

# Urbanized Information Systems Nets Benefits: An Empirical Evidence

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## Abstract

New methods thinking about the enterprise architectures are developing, The Urbanization of the IS in particular is proposed as French framework of EA being appropriate to evolve the IS and proposed outcomes of firms. Where IS became one of the main assets of modern corporations. And it faces many problems Among the most important are low productivity and a large number of failures like obsolescence, heavier, slower and complexity of applications integration. The problem of low productivity of IS was the product of the software crisis, as indicated by the delayed development and implementation of ISs and accumulation which leads to maintenance problems. To do this, urbanization is a framework that aims to simplify the IS, to improve communication between its components and to ensure its evolution. In an exploratory approach, this research examines the impacts of urbanization in private sector studying it to ascertain agility and its nets benefits. This was done in order to ascertain the evolution of IS and guarantee the agility facing the environment turbulence. The general assertion is that the Urbanized Information Systems (UIS) changes a firm vision because its procure agility to face environment turbulence. The originality of this paper is to explore IS urbanization considered as a French framework of Enterprise Architecture (EA). This research therefore contributes to the body of knowledge by an empirical study and validation of the urbanization success assessments.

**Keywords:** information system, urbanization, agility, nets benefits

## 1. Introduction

The Information systems are required a strategic importance over the last three decades where it received a considerable investment in order to develop the company activities. Throughout the years, IS have evolved from management of file systems, through database systems, to the emergence of Management Information Systems (MIS) Executive Information Systems (EIS) and more recently Big Data and cloud computing. With the development of IT there has been a need to redesign and re-implement existing systems. Reengineering involves the re-design of an existing Information System, using as much of the existing system as possible.

The concept of urbanization is used and transferred to the implementation of IS within an organization. The metaphor of the city and more specifically the vocabulary, rules and principles of the urbanism of towns has been widely used in the IT systems field because of the similarity of the initial issues: how to overhaul, modernize and judiciously profit from technological advances without erasing the existing IT, within the cost limits set, and do so while continuing live in the city while the work is carried out (Longépé, 2009).

Urbanization of IS is a French framework of Enterprise Architecture (EA). The concept represents the constructing or reconstructing of IS based on permanent components. It consists to move from an existing IT system to a target IT one by successive stages corresponding to the several steps unlike replacing the existing IT system with another in one time. It is considered like a less radical approach. Once this has been successfully completed, the IT system has the capacity to receive any new structure which meets the established urbanism rules. Modifications made to be parts of the IT system will have an impact which is both predictable and controlled. This approach takes account the most important development requirement of IS and maximizes the safety of the information pool. It is a necessary evolution in a Firm. The role of CIO is to support the business vision in an ever-changing approach to align the IS with the business strategy (Levasseur, 2002). Thus, the urbanization paradigm focuses on IS and certainly on business axis on which the possible transformation of business processes will be studied (Levasseur, 2002).

Some Firms find advantageous implementation of the urbanization. Many are those who have already done in France and in the world, like Air France KLM, Renault, Bnp Paris, etc. These Firms bring several organizational and financial benefits, including improved decision making, improved adaptability to changing demands or market conditions, elimination of inefficient and redundant processes, optimization of the use of organizational assets, minimization of employee turnover, increasingly recognize the tremendous potential for value-creating synergy by linking the different components and actor of organization. In this paper, our goal was to analyze empirically the urbanization paradigm, and study nets benefits. This study would add to the small number of empirical studies on urbanization paradigm.

Instead, this paper proceeds with theoretical background section whereby the key constructs of the study and context of research and hypothesis are developed. The methodology section describes the procedures used for data collection and the tests were conducted with the proposal research model. It is provide an overview of the Urbanized IS and present the main attributes of the IS in fact. The results are reported in the findings section.

## 2. Urbanization Paradigm

In this paper, we will outline the different meanings attributed to the urbanization of IS. Indeed, this concept has been studied earlier by both the French and the Anglo-Saxon world. Longép  (2009) defines urbanism as *“the science and technique of construction and development of IS”*. Urbanization enables:

- Federating the building blocks of an existing IT system around a whole architecture and following principles which will allow it to acquire the flexibility and reactivity necessary for it to be adapted to the constraints of the market or the environment.
- Managing rapidly and efficiently IT system of critical development demands, using a rationalized approach.
- Concentrating development efforts on the new high added value functions and reusing the existing IT system.

Once the IS is urbanized, it has the capacity to accommodate any new structure that meets the established planning rule. The purpose of urbanization is to predict, organize and manage the needs of the business developments while minimizing risks and maximizing the preservation of heritage. In continuity, urbanize an IS for Jean (Jean, 2000) is *“simplified. It will be with anticipation, and a breakdown of the main principles of construction which will help development of the IS and computing at the same rate as the strategy and organization. The metaphor of the city is the best way to understand urbanization”*. Even more, urbanize an IS is the ability to organize and continue the gradual transformation of the IS while having the goal to simplify, optimize its value and make it more dynamic, agile, responsive and flexible the strategic developments of the business while relying on the technological opportunities (Club Urba SI, 2003).

The urbanization is the process that makes an IS more suitable to serve the corporate strategy and anticipate changes in business environment (Cigref, 2003). Thus, it makes the computer a tool of corporate strategy. Behind this purpose, there is a need for a flexible and agile IT infrastructure in order to take into account gradually, according to the priorities of senior management, the demands of managers.

### 2.1 Definition Anglo-Saxon

In parallel with the U.S., the Anglo-Saxon methodological framework of the Enterprise Architecture (EA) is implemented since the 80s by Zachman for describing the organization at different levels of analysis. A reflection on this framework will be made in the next section to study the similarities and differences between urbanization and the EA.

According to Zachman (1987; 2002) Enterprise architecture is *“a major view to organizational missions and functions, working processes, existing information, relational net, order of work performing which has the aim of making the data systems solid and efficient.”* it is give us a model describing organization in concordance with requirement management. This concept *“includes processes, mediums and necessary constructions to use informational technology solidly and harmoniously in the domain of organization to protect operations of the organization cycle in the present and in the future”* (Kaisler, Armour, & Valivullah, 2005). It should be *‘organized in a way that supports reasoning about the structure, properties and behavior of the system.* Also the EA *“defines the components that make up the overall system and provides a blueprint from which the system can be developed”* (Chen, Doumeings, & Vernadat, 2008). EA face the same problem that deals with the urbanization of IS. It represents the global modeling of all enterprise resources (Club Urba-EA, 2006) such as actors, processes, applications and technical architectures. The EA has been operational since 1996. This work has been pushed by the U.S. government administrations.

EA are mainly developed throughout the life cycle of the system to see what needs to be done to model, design and implement an integrated enterprise system (Chen, Doumeings, & Vernadat, 2008). The Zachman Framework is another example of these initiatives. It models various business structures and engineering concepts from the perspectives of different actors involved in the engineering business. In general, the EA should support reasoning on the structure, properties and behavior of the enterprise. It defines elements of change and provides a model from which the system can be developed. The EA is continues practice to describe the essential elements of a socio-technical organization, their relationships to each other and the environment, to understand the complexity and manage change (EA Research Forum, 2009). The definitions show that EA is engineering IS project.

The distinction between EA and urbanization is characterized by a different description levels or layer or vision. The process of EA is analytical relatively concentrate on the design of IS while urbanization is a process concerned with intermediate levels but not the strategy. In sum, EA approach generalizes that of the IS urbanization across all activities and business processes. Generally, the approach of the EA does not provide enough documentation to verify the consistency of different models.

The approach of urbanization SI differs from the approach of the EA. It is based on only five models (strategy, business processes, functions, IS and IT systems). This clarify the process, reduce the risk of rejection of urbanization from firms entities and facilitate linkages between management model. Apart from some differences between the EA and urbanization such that the distinction in visions and layers, integrating the two approaches within the company and the problem of maintaining strategic alignment in time. The failure to ensure strategic alignment might affect the process of EA. On this basis the process of urbanization demonstrates an ability to effectively lead a process of revision of IS since it addresses only one part of the IS;

### 3. IS Agility

The IS agility represents a continuity of organizational agility, it is considered as a subject of recent research interesting academics and practitioners (Sambamurthy, Wei, Lim, & Lee, 2007) and is considered as an important topic among IS literature (Luftman & McLean, 2004). According to Hobbs and Scheepers (2010), agility is the capability to quickly sense and respond to environmental perturbations. Hence, agility in IS literature is considered a creator of strategic value to Firms with the role of IT as a viewer platform for agility (Sambamurthy, Bharadwaj, & Grover, 2003). Likewise, this concept as we have defined it is the recognition of a business environment that changes faster than conventional planning cycles of the company, hence the need to respond through the existing IS and the readiness of the organization to perform the detection and response to these changes (Luftman & McLean, 2004).

The agility is defined also as the ability of the business processes of firms to do with speed, precision and lower operating costs in the opportunities for innovation and competitive action (Sambamurthy, Bharadwaj, & Grover, 2003). Management must have the ability to reshape and reconfigure the individual components of business processes by combining individual tasks and capabilities in response to their environment. Thus, the top management of the organization can change either by the addition or deletion of new processes to take advantage and exploit dynamic environmental conditions is improved by interconnecting clients and suppliers (Raschke., 2010). Agility is the optimization of partnership relations with suppliers. For example, the Ford Motor Company was able to connect the warranty information for customers with suppliers to help improve future products (Teresko, 1999).

Organizational agility and IS agility are closely related. Overby et al. (2006) recognize agile Firms like those that hold the detection of competitive potential action in their environment and to mobilize their assets to get hold of opportunities. Indeed, changes detection in the business environment requires the ability to early exploration and business processes to detect quickly, risk and startup costs. Therefore, the operating capacity allows to adapt the IS targets processes to reduce costs and risks and improve the quality of services rendered. Thus, business agility depends on the quality of SI and its ability to adapt to the turbulent environment.

IS literature has focused on the quality of agility depth action was developed to study the relationship between agility and IS. Hobbs and Scheepers (2010) study identified the gaps between theory and practice perspective on agility IS. For theoretical perspectives, researchers talked of a new era where performance of a company depends on the agility of IS (Overby, Bharadwaj, & Sambamurthy, 2006). Dependence occurs in three factors. The first factor is the capacity of the operation of the IT function resulting from the fusion of individual knowledge and crafts. The second factor is the reusability of the IT infrastructure. The final factor focuses on the effective use of the process (Hobbs & Scheepers, 2010). In addition, Fink and Neumann (2007) have shown that personal computer capabilities positively affect the use of technology and infrastructure which proves

organizational agility. We retain the final factor that emphasizes the enterprise architecture in our case urbanization of the IS by combining business, functional, applicative and technical infrastructures of the IS.

#### 4. Research Context

The conceptual umbrella of our research is the urbanization. It is invoked the IS evolution and net benefits earned by this approach. Technological progress assisted the IS development, and became one of the levers of change within the company. Hence, the urbanization implementation suggests new practices and new organizations work forms in which it affects the company management. Through the literature review, urbanization highlights technological eras, cultures and practices varied to attend a cohabitation between the different technological solutions.

The massive investment in IT led the company to cumulate applications years after years and establish a strong dependency between the applications and software which conducted to slow the IS activities. Make a clean sweep of the existing IT to start from scratch on a solution "homogeneous and modern" does not seem to be the most appropriate solution nor functionally nor economically and humanly (Longépé, 2001), this will probably lead to a similar scenario in few years. Also, this solution is very costly for the company. In this case, urbanization is a comprehensive approach to SI supports the entire business. Indeed, such an approach gives a cross IS vision and an overview to the company by providing a structured, scalable, efficient and flexible IS through which it promotes the understanding and anticipation of IS changes. The IS must ensure coherent and comprehensive development incorporates organizational, technology and business changes.

The economic context imposes urbanization approach since company thrives in a constantly changing environment and it is strategic management become increasingly complex. Company needs an IS that provides accurate, concise, accurate and proactive information to strengthen their position in a highly competitive and turbulent environment. An agile and UIS remains a competitive advantage. Thus, an agile and SIU has advantages in both individual and organizational levels. Looking for competitiveness, firms must review their IS through urbanization and it helps to rethink their working so as to improve customer service, cut operational costs, and become world-class competitors. Effectively, firms are touched by decreasing of their scale of market share because their IS are not flexible to support new products, new services and customer's needs. As an alternative, companies have to adopt new architecture. Urbanization may be regarded as one of the key to achieve competitive advantage. From this point, we want to achieve an overview of the IS urbanization in the Tunisian context and even perceive the urbanization capacity architecture to lead to net benefits. This question will allow us to gain insight on the evolution of managerial practices and maturity of Tunisian Firms in this area.

##### 4.1 Research Model

The theoretical model employed in this paper depicted urbanization as an enabler to agility and net benefits for the organization. This research refines the conceptual elements of urbanization within the Tunisian context and uses the following measurable constructs to test the theoretical model (Figure 1): Urbanized IS (UIS), Agility and Net Benefits (NB).

An UIS enable adaption of technological, organizational changes on long-term and also allows to the IS flexibility and responsiveness necessary to ensure the IS evolution and adaptability in different contexts and improve its coherence. Moreover, the researchers in IS are proved flexibility, responsiveness and agility of the UIS (Jean, 2002; Club urba-SI, 2003, Maddaloni & Bonne, 2004) and improve IS performance.

The UIS should be aligned with the business strategy, which is considered like a desirable property as Mandel (2009). In addition, applicative and technical architectures of the new IS is described as scalable and adaptable, facilitating communication and sharing of information between different components of the company. Business processes represents the communication axis between business strategy and IS. Therefore, the UIS is a response to the complexity of the environment through the IS alignment leading to an IUS agile (Trabelsi and Abid, 2013). It must be aligned on the overall strategy in which urbanization enables this alignment of the AUIS through flexibility and responsiveness of the computer system in the treatment changes.

We develop the net benefits variable in sparse of studies on IS success adopted in urbanization context. The majority of studies measuring individual impact focus almost exclusively on the impact of IS in the work environment (Petter et al. 2008) but net benefits represent the impact or result at several levels of company analysis. It is one of the dimensions used in the perceived usefulness of measurement most commonly used (Adams et al, 1992; Segars et al., 1993). This variable is borrowed from Delone and Mclean model (2004) and which includes the perceived benefits to individual or organizational level. It is applied at any level of analysis that the researcher considers the most relevant (Stacie, DeLone, & McLean, 2008). Net benefits size as it is

defined based on a framework that enables managers to assess the impact of the system so this dimension affects the evaluation of the IS. In our context, the process of urbanization affects the whole company, the use of this dimension explore the perceived advantages of this approach such as reducing costs and improving risk management (Niemi, 2006). Also, it focuses on improving productivity utilitarian efficiency and task, Gable et al. (2008). This one-dimensional approach to the study is understandable given the reasons why most systems were created (Citizen, 2010).



Figure 1. Model of research

#### 4.2 The Research Hypotheses

The research hypotheses are developed as follows.

**H1:** an Urbanized IS (UIS) leads to the agility.

**Hypothesis 1** inspects the agility of UIS. The IS agility has received a lot of attention recently. Organizations need to act and perform increasingly dynamic environments. There is a need for clarity on fundamental issues such as what it entails and what makes it agile. The Current hypothesis aims to prove that UIS lead the agility. We show that the concept of UIS is sufficed to address the challenge of agility.

**H2:** Urbanization and agility leads to the nets benefices.

**Hypothesis 2** explores nets benefits of the urbanization process. In our context, having an Agile and UIS (AUIS) affects the whole company, the use of this variable allows us to consider the nets benefits of the urbanization in the Tunisian context such as reducing costs and increasing productivity (Niemi, 2006), improving decision-making and accurate business processes.

#### 5. Research Design

The followed research is exploratory referred to a positivism posture. To operationalize and validate the above model, we use a quantitative method to explore the urbanization of IS process in Tunisian Firms through a survey study. This approach has a good level of realism when the study deals with a situation of real consumption (Tabachnick & Fidell, 2007). The survey is qualitative. A survey was conducted among a large population of 35 Tunisian Firms. The broadcast of survey yielded 35 responses. 30 surveys were selected and 5 were eliminated because they are incomplete. All questionnaires were completed by the CIO. The respondents are able to provide a meaningful assessment of the status of their information with all contingencies change; they provide us necessary and accurate information to the study.

#### 6. Data Analysis

In this section we will discuss the results of statistical analysis determined in the previous section. Indeed, these tests have led to two types of results. Descriptive statistics are used to describe the basic features of data and provide simple summaries about the sample and the measures, and the second model validation and testing research hypotheses.

##### 6.1 Hypothesis Validation

Firstly, we carried out the distribution of frequencies. This operation gave us an overview of the IS urbanization rate in Tunisia. Indeed, 66.7% of Firms have conducted an urbanization rate of 33.3% for businesses that have neither studied nor implemented. Results are showed in the table 1.

Table 1. The state of urbanization IS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	20	10,2	66,7	66,7
	No	10	5,1	33,3	100,0
	Total	30	15,2	100,0	
Missing	System	167	84,8		
Total		197	100,0		

This rate concludes that the Tunisian Firms are in the process of generalization of this practice. They recognized the importance of this process for the survival of the company in a competitive environment, it is very important to the economic opening to the outside world and the globalization of national markets. Indeed, this practice enables Firms to enroll in a dynamic, successful and global transformation progressively. To achieve this objective, urbanization is the essential element.

In this part of study, we had to test hypotheses and determine independence between the research variables. For this reasons, we used the Chi Square test and bivariate analysis.

For the first hypothesis:

### The hypothesis H1: the UIS leads to agility

The first hypothesis tested determines the relationship existing between the UIS and the agility. The results obtained from chi 2 test implicated on the two variables: urbanization of IS and the agility is to reject the null hypothesis and determine a strong correlation between these two variables as shown in Table 2. In addition, Sig (2-Tailed) value which is 0.000, we conclude that there is statistically significant correlation between urbanization and agility. That is, increases or decreases in urbanization do significantly relate to increases or decreases in the agility. Indeed, urbanization can bring the flexibility, anticipated, and relevant response to business needs. It also improves the adaptability, flexibility and responsiveness of SI overlooked strategic developments of the company.

Table 2. Chi square test of H1

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	22,500 <sup>a</sup>	2	,000
Likelihood Ratio	27,377	2	,000
Linear-by-Linear Association	19,713	1	,000
N of Valid Cases	30		

<sup>a</sup>: 3 cells (50,0%) have expected count less than 5. The minimum expected count is 1,00.

Urbanization paradigm offers an overview of how organizations can structure there IS. It is provide an architectural description enhances agility (Strohmaier & Lindstaedt, 2005; Urba-EA, 2006; Imache, Izza, & Ahmed-Nacer, 2012) and considered requisite in the context of the IT function, namely a model can be less complex than the process of exploitation, but it must be the requisite variety to control the process (Ashby & Conan, 1970).

The theoretical contributions of the concept of urbanization its to manage the IS evolution and handle the problems related to the evolution of organizations (Club Urba SI, 2003). The main objective is to organize the development needs of IS reactively and efficiently by minimizing risks and maximizing the protection of information assets (Morley, Hugues, Leblanc, & Hugues, 2007; Longép , 2009). Added to that, urbanization structures and give rhythm to the IS evolution at the same rate as the organization's strategy and enable the gradual and continuous IS transformation (Bonne, 2002; Longép , 2009). In conclusion, it is a means of improving the ability of IS to evolve consistently with changes in business strategy.

UIS prove to essential qualities interoperability and flexibility. It constitutes the foundation of an agile IS able to cope with the turbulence of the environment. Interoperability is the transition from strategically to technological phase. According to Chen et al, (2008) interoperability "is the ability for two systems to understand one another and to use functionality of one another. The word "inter-operate" implies that one system performs an operation for another system". Precisely, it "is the ability of information systems and the business processes they support, to exchange data and enable sharing of information" (Papazoglou & Georgakopoulos, 2003). Added to that,

UIS demonstrates the faculty for two heterogeneous computer systems to function jointly and to give access to their resources in a reciprocal way (Chen, Doumeingts, & Vernadat, 2008). Indeed, exchanges with internal and external partners, suppliers and customers require the company to implement an interoperable IS. UIS Interoperability enables to IS users the ability to accomplish their business rapidly. Therefore, agility proclaims the flexibility in which is defined as “*the ability to easily and readily diffuse or support a wide variety of hardware, software, communications technologies, data, core applications, skills and competencies, commitments, and values within the technical physical base and the human component of the existing IT infrastructure*” (Byrd and Turner, 2000) It provides the ability to respond quickly and efficiently to changing customer and consumer demands. Also, the interoperability captures the dynamism of the different components of IS and exchanges information quickly, it can be seen as one important property of agility. Furthermore, agility can be considered as a non linear function of interoperability (Imache, Izza, & Ahmed-Nacer, 2012). Therefore, all of flexibility and interoperability offer an innovative response to an unpredictable change on groups of systems to deal with high rates of change (Goldman, Nagel, & Preiss, 1995; Ramasesh, Kulkarni, & Jayakumar, 2001; Conboy & Fitzgerald, 2004). Hence, we can retain that urbanization of IS leads to agility and makes it the best suited to serve the strategy and anticipates changes in the business environment. This research affirms that business agility and agility of IS exist and agile information system enables agility the company (Hobbs & Scheepers, 2010).

The agility depends on the response of IS to the requirements of customers, suppliers, users. The scalability, agility and reusability formed the current improvement of IS development for the two past decades (Ren & Lyytinen, 2008). In the context of IS urbanization, strategic alignment becomes growing concern for businesses. This question is downstream of the redesign of the IS. However, it is a necessity in the IS urbanization process. For this, the UIS must be aligned on the business strategy to provide the flexibility, responsiveness and agility required to reply to environment variations. Through this research, we conclude that urbanization paradigm promotes agility enterprise through IS agility enabling enterprise agility. This research also assumes that the IT function allows information systems agility. In other words, this research claims a theoretical contribution for the urbanization to enable agility.

## **H2: Urbanized an Agile IS is positively correlated on benefices nets**

The second hypothesis tested determines the relationship existing between the UIS and nets benefices. The results obtained from chi 2 test implicated: urbanization of IS and the nets benefices variables is to reject the null hypothesis and determine a strong correlation between these two variables as shown in Table 3. Indeed, IUS well structured, organized and agile has necessarily support the information market, improved forecasting and anticipating customer needs. In addition, Sig (2-Tailed) value which is 0.000 concludes that there is statistically significant correlation between urbanization and flexibility.

Table 3. Chi square test of H2

	Value	df	Asymp. Sig (2-tailed)
Pearson Chi- Square	22,500 <sup>a</sup>	2	,000
Likelihood Ration	27,377	2	,000
Linear by linear Association	18,125	1	,000
N of valid cases	30		

The variable Nets Benefices is a core of our research model. It is the mirror of the urbanization process and determines the individual and organizational impacts success or failure of this process. Results has shown that companies who implemented urbanization, have radically changed the way of achieving their business by creating synergies between the components of IS and business processes, giving a value to the company (Ross, Weil, & Robertson, 2006). These benefits derive from the effectiveness of the new architecture that ensures good organizational coordination (Espinosa, Armour, & Boh, 2010), which is likely to generate productivity gains due to the reduction of costs and the development of business processes. Of course, the diversity of the sample leaves us understand some measures to increase organizational productivity by type of organization. For organizations that rely on technology innovation, reduced time-to-market is an example of a useful measure to consider (Espinosa, Armour, & Boh, 2010). Competitiveness is another benefit that has resulted from improved business processes, which has led to a deployed productivity and greater agility to respond to changing market conditions and the competitive environment. In addition, we revisited the business processes also led to improvements in the quality of products and services resulting from a more efficient and effective use of

information and process more customer-oriented. Another advantage of this approach is organizational agility resulting modularity business process, which provides the organization with the ability to adapt quickly to changing conditions in the business environment.

Urbanization facilitates knowledge sharing, communication and feedback from employees through the different component of IS in order to improve the different processes like marketing, commercial, finance. In other way, UIS helps managers to better understand customers' need and predict their behavior (Khodakarami & Chan, 2011). Having more detailed knowledge about business process supports the company to improve products and services. In addition, UIS offers to company a wider range of services to users in order to ease their work. In sum, the perceived benefits of this approach considering the organizational agility to the business has a great capacity to adapt changing market conditions, improving the timeliness of products and services, increased revenues and cost reduction (Espinosa, Boh & DeLone, 2011). From a practical standpoint, the study should enable managers to gain a better understanding of the urbanization.

## 7. Findings

The objective of this paper is to improve the agility of UIS and examine the nets benefits of urbanization process. This was done in order to ascertain the evolution of IS and guarantee the agility facing the environment turbulence. The general assertion is that the UIS changes a company vision because its flexibility, its reactivity and finally its interoperability. In summary, UIS have major effects at different levels and their success depends on several technological and organizational factors.

- Reduce and control operating costs
- Improve the firm's results
- Improve business process

Helps in sharing risks, among others, UIS leads to agility and makes it the best suited to serve the strategy and anticipates changes in the business environment. This research affirms that business agility and agility of UIS combined enables the agility of enterprise. This study helps researchers and organizations to better apprehend the urbanization process, and collaborate to improve other experience.

## 8. Conclusion

The paper reported on urbanization paradigm, IS agility and nets benefits using a validated model applied to the Tunisian context. This study is a comprehensive, quantitative assessment of urbanization from practitioners perspective. The findings validate the model constructs and measures in a Tunisian context. This exploratory research contributes to our understanding of urbanization paradigm. Previous studies on IS success have rarely focused on this paradigm.

This article provides minor theoretical and practical contributions. Theoretically, it provides a model to study agility and benefits nets of UIS. This work applied survey method. The results found improves that the majority of Tunisian firms are within the urbanization process. Conscientious about the importance and emergence of this project will enable firms to become more competitive and profitable through UIS qualities like interoperability, flexibility and the IS evolution. It deals with the demands of customers, competition and technological changes. Overby, urbanization improves also business agility although IS agility. Agility is regarded as a response to the changing complexity of firms. Finally, it provides software infrastructure essentially borrowing principles that were originally pioneered among software developers to overcome the islands of IT infrastructure that plague IT management. These findings would enable us to identify the most important and appropriate quality of UIS is agility.

The results also showed that the urbanization process improves nets benefits. This study revealed that UIS has dramatically changed the management way of the company in order to create synergies between the SI and staff. These benefits derive from the effectiveness of this new architecture that ensures good organizational coordination that in turn generates productivity gains due to the reduction of costs and profitability users IUS structured and evolving their assistance in the decision making process. We identified that the diversity of the sample leaves us understand some measures to increase organizational productivity by type of organization. Competitiveness is another benefit that has resulted from improved business processes, revisited during this process, they have also led to improvements in the quality of products and services derived from the effective and efficient use of information. Organizational agility is the main result of the process of urbanization. It joined the UIS agility resulting modularity business process, which provides the organization the ability to adapt quickly changing conditions in the business environment. In summary, modularity, flexibility and scalability of the UIS leads to organizational agility. This agility provides the company with a great capacity to adapt to



changing market conditions, improving the timeliness of products and services, increasing revenue and reducing costs.

However, this study has several weaknesses. First, the sample size of the study was limited to only private firms in Tunisia. The generalization of the findings may be limited as the sample size compared to the overall population, including the SME in other study. Second, the number of variables employed in this study is also limited to the agility, flexibility, interoperability; next study should investigate on the evaluation of UIS, for example.

Based on this limitation, we would like to propose refinements to future research. First, instead of using Chi square test, perhaps future research should consider the dominance of analysis and causal approach. This approach permits to study in depth inferences of relations and allow us to predict the level of influence between variables. It would be worthwhile to conduct an importance performance of UIS analysis.

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