

LEADERSHIP STYLE AND ERP ADOPTION: AN EMPIRICAL ANALYSIS IN THE FAMILY SMES

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1. ERP systems and family SMEs

Currently, the business environment is dramatically changing. Globalization, increasing competition and expanding markets are main factors that influence the business complexity (Umble *et al.*, 2003). Those rapid changing business environment have forced firms to introduce and manage successfully the organizational change to achieve and sustain competitive advantage. Enterprise Resource Planning (ERP) systems are considered a necessary condition to compete in the market and to manage the complexity. Such systems respond to managers' needs concerning accurate and timely information in order to achieve business objectives.

ERP systems help organizations to reduce operating costs and improve business process management and allow the company to unified all departments, functions, and database following a logic of cooperation and coordination (Dillon, 1999; Aladwani, 2001). Unlike traditional information systems, ERP systems integrate technological and organizational aspect allowing various corporate levels of decision-making and satisfy their information needs. Numerous studies have showed that the ERP implementation can be both an opportunity and a threat (e.g., Markus *et al.*, 2000; Calisir and Calisir, 2004). The opportunity is that ERP systems adoption is often accompanied by two important actions that allow the company to improve its performance: organizational and business processes reengineering (Laudon and Laudon, 2004). Instead, some firms consider the implementation of these systems as an instrument to promote and realize organizational and managerial changes (Robey and Sahay, 1996). On the other hand, the implementation of these systems have been classified as failures because they did not achieve predetermined corporate goals¹. Some Authors believe that ERP implementation is often associated with mechanisms of rejection by potential users, a sense of confusion and inabi-

lity to achieve their potential innovation (Calisir and Calisir, 2004; Amoako-Gyampah and Salam, 2004).

Researchers have proposed many theoretical models that trace the innovation path from adoption decision to investments to use of the same (e.g., Rogers, 1983; Cooper and Zmud, 1990; Soh and Markus, 1995). Particularly, Soh and Markus (1995) have conceptualized the innovation as a decision-making process consisting of three broad phases such as IT expenditure (adoption), IT assets (implementation), and individual and organizational impacts (post-implementation). In this way, this study focused on phase of adoption, or the choice of investing in technologies, while the other phases are not contemplated.

Since 1990s, over \$20 billion a year have been spending to purchase an enterprise software solution, of which a major portion was ERP systems (Umble *et al.*, 2003). To date, the conditions are different: large companies have been using an ERP system making the market saturated. So the software houses tend to develop specific solutions for the small business characterized by lower costs, more simpler, and cheaper solutions.

The context of analysis is represented by family Small and Medium-sized Enterprises (SMEs) in according to the main trends of investments in ERP systems at the recent years. In literature there are various definitions of family business, some more restrictive than others. Furthermore, in the literature review the term “family business” includes small and large firms, founders-companies, multi-generational business, and young and old firms. In this study, family SMEs refer to the family business of micro, small and medium-sized, where the majority of ownership and control are held by one or a few families (Rosenblatt *et al.*, 1985; Gallo and Sveen, 1991; Gallo, 1995), linked by bonds of kinship (Corbetta, 1995). The family SMEs are characterized for three peculiar features such as the ownership concentration, the personalization of relationships, and the low structural complexity. The ownership concentration guarantees uniformity of values and swiftness of decisions (Preti, 1991; Corbetta, 1995; Traù, 1999). The personalization of relationships fills in for temporary unbalances between subjects, contributions, and incentives coming from the lack of evolved institutional mechanisms (Airoidi and Forestieri, 1998). Finally, the low structural complexity implies that in the family SMEs the leadership and the governance are handled by only one person that is the owner-manager (Boldizzoni, 1985; Pezzani, 1985; Compagno and Pittino, 2001).

¹ ERP implementation success requires that the organization engage in excellent project management. In particular, some Authors believe the main causes of implementation success are a clear definition of objectives, development of both a work plan and a resource plan, and careful tracking of project progress (Umble *et al.*, 2003; Ghandour *et al.*, 2007).

Therefore, this paper wants to investigate how different leadership styles of owner-manager can explain the decision about ERP adoption in the family SMEs.

2. Theoretical Framework and research model proposed

This study investigates the role of leadership in determining the adoption of ERP system in family SMEs. In order to understand how leadership style of owner manager can explain the decision of adopting ERP system, I reviewed and separated the literature into two areas, a) ERP system adoption, and b) leadership style. Subsequently, I proposed a research model and hypotheses. Finally, following the discussion, and the limitations and conclusions.

2.1 ERP system adoption

ERP systems have been qualified as “the most important development in the corporate use of Information Technology (IT) in the 1990s” (Davenport, 1998: 121). ERP systems emerged from the attempt to expand traditional Manufacturing Resources Planning II (MRP II) systems to incorporate activities outside the production scope (Markus *et al.*, 2000). Different to Material Requirements Planning (MRP) that are the systems to manufacturing and materials management, MRP II also incorporate the financial accounting and financial management systems. Consequently, the continuing improvements in technology allowed MRP II to expanded from some business units to entire enterprise coining the term ERP (Umble *et al.*, 2003). ERP systems are comprehensive packaged software solutions that support operational business processes and integrate the various managerial areas (Amaoko-Gyampah, 1999; Aladwani, 2001).

Practitioners and managers of large and SMEs argued that ERP systems manage efficiently and effectively the resources of organizations by integrated solution for its information processing needs (Nah *et al.*, 2001). Despite ERP are characterized as a tool to manage the complexity and they respond to managers’ needs concerning accurate and timely information, some Authors have argued that the evaluation of the ERP systems’ contribution to organizational performance, in terms of both value creation and economic returns, is a difficult task (Willcocks and Lacity, 1998; Buonanno *et al.*, 2005). Moreover, ERP system represents an instrument for promoting and realizing organizational and managerial changes. Organizational change has been defined as an attempt, or series of attempts, to modify an organization’s structure, goals, and technology or work tasks (Carnall,

1986). Some Authors have argued that the technology has the potential to transform organizations (Robey and Sahay, 1996; Davenport and Stoddard, 1994; Davenport, 1998). However, organizational transformation arises not only through the adoption of new systems, but also depends upon a combination of technical and social influences which cannot always be controlled (Robey and Sahay, 1996), such as users' willingness to accept and use available systems.

Initially, ERP systems have been adopted at large firms and, consequently, numerous research has focused on it over time (e.g., Somers and Nelson, 2001; Mabert *et al.*, 2003b; Umble *et al.*, 2003; Nah and Delgado, 2006). To date, the market of ERP solutions for the large organizations is saturated and, therefore, the software houses have developed specific solutions for the small and medium-sized enterprises characterized by lower costs and more simpler such as pre-configured systems. These solutions based on best-practices of firms and allow a reduction of the time and cost of implementation. In fact, some scholars have argued that ERP adoption at SMEs has been catching up with large companies (Van Everdingen *et al.*, 2000; Mabert *et al.*, 2003a).

In the SMEs, ERP systems adoption is affected by different factors. Particularly, some Authors have highlighted that the resource scarcity and the lack of IS strategic planning are two factors that strongly influence the choice of adoption of these systems (Zinatelli *et al.*, 1996; Levy and Powell, 2000; Buonanno *et al.*, 2005). Other Authors, instead, have focused on the link between company size and the adoption of ERP systems (Markus and Tanis, 2000; Mabert *et al.*, 2003a). According to Buonanno and his colleagues (2005), the business complexity (company size, market area, membership of a group, presence of branch offices, level of diversification, and degree of functional extension) and the awareness of the organizational requirements (extent of organizational change) could explain ERP system adoption. Other research has also suggested that ERP adoption is influenced by contingency and exogenous factors (Tagliavini *et al.*, 2002).

However, in the SMEs the IT adoption is affected by individual characteristics of the owner-manager such as IT knowledge, cultural orientation, personality traits, and attitudes (Cragg and King, 1993; Thong and Yap, 1995; Ke and Wei, 2008). According to Bielli (2000) the adoption and use of technology draw from skills, expectations, and attitudes of owner-manager. Particularly, ERP systems are the highly complex systems in which strong managerial and strategic competence of owner-manager could facilitate the adoption of it (Gibson *et al.*, 1999). However, in small companies the owner-managers are often not especially knowledgeable about IT and, this condition, represents a barrier to IT adoption and, particularly, to ERP systems that are more complex. According to Cragg and King (1993) if the

owner-manager of SMEs lacks IT knowledge the other members are also discouraged to investigate IT opportunities. Moreover, in SMEs the owner-manager needs to combine elements of both leadership and management during the process of adoption and implementation, which require a committed and skilled to make decision at all times (Ghandour *et al.*, 2007).

Finally, some scholars have investigated the role of leadership in IT adoption (Armstrong and Sambamurthy, 1999; Ghandour *et al.*, 2007; Ke and Wei, 2008; Shao *et al.*, 2009). Particularly, IS literature suggests that the vision, attitude, and behavior of leader could explain IT adoption. In the family SMEs, characterized for the ownership concentration, the low structural complexity, and where the leadership and the governance are handled by owner-manager, this matter is more emphasized. Unfortunately, in literature there are few studies that investigate the role of leadership style in determining the ERP adoption in the organizations and, particularly, in the context of family SMEs.

2.2 Leadership style

For several decades, many Authors have addressed their researches to leadership issue, trying to define the different styles (Lewin *et al.*, 1939; Lippitt and White, 1943; Stogdill, 1963; Bass, 1990; Molero, 1994).

Some research has tried to define the leadership style focusing on the leader behaviours. The origins of this approach date back contributing to Lewin and colleagues' (1939) studies conducted on certain groups of 10 years old children. Lewin and his colleagues (1939), analyzing the power division between leaders and followers, identify two different styles of leadership: autocratic and democratic. The democratic leader takes on a democratic behaviour with its subordinates and allow them to participate in decision-making process. On the contrary, the autocratic leader takes a little democratic behaviour with its subordinates and discourages them from such participation. These studies have been the basis for subsequent researches that have investigated the influence by leader on his subordinates (Likert, 1961; Vroom and Yetton, 1973; Eagly and Johnson, 1990).

Later on, a group of Ohio State University researchers conducted studies on leadership at some military and industrial institutions, drafting some questionnaires (*Supervisory Behavior Description Questionnaire*; *Leader Behavior Description Questionnaire*; *Leader Behavior Description Questionnaire-XII*) to investigate this phenomena (Halpin, 1957; Stogdill and Coons, 1957; Stogdill, 1974). These Authors have proposed two basic dimensions of leaders' behaviors: consideration and initiating structure. Consideration seems to be most commonly defined as the leader behaviors which are concerning with promoting the comfort and well-being of subordinates,

while the initiating structure regarded as leader behaviors which clearly define the roles of the leader and his followers (Schriesheim and Stogdill, 1975: 189).

From the Mid-1980s to the Mid-1990s, emerged a major shift of interest in leadership researches with transformational leadership paradigm. According to Burns (1978), transformational leaders influence followers to transcend personal interests and transform themselves into agent of collective achievement (Chemers, 2000). Among the most representative Authors about transformational leadership, I find Bass and his associates (Bass, 1981; Bass and Avolio, 1990). Bass' studies (1981) started by interviewing managers about transformational leaders and they finished validating a questionnaire designed to measure transformational leadership named the *Multi-factor Leadership Questionnaire* (MLQ). MLQ considered seven factors, of which three "transactional" (Contingent Reward, Management by Exception, and Laissez-Faire Leadership) and four transformational (Idealized Influence, Inspirational Motivation, Intellectual Stimulation and Individualized Consideration). Bass (1981) distinguished between the autocratic versus democratic leader and the directive versus participative leader. Autocratic leader determines all policies and its subordinates have little influence on the decision-making process. On the contrary, democratic leader determines the policies together with group members and he pays a great deal of attention to his subordinates. In particular, autocratic versus democratic style is a different aspect of leader behaviour in comparison, with interpersonally oriented and task-oriented styles (Bass, 1981).

In family SMEs, the matter of leadership style is more emphasized. Some scholars assume that the performance of leader is related to organizational performance in family SMEs context (Bauer, 1994; Johnsen and McMahon, 2005). Particularly, Bauer (1994) argued that the owner-manager can be defined as *patron* in the family SMEs. The *patron* is the man with three heads who thinks in three different ways: a) *Homo economicus* (interested to economic and financial performances), b) *Homo Politicus* (interested to consolidating his power), and c) *Pater Familias* (interested to members of his family and how to help them). In these contexts, *patron* is a leader that focuses much of within its organization that outside. Moreover, in these contexts the leadership and the governance are handled by only one person, the owner-manager, while the delegation is a mechanism for coordination rarely used. In fact, the owner-manager plays a key role in determining both the corporate strategies and policies, and the control of

² However, some Authors suggest that the role of owner-manager is related with the company size in family SMEs (Gallo, 1995; Corbetta, 1995; Shanker and Astrachan, 1996). Particularly, these studies have shown that the relevance of the family in decision-making decreases with increasing the company size.

outcomes (Preti, 1991; Corbetta, 1995; Del Bene and Stefani, 1999)².

According to Ghandour and his colleagues (2007), the owners-managers expend energy and time to shape vision and strategies for the implementation and use of Information and Communication Technologies (ICT). Particularly, ERP system respond to managers' needs concerning accurate and timely information in order to achieve business objectives and improve the individual and organizational performance. In this ways, the technology represents the leverage into the business processes and activities (Chatterjee *et al.*, 2002), encouraging the definition of tasks and the control of results³. In order to manage and improve the process of ERP implementation, some studies have investigated the role of leadership in these contexts.

Scholars have argued that leadership is crucial in determining ERP implementation success (e.g., Sarker and Lee, 2003; Umble *et al.*, 2003). In family SMEs the owner-managers are involved in ERP implementation project and establish a clear goal for their ventures (Ghandour *et al.*, 2007). They are also involved in a specific behaviors and actions that lead to success of ERP implementation. Moreover, Koh and his colleagues (2000) suggested that the commitment of leader is an necessary condition in order to achieve the success of ERP implementation in all phases.

Other research, instead, has investigated how leadership style affects ERP adoption (Ke and Wei, 2007; Shao *et al.*, 2009). Particularly, findings of Ke and Wei's (2007) study shown that transformational leadership is related which ERP adoption and implementation and, moreover, leadership can be affected by an organization's existing culture. Shao and his colleagues (2009), instead, proposed a conceptual model for studying the influence of charismatic leadership on each phases of ERP implementation lifecycle: first adoption, secondary adoption, and assimilation.

However, although previous research have investigated the role of leadership style on ERP adoption, there is a lack of study on how the leadership style (based on leader behaviours approach) can explain the different decision about ERP adoption in the family SMEs.

2.3 Research model and hypotheses.

This paper wants to evidence how the leadership style can explain the different decision about ERP adoption. Although in the literature there are

³ The contribution of ICT to the decentralization rather than the organizational centralization is the subject of a debate among scholars (see Gurbaxani and Whang 1991, and McPhee and Poole 2000 for a review). Some Authors have noted that firms characterized by a strong centralized decision-making, fosters a greater use of ICT decentralisation decision (Gurbaxani and Whang, 1991; Bolton and Dewatripont, 1994). On the contrary, in decentralized firms the ICT could be a pressure towards greater centralization decision, a phenomenon resulting from the increased possibility of controlling performance and results (Robey, 1981; Ciborra, 1981).

different leadership styles, this study fits in leader behaviours approach distinguishing between two different leadership styles: autocratic and democratic.

Autocratic is the leader that directs the group with a rod iron (Lewin *et al.*, 1939). He determines all policies and procedures business, and takes responsibility for assigning the activity task (White and Lippitt, 1960; Luthar, 1996; Molero *et al.*, 2007). In family SMEs, the autocratic owner-manager defines the strategic and operational policies and, consequently, he communicates its decision to his followers and establishes the formalities and the times of accomplishment. The relationships between the owner-manager and his subordinates are characterized by the presence of a low level of interaction and involvement in decision-making. Therefore, leader needs greater control to do its work. In this way, ERP system might be a good solution both for the tasks definition and the control of results. ERP systems integrate technological and organizational aspect allowing various corporate levels of decision-making in order to respond to managers' needs and satisfy their through accurate and timely information (Laudon and Laudon, 2004; Nah *et al.*, 2001). Thus, I assume that:

H₁: the autocratic leadership style of owner-manager is positively associated with ERP adoption.

Democratic is the leader that determines the policies together with group members (Lewin *et al.*, 1939). He tries to be a regular group members and also encourage that choices are made by group members (White and Lippitt, 1960; Luthar, 1996; Molero *et al.*, 2007). In family SMEs, democratic owner-manager determines the policies together with group members. In opposition to the autocratic leader, the relationships between the owner-manager and his subordinates are characterized by the presence of a high level of interaction and involvement. Owner-manager and his subordinates work face to face every day to achieve their goals and to improve the organizational performance. In this way, the strong collaboration decreases the owner-manager's need to task definition and control of results. Thus, I assume that:

H₂: the democratic leadership style of owner-manager is negatively associated with ERP adoption.

3. Research methods

A survey methodology was used to gather data (survey field study). A structured questionnaire has been administered to a sample of 200 family SMEs in the Campania Region (Italy). The data were collected during January-February 2008 and analyzed using the logistic (or logit) regression model for binary data. Binary logit model is widely used and accepted method of analysis to investigate the effects of explanatory variables on binary outcomes (Cox, 1970). In this study the dependent variable (ERP adoption) is a binary outcomes variable and, therefore, binary logistic regression model represents an appropriate method for data analysis.

3.1 Sample

The questionnaire has been proposed to a sample of 200 family SMEs of any size and industry in the Campania Region (Italy). Of the 200 family SMEs surveyed, 60 (30%) returned questionnaires.

The surveyed companies were classified by size (Micro, Small and Medium) according to current definition provided by the European Union based on two drivers⁴: number of employees and turnover. The 50,0% of the sample is represented by small-sized firms, the 41,7% by a medium-sized firms, while the 8,30% are micro enterprises. In addition, the firms of the sample can be classified in three industries: manufacturing (48,33%), trade (16,67%) and services (35,0%). The 66.7% of sample companies don't use ERP system, while only the 33,3% have adopted an ERP solution.

The 88,3% of the respondents is represented by men, the average age is about 50. The level of education was classified into following levels: 51,7% of the respondents have a diploma; 33,3% have a bachelor and 10% have a master.

The Table I show the descriptive statistics of the model variables.

Tab. 1 - Descriptive statistics of company demographics variables

	Frequency	%
Manufacturing	29	48,33
Trade	10	16,67
Services	21	35,00

⁴ European Union classified the companies-size based on the following criteria: a) micro-enterprises (number of employees < 10); b) small-sized firms (number of employees < 50; turnover < € 7.000.000 or balance sheet < € 5.000.000); c) medium-sized firms (number of employees < 250; turnover < € 50.000.000 or balance sheet < € 27.000.000).

Micro-enterprises	5	8,30
Small-sized firms	30	50,00
Medium-sized firms	25	41,70

3.2 Measurements

The questionnaire is composed of three parts with different focus. First part notes the company demographics variables: industries, company size (turnover and number of employees), business longevity, and average income of the last three years. Second part notes the demographic variables of the owner-manager (age, gender, and educational level), while the third part highlights the leadership style of owner-manager (autocratic versus democratic). The first and the second part of the questionnaire has been addressed to owner-manager, while the third part has been addressed to his subordinates.

The data were analyzed using the binary logistic regression model.

The dependent variable is represented by "ERP adoption". ERP adoption is a qualitative variable and, therefore, it has been measured with two values: 0=No ; 1=Yes.

The independent variables are the leadership style of owner-manager (autocratic and democratic) and some control variables such as company (industries, company size; business longevity, and average income) and owner-manager demographics variables (age, gender, and educational level).

Autocratic and democratic leadership style has been measured by a 14-items scale (7 items for each style) with five point Likert scale according to the classic definitions (Lewin, 1939/1964; White and Lippitt, 1960), and to some more recent approaches (Eagly and Johnson, 1990; Luthar, 1996; Molero *et al.*, 2007).

Particularly, the control variable industries has been measured with a dummy variable, "Manufacturing industries", which may take two values: 0=No ; 1=Yes. Also the company size (micro, small, and medium) has been measured with two dummy variables, "Small firms" and "Micro-enterprises", which may take two values: 0=No ; 1=Yes.

3.3 Results

The Cronbach Alpha's for the independent variables are: 0,746 autocratic leadership style and 0,758 democratic leadership style. The descriptive statistics show that 20 out of 60 family SMEs (33,3%) have adopted an ERP system. Therefore, 33.3% is the cut value used in binary logit model.

The binary logistic regression examines the influence of autocratic and

democratic leadership style and control variables (company and owner-manager demographics variables), on ERP adoption. The results of regression model are show in table II.

Tab. 2 - Dependent variable: ERP adoption

Variables	β	E.S.
c	-13,478	10,419
Manufacturing industries	-2,069	1,446
Micro-enterprises	0,836	2,618
Small firms	5,166**	2,297
Business longevity	-0,079	0,046
Average Income	1,556**	0,796
Age	0,111	0,082
Gender	-0,254	2,101
Educational level	0,094	0,209
Autocratic leadership style	7,170**	2,959
Democratic leadership style	-6,851**	2,646
Likelihood Ratio	49,118	
Nagelkerke R ²	0,776	
McFadden R ²	0,643	

** $p < 0,05$

Results of table II show that some demographic company variables (manufacturing industries, micro-enterprises, and business longevity) and owner-manager demographic variables (age, gender, and education level) are not significant associated with ERP adoption. On the contrary, small firms ($\beta=5,166$; $p \leq 0,05$) and average income ($\beta=1,556$; $p \leq 0,05$) are significant and positively associated with adoption of ERP system.

Moreover, results show that autocratic and democratic leadership style of owner-manager are significant associated with ERP adoption. Particularly, autocratic leadership style of owner-manager is positively associated with ERP adoption ($\beta=7,170$; $p \leq 0,05$), while democratic leadership style of owner-manager is negatively associated with dependent variable ($\beta=-6,851$; $p \leq 0,05$).

Therefore, the hypotheses H_1 and H_2 are supported by data.

Finally, I have generated a classification table constituted of a four quadrant matrix through the integration of independent variables (leadership style of owner-manager) with binary dependent variable (ERP adoption). This table shows the relationships between leadership style and the choice of ERP adoption. Moreover, it also highlights the percentage correct for

each hypothesis and the hit rate for the both hypotheses assumed. Results of classification table are show in figure I.

Figure I. Classification Table

		Predicted		
				Percentage Correct
ERP Adoption	NO	I 34	II 6	85.0
		IV 1	III 19	
			DemocraticAutocratic	Hit rate
			Leadership style	

The cut value is 0,33.

Results show that 20 firms have adopted an ERP system, in which 19 firms are characterized by autocratic leadership (quadrant III). On the contrary, only one firm characterised by democratic leadership have adopted an ERP system (quadrant IV). Moreover, the others 40 firms have not adopted an ERP system. Of these firms, 34 are characterised by democratic leadership style of owner-manager (quadrant I) and only 6 by autocratic leadership style (quadrant II). In conclusion, results of figure I show that almost all firms (*hit rate*=88.3%) are collocated in the quadrant I (democratic leadership style-No ERP adoption) and quadrant III (autocratic leadership style-ERP adoption). These results emphasize the hypotheses.

4. Discussion

The aim of this study has been to investigate the role of leadership style of owner-manager in determining ERP adoption in the family SMEs. Particularly, I assumed that the autocratic leadership style of owner-manager is positively associated with ERP adoption, and the democratic leadership

style of owner-manager is negatively associated with ERP adoption.

Some prior research has investigated the factors that influence the choice of ERP adoption in SMEs. Results of these studies have highlighted that the company size (Markus and Tanis, 2000; Mabert *et al.*, 2003a) and the resource scarcity (Zinatelli *et al.*, 1996; Levy and Powell, 2000; Buonanno *et al.*, 2005) are two factors that strongly affect ERP adoption in SMEs.

Finding of this study show a positive relationship between both small firms and average income, and ERP adoption. Small businesses are characterized by highly competitive environment, financial constraints, and lack of in-house IT expertise (Bielli, 2000; Levy and Powell, 2000; Buonanno *et al.*, 2005). Consequently, these firms had more barriers to IT or ERP adoption than large businesses (Cragg and King, 1993; Gibson *et al.*, 1999). Actually, the software houses tend to develop specific solutions for the small business such as pre-configured systems that reducing the time and cost of ERP system. Moreover, IT external consultant is more involved both in the implementation phase, installing the software and training the users, and in post-implementation phase because they provide baby-sitting to customer. On the other hand, the small firms consider the adoption of these systems as an leverage to promote and realize organizational and managerial changes. In this way, the CEO or the owner-manager is more inclined to adoption a new system. The main trends of the ERP system diffusion in the recent years support these results.

Moreover, previous research has investigate the role of leadership style on ERP adoption (Ke and Wei, 2007; Shao *et al.*, 2009) and implementation (e.g., Sarker and Lee, 2003; Umble *et. al*, 2003). Although these research, in literature there is a lack of study on how the autocratic and democratic leadership style of owner-manager can explain the different decision about ERP adoption in the family SMEs.

Finding show that autocratic and democratic leadership style of owner-manager are significant associated with ERP adoption in family SMEs. Particularly, autocratic leadership style of owner-manager is positively related with ERP adoption, while democratic leadership style of owner-manager is negatively related with dependent variable.

In family SMEs, the owner-manager plays a major role in a business and is the main decision-maker, especially when it comes to major decisions such as the adoption of ERP system (Thong and Yap, 1995). In these contexts, the owner-manager have authority, responsibility, and information access to choice ERP adoption. Literature has suggested that ERP system allows the managers to access the data with the minimum time possible (Gupta, 2000), to standardize business processes and systems (Cooke and Peterson, 1998; Keller and Teufel, 1998; Al-Mashari, 2003), and to control of individual and organizational outcome (Nah *et al.*, 2001).

Owner-manager characterized by autocratic leadership style determines policies and procedures business without involving the subordinates in decision-making. Consequently, he communicates its decision, the formalities, and the times of accomplishment to followers. Therefore, the relationships between owner-manager and his subordinates are characterized by low level of interaction and involvement that increase owner-manager's needs of control of outcome. In this way, ERP system is a good solution both for the tasks definition and the control of results, responding to managers' need through accurate and timely information (Laudon and Laudon, 2004; Nah *et al.*, 2001). Therefore, the autocratic owner-manager are more likely to adopt an ERP system.

On the other hand, the owner-manager characterized by democratic leadership style determines the policies together with group members, involving them in decision-making. This strong collaboration between the owner-manager and his subordinates based on the high level of interaction and involvement in all phases of working life. Moreover, these people often work together both in defining the strategy and tasks, and in their execution. Therefore, working face-to-face with his subordinates the owner-manager knows the progress of work and has a less need of control of outcome.

5. Limitations and conclusions

This study has several limits. The first limit regards the size of the sample (60 respondents) that is not particularly representative of the population (response rate 30%). Moreover, a low sample may cause the existence of a high correlation between the independent variables. The second limit is not having introduced in the model other individual characteristics of the owner-manager such as the innovativeness and the individuals' propensity to choose new innovations. Some Authors (Hirschman, 1980; Wood and Swait, 2002) suggest that the individual characteristics of CEO or owner-manager could influence the technology adoption. Innovativeness is "the degree to which an individual is relatively earlier in adopting an innovation that members of his social system" (Rogers, 1995: 252), while the individuals' propensity to choose new innovations derived from two individual characteristics: the need of cognition and the need of change (Wood and Swait, 2002). These variables could affect the choice of ERP system adoption. In the classification table some firms are collocated in the quadrant II (autocratic leadership-No ERP adoption) and quadrant IV (democratic leadership-ERP adoption). This choice is different to the hypotheses developed and it may be determinate from the individual characteristi-

cs of the owner-manager such as the innovativeness and the individuals' propensity to choose new innovations.

Finding have shown that autocratic and democratic leadership style of owner-manager are significant associated with ERP adoption in family SMEs. The underlying condition of this work is that the owner-managers adopting ERP systems to improve the task definition and to increase control of the outcomes. However, there is a wide literature about the role of ICT in facilitating the centralization or decentralization of decision-making and, moreover, the results of these studies are contradictory (see Gurbaxani and Whang 1991, and McPhee and Poole 2000 for a review). Some Authors have argued that adoption of ICT improves the quality and speed of top management's decision, decreasing decision information costs and leading to centralization of decision-making (e.g., Leavitt and Whisler, 1958; Gurbaxani and Whang, 1991; Bolton and Dewatripont, 1994). On the other hand, other research suggest that ICT increases the sharing of data and information at the floor level and reduces agency costs, leading to decentralization (e.g., Ciborra, 1989; Brynjolfsson and Mendelson, 1993; Morabito, 2000). This study support previous contributes that have suggested that ICT leading to centralization of decision-making; however, other research had shown the opposite and cannot be neglected. In this way, already Galbraith (1977) argued that IT could promote the centralization or decentralization of decision-making, but the choice is of the top management.

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Abstract

The purpose of this study has been to investigate the relationship between the leadership style of the owner-manager and Enterprise Resource Planning (ERP) system adoption in the family Small and Medium-sized Enterprises (SMEs).

Previous research has shown that ERP systems adoption is affected by different factors such as resource scarcity, the lack of IS strategic planning, company size and business complexity. Others research, instead, has also shown that the individual characteristics of the owner-manager could influence the adoption of these systems. However, in literature there is a lack of study on role of leadership style in determining ERP system adoption. Therefore, this study investigates how autocratic and democratic leadership style of owner-manager influence the choice of adopting ERP adoption in the family SMEs.

This research has been carried out through a quantitative methodological approach based on a direct analysis (survey field study). Particularly, a structured questionnaire has been administered to a sample of 200 family SMEs in the Campania Region (Italy), while the data have been analyzed using the logistic regression model for binary data. Finding support the hypothesis.

Riassunto

Obiettivo del presente lavoro è stato quello di analizzare la relazione tra lo stile di leadership dell'imprenditore e la scelta di adottare un sistema informativo integrato (ERP), con riferimento al contesto delle imprese familiari di piccole e medie dimensioni.

Precedenti ricerche hanno evidenziato come la scarsità di risorse finanziarie, la dimensione aziendale e la complessità del contesto possono influenzare l'adozione dei sistemi ERP. Altre ricerche, invece, individuano nelle caratteristiche individuali dell'imprenditore altre determinanti dell'adozione dei sistemi ERP, soprattutto in contesti caratterizzati da imprese di minore dimensione. Tuttavia, in letteratura pochi studi hanno enfatizzato il ruolo che lo stile di leadership dell'imprenditore ricopre nel determinare l'adozione dei sistemi ERP. Il presente lavoro vuole evidenziare come, nel contesto delle imprese familiari di piccole e medie dimensioni, la scelta di adottare un sistema ERP diversamente dipenda dallo stile di leadership autocratico o democratico dell'imprenditore.

La ricerca è stata condotta seguendo un approccio metodologico quantitativo basato su un'analisi empirica, attraverso la somministrazione di un questionario strutturato ad un campione di 200 imprese familiari di piccole e medie dimensioni operanti nella Regione Campania (Italia). I dati sono stati analizzati attraverso l'uso del modello di regressione logit binario. I risultati confermano le ipotesi.

Jel Classification: L 20

Keywords (Parole chiave): ERP adoption; leadership style; family SMEs. (Adozione sistemi ERP; stile di leadership; imprese familiari di piccole e medie dimensioni.)