

Article

E-Procurement Adoption: A Case Study about the Role of Two Italian Advisory Services

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Received: 8 August 2020; Accepted: 9 September 2020; Published: 11 September 2020



Abstract: This paper aims to analyze e-procurement adoption projects with specific focus on the Italian market. E-procurement adoption is critical for organizations, both for its internal efficiency and for the deep impact on sustainability issues. E-procurement adoption, however, is a complex journey as its implementation deals with various obstacles and the adoption costs can limit the overall organizational performance. Advisory services can support organizations in reaching the overall benefits of the e-procurement solution also by reducing the setbacks related to low technology literacy of end-users. Accordingly, we analyze adoption of e-procurement, its main variables and outputs, by focusing on a comparative case study based on an exploratory-inductive investigation of two Italian leading providers. The data have been collected through primary (semistructured interviews) and secondary (companies' internal documents and companies' websites) sources. Results highlight that when firms decide to adopt e-procurement, advisory services have an enabling role that can support them into implementation, and particularly for overcoming barriers and helping them to achieve the expected benefits.

Keywords: e-procurement; Italian market; excellence; sustainability; change; strategy; advisory services

1. Introduction

E-procurement is the evolution of the traditional paper-based procurement activities towards a more integrated and digitized process [1].

It can be considered as a set of digital tools to support both sourcing (that includes all activities ranging from the search for new suppliers (scouting) to their qualification and certification, to the real negotiation phase itself based on tools such as the proposal/quotation request systems and the electronic auction) and the management of catalog purchases of goods and services (which is a recursive purchase process for a product/service whose contract has already been defined or whose supply specifications are clear, from managing the purchase request to forwarding the order to the supplier) [2].

E-procurement impacts the overall organizational value-chain, being directly related to firm performance [3], efficiency, and effectiveness [4]. It also impacts business processes transformation, through the facilitation and automation of the overall procurement process of goods and services [5,6] by simplifying and shortening procurement activities; reducing red-tape and administrative burdens and increasing transparency by making the organization more sustainable-oriented [7,8]. E-procurement adoption can also enable a greener and more sustainable approach to products and services, in order to be in compliance with the globalization of supply chain, through disruptive technologies (3D printing,

robotics, and artificial intelligence) and with the increasing need for a triple bottom-line approach: global warming and climate change (environmental), risk of survival for mankind (social), and financial viability of businesses (economic).

However, e-procurement implementation involves change, and therefore, it triggers resistance dynamics both of people inside the organization (i.e., employees who are involved in the new processes) as well as outside, like the suppliers and clients [9]. Moreover, it is a very specialist change that often needs the support of advisory companies for an effective transition towards digitalization.

The impact of procurement implementation in the Italian market has not been sufficiently investigated in literature, especially from advisory services' (AS) perspective, which play a fundamental role in planning and implementing change projects as well as in motivating, sustaining, and enabling clients to solve problems.

Therefore, the paper aims to provide more evidence about the impact of e-procurement projects by analyzing how AS enhances e-procurement implementation. We particularly aim at answering the following research question:

"What are the main variables related to e-procurement adoption?". We particularly analyze such questions with focus on projects whose implementation is supported by AS, both in private and public sectors.

Our analysis is based on two Italian leading AS playing in the field of e-procurement, namely Jaggaer-BravoSolution Italia (part of the Jagger group) and I-Faber S.p.A. (part of the Unicredit group). After an in-depth analysis of the literature in the second section of this paper, the third section reports the research methodology, the fourth section presents the research context, and the fifth section the findings; in the sixth and last section there are the discussion and conclusions, the limitations and the proposals for future research.

2. Literature Background

E-procurement is the use of digital technologies in the purchasing process [10]. It is considered more than online purchasing transactions [11], as it involves a range of functions to strategically reconfigure and integrate the buyer's and the supplier's business processes into a unique digital environment. It is a core activity because of the increasing concern with efficiency and the businesses' impact on society [12] through three main issues: environmental [7], economic, and social [13] criteria that allow organizations to achieve long-term competitive advantage [14]. Particularly, e-procurement adoption, by pursuing sustainability objectives in the purchasing and supply chain [7], allows organizations to optimize the underlying transactions [15]. It particularly impacts different business outputs. Some scholars highlight its impacts on transparency [16–18] by making the organization more sustainable-oriented from a social point of view; in fact every relationship among people is tracked on the platform and so is more balanced, as every employer has access to the same kind of information [7,8] and, thus, reducing information asymmetry between people involved in the procurement process [19]. This, in turn, leads to data accessibility, by also facilitating the assessment of procurement performance, and therefore, reducing corruption through the effective reporting mechanisms between purchasing officers and suppliers [9,17,18,20]. E-procurement impacts quality, by improving customer service [21], usability and professionalism [22], flexibility [19], and costs, which are reduced as lots of not useful activities are avoided [16,18,20,23–25], such as on the company inventory level [25] by shortening the whole purchasing process, avoiding unnecessary activities [26,27] and bureaucracy [17,28], also through the aggregation or centralization of purchasing so that, for example, in a multinational company the supplying of inputs, which are used by all the branches, are obtained through centralized purchasing and not by a displaced one related to every branch. That kind of process can reduce unnecessary activities, shorten the process, and reduce costs [20,29].

E-procurement impacts also organizational sustainability [30] by integrating requirements, specifications, and criteria that are compatible with the protection of the environment, social progress, and economic development, namely, by seeking resource efficiency, improving the quality of

products and services, and ultimately optimizing costs [31]. It can, moreover, reduce the company's carbon footprint and environmental waste, improve public image, make materials last longer, and reduce expense on waste disposal and clean up [31]. E-procurement can hinder the growing deterioration of the environment, the lack of raw material resources, and the increasing levels of pollution; its implementation allows companies to reduce paper-based activities [28] throughout the dematerialization process, such as digital archives, to reduce the inventory level [25] by getting materials just in time and connecting companies and their business processes directly with suppliers, while managing all interactions between them [32]. An efficient e-procurement system helps a firm organize its interactions with its most crucial suppliers, to reduce problems with suppliers, and improve customer service [21], to shorten the whole purchasing process and improve its quality [22].

E-procurement enhances also the suppliers' side [33]: it allows organizations to eliminate low-rated suppliers [34], for example, through the vendor-rating tools and the better suppliers information [15,35], reducing problems [17] and collusion between them [17,36] by improving the possibility to obtain "longer-term relationships" [34]. However, the impact of e-procurement adoption is not always considered beneficial: this is a quite controversial issue in the literature.

In fact, while some studies show positive impacts on company performances [37], other studies illustrate opposite and different evidence [38–40]. Collins [41] and Vincent-Jones [42] highlight that despite the fact that e-procurement aims to reduce or eliminate the traditional procurement drawbacks by enabling more integrated and efficient processes, it sometimes costs more than its benefits [28,36]. One of the main reasons is related to change management issues [21] that such a kind of project faces [43], and particularly resistance to the changing attitudes and practices of people inside the organization [28,36]. In fact, if people working inside the company avoid to accept e-procurement tools and try to resist to the changing process and rebalancing of the relationships inside the company, e-procurement tools' benefits are hindered by the barriers related to change management, and the linked investment could be a sunk cost making cost higher than the benefits. Resistance is a defense mechanism that people activate in order to maintain the status quo in the face of change, protecting them from the perception of threatening issues like learning new skills or change to stabilized routines [44]. It should be managed according to the specific situation and it is considered the main failure reason for innovation projects, as people, and their resistance attitudes, are the most important variables for implementing change [45].

For example, if buyers and sellers are not able to understand all the benefits of e-procurement project, or if they judge that there are more disadvantages than benefits because of incomplete or distorted information, or for the lack of involvement and communication, they probably will assume an opposite position in regards to change implementation, and will contribute to the project failure [9].

However, despite the importance of e-procurement, the impact of its implementation has not been sufficiently investigated in literature, especially in the Italian market: to our best knowledge there is no evidence related to such kinds of projects.

Therefore, in order to understand more about this issue, this study focuses on e-procurement projects' implementation in the Italian market, analyzed from the AS perspective. We choose such perspectives as AS play a fundamental role on planning and implementing change projects as well as on motivating, sustaining, and enabling clients to solve such kinds of problems. We focus on the specific variables related to its adoption by considering also the differences between private and public sectors, by trying to shed some light on the main variables related to e-procurement adoption.

3. The Context of the Study: Companies Profile

3.1. Jaggaer-BravoSolution Italia: Company Overview

Jaggaer-BravoSolution Italia, with its global strategic procurement platform, almost 20 years of business experience, and directly serving over 70 countries, supports more than 600 companies

and 100,000 purchasing professionals all around the world to improve their financial performance, build procurement organizational excellence, manage risk, and influence innovation.

Jaggaer-BravoSolution Italia's income is 11,402,000 EUR (2018) and offers both e-procurement tools and AS, organizational enablement delivering targeted services to support strategic procurement initiatives including increased process efficiency, decision support, and improved process governance.

Jaggaer-BravoSolution Italia's vision is about unlocking and maximizing the unexpressed value of the purchasing process in client companies, creating new opportunities, as it appears in the business environment, always trying to be innovative. The mission is about optimizing the value creation process of clients and, thus, generating value by means of supporting them throughout the entire procurement process in order to optimize both the buying process and the purchasing performance, through a mix of technology (e-procurement tools and platform) and consultancy (advisory services), in order to achieve the twofold objectives of effectiveness and efficiency in business processes—which are more flexible and shorter—and technological innovation, and suppliers become the core issue in the analysis and development of technology and consultancy.

3.2. I-Faber S.p.A.: Company Overview

I-Faber S.p.A. has almost 20 years of know-how and experience, and is a subsidiary of a holding bank founded in 2001. According to its vision, the electronic marketplace is an ideal place where supply and demand meet, and is able to create efficiency, reduce costs, shorten the process, make transparent information accessible to every involved employer, and promote the digital market, in concrete, to make the activities more sustainable by e-procurement implementation. In Italy as well as in Europe, I-Faber S.p.A. is a partner for both government agencies and private companies operating within major industrial sectors, providing assistance across the supply chain through AS, IT solutions, and business support services to IT solutions. Its income is about 9,070,000 EUR (2018).

Based on the strength of its consolidated experience in several sectors, I-Faber S.p.A. offers its clients a simple, innovative approach, supporting companies with competence, sustainability, flexibility, and promptness in achieving continuous supply chain improvement. I-Faber S.p.A. aims to ensure companies have a wide range of qualitative and quantitative benefits in terms of reducing the overall costs of the tendering process and procurement (because the process becomes shorter), greater efficiency and effectiveness of the negotiation process, greater transparency in processes (every employer can check and see the related information) and relationships (there is no more information asymmetry), and greater environmental sustainability.

The vision of I-Faber S.p.A. is about innovating and integrating e-procurement solutions with the purchasing processes of the firms, making them obtain benefits related to cost reduction, improvement of time to market, and optimization of the resources used in the purchasing process. The mission is about generating value for the firms implementing e-procurement solutions, offering innovative solutions, skills, experiences achieved through collaboration with many large companies, making clients realize time and energy savings, reducing management costs across the entire procurement chain, and creating a culture and relationships towards a unique networking system that turns participants into the driving force of an ever-growing community.

4. Research Methodology

4.1. Research Design

As the objective of the study aims at understanding e-procurement adoption variables and the role of advisory services, we based our method on an exploratory-inductive investigation of two of the most important e-procurement consulting companies in Italy: Jaggaer-BravoSolution Italia and I-Faber S.p.A. This sample, composed of two leading companies within the Italian market, allowed us to have a consistent, even if not generalizable, set of information and data useful for building the empirical framework.

We adopted a multiple case study research design, particularly suited for inductive theory development [46,47]. Multiple case study research usually considers two or more cases because they are believed to be similar and provide better opportunities for comparisons and explorative understanding of the companies analyzed [46].

In order to strengthen the validity of the research, we collected data from primary and secondary sources, such as questionnaire-based interviews, company websites, and companies' materials (documentations, reports, and presentations).

4.2. Data Collection and Questionnaire Administration Phase

Primary data have been collected through interviews, in order to gather insights into each research construct from the practice. The questions were developed through several meetings and workshops with academic peers and practitioners, in order to refine the questions and research protocol [48,49]. The interview process was divided into two main steps. Firstly, we sent the questionnaire (Appendix A) by e-mail in order to let the respondents' study, understand, and reflect about it. Then, one week later, we interviewed the respondents by asking them to talk about the positive and negative impacts of e-procurement solutions implemented by their customers, while explaining the role of AS in the solutions implementation.

The interviews were carried out in Italian, from July to December 2016; they were recorded and subsequently transcribed by a professional service provider. The cases of the two Italian leading providers offering strategic procurement technology, advisory, and consulting services were drafted in Italian and reviewed with the interviewees for validation of the contents and coding. Only at this final stage were the results translated into English. The first author (PhD) was in charge of conducting the interviews.

Our sample was composed of 12 persons (6 for each Company), with the following role: Account Directors (33%), Senior Managers (33%), and Procurement Consultants (33%); 75% of them are males and 25% females, with an average age of 50 years.

Each interview was conducted by phone, voice recorded, and transcribed. In this way, a high degree of reliability and traceability of the data was ensured [50]. Six employees each from Jaggaer-BravoSolution Italia and I-Faber S.p.A. participated in the interviews: four of them hold the position of Accounts Director, four of them are Senior Managers, and four of them are Procurement Consultants. Interviews lasted on average one hour each. The respondents from Jaggaer-BravoSolution Italia were coded as A (A01 to A06) and the respondents from I-Faber S.p.A. as B (B01 to B06) (Table 1).

Table 1. Sample characteristics.

Company	Role	Gender	Age
Jaggaer-BravoSolution Italia	Account Director	M	59
	Account Director	M	57
	Senior Manager	M	52
	Senior Manager	F	50
	Procurement Consultant	M	43
	Procurement Consultant	F	40
i-Faber S.p.A	Account Director	M	58
	Account Director	M	55
	Senior Manager	M	53
	Senior Manager	F	52
	Procurement Consultant	M	40
	Procurement Consultant	M	39

Source. Our elaboration.

Once we had all the interviewees transcribed, a detailed case script was sent to respective participants for review and approval, in order to cross-check the validity of transcription [46]: most of the respondents confirmed the scripts, while a few asked for revisions, mainly related to formal, but essential issues: i.e., using “e-procurement” rather than “e-purchasing”.

4.3. Data Analysis Phase

We initially proceeded with semistructured interviews, led by open-ended questions. Then, data obtained from the interviews were grouped and analyzed. Particularly, we collected primary data in a systematic open coding process based on suggestions from [51]. We condensed data into categories based on interview topics (i.e., the impact of the adoption of an e-procurement solution as the output of our model). Moreover, themes and categories emerged also inductively from the data analysis through the examination and constant comparison process [51] (i.e., the AS role as implementation enabler). Through the axial coding, preliminary findings (i.e., barriers and obstacles for procurement implementation) were compared to those ones existing in literature by distinguishing subcategories from the main categories that arose during the open-coding step. During this step, we assess the appropriateness of such concepts (i.e., resistance to change), by continually discussing them to ensure the reliability.

Then, we proceeded with selective coding to identify the main variables of the model and eliminate unnecessary codes from the dataset.

After refining the model, all the information gathered from the data analysis was grouped into four main variables, which captured the essence of the phenomenon investigated in Figure 1.

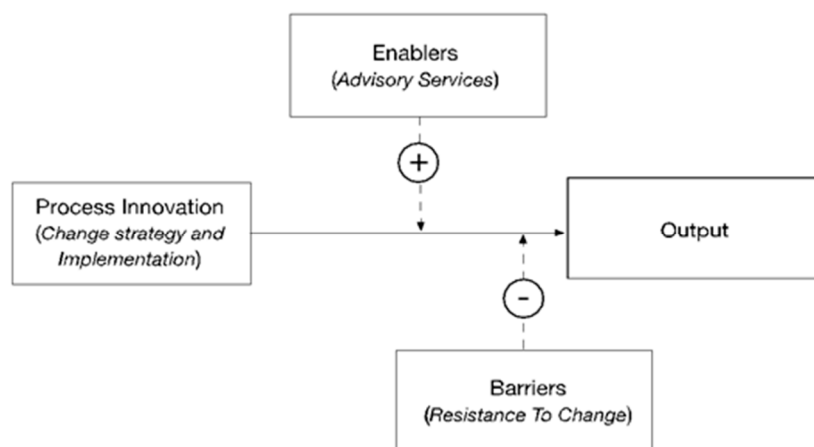


Figure 1. Model elaboration. Source. Our elaboration.

Change strategy and implementation;

- (1) Barriers to e-procurement implementation (resistance to change);
- (2) Enablers for change (AS role for e-procurement implementation process);
- (3) Output.

The collected primary data were analyzed by a systematic coding process based on suggestions from Corbin and Strauss (2008). In this process, pattern matching method of analysis was adopted where the empirically based variable pattern of study was compared with a predicted one based on prior literature (Yin 1994). The first stage of the coding process was open-coding. Through careful reviewing and constant comparison of the responses, the data were initially grouped into different categories and reviewed by an experienced procurement director who has been working in the hotel procurement industry for over 30 years. This was done to ensure credibility of the themes identified. Axial coding was used in the second stage to link categories by distinguishing subcategories from the main categories during the open-coding stage. Finally, selective coding was used to identify categories.

Our convergent and similar results within the two cases provided substantial support for the development of a preliminary framework useful for describing the main variables related to e-procurement adoption supported by consulting companies [52].

In the next section we highlight the results (Table 2).

Table 2. Main variables of the model.

Category	Jaggaer-BravoSolution Italia	I-Faber S.p.A.
Process Innovation (Change Strategy and Implementation)	Customer needs and requirements evaluation Customer solution testing and iterative feedbacks Customer feedback integration in the prototype	Customer needs evaluation for strategic analysis Customer feedback analysis for implementing solution Requirements change according to customer feedback
Main Barriers	Change people habits Resistance to change People attitudes towards Change and technology	Buyers' status quo People culture Aging
AS	Relationship-building with customer Support for resource training Post go-live support	Trust-based relationship for customer Support to clients Customer service
Output	Customer financial performance Shorter lead times Cheaper and efficient process management Reduction in work overload and timing	Organizational excellence Efficiency Process governance Improvement

Source. Our elaboration.

5. Findings

5.1. Process Innovation: The Planning and Implementation Step

Innovation strategy and implementation is the first variable we analyzed in our study. It represents an important tool for management in a competitive and turbulent marketplace.

In the Jaggaer-BravoSolution Italia case, we found that the change project starts by analyzing the overall procurement process in order to contextualize and understand its features, by mapping the activities and transposing them in the platform through specific configurations related to the different customer needs.

What is important in the initial step is the support and the ongoing dialogue between Jaggaer-BravoSolution Italia and its customers. When we asked managers to talk about the strategy process, they described strategy and implementation as intertwined processes:

“The main issue of the change strategy is [represented by] the analysis of the process in order to evaluate the needs and requirements to be implemented. It is also necessary to understand how the current process works for improving the procedure with the e-procurement solution” [A01].

There is no clear distinction between the private sector barriers and those of the public one, since they both come from similar core interests, in terms of drivers, and have a common origin which lies in the macrocategory related to people culture and denial of change.

I-Faber S.p.A. also integrates the development and the adoption step of e-procurement adoption by using the agile IT methodology.

It starts from a stage called inception: it just focuses directly on the primary needs of the customer and in this phase I-Faber S.p.A. starts doing workshops with customers to understand which the main

need is and then builds a prototype, or the so-called story, which just meets the primary need of the customer, thus, avoiding developing a complete but complex, time consuming solution, which I-Faber S.p.A. has also done in the past.

Then, I-Faber S.p.A. and its customer start testing the solution through the continuous crosscheck between the customer needs and the e-procurement solution.

“(after the inception) the customer gives us feedback and to that point the process is repeated until we fully meet customer needs” [B02].

When that prototype reaches the minimum functional set and begins to work, meeting the primary customer needs, I-Faber S.p.A. sends it into production and implements it with the client.

I-Faber S.p.A. creates a minimal solution, which meets primary customer needs and can be immediately used by the customer. Moreover, if while using the solution, the consumer discovers he has additional needs, the customer can contribute to the upgrading of the solution and with the help of the customer I-Faber S.p.A. can update the solution going through the integration of new releases of the same product.

Each customer interacts with the consultants that support him, both in the maintenance phase and in the solution use. There is no clear distinction between the private sector barriers and those of the public one, they both come from similar core interests, in terms of drivers, and have a common origin which lives in the macrocategory related to people culture and denial of change.

5.2. Main Barriers to E-Procurement Implementation

E-procurement adoption implies barriers to change [53,54] making it important for companies to manage resistance processes [55].

“One of the main barriers deals with the bureaucratic procedures (which concern both the public and the private sectors, as banks). Banks, for instance, are very similar to public sector environments that are characterized by regulations and formal procedures” [A06].

Rigidity and low flexibility of regulations do not facilitate e-procurement adoption, by hindering change management effectiveness. It always copes with people, as it is very difficult to manage employees and succeed in making them leave their habits and established practices, in order to embrace innovation [56,57]. However, the younger the employees are, the easier and faster the e-procurement adoption is; while for older employees the change is harder (for example, in the public sector employees use the sealing wax: the transition towards digital signature is very difficult); more specifically, the lack of Information and Communication Technologies (ICT) skills prevented them from completely meeting both the functioning and the advantages of the new technology [58].

The main barriers to the use of an e-procurement solution are related to the fear of digitalization. Tangible document that becomes digital seems to reduce the control of the whole purchasing process: the biggest fear is to expose people to a danger and they fear that the workflow is not safe, as information stored and managed outside the company servers are considered unsafe. In the past, every buyer knew and had a closer relationship with his/her trusted vendors. Nowadays, however, while playing on the electronic market, the buyer has to evaluate the offers from vendors all over the world, in a more impersonal fashion.

In the public sector, the main barrier is the length of the decision-making process and the rigidity of bureaucracy. It is enough just to think of the many phases and activities of an approval process or that of a specification definition.

Very often, especially at the beginning, buyers consider the e-procurement platform as something that can limit them. Cultural aspects, especially in the public sector, make change difficult. Moreover, because the public sector has a high average age, the shift to the digital process is more difficult. For this reason, change management is an important variable for the transition to e-procurement.

An additional barrier to e-procurement adoption for the public sector is related to procurement code, which does not mention specific topics about electronic tender, but considers traditional and electronic tenders as equivalent. There are neither clear regulations nor laws regarding electronic

tenders. Each customer interprets the law personally, which means different needs on the customer side and different e-procurement solutions required to providers.

Especially in public administration, the most critical issue is organizational culture, both on the vendors' and the buyers' side. In fact, at the starting point there might be difficulties in the use of the e-procurement platform, since along with the introduction of the platform, there is going to be change in the traditional way of working and complete disruption in end-user habits, which are the human-to-human relationships, the use of the mail and of the phone.

This kind of critical issue is surely limited in time and certainly can be overcome through the implementation of a right strategy of change management and training. It is important and essential that the customer believes in the principles of the implemented change and is really committed to the advice coming from the AS of the provider. There is no clear distinction between the private sector barriers and those of public one, since they both come from similar core interests, in terms of drivers, and have a common origin which lies in the macrocategory related to people culture and denial of change.

5.3. Enablers of E-Procurement Adoption

As the most important enabler of e-procurement adoption, we found the role of AS, particularly trust, clarity, and transparency as essential prerequisites that AS should instill for the success of the project.

Within the role of expert, Jaggaer-BravoSolution Italia offers two kinds of solutions: technology and AS. AS is powered by an experienced team of global procurement practitioners that helps customers ensure success of their initiatives, meet the challenge, search for innovative ways to drive efficient, effective, and value-driven results. By analyzing our data, we did not find particular issues for e-procurement adoption, but an empathy-based relationship with the customer.

The relationship should be based on trust, clarity and transparency, in order to enable the sharing of the emerging needs by the customer side and the updates by the provider side.

Trust, clarity, and transparency are very impactful for both the customer and Jaggaer-BravoSolution Italia, especially when there are critical issues, the offered solutions do not satisfy the customer's needs, do not simplify the customer's processes, and do not make the end-user activity productive.

This approach has to be applied in order to avoid that Jaggaer-BravoSolution Italia transposes in the platform the wrong requirements not corresponding to the real needs of the customer.

It is the only approach able to make the adoption effective by minimizing risks, weaknesses, and criticalities. At the beginning of a new project, an exchange and sharing knowledge process begins that lasts for months, and aims to examine all the various issues and activities useful to the project.

Thus, strictly from the Jaggaer-BravoSolution Italia's point of view, the turning point in building an effective relationship is avoiding overselling.

In Jaggaer-BravoSolution Italia sellers have the responsibility to join the projects and there is no distinction between sellers and implementers: they are account directors responsible for both business development and customer management.

There is not clear distinction between the AS or "enablers" playing in the private sector and those working in the public one, because the barriers they aim to overcome have a common origin which lies in the macrocategory related to people culture and denial of change.

I-Faber S.p.A. offers its customers (central and local governments) very strong commitment for the training activities in the use of the platform. A distinctive element is the networking, which helps the creation of a culture based on exchange and sharing knowledge and experiences.

The adoption of an e-procurement platform brings to the customer the expected benefits, if the provider supports the client. Besides the platform implementation it is also fundamental that the consultant guides the customer in the appropriate use of the solution.

The software solution by itself does not solve problems, but it is important to know how it works; therefore, the consultants' support is essential, often becoming an internal IT consultant able to continuously help customers.

It particularly the consultant focuses on:

- Training, especially in the first period;
- Sharing knowledge and all project information with clients;
- A trust-based relationship between the customer and his provider;
- A continuous support and help to the consumer in order to solve the occurring problems related to the e-procurement solution.

This is true for both the public and the private sector.

There is not clear distinction between the AS or “enablers” playing in the private sector and those working in the public one, because the barriers they aim to overcome have a common origin which lives in the macrocategory related to people culture and denial of change.

5.4. Output

Evidence of e-procurement adoption output (benefits and threats) has been categorized in: savings, people's attitude towards change, and technology.

Despite the fact that these variables are present both in the private and public sectors, we highlight differences related to the specific case when they are relevant.

In the short term, the first category of output is related to the savings. Savings are the most tangible and immediate output and the first driver able to make firms decide to implement e-procurement solutions. This kind of output is present both in the private and the public sectors.

While in the short run benefits are linked to performance improvement (and savings), in the long run e-procurement adoption impacts mainly process management improvement (efficiency).

The solution gives users an overall control of the purchases, and particularly:

- The purchasing set-up;
- The orders and contracts archiving;
- The overall information and invoices tracking.

Definitely, at the beginning, using such an instrument can make firms achieve benefits that are more related to savings, but over time the benefit is related to keeping spending under control and to bring common processes to both internal and external stakeholders [59–61].

After the platform launching, people become able to know and manage the categories for which firm do not have enough suppliers, the differences among the suppliers generally invited for tenders and for those that make competitive offers on the portal, and, finally, the purchasing process lead time.

Within the public sector the benefits are more associated with transparency, information tracking, and clear information access.

These long-term outputs are present both in the private and the public sectors, but it is important to underline that every sector has its specific aims and kind of outputs; in particular in the private sector, the outputs you can achieve are:

- Keep monitoring the spending;
- Involve the best suppliers;
- Improve the purchasing process lead time;
- Set up the governance of purchasing;
- Make a careful control of purchases;
- Bring common process to both internal and external stakeholders;
- Accessing the tracking of information and invoices through contracts and vendors archive;

While in the public sector, the aims and outputs are:

- Transparency;
- Traceability of information and daily operations;
- Simpler access to information (Accessing the tracking of information and invoices through contracts and vendors archive).

This concept does not mean that in the public sector, it is not possible to involve the best suppliers, as it happens in the private sector, but it means that while the private sector is more focused on the “cost and revenues laws”, the public sector is more focused on the procurement code so, for example, it is more focused on achieving transparency and traceability of all the information.

In both sectors, the main negative output of project implementation is people performance within a new digitized process: the low initial performance could have a negative impact on the ROI (return on investment) of the e-procurement platform.

The way to avoid risks and negative impacts is, besides the AS support, a high level of top management commitment to change management for driving people’s effort in the same direction and objectives.

There is no clear distinction between the private sector outputs and those of public one, but there are some outputs that are specific of private sector and other outputs that are specific of the public one, because the first is more focused on cost and revenues “rules”, while public sector is more focused on the compliance to the procurement code.

As underlined by Jaggaer-BravoSolution Italia respondents, also I-Faber S.p.A. underlined that both in the private and the public sector there are similar benefits coming from the e-procurement adoption, but with some differences.

The main benefit in the short term is represented by savings: it concerns the optimization of physical and financial resources, for example, the increased savings achievable after having published a tender, which gives the opportunity to many vendors to join the tender and intensifies the competition. The savings grow even when the competition between suppliers joining the tender is intensified, going through an e-reverse auction. This kind of output can be achieved both in the private and the public sectors.

In the long run, another category of outputs is related to the shortening of the purchasing process time and, therefore, of the time to market. This benefit characterizes more the private sector than the public one, which is more focused on the procedures required by procurement code.

In the long term, a closer, more immediate, and streamlined contact with suppliers is a very important output, both for the public and the private sector.

A further benefit, both for the public and the private sector, is the support to the client for any further need of technological solutions. In fact, the provider becomes almost an internal IT consultant able to continuously help customers to satisfy any information technology occurring need.

Transparency is an output achievable both in the public and the private sectors, but it is more important in the first one, as it is more focused on the procedures required by procurement code.

The dematerialization of purchasing leads to a cheaper process, not only because it is shorter, but also because it is more efficient and this is true for both the sectors, but it is more important in the public sector.

The procurement system, in fact, helps the end-user to manage the process tender and respect the deadlines requested by a specific tender or process as required by the procurement code, to publish and monitor the competition, and to manage the contract even after it has been awarded, thanks to electronic reminds, which continuously inform the end-user about what he has to do.

After the adoption of the e-procurement platform, the working time of the end-users gets shorter, as well as the potential areas of conflict between the employees and vendors almost disappear, as the e-procurement platform allows employees to manage the working activity going through an orderly

and methodical way, brings transparency in the purchasing process management, and allows end-users the whole information sharing. This is true both for the public and the private sectors.

In both the sectors of the Italian market, critical issues can occur only in the short term after the adoption of an e-procurement solution, while there are none in the long run.

The main critical issues are, especially in public administration, people culture, both on the vendors' and the buyers' side. In fact, at the starting point, there might be difficulties in the use of the e-procurement platform, since the introduction of the platform is going to change the traditional way of working and completely disrupt end-user habits, which are the human-to-human relationships, the use of the mail and of the phone. This kind of critical issue is surely limited in time and certainly can be overcome through the adoption of a right strategy of change management and training. It is important and essential that the customer believes in the principles of the implemented change and is really committed to the advice coming from the consulting service of the provider; otherwise the whole investment in the e-procurement platform might be useless and turn into a sunk cost.

A further critical issue is related to the fact that, according to the customer, the platform, although it is able to replace the whole purchasing process and is equipped with all the features requested by a purchasing process, should adapt to the particularism of the individual customer process. This is not always possible and sometimes the consumer has to adapt himself to the platform, modifying the structure of its internal processes and fit the structure of the platform, so that the implemented e-procurement solution can bring the expected benefits. There is no clear distinction between the private sector outputs and those of the public one (Table 3), but there are some outputs that are specific to the private sector and other outputs that are specific to the public one, because the first is more focused on cost and revenues "rules", while public sector is more focused on the compliance to the procurement code.

Table 3. Output.

	Output	Private Sector	Public Sector
Short Term	Performance Improvement	The savings Keep on monitoring the spending; Involve the best suppliers; Improve the purchasing process lead time;	The savings Transparency; Traceability of information and daily operations;
Long Term	Process Management Improvement	Set up the governance of purchasing; Dematerialize the purchasing process; Shorten purchasing process.	Simpler access to information Compliance to Procurement Code.

Source. Our elaboration.

6. Discussion

This paper aims at understanding the main variables related to e-procurement implementation projects supported by AS. We found four main variables related to such implementation projects, namely:

- (1) Process innovation input (change strategy and implementation);
- (2) Barriers to e-procurement implementation (resistance to change);
- (3) Enablers of change (AS for procurement implementation process);
- (4) Output.

Strategy represents an important tool for management in a competitive and turbulent marketplace. Our study confirms the idea that it is often emergent rather than planned [62,63], and evolves as a result of actions taken and new experiences gained over time, so that strategy formulation and implementation develop iteratively [62,64–66]. According to literature, the main objective of the

strategy is preparing the organization to fit the current environment, to this end systematically and objectively deploying the skills, qualifications and internal resources of the organizations [67]. In line with literature and the concept of strategy “formation”, in which strategy formulation is entwined with implementation in an ongoing, mutually constructive process, our analysis of e-procurement adoption highlights that strategy implementation is the input for change and it is a unique step.

As highlighted by the literature, the change strategy and implementation phases act simultaneously and as underlined by our model, this aspect is also linked to the AS contribution, which occur in these phases and help companies to overcome the barriers to the e-procurement solution implementation. Within such an iterative process we unfold different variables that interact with strategy formulation and implementation.

As any companies that often find it difficult to manage change [68], also e-procurement adoption implies barriers to change for organizations [53,54], making important managing resistance processes for its adoption [55]. In our study, we found as main barriers to change the cultural issues [69].

Particularly, we enrich change management literature by describing them in a qualitative and analytical fashion. Particularly, we highlight that such barriers are mainly related to people’s age and their orientation to the status quo for the fear of unknown, especially the loss of control due to the procurement activities of the digitization process, but also for more impersonal aspects, like the bureaucratic issues, related to normative and procedural setbacks.

Moreover, literature also underlined the e-procurement solution impacts on transforming business processes by simplifying and shortening existing activities [7,8], while from a technological platform point of view, we state that sometimes an e-procurement solution is not allowed to work properly because the end-user does not want, or is not able, to adapt his internal purchasing process to the platform [28,36], as it is not always possible that the platform fit the particularism of the individual customer process. This technological issue of adaptation represents a drawback for the project’s success and as stated, from the customers’ relationship perspective, the main issue is the focus on the relationship between provider and customer, in order to optimally manage such a relationship and maximize the customer journey empathy [70], while succeeding in maximizing the benefits and overcoming the technological and adaptation barriers.

Hence, it is important to communicate on a daily basis, in order to constantly share the updates of the platform and the customer’s emerging needs. As highlighted by literature [22], this approach translates the potentiality into reality and reduces critical issues.

As the most important enabler of e-procurement adoption, we found the role of AS. They are fundamental for change projects, as they usually establish what kind of service should be provided by motivating and enabling companies to solve their understanding and implementation problems.

A strong sponsor can help change implementation by supporting employees to change the overall working habits, by modifying the level of skills, capabilities, and technology literacy [56,71]. The importance of culture and attitude in order to make the change process effective, is in line with existent literature. In regard to this, our study provides an original point of view by highlighting the specific role of AS. Literature highlights three main AS typologies, according to the specific problem-solving approach: facilitator, expert, and doctor [72]. The typology chosen usually depends on the solution required by the client and proposed by the AS. The facilitator helps clients to develop the content of the problem-solving process in an interactive and two-way learning process [72]. Experts are required when clients know the problem, but do not have the specific skills to solve it. Finally, doctors may also diagnose and, then, solve the client’s problem and assist client management in monitoring and controlling the implementation.

Our study highlights the role of AS as a change agent, by specifically considering the AS within the expert role: both Jaggaer-BravoSolution Italia and I-Faber S.p.A. know specific clients’ problems, and how they impact procurement adoption, but they ask for external skills to redesign and implement it. As our findings highlight, trust, clarity, and transparency are essential prerequisites that AS should instill for the project implementation.

Managerial Implications

E-procurement implementation has come a long way, and still has a long way to go. The idea and practice of its benefits appears to be in line with theory as well as with regards to AS providers; but the implications of implementation, especially costs and barriers, tend to conflict with the idea of “e-procurement is beautiful” and achieving lots of benefits.

E-procurement projects are very complex as they involve different variables and the redesigning of a range of strategic functions and interaction mechanisms among people, processes, and technologies. The complexity of such projects makes the relationship between e-procurement and correlated outputs (e.g., firm performance) not straightforward: some studies give evidences about a positive relationship between them [8,41,42], while other studies present different evidences [38–40], thus, the debate on e-procurement in management research has recently attracted a lot of attention, both in practice and in academia where, especially over the last decade, researchers and practitioners have investigated the e-procurement output.

Several implications for practice can be drawn from our results. The first implication is related to e-procurement and its related output, as the enhancement in quality, value, and performance. During the change strategy and implementation phases in order to fully exploit the high potential benefits of e-procurement solutions, it is important to consider the investment in change management, training, and equipment for e-procurement projects and the improvement of the professional and skill levels of the employees. Procurement function is, in fact, a strategic process for the bottom-up and top-down levels of the organizations, as well as a way to lower corruption, abuse of power, and misapplication of laws. However, in order to make it effective, also for public procurement managers (bounded by constitutional and regulatory frameworks), AS, in the role of experts, can support organizations in identifying and overcoming the barriers and help them to succeed. Finally, e-procurement can be considered as an innovative wave for both private and public organizations: a trust and empathy-based relationship with AS it is important, in order to have a bi-univocal exchange of information during the change strategy and implementation phases, as well as after the implementation, in order to freeze the benefits and give them a long period perspective.

7. Conclusions and Limitations

In this paper, we have carried out an exploratory-inductive investigation through the multiple cases design. We aim at understanding the main variables related to e-procurement adoption projects with specific focus on a comparative case study of two leading AS providers of the Italian market. We have found four main variables related to e-procurement adoption projects: the process innovation input (change strategy and implementation); the barriers to e-procurement implementation (resistance to change); the enablers for change (AS for procurement implementation process), and output. Particularly, our convergent and similar results within the two cases provided substantial support for the development of a preliminary framework useful for describing the main variables related to e-procurement adoption supported by consulting companies [52]. Such framework contributes to e-procurement adoption research by exploring how the AS role can positively impact the breaking down of barriers and the pursuit of the benefits of e-procurement adoption, particularly by highlighting the important and overlooked role of AS as experts. Our findings may inspire future research by deepening the analysis of the e-procurement adoption, in order to analyze the longitudinal impact of e-procurement at different stages, where initial barriers to entry and use will have been completely overcome. Even if the current analysis enhances our understanding of the implementation of an e-procurement solution supported by the AS role, it obviously has a number of limitations. The first one is about the extension and generalization of our results. Our results are based on a qualitative, abductive method based both on content analysis and an inductive approach of emergent content, and therefore, deeply rooted in the context analyzed and dependent on the researchers’ interpretation, thus, not generalizable. However, we trust that the richness of the details provided through the cases, by covering the majority of the e-procurement market, makes the current research a valuable basis for

future research, also quantitative oriented, into e-procurement adoption. Moreover, only the Italian market has been analyzed. The research should also be extended and carried out in other countries, in order to evaluate whether the distinction between a more homogeneous private sector and a less homogeneous public sector is experienced in other countries.

Author Contributions: Although the work is a result of joint efforts by all authors, the paper design and conceptualization is ascribable to D.B. and funding acquisition to A.A. All authors were involved in writing the original draft, and specific sections can be attributed as follows: Section 1: S.B., D.B. and A.A. Section 2: S.B., D.B., A.A. Section 3: A.A., S.B. Section 4: S.B., D.B. Section 5: S.B., D.B., A.A. Section 6: S.B., D.B. and A.A. Section 7: S.B., D.B., A.A. All authors have read and agree to the published version of the manuscript.

Funding: This research was supported and funded by the University of Rome Tor Vergata, Department of Management and Law. The name of the research project is “Mission: Sustainability”.

Acknowledgments: The authors would like to thank managers interviewed for their collaboration, support, availability, and thoughtful comments. The authors would also thank all the “Sustainability” reviewers and the reviewers of EISIC (Excellence in Service) International Conference (Paris, 2018), in which the paper was firstly presented.

Conflicts of Interest: The authors declare no conflict of interest.

Appendix A. Questionnaire

Vision and Mission

- (1) Can you describe the vision and the mission of your company? How do they impact in characterizing your products and services?
- (2) What are the main strategic objectives of your company and which is the role of innovation in characterizing procurement platforms?

Development of an E-Procurement Solution

- (1) What are the drivers in the adoption of an e-procurement solution by your customers?
- (2) What are the barriers in the adoption of an e-procurement solution by your customers?
- (3) Which e-procurement solutions do you develop and offer to your customers (online auction, marketplace, e-reverse auction)?
- (4) What are the e-procurement solutions that bring the most significant satisfaction to your customers?
- (5) Which are the main steps in the development process of a new e-procurement solution?
- (6) Which are the main steps in the adoption process of an e-procurement solution?

Positive and negative impacts after the adoption of an e-procurement solution

- (1) Which types of benefits do your customers get after the adoption of an e-procurement solution?
- (2) Which risks and negative impacts do your customers get after the adoption of an e-procurement solution?
- (3) Which types of innovation do your customers need after the adoption of a new e-procurement solution in order to use it?
- (4) The impact, in terms of benefits, determined by the adoption of an e-procurement solution is greater in the public or in the private sector?
- (5) The impact, in terms of risks and negative impacts, determined by the adoption of an e-procurement solution is greater in the public or in the private sector?
- (6) If you have foreign customers, I wonder if the impact in terms of benefits determined by the adoption of an e-procurement solution, is greater in the Italian market or foreign countries?
- (7) If you have foreign customers, I wonder if the impact in terms of risks and negative impacts determined by the adoption of e-procurement solutions is greater in the Italian market or foreign countries?

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