy implementation. Several authors provided different drivers and barriers towards the strategy implementation in different organisational contexts, and according to Pearce and Robinson (2005), the first concern is the organisation's structure, which should be aligned with the strategy. Next, organisational leadership plays a role when implementing a strategy. Stone et al. (1999) summarise the following determinants of implementation activities: leadership behaviour, structure of authority, values, and their interactions. Lewis et al. (2001) emphasise the delaying effect internal and external stakeholders can have upon the implementation of a strategy, especially within an NPO. And within the field of human resources, there should be a relationship between an organisation's strategy and the use of its human resources (Lee et al. 2010). The concepts of systems (Higgins 2005), shared values (Jooste and Fourie 2009; Sharp and Brock 2011) and style (Jooste and Fourie 2009; Hayes 2010) were particularly emphasised in this study's results.

Higgins (2005) refers to 'systems' (and processes) as the facets which enable an organisation to get things done day to day (e.g. information systems, performance measurement systems). Regarding the drivers and barriers for the effectiveness of systems in the implementation process, the results showed that factors such as scanty methodological support for managing the process, infrequent monitoring and inefficient communication systems were the mains barriers faced by the institutions across countries. Efforts to reduce these barriers are needed. Likewise, 'style' is

centralised around leadership. A strategic leader has many tasks, but concerning strategy implementation, the most important issues are motivating people and communicating knowledge concerning the strategy (Hayes 2010). The statistics showed that committed leadership was the strongest rated aspect (>4) across countries as the most important driver of successful strategy implementation. Results also included achieving a remarkable integration of teams and individuals, as well as clearly identifying people's commitment.

As for the 'shared values', Sharp and Brock (2011) defined it as 'compensatory participation' and 'organisational interpretation'. Compensatory participation refers to the changes that occurred in the organisation's policy and attitude towards participatory behaviour. Participation is considered a key value in NPOs (Stone et al. 1999; Weisbrod 1998). The NPO value system is largely characterised as democratic (Courtney 2002) sharing some characteristics within HEIs. However, the strategic planning process tends to challenge these values and mode of operation. Organisational interpretation means that the entire organisation needs to shape the strategy process and the outcome of the organisation's strategy. Accordingly, the results revealed shared strategic vision was a key driver (>4) in successfully achieving implementation, which was also mentioned as a barrier when partial visions take place. Total alignment and integration of teams were also mentioned as key drivers of implementation, reinforcing the relevance of the shared values in dynamic strategy implementation.

3.7.3 Strategic Learning

In the literature, the concept of strategic learning is closely associated with strategy implementation issues and communication systems. For instance, the quality of learning is an important aspect in driving an effective strategic management system (Beer and Eisenstat 2000). The quality of learning is related to the issue of vertical communication, and if it is blocked or lacking, it has a particular pernicious effect on the organisation's ability to implement and refine its strategy and consequently to learn. Often, strategic planning documents went into great detail on long-term technology trends, customer buying behaviour and the competitive environment, but failed to communicate a coherent story explaining why the changing world outside the organisation demanded new ways of working together (Floyd and Woolridge 1992). Other aspects that might be associated with this issue are the use of tools to support the monitoring of the strategy advancements, as in the case of the balanced scorecard methodology (Kaplan and Norton 1996a, b) and the concept of the learning organisation (Crossan et al. 1999; Preskill and Torres 1999; Gill 2010).

Therefore, when exploring the characteristics of the monitoring systems across the different countries, with the exception of Colombia, Ecuador and Argentina, all the countries provided data for the existence of a system to monitor implementation. In the case of Spain, the response rate was very low, and the dissimilarity of responses in Paraguay, Costa Rica and Uruguay does not permit clear conclusions. This suggests that establishment of monitoring systems is a flow issue for strategic management systems. The rest of the countries provided positive responses to this aspect (>3). Furthermore, when examining which tools comprised their monitoring systems, we were able to gain deeper insights. For instance, the trend in the use of the balanced scorecard as a strategic management measurement tool was only clearly identified in Costa Rica, Chile and Panama, where more than 50 % of the sample positively rated the use of this tool (>3). Overall, annual reports and the indicator systems were the most frequently used tools.

Regarding the effectiveness of these tools, HEIs rated their satisfaction with the monitoring and learning systems in place and whether opportunities were sought and implemented as a result of revision processes. Only two countries (El Salvador and Mexico) reported strong positive satisfaction with their monitoring and feedback process (>4), followed by Spain and Panama (>3). As for the learning aspect, nearly half of the countries rated taking advantage of the aspects identified in the improvement process very positively (>3 and >4). Peru and Argentina responded negatively to this issue (>3) and a group of countries did not provide support for this aspect (i.e. Colombia, Costa Rica, Portugal, Ecuador and Paraguay). Some challenges are brought forth when establishing a system that would enhance quality learning, as well as establishing supporting tools able to integrate better strategy implementation and strategy learning.

In conclusion, some recommendations for future research can be proffered. First, from a practical point of view, the examination on the use of management tools and the development of strategic management processes in the Ibero-American countries require consideration with regard to the lessons that can be learned and the challenges that must be addressed, in order to find innovative ways of implementing the strategy.

These challenges involve clear trends in terms of how to increase the level of professionalisation in university administration, maintaining a balance between the functions of the academic manager which is closely related to the changes and progress in the governance models proposed in the political discourse in many of the countries analysed. And finally, an equally important challenge is to develop effective monitoring of performance and improvements in the strategic planning process by drawing on organisational learning.

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