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Organisational learning and intrapreneurship: evidence of interrelated concepts

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Abstract

Purpose – The purpose of this paper is to explore in-depth the interface between organisational learning and intrapreneurship. In this way, the paper aims at understanding how these two concepts are interrelated and mutually dependent.

Design/methodology/approach – The method employed is qualitative analysis, including multiple exploratory case studies. For data collection, interviews with staff members of the selected companies and analysis of documents were used. Content analysis served as the data processing technique.

Findings – The research identifies four dimensions of organisational learning and intrapreneurship in which both concepts are interlinked. Within each of these levels, the most beneficial attitudes and behaviours are highlighted.

Practical implications – This study helps to better understand the dyadic effects between organisational learning and intrapreneurship. Through the dimensions and drivers identified, mechanisms can be developed and implemented leading firms to improve their performance through their employees' learning and intrapreneurial capacities.

Originality/value – The contribution of this paper is to provide an in-depth view of the interdependence between organisational learning and intrapreneurship. The findings allow development of a new conceptualisation of these concepts and the underlying drivers.

Keywords Organizational learning, Portugal, Intrapreneurship

Paper type Case study

1. Introduction

In the current scenario of globalisation, organisations have to be competitive and dynamic, not only in their image and values but also in technological, structural and behavioural changes (Beer *et al.*, 2005; Tennant and Fernie, 2013). These conditions require new attitudes and innovative strategies, and there is also an urgent need for firms to reconsider their methods of operation (Shahzard *et al.*, 2012). The present paper



addresses two of these approaches and their relationship, namely, organisational learning and intrapreneurship.

For the first, organisational learning emerges as a response to these environmental changes (Santos-Vijande *et al.*, 2012; Berghman *et al.*, 2013). It is believed, therefore, that organisational learning can contribute to consolidating those changes by seeking to construct practices that are more coherent with the reality of each organisation (Shahzard *et al.*, 2012; Wang and Chugh, 2013). In this sense, understanding how organisations learn leads to the development of frameworks more consistent with the actual situation and provides help with promoting learning in firms.

According to Senge (1990), organisational learning is the fruit of the process whereby the organisation learns, stimulating the image of people and work groups to improve intelligence, creativity and organisational capacity. The present study follows the definition of organisational learning presented by various authors (e.g. Flores *et al.*, 2010; Farooq, 2012; García-Morales *et al.*, 2012), where this phenomenon is seen as a process allowing development and change of the system of values and knowledge, and improvement of capacities for action and problem solving. It is directed towards the promotion and facilitation of employees' learning, creating an atmosphere in which members feel pride in the work they do and constantly try to improve their joint effort. In fact, research has shown the benefits of organisational learning in business performance (Burgelman and Grove, 2007; Hoy, 2008; Weldy, 2009; Azadegan and Dooley, 2010; Bell *et al.*, 2010).

Another approach to foster a firm's competitiveness in a globalised economy is intrapreneurship. In general, recognition and exploitation of opportunities is the key fulcrum on which the overarching concept of entrepreneurship is based (Stevenson and Jarillo, 1990; Short *et al.*, 2010). Identification of opportunities includes such activities as scanning both internal and external environments for new markets, unmet needs, existing problems in work processes and new product ideas (Sandberg, 1991). In this context, "Intrapreneurship" (Pinchot, 1985) or "Corporate Entrepreneurship" (Miller, 1983) focuses on the collective character of entrepreneurship. For Pinchot (1985), innovation almost never takes place in organisations without an individual or small group passionately dedicated to making it happen. Here, innovation, risk taking and pro-activeness are the most important distinguishing elements (Miller, 1983).

In this paper, intrapreneurship is conceived as the ability of several individuals to jointly innovate and create within organisations. It has received increasing attention in the context of globalising markets and the need to adapt quickly to changing surroundings. In particular, intrapreneurship is considered an important and valuable tool for rejuvenating and revitalising existing organisations (Dunlap-Hinkler *et al.*, 2010). Thus, this concept is considered an important factor for successful enterprising (Covin and Slevin, 1991; Lumpkin and Dess, 1996; Antoncic and Hisrich, 2001, 2004). In fact, intrapreneurship has been credited with helping to improve business performance (Luo *et al.*, 2005; Amo and Kolvereid, 2005; Antoncic and Prodan, 2008; Romero-Martinez *et al.*, 2010).

Although recent decades have witnessed a growing interest in researching organisational learning (e.g. Levinthal and March, 1993; Crossan *et al.*, 1999; Bell *et al.*, 2002; Bapuji and Crossan, 2004; Kandemir and Hult, 2005; Rao and Argote, 2006; García-Morales *et al.*, 2012; Santos-Vijande *et al.*, 2012; Wang and Chugh, 2013; Tennant and Fernie, 2013) and entrepreneurial activities within established organisations (e.g. Guth and Ginsberg, 1990; Sharma and Chrisman, 1999; Zahra *et al.*, 1999; Covin and Miles, 1999, 2007; Kemelgor, 2002; Dess *et al.*, 2003; Hayton, 2005; Phan *et al.*, 2009; Parker, 2011; Moriano *et al.*, 2014), the interrelationship between organisational learning and intrapreneurship has attracted notably little attention (for exceptions

cf. Lumpkin and Lichtenstein, 2005; Molina and Callahan, 2009; Alipour *et al.*, 2011b). This is remarkable insofar as both concepts share similar characteristics and seem to imply considerable benefits for firms. Indeed, according to Covin and Miles (1999) and Zahra *et al.* (1999), firms can attain strategic benefits through entrepreneurial activities, and organisational learning is one of the principal methods used by entrepreneurial firms to create new knowledge.

In light of the above, it is likely that both concepts are interrelated and mutually dependent. Hence, the objective of this study is to explore in-depth the interface between organisational learning and intrapreneurship, seeking a better understanding of the linkage between both phenomena. For this purpose, we adopt a qualitative research method, contributing to providing empirical evidence about this under-researched field. These insights are relevant to enhance the knowledge about which organisational learning and intrapreneurship actions should be adopted in order to improve and consolidate firms' performance.

The remainder of the paper is structured as follows. Section 2 presents the literature review. Following this, in Section 3, the method, i.e. case selection, data gathering and data analysis is described. Afterwards, Section 4 shows the results of the case analyses. The concluding Section 5 discusses the findings in the light of the theoretical reflections and highlights theoretical and practical implications as well as further directions on this research topic.

2. Literature review

2.1 Organisational learning

Organisational learning is a dynamic, complex and holistic process by which organisations adapt to their environment. In fact, Ipe (2003) stated that a learning organisation enables the learning of all its members, and in this way continuously develops itself further. Organisational learning addresses the nature and processes of developing valued knowledge from captured information to increase an organisation's adaptive capacity (Callahan, 2003) and for the construction of new skills and capacities that can lead to competitive advantage (Zahra *et al.*, 2007). The inability to learn is the reason why the majority of firms disappear (Argyris and Schön, 1996; Santos-Vijande *et al.*, 2012).

Franco and Ferreira (2007) offered underlying dimensions of a learning organisation as an action imperative model to help individuals and teams within organisations to view the organisation through a learning perspective, in order to identify practices that advance the learning process and make arrangements to change the impediments that prevent or slow down organisational learning. The conceptual model proposed by these authors includes four main dimensions characterising organisational learning: organisational culture, organisational structure, information/knowledge sharing and leadership.

Organisational culture refers to an organisation with a learning culture, having life-long learning processes, covering learning and continuous training, and encouraging and/or helping its members to learn and experiment (e.g. Hult, 2003; Bui and Baruch, 2010). It is an organisation without limits, where members desire learning and are forced to share, in this way facilitating a learning culture (Ulrich and Van Glinow, 1993). Other variables associated with organisational culture have to do with people's trust and involvement, as well as communication, dialogue, innovation and creativity (Hult, 2003).

Regarding organisational structure, all the frontiers of a learning organisation are highly permeable to maximise the flow of information and open up the organisation to

experimentation (McGill and Slocum, 1995). Network connections (proximity and openness between top management, employees, customers, competitors and the community) make it possible for the more “intelligent” organisation to constantly monitor needs and people in a process of change (McGill and Slocum, 1995).

Taking knowledge as a primary source of the modern corporation means the development process will be the creation of knowledge, and the distribution process will be the share of knowledge/information (Calantone *et al.*, 2002). According to Zahra *et al.* (1999), the share of information/knowledge consists of formatting knowledge so that it becomes accessible and comprehensible to others outside the group that developed the innovation. Organisational learning can also facilitate knowledge sharing and transfer within the organisation (Jiang and Li, 2008). It is through its employees that an organisation can create, acquire and transfer information and knowledge (King, 2001).

Effective leadership is linked to the success of all sizes and types of organisations (Daily *et al.*, 2002; Harrison and Leitch, 2005). Leadership becomes increasingly crucial, inasmuch as it represents the element activating change and is the basic force behind successful change (Kotter, 1990). According to Ammeter *et al.* (2002) and Tirmizi (2002), leadership allows cooperation, reduces conflict and contributes to creativity, playing an integrating role which is very necessary at a time of virtual organisations, as it keeps people united even when not physically close. By activating learning processes, leaders can also influence and stimulate the intrapreneurial behaviour of their subordinates (Molina and Callahan, 2009).

2.2 Intrapreneurship

In their quest to conceptualise key aspects of intrapreneurship, several scholars have developed underlying dimensions to capture this phenomenon. Miller (1983) claims that intrapreneurship consists of three related dimensions: innovation: referring to new ideas, experimentation and creativity, which results in the ability to create new products, services or processes (cf. also Covin and Slevin, 1991; Zahra, 1993; Morris and Kuratko, 2002), or modify existing ones to meet the demands of current or future markets; pro-activeness: refers to first mover and other actions destined to secure market share, together with a forward-looking perspective that anticipates future demand (cf. also Lumpkin and Dess, 1996); and risk taking: referring to the willingness to engage in business ventures or strategies in which the outcome may be highly uncertain (cf. also Lumpkin and Dess, 1996; Frank *et al.*, 2010).

These three dimensions integrated the various views of intrapreneurship but do not adequately describe the effect of an organisation’s management on intrapreneurship, especially in terms of its employees and processes. Thus, Goosen *et al.* (2002) pointed out a conceptual model of intrapreneurship which highlights the influence of management practices on an organisation. In this study, these scholars analysed three organisational aspects characterising intrapreneurship. Two of those dimensions are also pro-activeness and innovativeness, which were considered as related to the external aspects of the organisation. The third concerns management behaviour and focuses on internal aspects. In particular, Goosen *et al.* (2002) suggested the following dimensions linked to intrapreneurship: management style and orientation; transparent communication and easy exchange of ideas; environment open to change, learning and new ideas; informal organisational structure with reduced hierarchical levels; strategy directed towards long-term actions; and organisational systems and practices that encourage creativity and innovation.

Management style and orientation is a variable in shaping intrapreneurial behaviour because managers can create the conditions to allow and reward their subordinates' engagement in seeking and exploiting opportunities. In particular, the management style can influence intrapreneurship by accepting and implementing employees' proposals for improvement, championing ideas, acknowledging subordinates' actions, providing the necessary resources and establishing adequate operating procedures and processes (Antoncic and Hisrich, 2001).

Transparent communication, comprising effective information flows and idea sharing is important to enable intrapreneurship. In fact, communication quality and quantity is considered crucial for successful intrapreneurial initiation and implementation (Zahra, 1991), whereas open communication (as a means of information sharing and empowerment) represents a critical element for innovation (Pinchot, 1985).

Environment open to change is a critical dimension which stands for a corporate culture that encourages learning and the development of new ideas. In this regard, experimental learning is vital, and employees within an organisation should be willing to adapt to changes that affect their working environment. For successful intrapreneurship, managers are challenged to establish a series of appropriate and positive values and norms, and set the employees examples of role models for intrapreneurial behaviours.

Informal organisational structure and fluid boundaries is another internal organisational dimension facilitating intrapreneurship (Lumpkin and Dess, 1996; Goosen *et al.*, 2002; Baum and Wally, 2003). Especially, an organic organisational structure helps to promote flexibility, adaptability and open interaction within organisations that in turn facilitate and support intrapreneurship (Daft, 2009). Moreover, a reduced number of hierarchical levels empowers subordinates and creates an atmosphere of teamwork and close interaction.

Long-term strategy is also an important organisational dimension to nurture intrapreneurship. Systematic planning, specific strategies, adaptation, long-term focus and an administration strategy for resources are indeed crucial strategic factors (Goosen *et al.*, 2002). Such strategic efforts increase an organisation's ability to compete and be competitive (Zahra, 1993). Thus, management is not only expected to define and adjust the organisation's objective, mission and vision concerning the development of intrapreneurship, but must also ensure that employees recognise the organisation's strategy and feel involved and motivated to implement it.

Finally, intrapreneurship needs an organisation encouraging creativity and innovation. Creativity is the ability to provide "a novel and appropriate solution to an open-ended problem" (Amabile, 1995, p. 78). Innovativeness is linked with creativity, as it is defined as the attempt to accept creativity, novelty, experimentation and technological leadership in both products and processes (Moriano *et al.*, 2014). Innovation, as a vital dimension of intrapreneurship, needs therefore organisational systems and practices to generate new ideas and procedures in an organisation in order to create new products or services with added value.

2.3 Linking organisational learning and intrapreneurship

As shown, learning organisations promote innovation and employee creativity (Calantone *et al.*, 2002; Alipour *et al.*, 2011b), thus encouraging individuals to act as intrapreneurs by generating new ideas and rewarding innovations (Jones *et al.*, 2003). In this sense, intrapreneurship results from combining new information and/or

establishing new relations between the information. Thus, organisational learning promotes intrapreneurial activities, allowing individuals to innovate and renew their operations (Zahra, 2010), involving cognitive and behavioural change.

On the other hand, according to Garsia *et al.* (2006), an organisation promoting entrepreneurship is capable of creating, learning and influencing the environment. Intrapreneurship is therefore a concept that supports organisational learning because intrapreneurs challenge the traditional paradigms through intelligent use of their experience, innovativeness and willingness to face change and risk (Honig, 2001). Organisational learning is a very important element used by entrepreneurial firms (Covin and Miles, 1999; Zahra *et al.*, 1999), because it involves the acquisition or modification of business skills, knowledge, habits and attitudes. In fact, knowledge acquisition is crucial for intrapreneurship to be nurtured (Alipour *et al.*, 2011a). In light of these arguments, there are indications about a relationship and interdependence between organisational learning and intrapreneurship (cf. also Jones *et al.*, 2003; Lumpkin, 2005; Shu and Chi, 2010; Skerlavaj *et al.*, 2010).

3. Methods

3.1 Type of study and case selection

The methodology used in this study is of a qualitative nature. This option is justified, first, as it is a study of an exploratory character, and second, due to its objectives, which seek an in-depth understanding of the situation of firms with varying characteristics (location, number of employees and sectors of activity) making comparisons between them. Consequently, it focuses on understanding the dynamics in specific situations (organisational learning and intrapreneurship).

Within this research approach, the multiple case method was adopted. Yin (2013) indicated that with three or more cases, it is important to include some variations of location, size, sector of activity and others. For research analysis, three cases (firms) were chosen from different sectors of activity and locations, and of different sizes: Aquimisa (case 1), Inempi (case 2) and Roff (case 3). As is common with exploratory, qualitative research, the sample size is small because depth and richness is the key, not the ability to generalise or replicate previous findings (Neuman, 2010). These three cases were purposefully chosen in order to conduct cross-case comparisons (Eisenhardt, 1989; Eisenhardt and Graebner, 2007).

The choice of firms with different characteristics (see Table I) has to do with the fact there is no substantial empirical research on the subject and because the intention is to

	Case 1: Aquimisa	Case 2: Inempi	Case 3: Roff
Firm size	Small	Small	Large
Number of staff	22	43	560
Level of organisation	Top: 1 Middle: 5 Lower: 16	Top: 2 Middle: 5 Lower: 36	Network structure (all at the same level)
Location	Castelo Branco	Viseu	Lisbon
Leader	Founder	Founder	Founder
Business	Food-processing	Renewable energy	SAP consulting
Age	13 years	6 years	17 years
Qualifications of staff	Highly qualified	Highly qualified	Highly qualified

Table I.
Characteristics
of the firms

obtain a result showing that development and implementation of organisational learning and intrapreneurship can be an advantage in any type of organisation, due to their transversal nature.

3.2 Data collection

According to Patton (1990) and Yin (2013), evidence for a case study can come from different sources: interviews, observation, documents and physical artefacts. Using multiple sources of information and a variety of investigation processes, particularly the interview, the case study approach implies a holistic view and tries to identify the interrelationships between technical, organisational, human and cultural factors that explain how the system works (Yin, 2013).

Based on the objectives defined, the data for this study were collected through interviews and consulting firm documents. As qualitative data collection works best in natural environments at respondents' place of work (Gelo *et al.*, 2009), the firms were visited on-site. More precisely, two semi-structured, face-to-face and comprehensive interviews were conducted with each firm during two visits in each case. The semi-structured interview is one of the most commonly used methods in qualitative research, aiming for thorough comprehension of a given social phenomenon, based on interviewees' personal experiences (Patton, 1990). Consequently, the key informant approach was implemented (Kumar *et al.*, 1993), by conducting interviews with six staff members of each company. The respective details are shown in Table II. These key informants were selected based on their degree of involvement in the topics studied here. They are considered key informants because they are the best qualified and most likely to provide objective information.

	Case 1: Aquimisa	Case 2: Inempi	Case 3: Roff
<i>Documental data</i>			
Period of collection	February to May 2013	February to April 2013	February to April 2013
Exchange of e-mails	Yes	Yes	Yes
Internet page	No	Yes	Yes
Internal documents	Yes	Yes	Yes
<i>Interview – 1st site visit</i>			
Date of interview	6 May 2013	11 April 2013	9 April 2013
Place	Castelo Branco	Viseu	Lisbon
Duration	60 minutes	45 minutes	50 minutes
Tour of the premises	Yes	Yes	Yes
Collaborator's function	Accountant	Administration advisor	Human resource coordinator
Qualifications	Administration and Accounting	Engineering	Human resource management
<i>Interview – 2nd site visit</i>			
Date of interview	13 May 2013	22 April 2013	24 April 2013
Place	Castelo Branco	Viseu	Lisbon
Duration	90 minutes	90 minutes	90 minutes
Tour of the premises	Yes	Yes	Yes
Collaborator's function	Director of finance and human resources	Director of quality and human resources	Director of human resources
Qualifications	Secondary education	Post graduate (environment, quality and safety)	Degree (clinical psychology)

Table II.
Data sources

Before starting the fieldwork, a semi-structured interview guide was elaborated with open-ended questions based on crossing the dimensions of organisational learning and intrapreneurship, enabling and engaging respondents to speak freely on the topics subject to analysis. The tentative and contingent interview guide was organised in three distinct groups of questions: identification of the firm, practices of organisational learning as well as implementation of intrapreneurship. As requested by the key informants, the interviews were not recorded, and so it was necessary to make detailed notes. Following the suggestion of Yin (2013), a data collection protocol was used in order to reinforce the research reliability. In this protocol, the interviewers tried to register every type of information during the interview, including the behaviour, attitudes and opinions of the interviewees. Secondary documentary evidence was also collected from the three firms studied. This type of data collection was adopted to validate evidence from interview data and to add information. The documents and material studied covered web sites, annual reports and commercial registers as well as presentations to clients.

3.3 Data analysis

Data exploration was based on content analysis (Weber, 1990; Schreier, 2012). This is a research technique for objective, systematic and quantitative description of the information obtained (Patton, 1990). Content analysis allows definition of information categories and their analysis. For this purpose, a coding procedure was applied in which the information obtained was interpreted to build codes (e.g. Flick, 2014; Yin, 2013). Using the interview protocols, segments were demarcated within the text, the relevant information was codified with a word or short phrase and the codes obtained across the interviews were summarised/compared in order to build descriptive categorisations. To increase inter coder reliability, two independent coders conducted the coding of the content, the respective results being merged afterwards (Miles *et al.*, 2013; Silverman, 2008).

The information collected/generated in the interviews was checked, complemented and contrasted with analysis of the secondary documentary evidence. The objective of this documentary analysis was data triangulation and so greater validity of the results obtained (Eisenhardt, 1989; Yin, 2013). Thus, data interpretation was based on the interviewees' opinions/perceptions (first order interpretation) and subsequent validation (second order interpretation) to confirm the coherence of all the information gathered. Lastly, a theoretical meaning (third order interpretation) was attributed to complete the empirical evidence (Neuman, 2010).

Subsequently, pattern matching of theory and data was performed as a systematic analysis to identify certain structures in the data (Eisenhardt and Graebner, 2007; Yin, 2013). In particular, the dimensions of organisational learning and intrapreneurship derived from the literature were related with the categorised data obtained by the case studies. In this process, the focus was on both conflicting and similar literature (Eisenhardt, 1989). At the same time, empirical evidence was sought to identify attitudes and behaviours underlying both concepts. To visualise the outcomes of this procedure, a table confronts the dimensions of organisational learning and intrapreneurship and completes them by the related attitudes and behaviours.

4. Findings

To present the insights obtained from the case studies, the next sub-sections present the outcomes of the cross-case analysis. In doing so, the structure follows the dimensions of organisational learning proposed by Franco and Ferreira (2007), namely, organisational

culture, organisational structure, information/knowledge sharing and leadership. Within each of these four sub-sections, reference is made to the related dimensions of intrapreneurship presented in the literature review, in order to show the interdependence between the two concepts subject to study.

4.1 *Organisational culture*

After crossing the data from the empirical evidence in the three firms (cases) in relation to organisational culture, the dimensions of both organisational learning and intrapreneurship are found to be transversal in the firms, with it being implicit that in Roff (case 3) the atmosphere is more informal and more open to dialogue. In the other firms (case 1: Aquimisa and case 2: Inempi), the corporate climate tends to be more formal. Despite the three firms having different organisational atmospheres, there is concern about staff participation and involvement and transmitting to employees an openness to dialogue and trust.

All the companies studied adapt to constant changes, whether for reasons of adapting to new markets or due to the position they hold in the national market. Aquimisa and Inempi have no department devoted exclusively to innovation, a fact explained by the time they have been operating in the market and their size, but staff are given tools to be able to develop, and whenever justified, implement new processes and products. In particular, Inempi creates an environment that favours experimentation. When a process is found to be unsuitable, alternative solutions are discussed and tried out, looking for process innovations. Hence, employees in the three firms are encouraged to take risks when it comes to trying out novel solutions.

For Aquimisa, innovation is one of the internal processes included in the objectives to attain. In the last two years, according to the accountant interviewed, “internally, a purchasing process was created whereby all the information passes through the finance and management department. Later, another billing process was created which included all the departments and staff who interact directly with clients, resulting in greater interaction between departments and motivation to reach joint results”. Also in the words of this first interviewee, “[...] these processes were developed in the company laboratory but also in terms of internal organisation, as through the change in premises three years ago it was possible to change some internal processes”.

The financial director, who is also responsible for human resources in Aquimisa and in charge of hiring new staff, underlines that “as soon as they begin to be part of the company, employees are asked to be ready to communicate openly with their department heads and even with management. Therefore, whenever they confirm or find innovation processes or improved operation they are free to communicate them so that they are analysed and discussed”. Yet as for stimulating innovation, this last interviewee considers that “there is no programme as such, but open meetings with all employees allow them to suggest improvements”.

Inempi tries to stimulate intrapreneurship among its employees, but not at all hierarchical levels. According to the director of quality and human resources in this firm, “the firm is not really familiar with the term of intrapreneurship; as a defined technical and policy term, it doesn’t exist. Nevertheless, employees’ pro-activeness is greatly encouraged and their involvement in the life of the firm as if it was their own”. Thus, despite the terminological issue, intrapreneurship was found to exist in Inempi, and it is recognised as relevant for sustaining the firm’s innovative capacity and competitiveness.

Roff has a department devoted to the development and creation of new products. According to the human resources coordinator, Roff’s culture is based “on frank and

open relations between management teams and employees. There is no formality, we treat each other as equals, and employees feel free to speak openly and are encouraged to do so". In this department of innovation, there are also organisational initiatives that stimulate intrapreneurship, through programmes such as Roff Labs (a programme aiming to stimulate consultants' creativity and at the same time contribute to providing clients with differentiating solutions and services), encouraging communication with the management team in sharing ideas and autonomous decision making. There are also specific teams to promote organisational innovation: Red Teams (teams that develop a specific technological area and spread it internally) and Solution Architects (an area of the firm that considers the future of Roff and ensures quality of service, always thinking about generating new areas of business).

Roff is a technological firm and innovation is its business. In all projects, something new is developed. Examples mentioned by the human resources officer (second interviewee) are the "Payslip Cockpit by Roff Labs and the HCMclone by Roff Labs which originated in Roff projects and were finished in Roff Labs. We also make it possible for our employees to participate in fairs, congresses and technology events related to their area of knowledge, in order to ensure their knowledge remains up to date". Moreover, according to the human resources coordinator, "the company is reflected without a doubt in implementing a strategy including tools that allow constant learning for employees as well as the freedom to use them. As for employees' action when faced with problems, they always try to get over them and lessen their impact". The director of human resources added that "we are aware that the policy of developing continuous improvement is working well, this being reflected in the analysis of the evolution of behavioural competences carried out in the annual report on performance assessment and the annual analysis of the evolution of technological competences".

4.2 Organisational structure

Regarding organisational structure, the empirical evidence shows some distancing between the three hierarchical levels in Aquimisa (case 1) and Inempi (case 2), justified by the very structure and areas of the firms' activities that are divided into specific departments. For example, in Aquimisa there is administration, laboratories and the consultancy, which *per se* forces a physical division and a more formal atmosphere.

In Inempi, with management being less than 10 per cent of the firm's employees, the former occupy the same physical space, in offices that are divided physically according to departments, while the remaining 90 per cent of employees are always out on the job in different places. Employees interact with other areas, as the second interviewee in Inempi explains that in this area "the construction work is always done by teams, coordinated by supervisors who interact with the directors". The directors communicate with each other whenever necessary to share information about projects. In the meetings held, improvements and new ideas are analysed in terms of their applicability, feasibility and likelihood of success. Solutions considered positive by everyone are accepted and applied, and conveyed to the directors as measures to implement so as to meet objectives. Not only the directors and supervisors are involved in defining and implementing the firm's policies and strategies, but also employees are integrated in these processes, rather than simply following rules.

According to the administration advisor (first interviewee), the organisational structure of Inempi also prioritises a close relationship with employees, providing diversity and equality of opportunities, professional development, transparency in performance and assessment; company activities for joint interaction, among them

go-karting, paintball, bowling and the Christmas dinner. In cases 1 and 2, information flows hierarchically, i.e., some information only administration has access to, but in relation to employees, all have access to strategies, projects and the information necessary to be able to do their work and feel active, participative, organisational members.

In turn, Roff (case 3) is a firm in a branch of activity where proximity means exchanging knowledge and sharing information, and this tends to generate a more informal atmosphere. "This spirit of comradeship has come to establish a 'flat' structure where informality prevails in internal and external dealings, giving each employee direct access to the company's administration", states the director of Roff (second interviewee). The premises are structured around an open space, with various islands identified by department, which allows easy and rapid communication among the different departments. Working in an open space eliminates barriers to communication, and encourages information sharing and problem solving.

In these circumstances, the organisational structure of the three firms studied here is flexible, and all are aware that in the current socio-economic scenario, only in this way can they be present in the market and adapt to clients' demands. In particular, Roff (case 3) has a network structure, formed horizontally, with the coordinator herself characterising her firm's structure as matrix-like "teams made up of people from various specialities, are joined with the aim of carrying out tasks with temporary characteristics". These networking dynamics imply collaborative action and this is sustained by the will and relatedness of those involved.

4.3 Information/knowledge sharing

Information sharing and communication is carried out in the three firms through meetings and internal documents. According to the accountant at Aquimisa (case 1), "there is constant communication in the company allowing employees, in general, to feel part of internal strategies and policies, making them involved with them and consequently motivated to help the firm's success. There is involvement and not simply imposition!"

In fact, information sharing is considered important, as it is a means leading to individual, collective and organisational learning. For the director of Aquimisa, "this spirit allows people to suggest new ideas or improvements". The second interviewee, director of human resources, also underlines that "new policies are communicated orally, from directors to supervisors and from them to the other employees; also in writing, policies are recorded in their own document which is presented to the directors and supervisors, so that they can formalise acknowledgement and transmit them to their subordinates". In this firm, the accountant also mentions that "concerning information sharing, the structure is flexible, procedures (actions or processes) are defined and written in standard documents, which facilitates communication; subsequently they are communicated to all employees involved, as a normative process".

Regarding information sharing and communication in Roff (case 3), the human resources coordinator said "the administration shares information by e-mail, telephone, *newsRoff* (the Roff newsletter), the Roff Programmed Events site: Kick-off Roff, an annual event held in the first three months of the year, where the administration presents the results of the previous year, and the strategy and objectives for the coming year. Roff weekend, to celebrate the firm's birthday, when the Roff administration holds a meeting to present the state of affairs for the current year and perspectives for the next one with the management team and senior consultants".

Due to its size, Roff has also various channels through which information is kept updated. As a matter of course, all Roff's staff use the extranet to communicate and share the details of their daily work with the company. Via this extranet, employees update and share the following information: CV data, project documentation, work documentation (templates, presentations, descriptions of duties, assessment matrixes, etc.), record of working hours and reports available on working hours recorded, among other mechanisms. This firm also publishes *newsRoff*, a two-monthly magazine, which according to the Roff director, aims for "internal communication with employees. This newsletter is produced completely internally, published by Roff Marketing". The current format of *newsRoff* is divided in sections, each with a specific objective. Among them stand out news and projects, which publishes news related to projects, events of a commercial nature and the development of business volume, and Roffian Space, where all employees can contribute with topics written by themselves.

4.4 Leadership

Concerning leadership and the dimensions of entrepreneurial orientation, and although long-term strategy was stated as important for the three firms, there is a significant difference between Roff (case 3) and Aquimisa (case 1)/Inempi (case 2). Whereas in the latter two firms, strategies are defined by the administration together with the directors (when necessary), in Roff, strategies are always drawn up by managers together with employees who have participated or will have most experience in the area where a new strategy is to be developed. Once again, this aspect is justified by its size and area of operation. The human resources coordinator at Roff states that "it is up to the human resources department to be an internal reference for recognition of the quality of service and motivation of its consultants, meaning excellence in their work, based on values, performance, trust, discretion, competence and team spirit".

In Aquimisa and Roff, top management seeks professional involvement with staff, while in Inempi, and due to the fact that a great many employees work outside the firm (on assembly work), communication and approximation accompanies the hierarchical chain of administration, managers, supervisors and manual workers. It is also common to the three firms/cases that the policies defined are not always in tune with practices and task delegation is seen as something that inevitably ends up being avoided, but they always try to maintain a fair balance between policy and practice.

As the leader of Aquimisa, the human resources director also tries to make each department director aware of the importance of recognising and appreciating the employee's individual work so that they can achieve more and better production. Respect, values, trust and praise itself are "arms" used to mark the difference in dealing with the employee. As the accountant in the same firm also commented, "new knowledge, actions and processes are incorporated in organisational practices through the monthly meeting between departments, and in turn the departmental heads communicate them to their colleagues".

For Inempi, people are the main factor in the organisation. The firm gives importance to the existence of a motivated and dynamic team able to give rapid and effective responses to the challenges which may arise from clients. The director of this firm indicates they have "a range of dynamic professionals specialised in diverse areas, made up of senior specialists with more than twelve years experience in their sector of activity, distributed over the following areas: engineering, planning, budgeting, supply of structures and mechanical and electrical assembly". Also for the administration advisor, "entrepreneurial attitudes or intrapreneurship are taken into account when

recruiting and promoting new staff, and later the firm's intrapreneurial employees can be identified through files with employees' classification where intrapreneurship is a variable considered".

In Roff, the human resources coordinator stated that "it is up to this department to be an internal reference for recognition of its consultants' quality of service and motivation, meaning excellence in their work", based on values, performance, trust, discretion, competence and team spirit. Also for this first interviewee, "leadership sustained on team dedication means high talent retention rates and the firm's attractiveness, having 87 consultants holding the Certificate of Professional Aptitude, 25 consultants with a post-graduate degree in project management and 34 consultants with a post-graduate degree in logistics". In addition, the head of human resources indicated that, "besides technical skills, we look for professionals with team spirit, who are easy to work with, responsible, dynamic and have commercial vision".

5. Discussion and conclusions

Based on the empirical evidence obtained, this study suggests that in the three firms selected, despite their very different characteristics (sector of activity, location and number of employees), organisational learning and intrapreneurship are concepts which are encouraged by top and middle management. There is an intrapreneurial perspective that is transversal in all the firms, irrespective of their specific areas. The terms of organisational learning and intrapreneurship are known by the department heads who participated in this study, and they are implemented in all the firms analysed. For example, in Aquimisa (case 1) the firm's strategies and policies are related to organisational learning and intrapreneurship. Organisational learning has been found to influence intrapreneurship in this company, the reason for implementing new policies. Consequently, organisational practices and intrapreneurial policies lead to the development and/or improvement of new products.

In the three firms, there is great encouragement of autonomy and empowerment, aiming to make staff feel a part of the organisation and with the freedom to be intrapreneurs: intrapreneurship is valued. In Aquimisa (case 1), an employee that shows interest, a positive attitude and motivation always has the chance to be promoted, while in Inempi (case 2) there are no benefits for anyone being entrepreneurial but communication is the way to reach employees and incentivise them to be autonomous and develop new ideas. Roff (case 3) sees intrapreneurship as a concept of organisational relevance which is instilled in employees as agents of change in the organisation itself, and is a bonus for everyone. In fact, Guth and Ginsberg (1990) and Parker (2011) stated the motivation that moves the intrapreneur is directly related to the freedom to do what he wants, the pleasure of leading his/her own projects and his/her undivided dedication to those projects. A precondition for such motivation is intrapreneurial leadership, namely, the managers' ability to encourage subordinates in both opportunity-seeking and advantage-seeking behaviour (cf. also Covin and Slevin, 1991; Rowe, 2001).

The three firms studied transmit a culture of transparency, with an environment which tends to be informal, communicating and giving employees tools that let them carry out their work with dedication and satisfaction. These companies are aware of the importance of participative and satisfied staff, which means pro-activeness. The firms analysed show concern about keeping a connecting thread between those at the

top of the hierarchy and the other employees, as concern, information sharing and autonomy can be characteristics that are learned. Examples “come from above” and as such, simplicity, proximity and modesty are the basis of a culture that means success in any firm (Hanssen-Bauer and Snow, 1996).

As noted by Cohen and Levinthal (1990), firms with considerable knowledge can assess the value of potential opportunities more accurately and have the ability to extract value from these opportunities. Covin and Miles (1999) argued that firms can attain strategic benefits through participation in entrepreneurial learning activities. Thus, organisational learning and intrapreneurship are one of the principal methods used by the firms studied to create new knowledge and improve levels of innovativeness, an important source of competitive advantage (Chiaromonte, 2004). Although Aquimisa (case 1) and Inempi (case 2) have no department devoted exclusively to innovation, employees are encouraged to innovate and to take risks by doing so.

Considering the objective of this study, the main conclusion is that all the intrapreneurial dimensions analysed form part of organisational learning. This conclusion is reflected in the result of the cases analysed, with a low staff turnover being an example of success in such a difficult market as Portugal today. The companies hold on to their greatest resource – employees who are updated through permanent learning, as the market requires them to be flexible and adapt to all kinds of adversity. The firms have communication channels providing staff with autonomy and appropriate responsibility. Thus, from the empirical evidence, this study suggests that the implementation of dimensions associated with organisational learning facilitates intrapreneurship and so both concepts become interlinked. It can be concluded that the dimensions of organisational learning are interrelated and interdependent with the dimensions of intrapreneurship.

As the outcome of the insights formerly presented, Table III shows an integrative framework, highlighting how the different dimensions of organisational learning and intrapreneurship are related to each other. It is based on the dimensions discussed in the literature review, which are likely to act as consistent predictors of organisational learning and intrapreneurship. The framework also presents the most beneficial

	Organisational learning	Intrapreneurship
Dimensions	Organisational culture	Environment open to change Pro-activeness Creativity and innovation Innovation Risk taking
Attitudes and behaviour	Involvement, participation, autonomous decision-making, trust, dialogue, communication, adaption to change, experimentation	
Dimensions	Organisational structure	Informal organisational structure
Attitudes and behaviour	Teamwork, interaction, close relationship, collaboration, flexibility, networking, empowerment	
Dimensions	Information/knowledge sharing	Transparent communication
Attitudes and behaviour	Defined/normative processes, standard documents, meetings, events, extranet	
Dimensions	Leadership	Management style and orientation Long-term strategy
Attitudes and behaviour	Staff involvement, recognition, appreciation, respect, motivation, team spirit	

Table III.
Interdependence
between
organisational
learning and
intrapreneurship

attitudes and behaviours (drivers) firms might adopt in order to foster learning and entrepreneurship inside their organisations. The framework represents, therefore, the primary outcome of this study.

From this integrative framework, theoretical contributions and practical implications are presented, while not being without limitations. One of the theoretical contributions lies in the search for some answers concerning the dimensions and drivers of organisational learning and intrapreneurship, which are still not sufficiently explored. However, the study focused on the specificities of the organisations analysed, without trying to generalise the conclusions reached. These are traditional limitations in studies with a qualitative basis (Yin, 2013), i.e., the matter of the small number of firms participating in the sample preventing generalisation of the data obtained.

Another contribution of the present study is the linking of organisational learning with intrapreneurship, which enriches the knowledge about their interface. As organisational learning might fill in resource gaps that intrapreneurship tends to create, a combination of the two could be a fruitful approach. Herein, several dimensions were studied, in which organisational learning and intrapreneurship share similar characteristics and are mutually dependent. This detailed examination offers a better understanding of their interactions, including when and how different aspects of organisational learning benefit specific integral dimensions of intrapreneurship and vice versa.

Concerning the practical implications, the framework may help executives and managers to better understand the link between the learning organisation and intrapreneurship and what influences this relationship in organisations. The interrelated characteristics of both concepts lead to a dyadic effect: on the one hand, fostering the conditions for organisational learning within an organisation is likely to enhance also the intrapreneurial capacity of its employees. For example, a corporate culture that actively encourages organisational learning through critical reflection, open dialogue and experimentation provides the grounds for employees' propensity towards creativity, pro-activeness and risk-taking behaviour. On the other hand, if individuals practise intrapreneurship-related behaviours such as transparent communication, this facilitates the sharing of information and knowledge as a precondition for learning across the entire organisation.

In addition, this study may contribute to increasing employers and employees' awareness of their responsibility in fostering organisational learning and intrapreneurship within organisations as a way to increase business performance. The different dimensions and drivers identified are in all probability critical factors for an organisation's success. Thus, an implication for practice is that through focusing on these aspects, mechanisms can be developed and implemented, leading organisations to improve their performance through acting upon their employees' learning and intrapreneurial capacity.

However, the framework developed needs more scientific scrutiny to assess the relationship between the main dimensions and their underlying drivers. A follow-on study could be field-testing of the developed framework in order to verify if quantitative data support the interdependencies of both concepts and the conclusions of this research. Moreover, the joint influence of organisational learning and intrapreneurship on business performance and success is an issue to be explored in detail. Therefore, researchers are invited to further consolidate the interface between both concepts.

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