e-Procurement tool:
Drivers, Barriers and Advisory Services as Enablers in Achieving Positive Impacts

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What is e-Procurement?

e-Procurement or Electronic Procurement is the set of technologies, procedures, operations and organizational methods, which allow companies the electronic purchasing of goods and services:

- in the Business to Business commerce (B2B),

- in the Business to Consumer commerce (B2C), and,

- in Government to Business commerce (between companies and public institutions, G2B), by means of the possibilities provided by the Internet network.

What is e-Procurement?

Technologies allowing e-Procurement to be implemented are:

- Electronic Data Interchange (EDI),

- eXstensible Markup Language (XML), and,

- Enterprise Resource Planning (ERP) software.

(Technologies can be both internal and external, depending on whether they are a platform owned by the company or provided by technology and advisory services providers.

Each e-Procurement platform allows each user to search for suppliers and buyers of goods and services.

The identification of the various suppliers and buyers is certified by particular instruments as qualified electronic signatures or more commonly called digital signature.

What is e-Procurement?

It is the mirroring of procurement activities on the internet (Croom and Johnston, 2003).

It deals with all the technologies that facilitate procuring goods and services on the internet (Presutti, 2003)

and with the automation of the procurement process (Vaidyanathan and Devaraj, 2008).

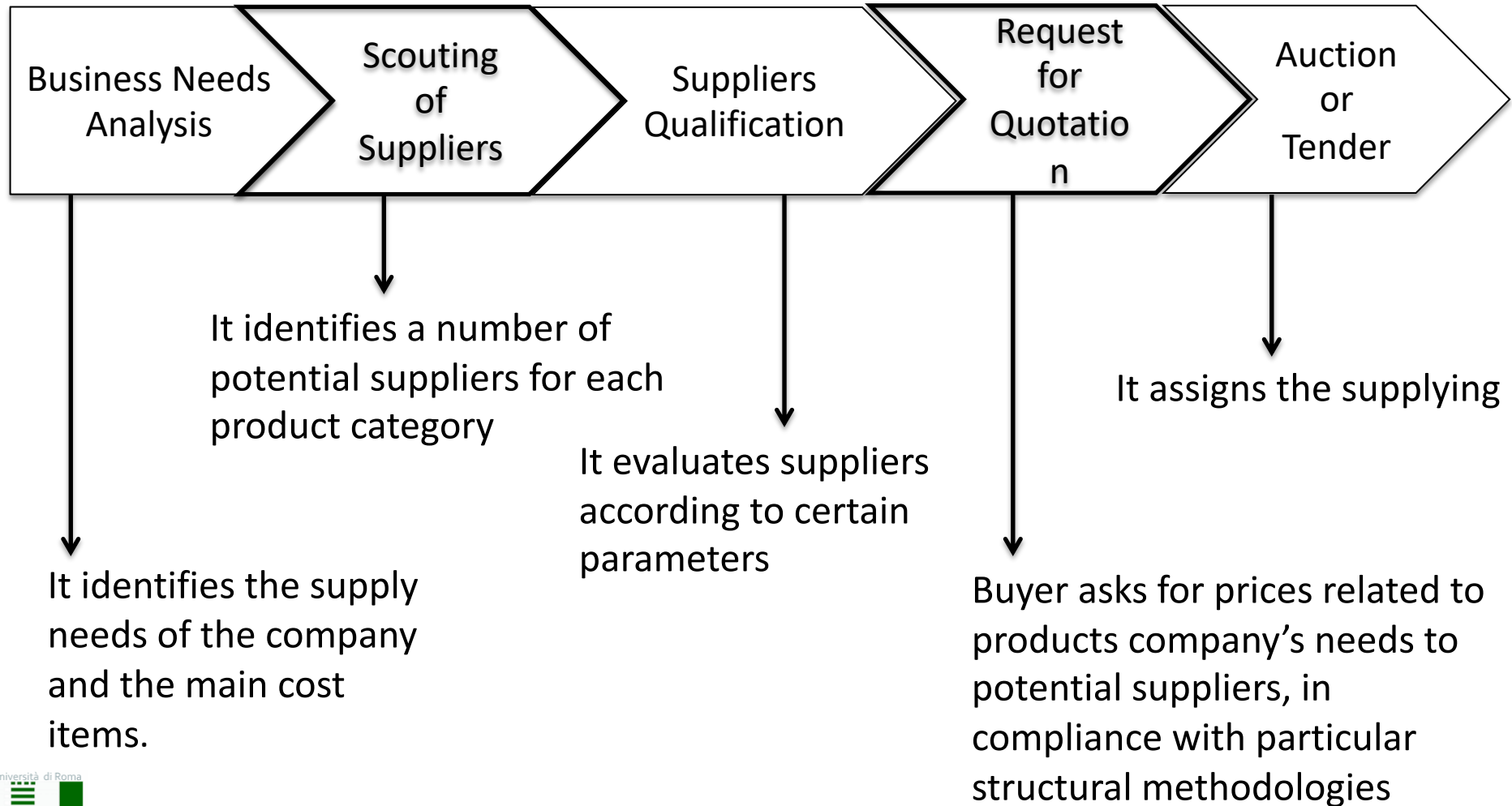It is more than implementing purchasing transactions online (Li et al., 2015);

it involves the strategic reconfiguration and integration of the buyer's and the supplier's business processes to optimise the efficiency and effectiveness of the transactions (Yang et al., 2017).
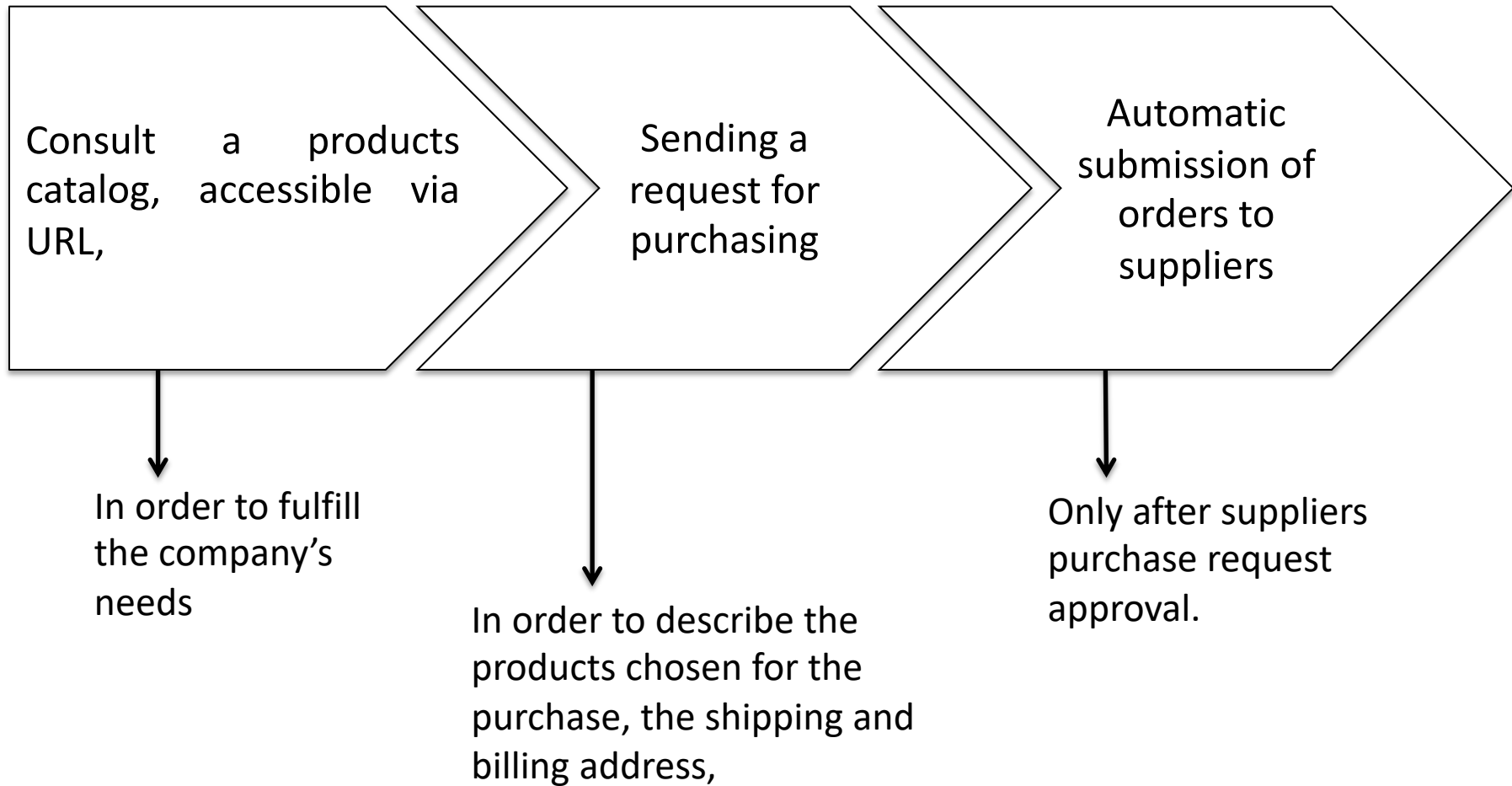
What is e-Procurement?

- **e-Sourcing**, strategic e-Procurement, aims to support

organizations in the multiple activities ranging from the searching for suppliers (scouting), to the qualification and certification of them (vendor rating), up to the negotiation phase, which is based on tools like electronic auction and bid request systems.

- **e-Catalog**, tactical e-Procurement, aims to support

recursive purchasing processes typically based on a web catalog of products and services, which already have an agreement and all the specifications outlined.

e-Sourcing Activities

Business Needs Analysis → Scouting of Suppliers → Suppliers Qualification → Request for Quotation → Auction or Tender

It identifies a number of potential suppliers for each product category

It evaluates suppliers according to certain parameters

It assigns the supplying

It identifies the supply needs of the company and the main cost items.

Buyer asks for prices related to products company's needs to potential suppliers, in compliance with particular structural methodologies

e-Catalog Activities

Consult a products catalog, accessible via URL, → Sending a request for purchasing → Automatic submission of orders to suppliers →

In order to fulfill the company's needs

In order to describe the products chosen for the purchase, the shipping and billing address,
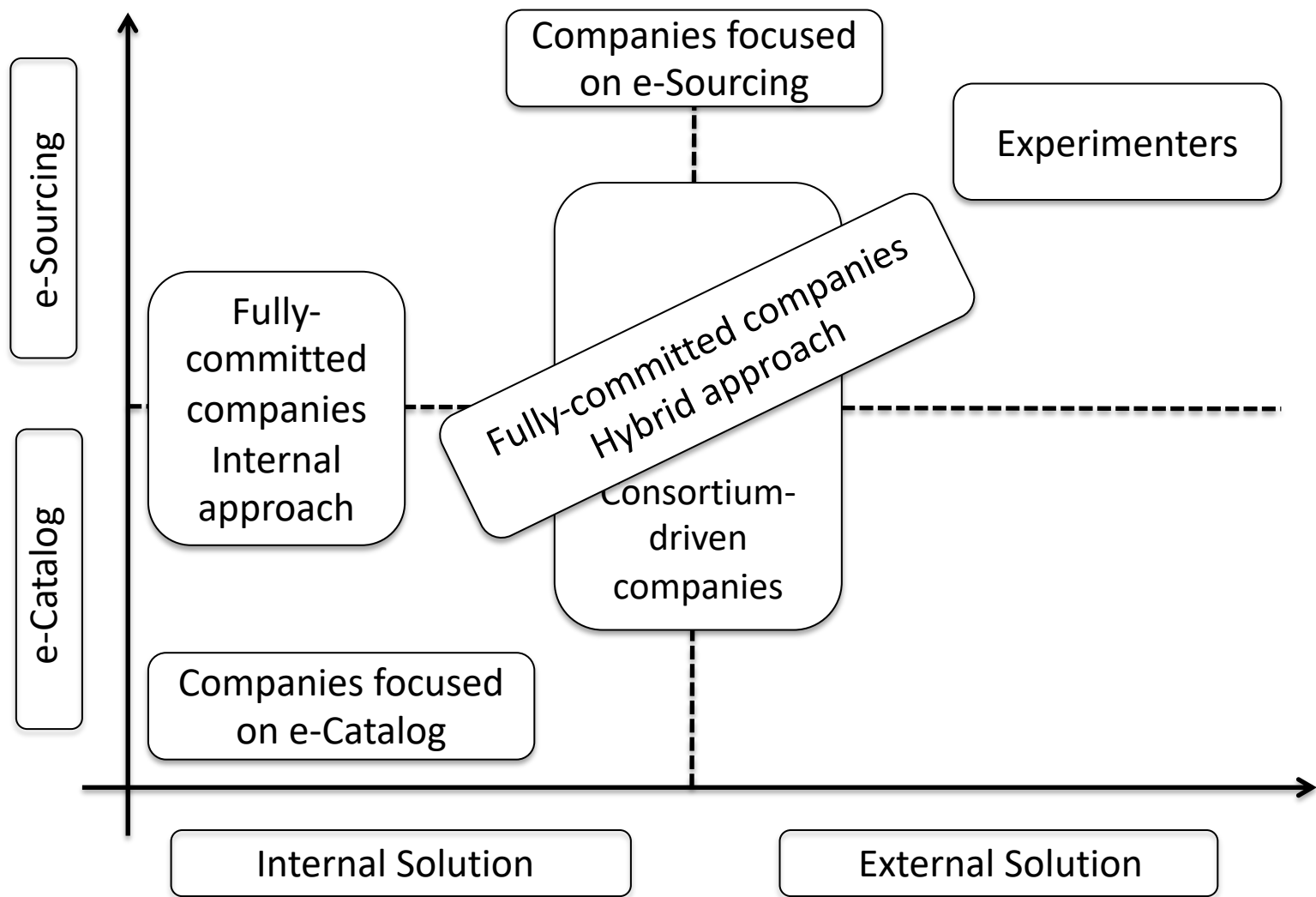
Only after suppliers purchase request approval.

e-Sourcing and e-Catalog: three different approaches adopted by companies
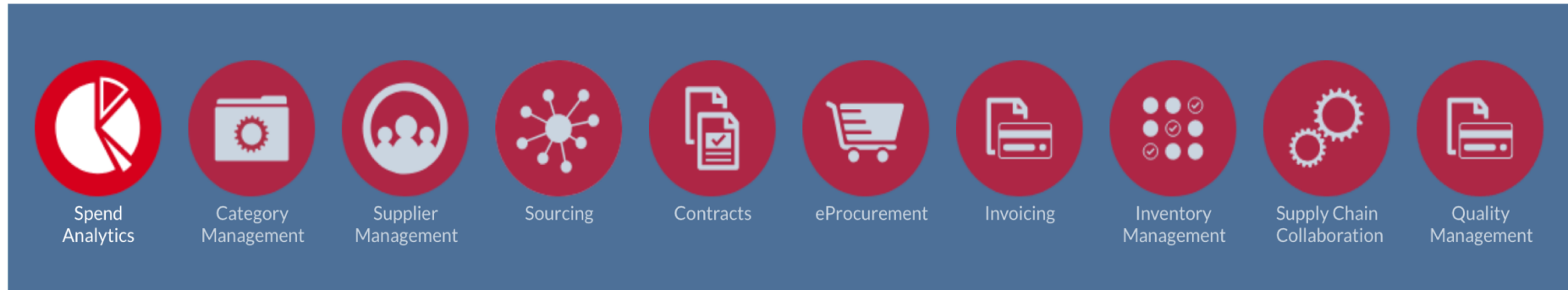
- The experimenters are those who, not yet completely confident on positive impacts achievable through the use of the tool, pay attention to every single step and prefer using especially services provided by external operators.

- The consortium-driven companies adopt an e-Procurement strategy that depends mainly on the type of services offered by the consortium Marketplace they are part of, such as, for example, ABC and i-Faber,

- The fully-committed companies focus on e-Sourcing as well as on the e-Catalog and have developed internally both platforms or just the platform related to the e-Catalog and outsourced all e-Sourcing services.

Strategic value of e-Procurement tool Implementation

Companies focused on e-Sourcing

Experimenters

Fully-committed companies Internal approach

Fully-committed companies Hybrid approach

Consortium-driven companies

Companies focused on e-Catalog

e-Sourcing

e-Catalog

Internal Solution

External Solution

E-Procurement Platform: an example

Spend Analytics · Category Management · Supplier Management · Sourcing · Contracts · eProcurement · Invoicing · Inventory Management · Supply Chain Collaboration · Quality Management

With the tool, firm does not need to waste time manually looking through its data for patterns, gaps and inconsistencies. It is all automated by the e-Proc platform, which transform the data into a powerhouse of information and insights. Data visualization supports better sourcing and supplier decisions. For example: do you have too many suppliers? Do you really know which suppliers you are spending the most with? Are your top suppliers compliant with your organizational standards and relevant regulations?

Source: jaggaer.com
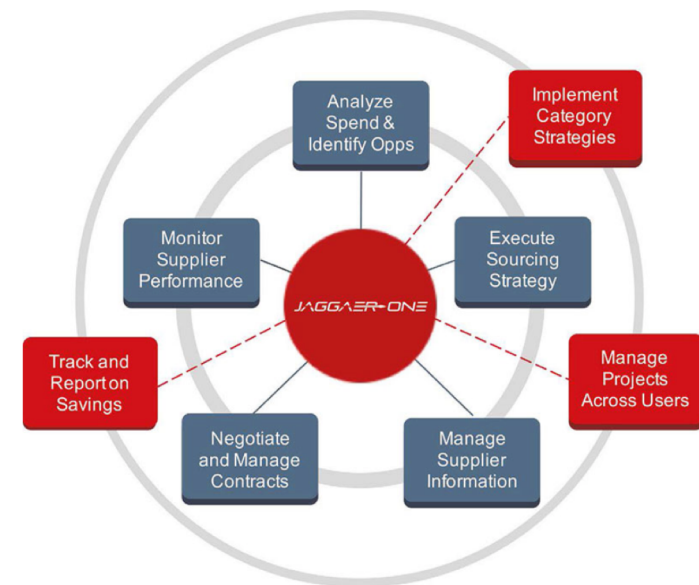
E-Procurement Platform: The Structure

If we divide the process into two parts:

- the first one is about purchasing and sourcing process: analysis of the expenditure, negotiation processes, request for quotation, auctions and tenders, contract management, supplier management, activities able to generate value, the so-called upstream or sourcing process.

- the second one is about the execution or upstream area ranging from order to invoice management, thus the whole process from order to invoice.

E-Procurement Platform: The Structure

The platform can be implemented also in modules, the most important are the spending analysis modules, which are the solutions that can extract and process data from various systems automatically and continuously in time.

Thus, if we imagine a multinational company which has five subsidiaries in the world with five different systems, it is possible to extract information from the various systems, to normalize the data, to transform them, and to rank them in order to do centralized purchasing which are common to all subsidiaries.

E-Procurement Platform: The Structure

Moreover this solution provides a manageable reporting module useful to make strategic decisions on purchasing by aggregating spending and internal benchmarks coming from different subsidiaries or countries.

Technology and advisory services providers hardly ever produce customized solutions for the customer, but standardized, configurable and flexible solutions.

The platform takes on different configurations depending on customer needs but always starting from a standardized product.

E-Procurement Platform: The Features

MODULAR

USER FRIENDLY

CONFIGURABLE

CUSTOMIZABLE

WEB-BASED

INTEGRATED WITH ERP

Source: i-Faber.com

e-Procurement and Technology

- In general, particular additional assets are not necessary to use e-Procurement solutions because nowadays the platforms are user-friendly, web-based and can be perfectly integrated into the existing systems,

- The tool fits where it is needed because technology is a very trivial issue and can be integrated in a very open and simple way,

- The real obstacle is to understand purchasing process, to design it, to replace it in the platform and discover the integration points.

Customer does not have to install further software and hardware components, but he can achieve e-Procurement solution through cloud and browser.

e-Procurement and Technology: firm implementing the tool's efforts in percentage

Legend:
- understand the process and the points of integration
- technology

10%

90%
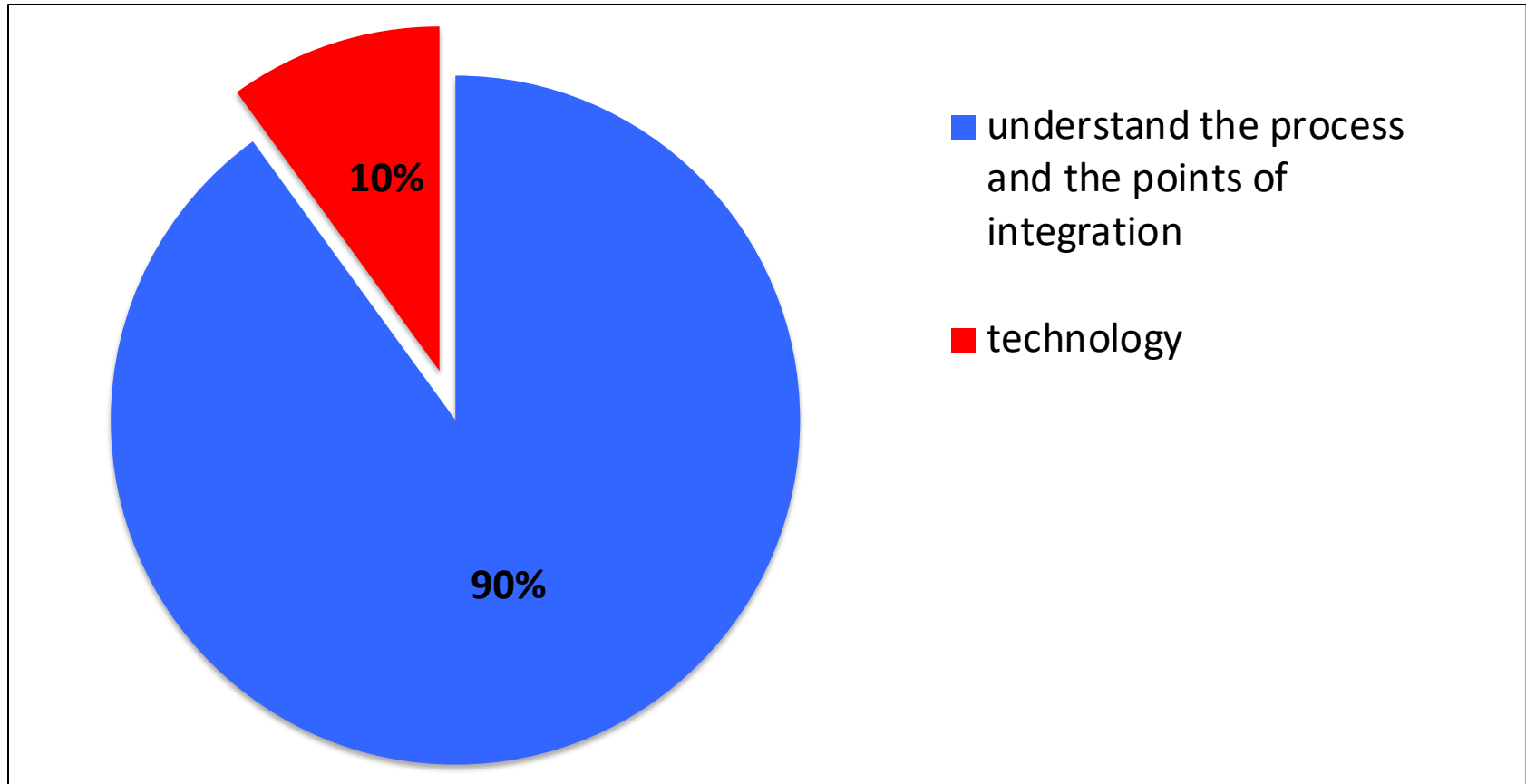
Source: own elaboration on interviews questionnaire-based as data sources of a Research Project.

Technological Drivers to e-Procurement Tool Implementation

Drivers are motivators that induce and motivate companies to adopt an e-Procurement solution within their procurement process.

- process automation or reduction of administrative and operational activities (key drivers for increasing process efficiency),

- change-needs related to the upgrading of antiquated information systems,

- Establishment of common innovative processes and business partners pressure,

Technological Drivers to e-Procurement Tool Implementation

- ICT readiness (the opportunity for the end-user to play in the market with a basic Internet connection, by means of simply putting the url on the company website it is possible to publish the tender and communicate that from that moment on the races will take place exclusively on the e-Procurement platform),

- Network effects (maybe the "most influential drivers" for firms to adopt e-commerce applications, in order to speak the same language of their partners),

- The innovations "the providers provide" to the market and the firms need to adapt themselves to the partners with whom they play.

Technological Barriers to e-Procurement Tool Implementation

- Technology itself if reflected in a lack of common standards,

- Lack of resources and knowledge,

- Low skills levels of business operators and lack of technical expertise,

- Lack of trust in the IT industry,

- Lack of e-commerce and organizational readiness in some industry sectors,

- Security concerns and uncertainty in technology and online transaction (risk perception),

Technological Barriers to e-Procurement Tool Implementation

- Lack of technological infrastructures and resources,

- Low level of computer literacy and deficient logistical and telecommunications infrastructures (most suppliers would require large investments in both equipment and training before being ready for e-Procurement),

- High costs of technology,

- Fear of digitalization (nowadays what was a tangible document becomes a digital file or something that you cannot touch so that traders feel to lose control of the whole purchasing process: they fear that their workflow is not safe, since a file placed on Internet is considered unsafe).

e-Procurement Positive Impacts

Positive Impacts		Private Sector	Public Sector
Short Term	Performance Improvement	– The savings	– The savings
Long Term	Process Management Improvement	– Keep on monitoring the spending; – Involve the best suppliers; – Help firms to improve organizational sustainability in terms of environmental, economic and social aspects, – Improve the purchasing process lead time; – Set up the governance of purchasing; – Make a careful control of purchases; – Have the tracking of information and invoices through contracts and vendors archive; – Dematerialize the purchasing process; – Shorten purchasing process.	– Transparency; – Traceability of information and daily operations; – Simpler access to information (Have the tracking of information and invoices through contracts and vendors archive); – Compliance to Procurement Code.

Advisory Services Role

When a firm decides to implement an e-Procurement tool, it involves a range of functions to strategically reconfigure and integrate the buyer's and supplier's business process into a unique digital environment. Moreover, while implementing e-Procurement tool, a company can find out some phase or activities becoming a waste of resources.

In this context, sometimes it is necessary to redesign the whole procurement process, improve it and adapt it to the new solution otherwise could be very difficult achieve the benefits driven by the tool.

Furthermore, we listed above varous barriers (a firm can face while implementing the tool) related to change management, people culture towards change or low level of technological literacy within the firm.

In all these situations, advisory services play a disruptive role.

Advisory Services Role

By making the procurement process web-based, e-Procurement solution providers are changing the process in ways that go far beyond its mere computerization and automation.

In fact, company providers of strategic procurement technology also provides, to the firms implementing the tool, advisory and consulting services in order to support them with competences, expertises, sustainability, flexibility and promptness in redesigning the procurement process and achieving continuous procurement process improvements.

Advisory Services Role
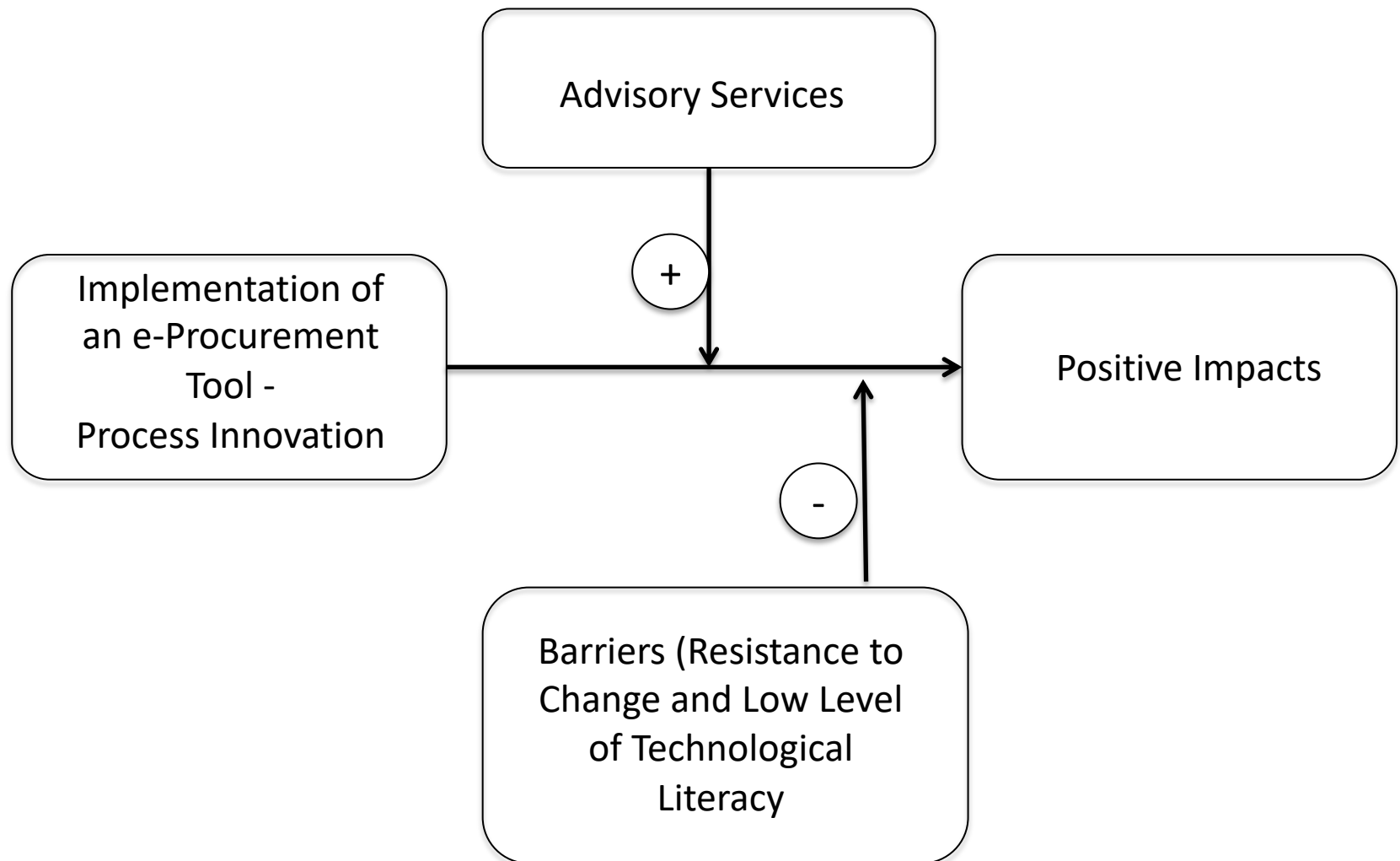
Advisory Services Role

They are fundamental for e-Procurement tool implementation as they establishes what kind of service should be provided by enabling firms to solve their implementation issue.

How Advisory Services impact on e-Procurement tool implementation?

- First of all trust, clarity and transparency are essential requirements in the relationship between advisory services providers and firm implementing the tool, in order to enable the sharing of the emerging needs of the clients and the updates by the providers side, especially when there are critical issues and the offered solution does not satisfy client process or do not make end-user activity productive.

- It is necessary to build a transparent relationship from the beginning (from the studying of the project) to prevent from mismatching between e-Procurement solution and client's need and transposing into the platform wrong requirements.

The phases Advisory Services impact on

1. **Strategy Planning**: analyzing the overall procurement process in order to contextualize and understand its features, by mapping the activities and transposing them into the design of the platform, through specific configurations related to specific customer needs. It is also necessary to understand how the current process works for improving it by the e-Procurement solution,

2. **Implementation Phase**: once the process has been drawn and the solution developed, the e-Procurement solution can be implemented. If while using the solution, customer finds out he has further additional needs, he can contribute to the upgrading of the solution,

3. **After the Implementation**: customer interacts with consultants, who support him both in the maintenance and in the solution use phases. Nevertheless, there is an ongoing dialogue, also lasting for months, between the various functions within the company and the advisory services provider.

e-Procurement at Work at General Motors

① Why General Motors?

② Evolution of e-Procurement at General Motors

③ Expectations and Results of e-Procurement

    a.   Implementation at General Motors

④ Potential Stumbling Blocks

Thank you for your attention!

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