

Integrative Strategy Formation Process and the Management of Complex Work in a Spanish University – A Microorganizational Analysis

Autoria: Rosalia Aldraci Barbosa Lavarda, María Teresa Canet-Giner, Fernando Juan Peris-Bonet

Abstract

The aim of this research is to analyse how the strategy formation process takes place, through which variables it is more efficient and how it generates better results; Verifying the relationship between an integrative strategy formation process and the management of work (Perrow, 1967, 1970, Ouchi, 1980, Peris *et al.*, 2006); moreover the consequences of this relationship in terms of performance, identifying the causes for a better fit and focusing on the management of complex work. In addition to searching for if there is any new variable that could better explain the relationship between an integrative strategy formation process and the management of complex work. After the case analysis we obtain that integrative and emergent strategy formation processes are effective when managing complex work. As an advance of one of the results, we have identified two different variables (flexibility and the role of the middle manager) that can have an influence in the subject of study; also, we found (as it was proposed after the theoretical review) that if there is an important fit between the variables that define an integrative strategy formation process and the design variables used in the management of work, the process will be more efficient and, consequently, the organisation will obtain better results.

Introduction

One of the most relevant subjects in the field of Management is the study of strategy formation process (Mintzberg & Waters, 1985; Hart, 1992; Andersen, 2004a & b). On the other hand, the characteristics of work have been analysed from different approaches (Perrow, 1967, 1970; Mintzberg, 1979; Peris & Herrera, 1988; Donaldson, 2001; Moreno Luzón, Peris & González, 2001). All these authors analyse from a microorganizational perspective or consider work as a variable that explains the overall design of the organisation. Consequently, this research focuses on the study of strategy formation process from a microorganizational perspective and on its relationship with the management of the different types of work in the organization. This proposal tries to follow the proposal of Johnson, Melin & Whittington (2003); but it is new, as it analyses the microorganizational level of work in greater depth. We think this is the way of obtaining a better fit and a greater efficiency between strategy and work management

The main goals of this work are the following: (i) Analysing how the strategy formation process takes place; studying the relevance of the integrative perspective and the use of the variables rationality, involvement and vision; (ii) Verifying the relationship between an integrative strategy formation process and the management of work (Perrow, 1967, 1970, Ouchi, 1980, Peris *et al.*, 2006) and the consequences of this relationship in terms of performance, identifying the causes for a better fit; (iii) Verifying the propositions that have been formulated and looking for new variables that could affect the relationship between strategic process and work management.

Our research questions are the following: Q1: How, in which kind of environments and through which variables can an integrative strategic process be more efficient and generate better results particularly in the management of complex work? Q2: *Is there any new variable that could better explain the relationship between an integrative strategy formation process and the management of the different types of work?*

To achieve those goals, that is, the study of *why* and *how*, with an emphasis on *how* the processes take place, we adopted a qualitative methodology (simple case (Eisenhardt,

1989)) studying **how does the strategy formation process develop** (Johnson *et al.*, 2003:11; Regnér, 2003; Jarzabkowski & Wilson, 2002; Jarzabkowski, 2003; among others, use the qualitative methodology in their research works) and **how does the organisation manage the different types of work** (Perrow, 1967, 1970, Ouchi, 1980, Peris *et al.*, 2006) **confirming its relationship and the results of the fit in terms of organisational performance.** We have used semi-structured interviews and direct observation in attempting to answer these research questions and contrast the hypotheses proposed according to the theoretical framework.

As an advance of one of the results in our study, we have identified two different variables (flexibility and the role of the middle manager) that can have an influence in the subject of study; also, we found (as it was proposed after the theoretical review) that *if there is an important fit between the variables that define an integrative strategy formation process and the design variables used in the management of work, the process will be more efficient and, consequently, the organisation will obtain better results.*

Integrative Strategy Formation Process

Our research focuses on the study of the integrative approach (a balance between a rational and planned strategy (Ansoff, 1965; Andrews, 1971, Porter, 1980) and an emergent one (Mintzberg, 1973; Quinn, 1978; Farjoun, 2002)) when analysing the strategy formation process. This integrative approach is present in the works of Mintzberg & Waters (1985); Hart (1992); Hamel & Prahalad (1994) and also in more recent contributions as shows the works of Johnson, *et al.* (2003); Andersen (2000, 2004 a, b) or Elbanna, (2006).

Authors as Johnson, *et al.* (2003) point out the significance of the activities developed in the organisation; taking them as a starting point, these authors have studied the strategy formation process. That is, they propose that the strategy should emerge from the microorganisational level, where the task development takes place. From this micro-level the organisation can achieve important benefits; that is, in very competitive and complex environments more people and more frequently are involved in the strategy formation process, what requires greater decentralisation.

Elbanna's work (2006) follows the same direction as well. This research work indicates that the strategy formation process must follow an integrative pattern, with a balance between rationality and those other emergent issues. The author acknowledges that significant initiatives can come from the inside organisation.

We also follow the arguments of Andersen (2004 a, b) when he points out that the dynamic interaction between emergence and planning must be analysed. Following this work (Andersen, 2004b) we establish some important concepts for this research. We draw attention to the concept of decentralised strategy formation; this is a process that facilitates the emergence of different strategic contributions that come from those managers belonging to the lowest levels of the organisation (*bottom-up influence*) (Andersen, 2004b:1274). This author emphasise also the concept of strategic planning and the need of analysis when firms have to adopt a strategic decision (*top-down influence*). Thus, we can affirm that an integrative strategy formation process considers the need of a decentralised strategic process and the need of a strategic planned process jointly (Andersen, 2004b:1276).

When we refer to the *planning process*, the most important variable is *rationality*. A rational process is an analytical one, with a certain degree of formalisation (Ansoff, 1987; 1991). In contrast the concept of emergence (*bottom-up* perspective) appears. This concept considers that strategy must not be imposed from the top; and that strategy can emerge (strategic initiatives) as a consequence of working in groups. So that, the most relevant concept in this framework is the concept of *involvement*¹. Furthermore, the inductive model presented by Regnér (2003:78) or the strategic role of the *middle manager* in the classification of Floyd & Lane (2000) assume the existence of an important degree of involvement in the

managers of lower levels. If both, rationality and emergence must reach a coherent fit, they need to be integrated. The umbrella that integrates both variables is *vision* (Weick, 1989; Hart, 1992; Mintzberg & Waters, 1985 when they talk about ideological or umbrella processes, and Hamel & Prahalad, 1994 when defining the “strategic intent” and the concept of “strategic architecture”). When there is a clear vision that is communicated; when the objectives and mission are explicit; and when the leader is able to communicate and transmit it, then the initiatives have a common goal, they emerge in a certain order, influenced by the rational and planned processes.

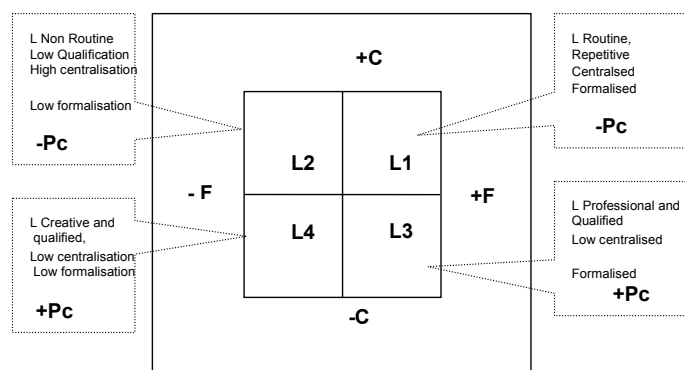
Additionally, the relevance of adopting an integrative strategy formation process is related to the importance of studying the variable *performance*, and how and in which extent an integrative strategy formation process can affect the results of the firm. The relationship between *strategy formation process* and *performance* has already been analysed in the literature (Slater, Olson & Hult, 2006) and also the influence of a more flexible and decentralised strategy formation process on *performance* (Goll & Rasheed, 1997; Brews & Hunt, 1999). Recent works (Andersen, 2000, 2004 a, b) reinforce this integrative perspective and its relationship with *performance*.

Microorganisational Perspective – Analysis of the Types of Work

It's necessary to know which characteristics of the work are in order to achieve a *fit* with the design variables. As a result, we analyse the works of Perrow (1967, 1970) and the contributions of Peris *et al.* (2001 & 2006) that are summarised in a Model on Work Management. The contribution of Perrow characterise different types of models (bureaucratic, non bureaucratic, complex, technological) for an organisation. As the work has different characteristics as a consequence of the different products and services that are elaborated; and taking into account that the different types of work influence the management of the organisation and following Perrow's proposal (1970), we can say that the work can be classified as *routine, engeniering, professional and non routine*.

Figure 1 presents a revised version of Perrow's Model, with an advantage: the relationship among the types of work and the fundamental organisational variables (in this figure formalisation (F), centralisation (C) and human resource policies (P)). L1 (Labor) is the routine work, L2 engeniering work, L3 professional work and L4 qualified and creative work. From now on those works will be named as follows: routine and repetitive work, with low levels of qualification (L1), non-routine work with mid-low levels of qualification (L2), professional work (L3) and qualified and creative work (L4), (Moreno-Luzón, *et al.*, 2001; Peris, *et al.* 2001 & 2006).

Figure 1 - Work characteristics

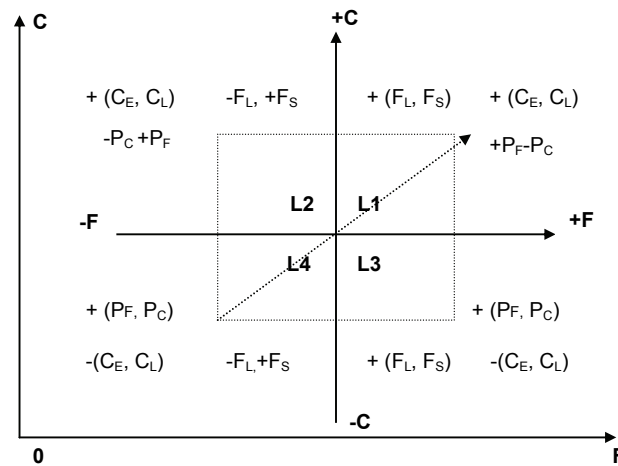


Source: Adapted from Perrow (1970 & Peris *et al.* 2006)

We must point out the significance of the variables centralisation (C), formalisation (F) and human resource policies (P) as they are variables that are underlying every issue in the organisation. Considering the variables C, F & P, the essential question is how those variables contribute to the design and management of work, taking into account that centralisation can be structural (related to the hierarchy) (C_S) or related to the supervision of work (C_L). Formalisation can be referred to planning and global organisational mechanisms (F_S) or to the way in which work can be normalised (F_L). Finally, human resource policies (P) are referred to those functional policies (P_F) as recruiting, personnel selection, training, professional career or promotions; and complementary policies (P_C) corresponding to the different ways of measuring, evaluating and controlling performance, and also the systems of compensation and incentives (promotion, rewards, benefits...) (Peris *et al.*, 2006).

Bearing in mind these variables we have designed a simple model that characterises with greater detail the types of work, from the most simple works (L1) to the most complex ones (L4); and the prescribed use of the different design variables (Figure 2).

Figure 2 - Levels of centralisation, formalisation, human resource policies and types of work



Source: Adapted from Moreno-Luzón *et al.*, 2001:224

The routine work (L1), has a low qualification, there are no changes or exceptions in its development; it is easy to analyse it; and it is characterised by certain levels of explicit knowledge; it has a medium-high degree of formalisation (+F) with norms, standardised procedures and rules, and a medium-high centralisation (+C).

The non-routine works (L2), with medium-low qualification is characterised by frequent changes and exceptions in its development. It doesn't integrate relevant explicit or tacit knowledge; it is easy to measure and evaluate it, and consequently centralisation is efficient (+C), with low levels of formalisation (-F) in order to achieve flexibility and adaptation (Peris *et al.*, 2006).

Professional work (L3), with medium-high qualification, experiment less changes but is difficult to analyse it. This work integrates a great degree of explicit and tacit knowledge, as it includes professional training and/or relevant experience. It is formalised (+F) but the level of centralisation is lower (-C). With this kind of work it's important to generate the commitment of the employee, through complementary human resource policies (compensation systems) (+Pc).

The non routine, qualified and creative work (L4) is under a lot of changes and it is difficult to analyse it. It embraces a great degree of very important explicit and tacit knowledge. In this situation the commitment and cooperation of the employee is necessary.

This type of work is not formalised (-F) nor centralised (-C), as a control mechanisms based on formalisation and centralisation could destroy creativity and commitment. The complementary human resources policies (+Pc) are extremely important; the convergence between individual and organisational objectives is required (Ouchi, 1980) when the work is complex and managers have difficulties to control and measure it. This work requires a great degree of involvement. It is difficult to analyse L4 (difficulties on measurement), as the work is very complex and managers of upper levels cannot know the content of the work in depth; consequently, they are not able to control it. The complexity of work or the great levels of cognitive complexity (Boisot & Child, 1999) in the organisation will require less planned strategy formation processes, but a certain degree of emergence, vision and involvement.

The integrative Strategy Formation Process for an Efficient Management of Work

As we have pointed out, *an integrative strategy formation process that combines in a balanced way rationality and emergence facilitates a better management of work, particularly of complex work*. Hence, the key idea is that *an integrative strategy formation process is more efficient when there is a fit with those design variables that manage work in the organisation, particularly complex work*. On the other hand, more rational and analytical approaches fit better with more simple and routine works.

The integrative process is more efficient in the management of complex work (as recent literature argues). When we talk about strategy formation process we refer both to formulation and implementation; and as it is very difficult to supervise and control the development of the work, managers decide to decentralise and empower workers, as they know more effectively how to manage their own work. At the same time, the necessary knowledge they have developed give capacity to them to participate in the decision making process, not only at the implementation stage but also at the formulation stage, suggesting new strategic options that could represent little or important changes in the strategic plan.

Additionally, if the environment experiments quick changes, the planned strategy has to introduce emergent elements in order to take benefits of the environment opportunities and obtain competitive advantage. That balance drives the firm to the adoption of an integrative strategy that is required for an efficient management of work. The characteristics of the combination (more rationality, more emergent elements) will rely on the types of work that have to be managed.

All those arguments are recapitulated in an *integrative relationship model* that summarises the variables that come from the different literature approaches revised; and puts the emphasis on the required fit among those variables. If the firm reaches a certain level of fit, results will be better for the firm (Figure 3).

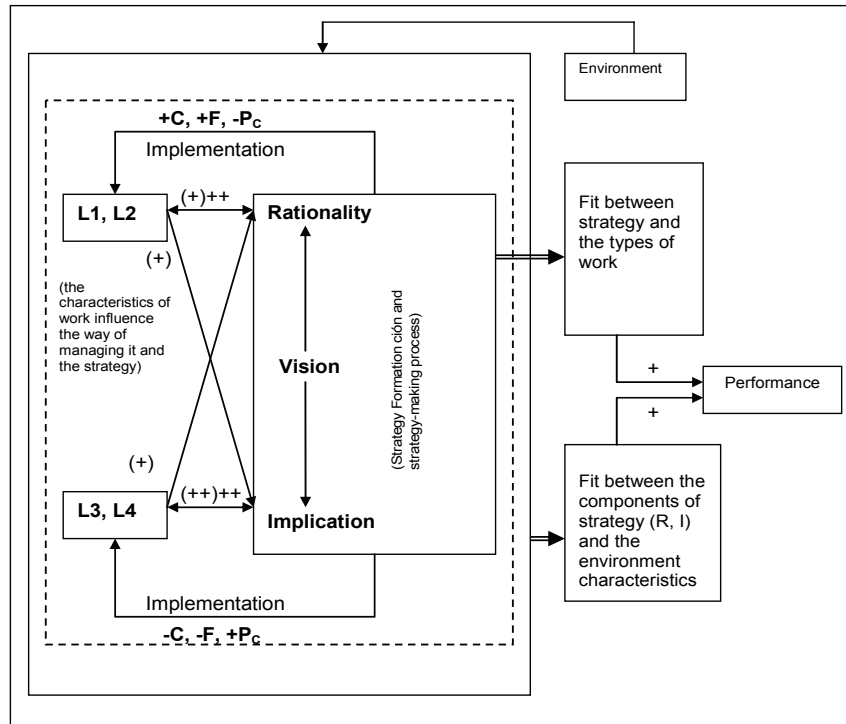
The strategy formation process is reflected in this model through the variables rationality and involvement, together with the variable vision. This variable is like an umbrella, and is affecting both variables.

The arrows indicate the direct or indirect relationships among the variables and the different types of work. Horizontal arrows indicate a direct and positive relationship between rationality and types of work L1 and L2; and involvement is positively related to types of work L3 or L4. With L1 or L2 (less complex and routine) the firm will adopt a more rational, deliberate and planned process, where top managers chose the strategy in the formulation stage; and in the implementation stage top managers will use centralisation, formalisation and lower degrees of complementary human resource policies. With the types of work L3 or L4 (creative, complex) the firm will adopt an integrative strategy formation process, with more emergent elements and more involvement; and in the implementation stage managers will use lower levels of centralisation and formalisation, focusing on the use of complementary human resource policies (compensation systems) encouraging motivation.

Finally, there are works (Goll & Rasheed, 1997; Brews & Hunt, 1999; Andersen, 2000, 2004 a, b) reinforcing the integrative perspective and its relationship with *performance*.

We propose that the greater the fit between the management of work and the characteristics of the strategy formation process, the stronger the positive relationship between process and performance.

Figure 3 - Relationships among the Studied Variables and Performance



The Model includes the variables used in the empirical analysis in the second part of this research: Strategy (rationality, vision and involvement); environment (dynamism and complexity); performance (organisational and process); types of work (change and complexity); and design variables (centralisation, formalisation and human resource policies), Table 1.

Table 1: Description of the study dimensions and variables

Variable	Description	Concept
V1	Strategy Formation	Rationality: Formalisation and analysis in the decision-making process
		Vision: Value transmission
		Involvement: Participation level (distributed authority) and decision involvement
V2	Environment	Change levels and environmental complexity
V3	Performance	Level of marker and organisational results obtained by the organisation
V4	Types of work	Level of exceptions, change and complexity of the different types of work, as a consequence of the different types of products and services elaborated by the organisation.
V5	Design Variables: centralisation, formalisation and HR Policies	Autonomy for deciding, definition of hierarchical levels, structuring of the activities and functional and complementary (reward) Human Resource policies.

Hence, taking into consideration the different studies analysed and the different typologies revised; and recognising the positive influence of the fit between the strategic process and the management of work on performance, we state the following propositions:

PI: *The adoption of an integrative strategy formation process, in complex and dynamic environments, is positively related to the achievement of greater performance levels.*

P2: For a type of work with the characteristics of L1 & L2 (simple, low complexity) the firm will adopt a rational, deliberate and planned strategy formation process, where top managers chose the strategy.

P3: For a type of work L3 & L4 (creative, more complex) the firm will adopt an integrative strategy formation process, with a greater development of participation and involvement, and more emergent elements.

P4: The adoption of an integrative strategy formation process is positively related with firm's results, when it manages complex work (L3, L4).

Methodology

We use a qualitative methodology, through the method of simple case study. This is an explicative study, as it tries to answer some questions as *how and why*; on the other hand, we consider our study also as exploratory, because we are trying to find out new relevant variables that could help us to identify and define the different types of work and the relationship between the management of the different types of work and the strategy formation process. This new variables and further analysis will contribute to generate new propositions.

Research Design. The design of our research follows a six-stage process: (i) Establishing the research objectives; (ii) Establishing the theoretical research framework; (iii) Defining the unit and level of analysis; (iv) Selecting the study case; (v) Studying a pilot case; and (vi) Elaborating the protocol for the case study analysis (Pérez Aguiar, 1999:231).

Unit and level of analysis. After designing the objectives and building the theoretical framework we define the organisation, considered as an open system as the unit of analysis. It is focusing on the analysis of the strategy formation process in the organisation and the study of how rationality and emergence are combined in this process. The relevant level of analysis in this research is the microorganisational one that includes the different types of work (L1-L4) and the way in which they are managed.

Selection of the case. The selection of case has been an intentioned process (Eisenhardt, 1989), as the case is, following Yin (1994), a critical case to study the variables that we want to analyse, that is, those variables characterising the different types of work and how they are managed, together with the strategic variables (rationality, vision and involvement). Moreover, practical reasons have also guided us in our selection process, in order to guarantee the viability of the study and the possibility of analysing organisations that could offer the opportunity to learn about the topic we are analysing. That let us extend (Eisenhardt, 1989) or verify (Yin, 1993) the existent theory. This way we selected a public service organisation (education) with a great size, which guarantees a certain level of development of the strategic process.

Guide case. The selection process was based on the possibilities to have access to the information; also, it was an important, technological firm, with a big size and developing different types of work, particularly complex work. It was a firm from the transport sector that makes/manufactures trains and diesel-locomotives, among other products. Following the qualitative methodology, we developed semi-structured interviews with open questions. The first stage in the interview development process took place in the pilot case, from May to September of 2006. The results of this process permitted us to improve and extend the protocol of the case study.

Protocol of the case analysis. The protocol includes two different steps: a) Sources of evidence and data collecting procedures and b) Evidence analysis. The first step required the use of three different techniques: (i) in-depth interviews with different members of the firm – the interviews were open and flexible, through a semi-structured questionnaire due to the exploratory nature of our research. We developed a pre-planning of the interviews, with a timetable including the duration, level in the hierarchy, and instruments used in each case

(Table 2). The major parts of the interviews were developed in the managerial level, as they have information both of strategic issues and of work characteristics. The interviews were recorded, in order to analyse its content. This fact facilitated us the triangulation of the information.; (ii) document analysis referred to the organisation studied (we analysed the documents elaborated by the organisation itself, that is, the strategic plan, organigrams, job description, promotional material, different economic and general reports, web information, internal publications, institutional videos and any published information in any academic or sector journal and newspaper). (iii) *Direct observation* (we observed how the process took place, and also the different relationships among sections analysing its culture and the way of doing things *in situ*.) We visited the organisation's facilities and spent time observing how the different processes related to the work went on in the diverse departments. This fact let us confirm many questions mentioned in the interviews or in the analysed documents.

Table 2: Visits and interviews Cronogram

Data	Duration	Responsible	Instrument
04/06/2007	1h	Responsible of the Planning and Analysis Service	Interview nº 1 semistructured
08/06/2007	1,5 h	Vicedean of european convergence and quality	Interview nº 2 semistructured
11/06/07	2 h	Dean	Conference "University 2007"
11/07/07	1 h	Responsible of the Group for External Analysis	Interview nº 3 semistructured
12/07/07	6 h	General Meeting Components	Observation
07/09/2007	1 h	Lecturer	Interview nº 4 semistructured
07/09/2007	1h	Administrative personnel	Interview nº 4 semistructured

The second step (b) was the Evidence analysis: we used *Pattern matching* tactic in order to compare the facts, behaviour and circumstances included in the theoretical propositions with the facts, behaviour and circumstances observed in the case. Additionally, we specify the variables used in the data collecting process, which will facilitate the process of analysis and generation of results.

Analysis of Results

We are going to present now the analysis of the information obtained in the case, alongside the discussion and the comprobation of the considered propositions, looking for patterns that explain the analysed variables behaviour and/or new variables that could explain the explored issues.

Analysis of the Case

The University of Valencia (UV), founded in 1499 with the name of "General Study of Valencia" was initially focused on the studies of medicine, humanities, teology and law; today is a modern European University, and it is open to the different branches of knowledge, research and culture. The University is a public institution, with different rights protected and recognised by the Spanish Constitution and other Laws. Moreover, the UV, as a public service, has the *mission* of teaching and spreading the necessary knowledge in order to facilitate an adequate learning process, a correct professional or artistic training for their future professional development, and the obtention of the corresponding academia titles. The final objective of this institution is the continuous up date of knowledge and continuous training of their teaching staff (and also of the staff belonging to other teaching levels)².

The UV is a complex organization and is undergo a complex and dynamic environment. It is complex because it is influenced by the complexities of knowledge, and consequently, the different types of work developed in this institution are complex. And the

UV is also dynamic for two main reasons: a) the increasing competitiveness as there are a lot of new public and private universities; and b) the necessary changes in the relationship University-Society. So, on the one hand the number of universities competing has increased, and the number of students is decreasing continuously (following the population patterns in Spain, that is decreasing and getting older). On the other hand, the changes in the relationship between the University and Society lead the University into a process of an increasing knowledge transfer to society; and the University has to find the way to do it. However, as it is an important public institution, the UV has different elements that provide the institution with a certain degree of stability. This can be confirmed if we observe, for example, the number of registered students, the publications of its researchers and the number of imparted degrees, whose content does not need, in general, to be modified in a great extent in order to adapt to the future requirements (Bologna agreements). Consequently, we can conclude that the environment affecting the UV has a *moderate level of change and dynamism*.

A process of convergence in higher education is taking place nowadays in Europe. This process is one of the external factors affecting the decision process in the University. On the other hand the strategy formation process takes place in parallel with the formulation and implementation of the strategic planning process that is a strategic guide in the organisation. As the UV Dean says:

The University of Valencia needs a Strategic Plan in order to identify those key factors and goals that permit us to adapt to those changes and challenges that the environment requires. Together with that, the Strategic Plan will contribute to an improvement of the organisation, and to a better social perception of the University and its activities. Summarising, the University of Valencia needs to define the future instead of react to it. The Strategic Plan is a tool that helps us to design the desired future, with methodological rigorousness in order to plan the implementation of the programmed actions and the required resources, and to evaluate the execution, changing and adapting the objectives when necessary. The main objective of this Strategic Plan is to give the management team (understanding it as the people and organisations with managerial responsibilities) an important tool that facilitates the elaboration of a shared vision and future, positive and hopeful, but valuing the tradition and history of the institution.

Attending the words of the Vice-Dean of Quality and European Convergence:

The participation in the process of the elaboration of the Strategic Plan has been very important; the process was open to the whole university community and everyone could express their opinion about the document in progress that was being elaborated. The most specialist work creating and developing the strategic lines of the plan was done by internal groups of the University, and they were formed by lecturers, administrative personnel and students, depending also on the content of each strategic line. The president of the Comitee for the Development of the Plan has visited every group, organisation and institute in the University to present the Plan. Those visits were mainly asked by the students of the different campus. Defining the product and the service of the UV is a very complex task. If we say that the UV produces degrees, we should ask *what degrees? Which types of degrees?* There are oficial degrees, particular degrees, and other studies that are not degrees but *diplomas*; also, the UV produces basic and applied research, generates knowledge transfer, culture. That is, there is not a product or a service, but a diversity of products and services that emerge from the heterogeneity of the organisation. However, and for all those reasons, we can say that the main output of the University is *teaching and researching*. And the different services of the organisational structure of the UV act as a coordination link that reinforces the main designed activities.

Analysis of Variables

We summarise in Table 3 the main evidences found in the data analysis of the case (UV) for each of the selected variables.

Propositions: analysis and discusion

Proceeding with the analysis, we are going to explore the established propositions with respect to the University of Valencia.

Table 3: Variables Evidences at UV

Variable	Descripción	Evidencia en la Empresa
V1	Strategy	V1.a: Rationality: Mid-level of rationality in the decision-making process.
		V1.b: Vision: relevant and systematic value transmission.
		V1.c: Involvement: Great Levels of participation and involvement in decisions.
V2	Environment	V2.a: Great complexity due to the knowledge creation and management by the University;
		V2.b: Competitive environment (Opening of other Universities; Virtual University); New challenges, Bologna.
V3	Performance	V3: Important society acceptance and acknowledgement; increasing number of degrees and masters; quality mention; patents; R&D, firms' spin-off.
V4	Types of Work	V4.a. & V4.b:
		L1: Maintenance Personnel and caretaker;
		L2: Security, Administrative assistants;
		L3: Administrative and technical personnel, Lecturers (teaching activities); L4: Government team, Doctors (research activity).
V5	Design Variables: centralisation, formalisation and HR policies	V5.1.a: C _L : Medium level (L3 administrative personnel) and low level (for lecturers);
		V5.1.b: C _E : Well defined hierarchical levels; Bureaucratic structure for the administrative work and a flat structure for lecturers;
		V5.2.a: F _L : Professional Protocols;
		V5.2.b: F _S : Goals establishment in the Strategic Plan, budgets;
		V5.3.a: P _F : Formalised Selection processes, training courses (Permanent Training service);
		V5.3.b: P _C : Reward systems sometimes less developed (low capacity to motivate people). More developed for L3 & L4.

With respect to **P1**: *The adoption of an integrative strategy formation process, in complex and dynamic environments, is positively related to the achievement of greater performance levels*: The strategy in the UV, as we stated, shows a bottom-up process, and is not strictly an integrative formation process. The environment is dynamic, but contains some elements for the stability that make us to classify it with a medium or medium-high level of dynamism. This mid-high level of change favours the fit and, as a result, the high level of performance (in terms of students, titles, quality of the teaching activity, research...). However, more rationality in the processes (and less influence of politics) will improve the fit, as the environment is increasingly complex, and consequently, results would get better (P4).

With respect to **P2**: *For a type of work with the characteristics of L1 & L2 (simple, low complexity) the firm will adopt a rational, deliberate and planned strategy formation process, where top managers chose the strategy*: We consider that there are moderate levels of rationality in the organisation, and this rationality affects with more intensity the works classified as types L1 and L2. Nevertheless, every level of the organisation, included the one referred to the more simple work, participate in the decision-making process in different meetings and departments. This fact rests speed to the processes that take place in the organisation, making it more inefficient. In this case we cannot say that top managers chose the strategy, what lead us to confirm the proposition partially.

With respect to **P3**: *For a type of work L3 & L4 (creative, more complex) the firm will adopt an integrative strategy formation process, with a greater development of participation and involvement, and more emergent elements*: In this case, the agents that are developing the works classified as L3 and L4 require great levels of knowledge; consequently, they have the necessary abilities to participate in the decision making processes and as a result, they are more involved in the strategic process. Taking all these issues into account we can say that proposition three is confirmed in the case of UV.

Para **P4**: *The adoption of an integrative strategy formation process is positively related with firm's results, when it manages complex work (L3, L4)*: The UV is developing an integrative strategy formation process, and as we could conclude from the analysis of the evidences stated before, this process obtains positive results in the analysed organisation. Nevertheless, efficiency

levels are not very high. Although there is a fit between the strategic process and the types of work to be managed (in the UV the major part of the work is L3 or L4) the fit will be greater with higher levels of rationality. Rationality is limited by the politic processes that take place in this kind of organisations. As a result, we say that the proposition can be only partially confirmed.

Summarising, all the established propositions are totally or partially confirmed in the UV. This organisation is in an important development stage. The environment of the UV is more competitive day after day, but the institution has a relevant and secure position in it. The achievement of a better fit among the analysed variables (that is, an increase of rationality with less importance of the political processes) would permit the UV to achieve better internal and external results.

Research Questions and the Propositions Analysis

The objective of this section is to think about the formulated propositions, after the theoretical review and the case study analysis. Furthermore, we formulate new propositions that change or transform the ones that were initially enunciated.

In the beginning of the paper we proposed three research questions; a set of propositions were derived from them. The objective was to observe if we could *confirm those propositions* totally or to a certain extent in the studied organisation. Additionally, we tried to know if other new variables could explain the stated relationships, as a result of the exploratory nature of the analysis. Hence, we present now the results of the analysis between questions and the propositions.

Proposition P1 was related to the first research question, that analysed the relationship among environment, integrative strategic process and results; it was only partially confirmed in the UV, as the higher dynamism of the environment was not verified. Results could clearly improve with more rationality, with less influence of the politic process. This way, the level of influence of the manager's intention in the organisation would be greater. The mid-level of dynamism of the environment fits with a bottom-up approach (less racional). But, as the work is mainly complex and there is an increasing competitiveness and dynamism, we could confirm (in the case analysis) that more rationality would improve the performance of the organisation. Summarising, we can verify that the integrative strategy formation process (as the theoretical framework points out) takes place and is more effective when the work is complex (L3, L4).

With respect to the second research question: *Is there any new variable that could explain the relationship between the management of work and the adoption of an integrative strategy formation process?* We have considered a new variable that had not been identified in the theoretical review, and that can clarify the relationship between the strategy formation process and the management of work. This variable is the flexibility (or adaptability). *Adaptability* means the ability of the firm to adapt to the requirements of the environment (innovation, constant development of new knowledge), particularly in those firms that have to manage complex work (L3, L4). Adaptability should be incorporated in the characterisation of the strategic process, together with rationality and involvement.

On the other hand, we have confirmed the relevance of the middle manager's role (Collier *et al.*, 2004). The middle manager is a key actor and, as we observed in the analysed case, facilitates the effectiveness of the integrative strategic process, particularly when managing complex work (L3, L4). The different roles identified in the literature for the middle managers (Floyd & Wooldridge, 1992, 1997, 2000) are very important in the strategy formation process both facilitating and implementing strategy (Floyd & Lane, 2000); and synthesizing those proposals that come from the lowest levels of the organisation. These roles

of the *middle manager* took place clearly in the case of the UV through the directors of faculties or departments.

Conclusions, Limitations and Future Work

After the analysis we have observed new relationships and new variables that have to be considered in the model (Figure 3), which were not analysed first.

As we see in the *modified model* (Figure 4), the grey colour indicates the changes. First, the new figure shows that the different types of work can be modified depending on the way that they are managed. For example, L3 moves to an L4 (as in the UV) as a consequence of the low degree of formalisation and centralisation.

As we pointed out, we have added the variable adaptability. This variable comes from the concept of *resilience* (Hamel & Välikangas, 2003) and is described as the dynamic capability for reinventing, changing and adapting to new situations. This variable is related to those others that describe the strategy formation process, and it is directly related to the strategic emergence and to the characteristics of the middle manager.

As well the model shows the need of fit and integration of the information flows, and the relevance of the middle manager facilitating and implementing the strategy, and synthesizing and championing the different alternatives to the top managers (Floyd & Lane, 2000:159). Moreover, the new model considers specifically a dynamic and complex environment (Figure 4).

As a consequence of those changes in the model, or as a confirmation of the formulated propositions, the results obtained in this research can be summarised in the following new propositions that can be the basis of future hypothesis:

P1: *When managing work with medium-low levels of complexity (L1, L2 o L3) the firm will adopt an integrative strategy formation process, that combines a certain degree of participation and involvement of the workers with greater levels of centralisation and formalisation (high rationality), and lower use of reward policies.*

P2: *When managing a creative and complex work (L4) the firm will adopt an integrative strategy formation process, with lower degrees of centralisation, formalisation and elaborated reward systems; But with greater levels of emergence and flexibility.*

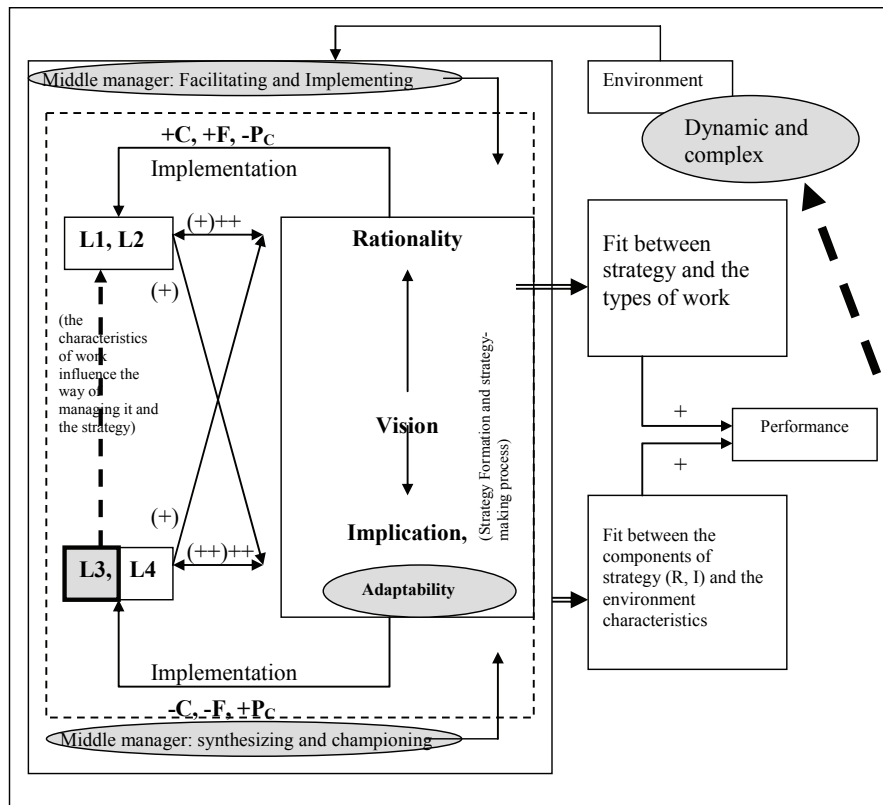
P3: *The characteristics of the middle manager (synthesizing, championing, facilitating and implementing) have a special relevance in the adoption of an integrative strategy formation process.*

P3.1: *The roles of facilitating and implementing are more relevant in the management of simple works (L1, L2) or more complex but structured enough to be supervised.*

P3.2: *The roles of synthesizing and championing turns into a key factor to the effectiveness of an integrative process if the work is complex (L3) or very complex and creative (L4).*

These new propositions, as we have exposed, try to make a (limited) contribution to the study of work and its relationship with strategy; and are inspired in the work and conclusions of Johnson, *et al.* (2003) that analyse the phenomenon of *strategizing from a micro-level*, considering the common activities that are daily developed in an organisation.

Figure 4: New Relationships Model Modified after the Case Study Analysis



Note: Symbols (+) represent the intensity of the positive described relationships

We must point out that the main **limitations** of the study are those belonging to the use of a qualitative methodology. However, we have tried to reduce those limitations through the use of a case protocol, where every step in the development of the study is specified. Moreover, the theoretical review reinforced the established logic, and permitted a greater degree of objectivity; on the other hand, we triangulated the different data sources and established evidences through the different data collecting technics.

On the other hand, results of the case analysis can not be generalised (as we can do with other quantitative technics using statistic analysis). Yin (1993) establishes that the results of the case analysis can be generalised through theoretical propositions, but not to a population.

As a **future research line** of this work could be a development of a longitudinal study of the same case, in order to confirm if the established propositions are consistent in the time; furthermore we should identify and consider new variables.

Also we could analyse in depth how the type of work that is developed in an organisation affects the strategy; or which types of work generate strategic changes; or if there is a relationship among the different types of work and the different strategies (in terms of content, costs leadership or differentiation). Finally, it would be interesting to analyse the effect of size (small or big firms) in the analysed issues (the relationship between work and strategy).

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Notas:

¹ The variable has been used in less studies on strategy formation process [(Shrivastava & Grant (1985); Nonaka (1988); Wooldridge & Floyd (1990); Hart (1992), (Canet, *et al.* 2002), among others]. However, more recent works show the significance of the variable *involvement* in the strategy formation process and its effect on performance (Collier, Fishwick & Floyd, 2004; Currie & Procter, 2005) or point it indirectly out through the active participation of middle managers in the daily processes related to the strategy formation. (Currie & Procter, 2005; Johnson *et al.*, 2003; Rouleau, 2005:1438).

² The University of Valencia has tried an important process of transformation in the eighties, improving the quality of the teaching process and facilitating both basic and applied research, and the scientific and technological development.

Today the institution has 3.564 teaching and researching personnel, which are integrated in 92 departments and 16 research institutes in the areas of experimental and technic sciences, social sciences, health sciences, humanities and education. The number of students in the year 2005/2006 increased to 43.279 students, distributed in the different centres and campus (UV Report, 2007).