EXOGENOUS INSTITUTIONAL REDESIGN FOR SUCCESSFUL PROCUREMENT OF INNOVATION: THE CASE OF THE PUBLIC HEALTH SECTOR IN SOUTHERN DENMARK

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ABSTRACT
Within the European Union, public procurement is subject to Community rules. Under these rules public sector must follow transparent open procedures ensuring fair conditions of competition for suppliers. This study discusses how those rules, specifically, exogenous institutions, can enable or prevent public procurement of innovation in order to come up with the necessary implications for successful and/or more efficient procurement process. It should be noted that the present is a preliminary product from a Master thesis research which, at the same time, is part of the ProcSouth project. The study is based on empirical research material consisting of two case studies from a Danish scenario. The analysis concentrates on institutional barriers for public procurement of innovation. The central theme emerged from the uncertainty regarding methods and procedures to make public procurement of innovation work in practice. The concepts of innovation, public procurement and institutions are used as theoretical tools to interpret the data. Prelude results from the present imply that there are aspects to be improved for public procurement of innovation to be effective.

INTRODUCTION
The policy interest for public procurement of innovation has followed in the wake of the targets formulated at the 2000 Lisbon European Council (Lisbon European Council, 2000) and refined in Barcelona 2002, for the EU to become ‘the most advanced knowledge economy in the world’. Although, reports and studies have followed to develop these ideas further (e.g. Guy, Tsipouri et. al., 2003; European Commission, 2003; Edler et. al., 2005; European Commission, 2005; Aho et. al., 2006; Gavras et. al., 2006; European Commission, 2007), uncertainty still prevails regarding methods and procedures to make public procurement of innovation work in practice. A similar situation is on the national level. Although there is an emerging interest of the issue on the national level in Denmark (Erhvervs- og Byggestyrelsen, 2009).

The purpose of documenting the current activities and potential areas for future developments of public procurement of innovation practices is to study further how public procurement can be used to stimulate innovation to increase competitive advantage in a global economy. Based on the findings in case studies, the aim is to develop policy implications in order to inform innovation policy development for public procurement. The last can be achieved by finding out the mode in which exogenous or formal institutions, EC Directives, can affect the outcome of public procurement processes.

THEORETICAL FRAMEWORK
Different aspects of innovative public procurement lead to some generalities such as innovation theory, the impor-
tance of institutions and the current legal framework ruling public procurement and its implementation in Denmark. So, basically, the following will try to bring up the problematic between a supra-national entity and a national one. For that, the European Union is considered as a supranational “institution which can affect innovation outcomes in public procurement of innovation” (Rolfstam et. al., 2009) in a member state.

First of all, “Procurement” refers to the function of purchasing goods or services from an outside body (Arrowsmith, 2005). The activity of procurement is of concern to a wide range of groups and interests. In particular, it affects those who fund the activity (taxpayers in the case of government); the citizens or consumers who benefit from the products or services acquired; businesses that supply the products or services; and also the economy as a whole, since effective purchasing can play an important role in promoting economic activity.

Public procurement as a discipline expands from a simple internal market topic, to a multi-faceted tool of European regulation and governance covering policy choices and revealing an interesting interface between centralized and national governance systems. Additionally, it is important to know the linkages between the public and private sector concerning an acquisition process. Undoubtedly, both have their own characteristics but when it comes to procurement, they are correlated in order to work in the most efficient way. Public and private permeate and are not clearly differentiated. Statist systems distinguish public and private, by institutionalizing the former in the state and the latter in society. Nevertheless, the acquisition exercise involves both the public and private sector; actors that start with a ‘problem that needs to be solved: a buying need that has to be fulfilled’ (Robinson et. al., 1967). The public sector is defined here as public administrations (federal, provincial and local), hospitals, universities, as well as public enterprises at all three levels of government, but excludes privately owned enterprises in regulated industries (Dalpé, 1992). Public enterprises in the manufacturing industry are therefore considered as part of the public sector. The principal public users of innovation are hospitals, electrical energy, defence, the federal administration, railway transport, and telephone systems. On the contrary, private sector refers to all economic activity other than that of government; good and services are produced by individuals and/or companies.1

Through purchasing, governments have, in fact, the power to determine their suppliers’ market shares. Thus, innovation becomes a major stake in the competition for contracts, since the winning firm inherits a competitive advantage and privileged access to future orders.

In that line, Schumpeter (1911) defines innovation as “the introduction of a new good … or a new quality of a good” and process innovation as “the introduction of a new method of production … or a new way of handling a commodity commercially”. Hence, public procurement of innovation has been defined by Edquist and Hommen (2000) as something that: …occurs when a public agency acts to purchase, or place an order for, a product – service, good, or system – that does not yet exist, but which could (probably) be developed within a reasonable period of time, based on additional or new innovative work by the organization(s) undertaking to produce, supply, and sell the product being purchased.

Robert Dalpé (1994) mentions that whether or not governments develop an explicit procurement policy that is oriented towards innovation, their decision concerning prices, quantities, and standards affect innovation, positively or negatively, in a group of industries involved in government procurement. Likewise, the role of public procurement in innovation is most influential at the earliest stages of the life cycle of a product and of an industry (Dalpé, 1994). Hence, according to R. Hebert et. al. (1982), an important factor that explains the role of procurement policies in innovation is the maturity of the product and of the industry. In the early stages of development, when products are not yet standardized, public sector demand can affect important technical changes. In the later stages, the industry is less receptive to clients’ demands (Dalpé, 1994). Thus, a key to successful procurement for innovation is the “intelligent customer” who is able to be aware of potential new solutions, and can specify and manage contracts of this kind throughout their lifecycle (Aho, et. al., 2006).

But, it is important now to consider that as the main actor here is the government, there is the existence of certain statutes which it has to follow in order to fulfill everybody’s goals. Those can represent a barrier or not to any kind of activity to perform and that is why institutions are studied.

Douglas C. North (1990) argues that economic growth is a function of institutions. He demonstrates that institutions matter because they “provide the rules of the game, constraining human interaction and providing incentives for individuals and organizations to engage in productive and/or destructive political, economic, social and other activities” (North, 1990). Equally important, the American economist adds dynamics into the theory of institutions, claiming that if institutions are the rules of the game, organizations and their entrepreneurs are the players. The same author contends that institutions exist to make cooperation sustainable. The presence of some kind of third-party enforcement such as courts, governments and firms can be illustrative.

Based on North’s approach, Coriat and Weinstein (2002) define two dimensions; one is based on the origin and formality of the institutions and the other on durability. They distinguish between a type 1 and type 2 institutions, which will for the purpose of this research be referred to as exogenous and endogenous institutions respectively. Exogenous institutions (type 1) are “based on criteria of authority and enforcement posed on all the agents” (Coriat and Weinstein, 2002), typically these institutions are formal laws that cannot be waived. Endogenous institutions (type 2) are “private collective agreements between groups of agents” (Coriat and Weinstein, 2002), these institutions are typically the rules that individuals enter into on their own accord such as contracts they decide to sign and customs they follow.

At this point, it is important to consid-
er the institutional framework which guides the public and private sector in terms of procurement. Then, the aim should be to set up institutions that will provide a more stable basis for cooperation between various organizations, between staff and management, between businesses and research institutions, and between businesses and their investors.

But it is also important that the existing institutional structures should contribute towards the creation of a climate conducive of innovation. Though, in essence, institutions are not just constraint structures; all institutions simultaneously empower and control (Powell and DiMaggio, 1991).

Moreover, J. D. Roessner (1979), in his study of local government procurement in the United States, concluded that the choice of the least expensive product over the highest performing and most innovative product, as well as the risks inherent in new production acquisition, are the major obstacles to the introduction of new technologies. In this case, institutional barriers inhibit the public buyer from supporting new products through procurement. Because of the above, on one hand, it can be noted that institutions affect public procurement of innovation no matter where; for instance, the EC Directives on Public Procurement act as a central, formal institution (exogenous) within the European Union (EU). On the other hand, without institutions a social system would not be able to accumulate knowledge, or enable communication and would therefore be unable to sustain innovation.

It is important to mention that an objective of the European Community since their inception has been to create a common market, eliminating barriers to the movement of business, labour and capital. Barriers to trade were numerous and varied, including customs duties, discriminatory taxation, quota systems and subsidies. Procurement practices that do not allow for fair competition between firms may also operate as barriers to trade and produce trade distortions. In like manner, the constantly changing enlargement of the European Union has placed the concept of the common market as the heart of the European integration process. New member states and member states have to adapt the public procurement acquis communautaire and existing ones must improve on the quality of its implementation (Bovis, 2005).

For companies, the principal barrier to investment in Europe is the lack of an innovation friendly market. In particular, the fragmentation of markets across the national boundaries of member states provides a major disincentive for innovation. Esko Aho et. al. (2006) emphasizes that despite progress towards the single market and some notable successes, the reality for most innovators remains that they face an obstacle course of multiple levels of regulations and requirements, each of which raises costs and lowers incentives.

It has been argued that the introduction of more stringent competition regulations across the European Union has proven a major factor in the declining use of public procurement (Edquist, et. al., 2000). The extent of relative decline is indicated by statistics showing EU procurement four times less that the US in civilian sectors and two times less when defense is taken into account (Directors Forum, 2006). However, from 2003 - 2004, the issue has received renewed attention, especially at the EU level but increasingly so at national level in a number of member states (Edler and Georgiou, 2007).

Besides, as part of the Single Market programme, public purchasing above certain thresholds has been regulated by Community Law since 1 January 1989 (Thois, 1997). Purchases above these thresholds must be announced in the Official Journal of the European Community. In principle, this should give all relevant suppliers irrespective of nationality a fair chance to win any national EC tender. In effect, policymakers in the EU have increasingly emphasized the role of public procurement as a policy instrument that can be used to stimulate innovation (Rolfstam, 2009). Consequently, procurement for innovation was incorporated as an element of the European Commission’s Research Investment Action Plan to raise R&D expenditure to the 3% Barcelona target (European Commission, 2003). Afterwards, in November 2004 the “Kok Report”, which was reviewing progress on the “Lisbon Strategy”, recognized that procurement could be used to provide pioneer markets for new research and innovation intensive products (Kok, et. al., 2004). Indeed, there is the need for Europe to provide an innovation-friendly market for its businesses, the lack of which is the main barrier to investment in research and innovation (Aho, et. al., 2006). This needs actions on regulation, standards, public procurement, intellectual property and fostering a culture which celebrates innovation (Aho, et. al., 2006). The Commission has taken actions to raise awareness and to spread good practice in this domain but these are only necessary first steps – the real challenge is to apply these concepts in key areas of public purchasing and at a European level to explore ways of aggregating and coordinating demand through common standards and joint procurement. Aho et. al. (2006) emphasizes it is particularly important that public sector productivity grows strongly in Europe because of its relatively large public sector and citizen’s expectations of a high standard of service. In the area of public procurement, new EU directives have created opportunities for public authorities to purchase innovative solutions, with key changes including (Aho, et. al., 2006):

- Possibilities for technical and competitive dialogues between purchaser and supplier, a necessary condition if each side is to understand the other;
- The facility to specify requirements in terms of functional performance or standards, which allows suppliers to produce any configuration of technology they feel can meet the need;
- Options to permit variants, thus opening up bids to alternative ideas; and
- Conditions that allow transfer of intellectual property to the suppliers, and hence allow them to exploit their innovations in wider markets.

For that, effective multi-level governance arrangement will need to be in place, combining regional, national and supra-national elements. The above can be a challenge due to the fact that countries within the EU are formed by regions or provinces which, at the same time, still keep their own regulations toward public procure-
ment activities. So, the study of them is mandatory to get to know how it works. There is an essential need for a legal basis in which all public procurement can be governed. The EC and EU Treaties (v. 2006) and the respective EU Directives help to ensure that public procurement is conducted in a fair and open manner within the member states. Directives are, by definition, not directly applicable and, in order to produce their effects within the member states, need to be implemented or ‘transposed’ into national law (Trepte, 2007). On April 30, 2004 two new directives were published in the Official Journal (Arrowsmith, 2005):

- Directive 2004/17/EC (for utilities, to replace the current Directive 93/38)—hereafter “the new utilities directive”;

In the European Union, the Procurement Directive was to be implemented into national law before 31 January 2006 in the individual member states, and, therefore, the rules of the Procurement Directive must be considered in combination with the rules of the individual member state (Evers et al., 2006).

Whilst the provisions of the Directives must be transposed into national law and whilst tenderers bidding for contracts in other member states will need to be aware of the national implementing rules and practices in that member state, those rules will be based on the obligations imposed by the Directives......(Trepte, 2007).

Moreover, Maskell (2004) notices that it is the extent of the egalitarian structure of the Danish society that continues to distinguish Denmark from most other small developed nations. The business community in a small nation such as Denmark leads to see that domestic producers know each other directly or indirectly. Most managers in larger enterprises will meet regularly. All firms in the same sector will usually be organized in at least one association or guild with nationwide coverage. Most managers will have participated in some sort of joint activity on the local, regional or national level. Local rivalry stimulated the entrepreneurial spirit and reinforces the productivity in the region.

Furthermore, in accordance with Thois (1997), public procurement in Denmark still exhibits a very low degree of economic integration as measured by direct cross-border interaction. He states two explanations which may be offered: a) Almost all relevant foreign suppliers already have a national presence of some kind in Denmark, be it a Danish sub-contractor, subsidiary or a national agent. There is therefore a limited material basis for an increase in direct cross-border activity; b) Foreign suppliers to the public sector often have to deal with prohibitive ‘logistical’ barriers. For example, they have to be able to deliver to fifty different places each day within a local community; they have to deliver after-sales service promptly and have a stock of goods on hand for immediate delivery.

In other words, a local presence of some kind is almost always mandatory. The EC Directives on public procurement are transposed into the Danish legal system, i.e. the texts of the directives have been directly incorporated into the national level. The Danish Competition Authority is the governmental agency responsible for the implementation of the EC directives on public procurement11.

DATA AND METHOD

A case study protocol has been developed for case studies which will bring reliability to the research (Yin, 2009). The case studies are designed to give the researchers the opportunity to investigate public procurement of innovation from different sides by interviewing managers from supplying firms, public procurers that have participated and policymakers that influence innovation policies in Southern Denmark. The purpose is to investigate the institutions that govern public procurement of innovation and to discuss cases of successful procurement as well as ones that did not succeed in order to gain understanding of the process. The protocol also offers a serial of questions which serves as a guide to gather the necessary information.

Data collection, primarily, is based on semi-structured interviews with relevant several respondents or key actors that play a role in the public procurement of innovation exercise. Respondents might express not only facts, but also opinions and insights about how they perceive the procurement process. Furthermore, the different views expressed should be confronted and weighted with other more formal sources of information, i.e. policy documents, annual reports, etc. This might result in a more adequate picture of the procurement process reducing subjective elements.

The following topics are addressed during the interviews:

i. Public Procurement of Innovation
ii. Procurement Decision
iii. Context of the Procurement
iv. Outcome of the Procurement
v. Future Development of Public Procurement of Innovation

The data collected in the interviews and any data from documents that are relevant to the cases will be analyzed and used to develop implications for public procurement of innovation. And, following Yin (2009), records of the interviews and preliminary reports will be available for interviewees to increase validity of the research.

PROCUREMENT CASES

Two case studies of public procurement have been conducted in November 2010. The first case (Case 1) is about the procurement of ambulance driving service and patient transport; the second (Case 2) is a supply of a new laboratory information system to hospitals. Ideally, both, the supplier and procurer would need to be interviewed. At this point, the study has only the supplier’s perspective from both cases. Moreover, stakeholders within the topic will be interviewed in the next short-term.

The cases in the research have been chosen based on the perceived informational richness they offer. With a focus on institutional barriers for innovation, the chosen cases make out examples of successful public procurement of innovation. Cases have been carried out under the current legislative set-up for public procurement, i.e. the EU Public Procurement Directives 2004/17/EC and 2004/18/EC.

The research is explanatory in nature expecting the conclusions to be analytical. It deals with the way exogenous or formal institutions can prevent efficient and/or successful public pro-

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curement of innovation, and, in some cases, affecting positive or negatively the outcome of it.

Case 1 was selected because it involved a project that was successful providing stability and security to both, the procurer and the community. Case 2 was selected because it ensures an innovative and proven software solution for the buyer and the user. The two cases give alike insights concerning the weight that exogenous institutions towards the public procurement process.

PRELIMINARY RESULTS

CASE 1
The first case deals with how Region South Denmark has purchased a package consisting of a control centre system, developed ambulance driving and recumbent patient transport. The provider is the Danish company Falck A/S which its main tasks have been to offer assistance at accidents, emergencies and illness. Part of the purchased service by Region South Denmark has been also provided before to the public sector for many years.

Specifications of the tender include quality, delivery and price while the last one is always matter of attention when coming into an agreement. Price was the most important criteria when choosing the awarded supplier. The new features in the service are, mainly, faster response time and better quality, for example, cars’ specifications. The contract was signed on September 1st, 2009 and runs for four years plus two of renewal.

Jesper Stig Andersen, Station Leader of Falck in Sønderborg, appointed that since the public purchasing law of 1989 referring to the announcement of tenders, the company has lost a percentage of their market due to the competition. Also, for Falck A/S, the public sector is a loyal customer regarding the rules they need to follow in order to come with a purchase. In general terms, the company is contended with the EU regulation because it enhances fair competition; however, rules can always be more flexible.

CASE 2
The case deals with the IT firm Logica who has become the supplier of a new laboratory system (LIMS) to hospitals in both Region South Denmark and Sjælland. It is a case of joint procurement. The new laboratory information system will make the exchange of information between the individual hospitals more simply, when the current three different IT systems in Southern Denmark and the two different systems in Sjælland will be replaced by a single common system. According to IT Director of Region Sjælland, Michael S. Hanson, “the system will provide greater stability and reliability for the laboratory production”. The new system is innovative in the sense that it is capable to do something different that the old version that the Regions have. Ten percent of the software needed to be re-designed in order to meet the specifications of the tender. In degrees of innovation, it is sort of incremental innovation. The new IT system also opens new opportunities for laboratory work processes, for example, in connection with obtaining and reading the questions on samplings.

The reason behind the tender came up back in Autumn 2009 when both regions cancelled their separate contracts for solution for laboratories because the provider, which was the same for the two regions, could not deliver what they needed. So, a restricted EU tender was implemented. Logica won 3 out of 4 categories of the requirement specification which included project, planning, price and delivery.

The contract was signed on October 4th, 2010. And, once the new system is introduced, it is expected that both regions will have substantial operating savings each year. All in all, the project covers approximately six years.

Moreover, according to Martin Pedersen, Divisional Director – Public Sector and Healthcare at Logica, there is a huge risk of misunderstanding when the tender is out. According to him, the requirement specification do not cover everything that the procurer really wants. Every single person involved in the procurement process has a different understanding of the tender material.

Misinterpretation is always on the line and the dialogue that the supplier and the procurer can have is very structured, very formal.

So, the case is an example of the barriers that parties within a procurement process can encounter due to the ‘bureaucracy’ of exogenous institutions.

The process is not smoothly as the, in this case, the provider, would like it to be.

DISCUSSION
The cases referred to here are both, coincidentally, within the public health sector. However, the reason behind the purchase was different. It can be said that in Case 1, there is a need from the community (hospitals and society in general) to assist emergencies or the transport of patients, so, Falck A/S was chosen because of experience. In Case 2, the need was raised due to a failure of a previous supplier in the delivering of the software solution, so, Logica was chosen because of its efficiency.

From both cases, it can be seen that exogenous institutions have a significant role when it comes to public procurement. Exogenous institutions, conversely from endogenous institutions, are “based on criteria of authority and enforcement posed on all the agents” (Coriat and Weinstein, 2002); typically, this type of institutions is formal laws that cannot be ignored. The public sector needs to follow and be pegged to the EU regulation (EU Public Procurement Directives). Information from cases makes evident that even though cooperation between the specific company and the procurer is excellent, the process is more rigid and much stricter than the one faced with a private business, for instance. And, also because there are rules to tracked, the decision process is much longer because it needs to be approved at certain levels.

Case 1 points institutions as the way to compete in a fair scenario but the company has had losses because of them. Case 2 shows that, sometimes, it can be that the rules are so severe that a firm cannot deliver what the procurer really wants. So, more dialogue between the buyer and the supplier and less rigid rules is recommended. So, in legislation or institutional terms, there is a lot that can be improved.

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NOTES
2 Douglas C. North (1920 –) is an American economist, Nobel Prize in economics in 1993. He is also Hoover Institution’s Bartlett Burnap Senior Fellow whose research activities include research on property rights, transaction costs, economic organization in history, a theory of the state, the free rider problem, ideology, growth of government, economic and social change, and a theory of institutional change.
3 It can be described as the total body of European Union law applicable to the EU member states which is constantly evolving. The concept includes the primacy of EU law and other principles developed by the Court of Justice. Member states are bound to accept future majority decisions and verdicts from the EU Court.
4 As the analyses focuses on the period prior to the formation of the European Union, the Community is referred to in the following as the EC.
5 The European Council met in Barcelona on 15 and 16 March 2002 for its second annual Spring meeting on the economic, social and environmental situation in the Union.
6 Report executed by a High Level Group headed by Mr. Wim Kok, former Prime Minister of the Netherlands which was asked to carry out an independent review to contribute to the mid-term review of the EU’s Lisbon Strategy.
7 During the meeting of the European Council in Lisbon (March 2000), the Heads of State or Government launched a “Lisbon Strategy” aimed at making the European Union the most competitive economy in the world and achieving full employment by 2010.
8 Actions include an expert group report; Wilkinson R. et. al. “Public procurement for research and innovation”, DG Research, September 2005, EUR 21793 and a study leading to a Handbook on raising the technological and innovative intensity of publicly procured goods and services.
9 Referred as the ‘Utilities Directive’
10 Referred as the ‘Public Procurement Directive’.