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**Rethinking the concept of value in health care
practices: critical insights from three inquiries**

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Introduction

Situated within the (critical) management field, this thesis explores the notion of value and it unpacks this theoretical category by approaching the concept through three perspectives, which are illuminating of different facets of the notion of value.

In this light, the thesis aims to contribute to the debate on value creation within the health care system by presenting different overviews on the concept in order to provide an understanding of the concept of value.

The thesis is a collection of three articles which examine different aspects of the notion of value and that deal with different levels of analysis (macro-level, meso-level and micro-level) within the health care sector.

The intention of the doctoral research thus is to focus on the concept of value and the way in which this concept is adopted and debated within the health care sector.

Thesis outline

Theoretically, the first article explores how value is created for communities by considering the impact of Public hospitals on the local communities. Indeed, the first article focuses on the macro level perspective, exploring how value can be generated for the communities

which benefit from health care services. More particularly, this article investigates the value created by public hospitals and how it is possible to measure the creation of value for communities. In order to do so, the concept of impact analysis is introduced to explore how it is possible to assess a public hospital by including broader dimensions (social, environmental dimensions) that urge to be incorporated in the evaluation. In fact, by taking as case the Aziende Sanitarie Ospedaliere, the purpose is to outline an integrated model of evaluation which comprises four dimensions: economic, social, environmental and ethics. The research starts out from the consideration that traditionally research on the impact of health services organizations has adopted a simply managerial perspective. The focus of the impact analysis has underlined that the economic impact produced is either the only or the main reason for implementing or for ceasing the functioning of a health care organization. Conversely, the article adopts a different perspective moving towards a more ample debate. The main idea is that the process of decision making - concerning for instance the improvement or the ending of a hospital - should include intangible and less visible dimensions that impact on the social community receiving the health care services.

Theoretically, the second article discusses how value is created for patients and thus it focuses on the micro-level dimension. To narrow down the analysis, the article engages in a reflection on the concept of e-health care and it explores how e-health care platforms can create value for their users/patients.

E-health programs have been, in fact, experimented in order to improve the quality of the care and patient outcomes.

This goes in the direction of a more collaborative and participative use of technology related to the use of e-health where the focus becomes the empowerment of the healthcare user over the traditional telemedicine or tele-care approach. In this light, the role of the patient becomes crucial.

The article turns its attention on the idea of co-creation, showing that many virtual communities are flourishing and becoming widespread thanks to the co-creative activity of patients and providers, where social cooperation becomes a central feature for value generation. Theoretically, this article reviews the main conceptualization on the notion of value within managerial studies showing that broaden dimensions that go beyond the pure monetary value and that are based on social and ethical notions need to be included. In this view, market value (based on a conflation between price and value) is not sufficient anymore to fully explain how value is produced. Still, its inadequacy lies in not being able to mirror other forms

of values which also contribute to define the notion. Starting from these premises, a different logic of value production, based on the principle of ‘social production’ is presented.

The aim of the project is to present a model for value creation grounded on the users’ activity. Implications for future roles of patients are discussed in relation to potential directions to create engagement for them in an effort to generate value through e-health platforms.

Finally, the third article aims to provide a perspective that includes and merges the previous two dimensions (macro perspective and micro perspective). In this instance, value is investigated both at the individual and collective level. The concept is framed within the smart cities context and it investigates how smart health care solutions can generate value both for the citizens and the smart community.

This article departs from the study of the European ‘smart cities’ project, to observe how middle-sized cities could develop, empowered by the spread of networked information and communication technologies.

In effect, the opportunity to generate forms of value for inhabitants is one of the issues debated on the table by urban policy makers, who have interrogate themselves on how to make local contexts competitive and help

the urban contexts' growth. In this light, smart healthcare is recognized as one of the main dimensions that contribute to make a city smarter.

In addressing the high economic burden of the healthcare sector, preventive medicine, real time monitoring, ubiquitous computing and decision support have become indispensable and have been placed on the forefront for a city that aims to be smart. The core idea is that tools based on computer system can actually transform healthcare system from one that is 'disease-cantered' to one that is much more 'patient-cantered' and in this way creating value for the community and the city. Starting from these premises, the article focuses, in particular, on the use of patient records on smart cards by healthcare professionals (doctors, pharmacist, GP). In particular, in the healthcare sector 'Smart Cards' are crucial to keep track of patients' records and exchange of information while the need for their implementation is justified by the statement that electronic health records information can get the right information for decision to caregivers. In the case study described, the paper demonstrated how managing patients' record electronically can play an important role in helping people in many ways, especially thanks to the increasing range of ITC applications and services. It has also shown that investment in technology to improve management of patient records could be a valuable choice toward the direction of creating a smarter city and community.

The research questions

The question put forward is then: On which basis value is created, and who are the main producers of value in the post-crisis era?

This general question is addressed by considering the three perspectives where different research questions will be formulated which helps to shed light on different aspects of value creation within the healthcare system.

In particular, the first article addresses the question: what is the value of a public hospital for a community and how is it possible to grasp its value?

The question will be answered by introducing the concept of impact analysis that implies the inclusion of different dimensions at the same time. A new integrated model is presented made up of 5 main bricks. The first one refers to the analysis of the direct and indirect economic impact; the second one to the social impact. The third dimension includes the 3BL approach principles. The fourth and the fifth dimensions are related to the analysis of strategic goals and to the organizational effectiveness analysis.

The second article addresses the question: Are e-health care platforms able to create value for their users? What is the role of the users/patients in the process of value creation? And which type of role do they adopt?

The paper discusses a model of value creation based on patients' co-creative activities. In the model presented, value creation flows actually by the interwoven activity of patients, doctors and platform's designers whose activity is highly related.

The last article addresses the question: is it possible to envision a smart growth through the pervasive use of IT services within the healthcare system? In which way smart cards can enhance the care for smart citizens? Moving from the experience of Exeter Care Card Pilot, some considerations are made on what it is possible to learn from countries where smart health initiatives are consolidated. Indeed smart cards are set to play a pivotal part in the future development of healthcare in particular and general in the context of a smart city and this seems to have important implication for value creation both at individual and collective level.

Research Methods

The central aspects related to the method adopted starts from the consideration that the research method must be appropriate to the objectives of the study. Therefore, this section answer the question: how was the data generated? and how was it analyzed?

The methodological framework within which to answer the question is inspired to principles of triangulation, where qualitative and quantitative methods are used to address the research question. In this light, the choice to adopt mixed methods allows to have an integrated combination of methods which best serves the research purposes.

The first article adopts thus a combination of qualitative and quantitative methods and this responds to a principle of ‘complementary assistance’ (Morgan, 2007) according to which methods are used together so that one method enhances effectiveness of another. In this way, surveys are used as well as qualitative interviews.

The second article follows a qualitative approach by adopting an internet based research method (Eysenbach, 2011) in order to investigate online-communities. The article undertakes an analysis of the web materials of the platform in order to build a model on value creation from on-line platform. Thus, to produce data, the article adopts a mixed method approach consisting of two main sources of data: 1. Online analysis on internet communities; 2. Archive documents.

Instead the third article adopts a research strategy that is based on case study research (Eisenhardt, 1989; Bent 2011). The advantage of this method is that it allows investigating a contemporary phenomenon within

its real-life context (Scapens, 2004). Indeed, as observed by Hartley (2004) the benefit of this type of investigation is that the phenomenon investigated is not isolated by its context and this permits detailed understanding of the phenomenon through a richer data collection.

In particular, the article considers a single case study which is the Exeter Care Card Pilot in order to show how this could be applied in other contexts.

Contribution

The reflection was guided by a wider underlying consideration, which is tied to transformations in value understandings – i.e. what value is and according to which logic it is produced. The thesis argued, indeed, that new means to define value are surpassing traditional political economy conceptualizations. The explanation of value based on labor time does not seem the only measure to determine value anymore. Instead, it argued that new aspects are acquiring a central room when value issues are under analysis. Therefore, the originality of the work and its contribution are manifold.

The first article contributes to advance knowledge on the concept of impact analysis, aiming to cover a gap in the definition. In order to cover this gap, an integrated model made up by multiple dimensions is

discussed. In parallel the research aims to shed lights on alternative (or parallel) ways to evaluate the performance of Public Hospitals by including broader dimensions (social, environmental dimensions) that urge to be incorporated.

The second article's main contribution is located around the recent wave of studies on 'e-health care' and the possibility to create forms of value for users/patients. Reflections on how to implement their growth will be undertaken, by reflecting on incentives and strategies to entice users to contribute.

The contribution of the third article lies in its capacity to reflect on a very contemporary phenomenon, which is the use of smart technology (such as 'smart card') as a tool to contribute to 'smart growth'. Through the lens of the notion of ethical economy, the article makes several considerations on the fact that such notion 'is likely to be central to the emerging economic ecology of the information society' (Arvidsson, 2010: 638) and it observes how this applies to the case of smart cities.

Furthermore, the research also contributes to the still ill-developed literature on the concept of 'smart city'. After the launching of the European 'smart city' program, some studies have been carried out, but mainly from a practitioner's perspective (Béllisent, 2010; Insead, 2011).

In this light, the article aims to contribute to the initial scholarly body of research on this topic.

Article I

**Applying socio-economic impact analysis to the
evaluation of health care policies: a critical contribution**

Applying socio-economic impact analysis to the evaluation of health care policies: a critical contribution

Abstract

The impact of the Healthcare system is an ongoing field of research, currently facing several flush issues. Hospital performance assessment systems in Europe remain extremely diverse and little agreement subsists on the main definition and interpretation as well as about appropriate way of measurement techniques. Despite the most part of specialised literature takes into account the measurement of economic impact, the assessment of social impact and the assessment of the social and environmental performance, there is little robust evidence on organizational goals and on the degree of effectiveness of mechanisms and structures used to achieve the goals agreed. This is a conceptual paper which outlines an integrated theoretical model able to include and combine the dimensions evaluated by the traditional literature, pooled with dimensions related to the analysis of organization's strategic goals and to the organizational effectiveness analysis.

Keywords – Economic impact, Social impact, AOs, Organizational goals, effectiveness.

Paper type – Conceptual paper

1. Introduction

This article explores the issue of economic and social impact analysis applied to the field of health care. Starting from a reconceptualization of the concept of impact analysis, the article engages into the debate on the meaning attached to the concept of impact analysis by reflecting on the measurement of the economic and social dimensions. By taking as case the Aziende Saniaterie Ospedaliere, the purpose is to outline an integrated model of evaluation which comprises four dimensions: economic, social, environmental and ethics.

The concept of impact analysis has received a growing interest in the literature and some commentators have advised on the differences with the group of research focused on performance measurement and the reasons which drive the two evaluation instruments. The former, is a technique largely concerned with the evaluation of internal efficiency dimensions where the instrument extensively adopted is for instance the balance scorecard, i.e. Baldrige Assessment Techniques (Kaplan & Norton, 2005). Instead, numerous researchers consider the socio-economic impact analysis as centred on the actual effects produced within the social and the economic context.

At the outset it is important to clarify that the burgeoning interest that many scholars have shown in studying the concept of impact analysis, needs to be contextualised in a broader political and institutional context.

Firstly, there is an increasingly shortage of public fundings and the expansion of parallel initiatives which evaluate the appropriateness of money allocation.

The need to provide justification of the action undertaken and to be assessed by a third part according to objective measure has acquired a central place in the process of understanding how public funding is used.

Accountability has to be extended beyond internal shareholders to encompass all stakeholders interested in and affected.

The research contributes to knowledge on the concept of impact analysis, aiming to cover a gap in the definition. In order to cover this gap, an integrated model made up by multiple dimensions is discussed. In parallel the research aims to shed lights on alternative (or parallel) ways to evaluate the performance of Public Hospitals by including broader dimensions (social, environmental dimensions) that urge to be incorporated.

The article is thus organised as follows. The first part presents a picture of the Aziende Sanitarie Ospedaliere within the Health Care system, showing the main trends in assessing the hospital performance.

The second section focuses the attention on the concept of economic impact. After a reflection on some of the major intellectual disputes that have swept through the social sciences and organizational domain in recent years, the article reflects on the main theoretical characteristics of the model, before offering some conclusions.

2 Positioning the Aziende Sanitarie Ospedaliere (AOs) within the Italian Health Care system.

2.1 The relevance of Aziende Sanitarie Ospedaliere

Within the cadre of the Italian National Health Service system, the Aziende Sanitarie Ospedaliere have received a great deal of attention in recent years. As stated by Frances et al. (2005), AOs can be defined as semi-independent public enterprises with a legal status.

In this paper we will not consider private hospitals and ambulatory care, meanwhile we will focus on public hospitals, specifically on the Aziende Sanitarie Ospedaliere, as main public providers of the healthcare services.

In 2003 the AOs were hived off from the ASL; In the institutional design of National Health Service (NHS) they were responsible to ensure access to high quality care, to diagnosis disease and provide care to citizens.

At present stage, functions carried out by hospitals contribute to the general performance of NHS system (Guisset et al, 2009). Within health care system, AOs account for a significant stake of the overall number of public hospitals. In the Region Campania the number of AOs is eight.

Four are located in Naples (AOs Cardarelli, AOs Cotugno, AOs Pausilipon, AOs Monaldi), one in Salerno (Ospedali Riuniti S. Giovanni di Dio e Ruggi d'Aragona), one in Caserta (Ospedale San Sebastiano) one in Benevento (Azienda Ospedaliera Rummo) and one in Avellino (Azienda Ospedaliera Moscati). As stated by the Ministero della Salute in 2007 the 27% of public hospitals was represented by public hospitals managed by the ASL, the 13% was composed by the AOs and the 20% by other public hospitals.

Fig.1 Shelters for public kind of structure (Ministero della Salute)

REGION	AOs	Hospitals managed by the ASL	A.O integrated with SSN	Scientific Institutions on	Classified hospitals	Garrison Institutes of ASL	Tot
Campania	8	39	2	2	3	1	55

Source: Ministero della Salute

Some evidences on the relevance of public structures can be provided. In 2007 public shelters were 655. The 32% of these provided 120 bed-hospitals. The 41% of public shelters was characterized by a number of bed-hospitals between 120 and 400. More than a half of these had small scale dimension (120- 250 beds) while the 15% had more than 600 beds.

As observed by Aidemark and Funck (2009), health care organizations have multi-dimensional goals, democratic control and partly contradictory interests. Moreover, the political, administrative and medical professional spheres of the health care organizations have different aims, success factors and work method. Despite this a need for the evaluation of health care organizations has been growing. In the context of hospitals reform

and relative uncertainty regarding survival, what matters and what is measured and looked at with scrutiny are volume, expenditure and patient satisfaction (Guisset et al.2009). AOs as key actors in the health service need to demonstrate good performance and achieve measurable results coping with pressures for cost containment and rationality of resource allocation. In fact, more than ever AOS are facing with many challenges, while going ahead to accomplish their mission.

In fact, Italian hospitals strongly hinge on public funds devoted to their functioning and implementation; this is the main reason for a marked call for accountability. The basic idea is that patients and the public have a right to know how well different NHS organisations are performing. Different NHS organisations also need to know how well they are doing in comparison with others, so that successes can be shared and weaknesses can be identified and acted upon. (NHS Performance Indicators, Department of Health, 2008).

2.2 Main trends on assessing Hospitals performance

In this contribution we want to explore the category of impact analysis considering both the economic dimension and the social aspect which should be considered in the process of measurement of the hospitals performance. Traditionally research on the impact of health services

organizations has adopted a simply managerial perspective. The focus of the impact analysis has underline that the economic impact produced is either the only or the main reason for implementing or for ceasing the functioning of a health care organization. Conversely, we can adopt a different perspective moving towards a more ample debate. The main idea is that in the process of decision making concerning for instance the improvement or the ending of a hospital, intangible and less visible dimensions that impact on the social community receiving the health care services should be taken in consideration. In fact, due to the services provided, hospitals are socially embedded in the territorial dimension and they represent a reference point to the local area and the local communities Nevertheless, hospital performance assessment systems in Europe remain extremely diverse¹. They vary widely to different objectives, promoters, incentive, publics and political or strategic priorities. (Guisset, et al, 2009). Moreover each country in Europe varies for diverse degrees of information system maturity, accountability structures and criteria to evaluate quality provided to patients. An important dimension of performance widely isolated is the *quality element* which comprises the clinical effectiveness, patient safety and patient centeredness of performance (Guisset et al. 2009). To give an example of the emphasis on the *quality element* in 2003

¹ For example the United Kingdom's National Health Service star ratings, Denmark's national indicator Projects, Germany BQS quality measures (Guisset et al, 2009)

the World Health Organization Regional Office for Europe, developed the Performance Assessment Tool for Quality Improvement (PATH) in Europe as a common baseline for hospitals sector performance.

PATH system is a comprehensive tool for hospitals to assess their performance, question their own results and translate them into quality improvement activities, sharing and joining the core values of the PATH network.

Below a table which summarizes the general quality improvement activities which a hospital is supposed to activate.

Fig. 2 Classification of general quality improvement activities

- Quality improvement teams

- Internal audits

- Adverse events reporting

- Risk management and patient safety

- Patient surveys and analysis of patients complaints

- Regular staff performance reviews.

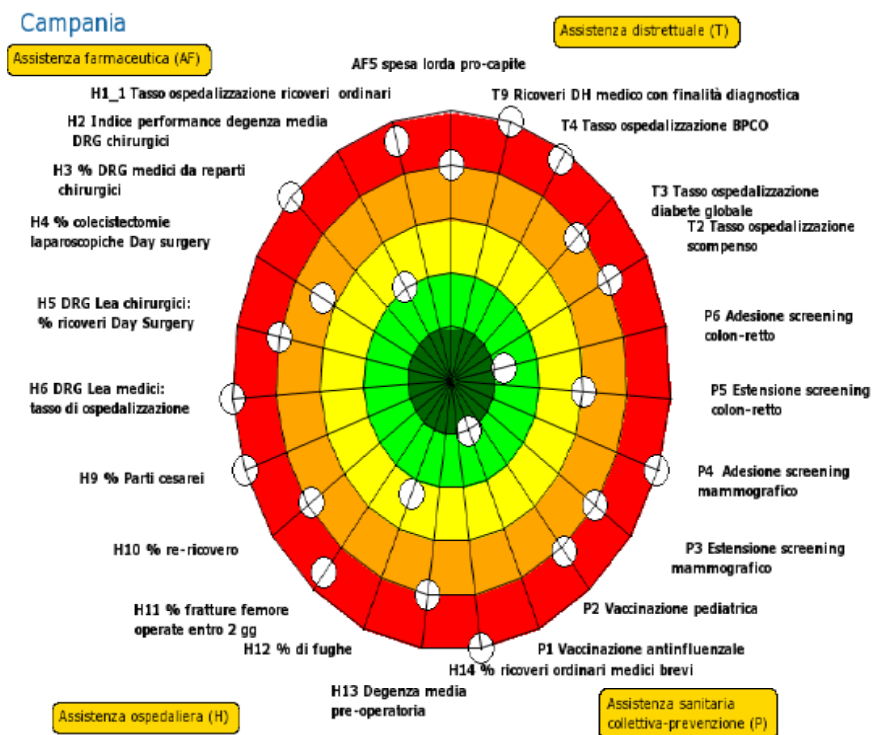
- Monitoring the views of referring professionals

Source: (Guisset et al., 2009)

Saying this, it is noteworthy to give a quick look at the Italian context. In order to assess the performance of the AOs and the ASL, in 2010 a project to evaluate the efficiency, the quality and the appropriateness of services provided has been launched. Thirty-four indicators have been developed to give account of some pivotal dimensions of the health services: efficiency, the appropriateness of health care and surgery, clinical quality, efficacy and promptness in providing care, efficacy in assistance and prevention. This kind of evaluation instrument is thought to give a clear picture of the different Italian health care systems at regional level. This kind of

performance evaluation has been called “regional target method¹”. At the centre are positioned the services with the best performances while at the periphery the services with the worst tender of services provided. Below an exemplification of the regional target method in which it is depicted the case of the Region Campania.

Fig.3 Performance Indicators of AOs and ASL



¹ This method has been developed by the Scuola Superiore di S. Anna, Pisa on the behalf of the Ministero della Salute.

It is quite interesting to look at this kind of measurement since it gives some evidences concerning the main trends to evaluate health care services in Italy.

3. Concepts, aims and implications in socio-economic impact analysis

To understand the contemporary state of economic and social impact analysis, it is necessary to grapple with some of the major intellectual disputes that have swept through the social sciences and organizational domain in recent years. The main problem is represented not simply how to measure but what to measure, thinking to develop the right tool, after defining the object of the evaluation process. In this analysis, we argue that it is expedient to start from the consideration of what an economic and social impact analysis typically means.

Impact analysis is a controversial topic on its own, and the ambiguity of the concept tends to increase when intangible endeavours are under scrutiny. Furthermore the topic is covered by an air of technicality, as thought the only or the main problem could be refining measurement techniques (Mckevitt et al., 2004). On the contrary, we argue that the most interesting question in the topic is not technical at all, but theoretical. In

our opinion, the problem is not simply how to measure the socio-economic impact, but what to measure, analysing how definitions and techniques can be selected and how these are strictly related with other organizational dimensions. In this way, the main problems plaguing this research domain cannot simply be considered as disturbances that can be brushed aside as soon as a new and more sophisticated technique is adopted (Murphy, 1995). Moving to the matter of definition, accordingly the economic and social impact of a phenomenon can be defined as the effect of that phenomenon on such economic and social factors as the economic behaviour of consumers, businesses, firms (micro-level) and on the economy as a whole, national wealth or income, employment, and capital (macro-level) (Steers, 1975).

2.1 Economic impact: theoretical implications and tools applied

Economic impact can be defined as the net economic exchange in a host community, excluding non market values which result from spending attributable to the service (Snow, 1980).

The main advantage of researches focused on the measurement of the direct economic impact relies on the fact that it gives a quantifiable measure (in terms of money and value created) respect to other kinds of studies that give just a pure qualitative result. In fact, it is agreed that AOs generate a wide range of economic and social benefits for the citizenship,

but it is so fragmented and diffuse that typically only governments or public–private agencies can manage, market and support it (Aidemark et al. 2009). Furthermore, there is a strong linkage to the fact that only through sustaining health care services it becomes possible to achieve public benefits. In this way, governments at all levels elect to participate to varying degrees in AOs development. Stemming from these considerations, the introductions of specific incentives are a mean that governments and institutions have in order to promote social and economic development through the health services.

To gain a comprehensive picture of the assessment of Public Hospitals, the paper describes the methods and measurements that compose the model of evaluation. It is necessary to say that these tools will be applied in the future phase of implementation while at the moment they are crucial for our model building.

This section will be divided as follow: firstly, attention will be devoted to a reflection on the measurement of the direct and indirect economic impact; secondly the methodological design for evaluating the economic impact will be described. The third part will be dedicated to an accounting of the induced economic impact.

Direct & indirect economic impact

In order to grasp direct and indirect dimensions, two main aspects are included:

1. understanding and measuring the economic expenditure produced by the institution that is in-charge of the organization and provision of healthcare services (AO in our case)
2. understanding and measuring the direct economic impact produced by the consumer (patients)

Methodological design and tools.

Because different aspects in the evaluation of the impact analysis are included, several instruments need to be used to collect data. The first dimension is closely related with the idea that the measurement of the impact produced by AOs depends directly on the expenses generated by the institution that is in charge of the organization and provision of services (Mohr,1995). As what concern the point (1) related to the economic expenditure produced by the institution, the paper appeals to a balance sheet analysis, where different categories of expenditure are

identified. From a certain point of view this is the most technical section of the overall analysis, since simply the expenditures are considered.

As what pertains the next aspect (2) - the direct impact produced by the patients - a questionnaire was designed to solicit information from the patients about their socio-demographic profile and their diagnosis. Interviews are envisioned to collect data and a two-page questionnaire was designed to gain information from the patients about personal data (age, sex, annual revenue), about their perception of the quality of primary care (quality of the facilities, waiting time, availability of drugs), and about their utilization of the care (A1).

In the latter section, respondents are asked to indicate whether they were part of the local community or from other Regions and this is done in order to understand the percentage of non residential people attracted in the city of Naples for the care.

Induced economic impact

It is used the metaphor of a heavy stone (the Hospital) thrown away in a placid lake (the social and economic context) where the first ring of waves is represented by the direct economic impact, but immediately after we face to a second ring that is constituted by the indirect impact and

subsequently by the induced economic impact. The paper shall now describe the *induced economic impact*.

Methodological design

Regional input-output techniques have been developed and applied over a long period of time in the field of regional economics, with many useful results being generated. Input-output methodologies are frequently used as a powerful tool to evaluate economic impacts. The main feature of IO studies is that they deal with the empirical analysis of the interdependence among the various sectors of an economic area-nation, region, state, etc. By an IO analysis, it is possible to map the actual uses of the output deriving from AOs as an input to other industries/sectors in the economy. In other words, the basic objective of IO models is to map how an industry's product is distributed throughout a region or economy.

In coherence with the main tendency founded in the literature review, the proposed measurement model agreed is the input-output model. In this vein, it was possible identify correlations between sectors and industries (Fletcher, 1989; Hager & Kopczynsky, 2004;). it is possible to identify different theoretical models which are different in terms of the number of sectors included in the analysis. The simplest alternative (economic base – EB) includes just two sectors; the most articulated one (input-output

analysis) implies the inclusion of hundreds of different industrial sectors. Starting from this and by applying the IO analysis, the idea is to map the actual uses of the output deriving from a Public hospital as an input to other industries/sectors in the economic system of the Region, trying to grasp the cascade effects coming from the hospitals' expenditure and that had some sort of effect upon other economic sectors. The final result of this step of the research is the esteem of the multiplier effect that made possible to calculate the potential economic waves produced by the initial stone throwing in the placid lake

If we decided to limit our model to the use of this typology of tools, we would adopt what we could call "a simple accountability perspective" because it "simplifies" the economic impact analysis identifying two main dimensions (direct and indirect economic impacts) that can be, more or less, easily defined and quantified. This perspective allows us to give measure whose borders can be very well defined, whereas the main shortcoming is the incapacity of measuring other relevant dimensions that produce effects in terms of costs and revenues both on an economic and social level (Miller et al.2009.).

This first approach should be expanded by including the less quantifiable economic impacts, such as occupational opportunities and the contribution of AOs to local entrepreneurial culture (Miller, 2001).

Through this stage, it becomes possible to identify the relevance of different categories of expenditure, giving a possible interpretation. How many different sectors are impacted? Do they belong to third or second sector? Are the most important supplier located in the area?

Fig.4 Theoretical models of Economic Local Impact

Type of model	Involved sectors	Computational approach
Economic Base (EB)	2	Indices
Input- Output (I-O)	Hundreds	Inverse matrix
Social Accounting Matrix (S.A.M.)	less than I.O	Inverse matrix

Source: reprocessing from Loveridge (2004)

3. Social impact

One of the major themes that will be investigated in this paper is linked to the concept of social impact analysis and the implications for the places in which hospitals are placed.

As for the last section, the article gets a measure of the social impact, including the following dimensions:

1. The value attributed by the community
2. Ethical and environmental sustainability

The value attributed by the community

The social impact assessment is one of the most debated issues within the sociological literature.

In this sense, the question often investigated is related to translate the social value in terms of a quantifiable measure, considering the methodological implications intrinsic in that (Wilton and Nickerson, 2006). In the social impact assessment, it will be included the value that the community attribute and the residents' perceptions of the services offered by the hospitals.

Methodological design

The article aims to grasp the social effects produced by hospitals, following the stream of research focalised on the willingness to pay and willingness to accept models. These constructs have been studied for roughly 30 years and with a wide variety of goods (Horowitz & McConnell, 2002) and even for cultural goods and services (Snowball, 2000). Willingness to pay means the value people are willing to pay in order to have in their city the hospital, even if they do not use the services at the moment. Willingness to accept it means the minimum amount of money one would accept to forgo some good or to bear some harm (Horowitz & McConnell, 2002). The difference between willingness to pay WTP and willingness to accept WTA has been widely studied through both theory and practice (Horowitz & McConnell, 2002). As Horowitz et al. state WTA is typically larger than WTP, and the WTP/WTA ratio is much higher than their economic intuition would forecast (Horowitz & McConnell, 2002; Shogren, Seung, Dermot, & James, 1994). Typically, studies focused on residents' perceptions regarding the impact of a health care structure have shown that those citizens, who receive a good health care service, are those who are more likely to have positive perceptions of the service impacts (Mohr 2005). Even considering the WTP stream of research, extant research has been focusing mainly on monetary measures,

neglecting issues that cope with social, cultural, environmental and organizational dimensions.

The academic community has been debating on the opportunity to integrate these dimensions into a wider and richer theoretical model. To achieve such result, in specialised literature a few authors have proposed a Triple-bottom line approach to planned services evaluation, in order to grasp economic, social and environmental parameters in an integrated effort. The idea of 3BL approach is that a AOs ultimate success can and should be measured not just by the traditional financial bottom line, but also by its social/ethical and environmental performance. Stemming from one of the most enduring clichés of modern management “if you can’t measure it, you can’t manage it”, we feel forced to develop tools that make more transparent to managers, shareholders and other stakeholders how the institution in-charge of the implementation of the AOs is doing in this regard. Considering more in detail the matter of sustainability we argue that a huge number of firms, institutions try to make clear their behaviour is sustainable, introducing proper management systems (inspired by 3BL principles).

It is thus envisioned a survey to local residents with the aim to get reliable information about citizens' awareness of the care of a hospital. In order to develop this stage, it is necessary to stratify the sample according to the district and considered the neighbourhoods of the local area where the hospital is located. This is done in order to avoid unbalanced results. The survey will be composed by III sections (A2): I) Personal information, II) Awareness of the care provided by the hospitals, III) Assessment of the hospital. In the first section, questions are asked about age, gender and employment conditions. The core of the questionnaire is designed to understand the contribution that each citizen would be able to donate per year to the hospital in a case of ceasing of public subsidies. This question included randomly 10 vectors of contribution. Each questionnaire recorded only one vector of contribution that was related to how much each interviewer would be able to donate (2€, 4€, 8€, 12€, 20€, 28€, 40€, 52€, 80€, 100€). From our standpoint, the main aim was to grasp the value that citizens attributed to public subsidies within the healthcare sector.

As what concern the second dimension of the social impact, information on residents' perceptions need to be collected. A questionnaire has been designed in order to grasp the citizens' perceptions. Moving from this, a set of questions devoted to identify the residents' perceptions on 1) the

effects produced by the hospital on the city and patients, 2) the ability of the health care institution to improving the social cohesion, pride and local identity building.

Ethical and environmental sustainability

The last dimension we included in the framework is related to the environmental sustainability. In fact, always more companies and public institutions try to make clear that their behaviour is sustainable, introducing proper management systems (inspired by TBL principles).

For instance, Perrow (1997) stated that "there are few significant man-made environmental problems (or woman made ones) that do not have organizations behind them" (Perrow, 1997: 66). Perrow included this bold statement in his comments on the prospectus for the journal *Organization & Environment*. Specifically, he asserted that because organizations especially big, bureaucratic ones-have such great power and influence, they deserve more attention as independent variables in studies of environmental damage than the influence of leaders, technology, strategy and structure, psychology, and so on. (Flannery & May, 2000). Studying the topic of organizations and the natural environment is complex-and exciting-because of its interdisciplinary, industry-specific, multilevel, and multisystem perspectives (see Starik and Rands [1995] for a good

overview of this interconnectedness). When approached holistically, the study of ethical decision making is also cumbersome, because of the simultaneous influence of individual, situational, and issue-contingent forces (Ford & Richardson, 1994; Jones, 1991; Morris, Rehbein, Hosseini, & Armacost, 1995; Treviño, 1986).

The analysis of the sustainability of an hospital can be carried out by considering the overall organising process, by evaluating the running of the structure, energy consumption and polluting emissions.

4. Discussion: the new integrated theoretical model

What clearly emerges from the theoretical background depicted in the previous paragraphs is the presence of a huge and interesting debate that, even in its most recent contributions, considers three main aspects in the economic and social impact analysis: a) economic (direct, indirect, induced) impact; b) social impact (citizens' perception,...); c) sustainability, a first effort to make an integration of different perspectives (3BL approach).

What seems to be definitively missed out is the inclusion in the appraisal process of two different components that, in our opinion, are pivotal:

- a matter of strategic assessment, that includes the analysis of the mission and of the strategic aims respect to the context;
- matter of organizational mechanisms and structures used and implemented to accomplish the tasks assigned;

The reason why both aspects seem to play a central role within an impact analysis framework relies on the fact that it is impossible to get along without debating on the matter of organization goals (Simon, 1964). Now we focus our attention on the two main aspects previously indicated.

The strategic assessment

The first dimension focuses on the analysis of both the strategy and the mission of the institution in charge of the organization, implementation and provision of health care services. This analysis seems definitively expedient due to the fact that by this way it becomes possible to define the right standard in order to assess the performance achieved (Morecroft, 1984).

The analysis of goals and strategic aims plays a fundamental role for several reasons. First, by this way we can focus the attention on a certain object, by defining what action is organizationally relevant. Secondly, we can identify practices and technological processes that are potentially

required to achieve specific goals. Thirdly, we presume that the successful implementation of different strategies implies different actions and it is related with different organizational models and structures. It is clear that the comprehension of the strategy helps significantly in understanding the results achieved (Murphy & Cleveland, 1995). Furthermore, the identification of goals and aims impacts on the relationship with external context. In fact, whether or not goals are achieved affects the ability of the organization to command resources and to be legitimized by the external society. In fact, the choices that AOs may make are strategic, insofar as they are made in relation to formal policy (i.e., with mission statements, for instance, and/or statements of objectives), which may or may not have been made in negotiation with other institutions or organizations.

It is interesting to underline that we face to the problem that people (individuals) have goals; communities of people do not (Cyert & March, 1963, pag. 30; Ethiraj & Levinthal, 2009).

It is even true that the goals that health care structure tries to pursue are often conditioned by the formal strategic mission attributed to the institution by Regions and local shareholders. The final output of this step in the research process is represented by the setting up of a possible hierarchy of the main goals pursued by the organization in charge of the provision of health care services. Considering the methodological issues,

we are using different methods for the same assessment. We think that we should base the analysis on:

- internal documents analysis;
- interviews with top management and middle management;
- analysis of real actions in terms of performance and results achieved.

It is a sort of within method triangulation (Denzin, 1978: 301): in fact, we use different multiple techniques within the same qualitative method in order to collect and interpret data. As stated by (Denzin, 1978) and by (Jick, 1979) "within-method" triangulation essentially involves cross-checking for internal consistency or reliability. The simple analysis of internal document and formal statements (organizational chart, mission' statement, process diagrams...) can offer just a partial view (Hackman, Lawler, & Porter, 1977; Perrow, 1970, 1986).

The organizational assessment

The second dimension implies the analysis on the organizational level; in this way, we mean that the real comprehension of the weakness and strengths of AOs can be really done only through the analysis of the organizational structure that has been implemented. The analysis of the

organizational dimension, in fact, represents a fundamental brick in order to assess the degree of efficiency, of coherence and of congruence respect to the strategic aims pursued. Following the scheme by Pugh et al. (1963) we argue that the organizational analysis must include six different dimensions: specialization; standardization; formalization; centralization; configuration; flexibility. The six variables mentioned above can be considered as structural variables. Stemming from the old but even today right assumption by Simon that principles of management are not in fact a guide to effective action, we argue that it is particularly useful to define a scale for all these variables in order to identify relationships and scientifically test the hypotheses (Pugh et al., 1963). So these six variables are able to describe differences in terms of organizational characteristics and forms. They must be analysed on the basis of contextual variables that can be used as independent variables: Origin and History, Ownership and Control, Charter, Technology, Resources, Interdependence.

The final step represented by the evaluation of the analysis of organizational behaviour is an organization's success in reaching its stated goals. This evaluation process can be traced back to a matter of: profitability, productivity, adaptability, market standing, morale. (Pugh et al., 1963). It is clear that we could use the above mentioned goals as relevant performance criteria; furthermore, we could also make an

interesting comparison of the organization's relative effectiveness at various times, building up a sort of longitudinal analysis.

In a broader view we could study the structure and activities of an organization in relation to its other characteristics and to the social and economic context in which it is found. What we are facing to is a matter of measurement of organizational effectiveness (Jobson & Schneck, 1982; Steers, 1975) that occupies a prominent place in the history of managerial debate. Following Jobson and Schneck (Jobson & Schneck, 1982) we think that effectiveness criteria should be viewed in multidimensional terms. What we mean is that it is not possible to identify an either unvaried or an overall measure of organizational effectiveness, because we should consider multiple effectiveness measure considering that each organization has multiple goals and constituents: in other words, each single dimension of effectiveness may be independent (Jobson & Schneck, 1982). In particular, we developed a set of four variables, defined as follows.

The first aspect is related to the fact that the development of a high-standing set of partnership and co-production relationships represents one of the most relevant aims that AOs may try to get to. Secondly, this variable can be interpreted as a first possible measure of quality.”

The second variable is represented by the degree of effectiveness perceived by local communities. In this way, we mean the effect produced on the sense of awareness and commitment and citizenship in the local population. Effectiveness criteria derived from population's perceptions will be developed by a community questionnaire. The questionnaire includes a section of questions entirely devoted to get demographic information. We are reasonably confident that the items are reliable and have a high degree of validity. In particular, the statements and the questions included into the questionnaire help us in understanding five main aspects:

- process behaviour;
- task performance;
- importance of the health service structure for the collective;
- use of the service by the community;
- quality of provision and the impact produced on the community

So in conclusion, we have a multiple-fold model that add 8 further variables: degree of local partnership; degree of effectiveness perceived by local communities; degree of perceived effectiveness by AOs staff and manager.

Adopting this multidimensional perspective, effectiveness criteria and parameters are operationalized from a number of organizational goals. This research project can show how the adoption of multiple criteria of effectiveness may represent a strong and robust tool in order to build up a integrated theoretical model in order to measure the economic and social impact produced by a AOs. Concluding this section of the paper is expedient to spend some words about the methodology adopted. In this perspective, to measure and to evaluate the degree of effectiveness perceived by local communities and the degree of perceived effectiveness by AOs staff and manager we use a two-fold method, including both semi-structured interviews and two questionnaires.

5. Some remarking conclusions

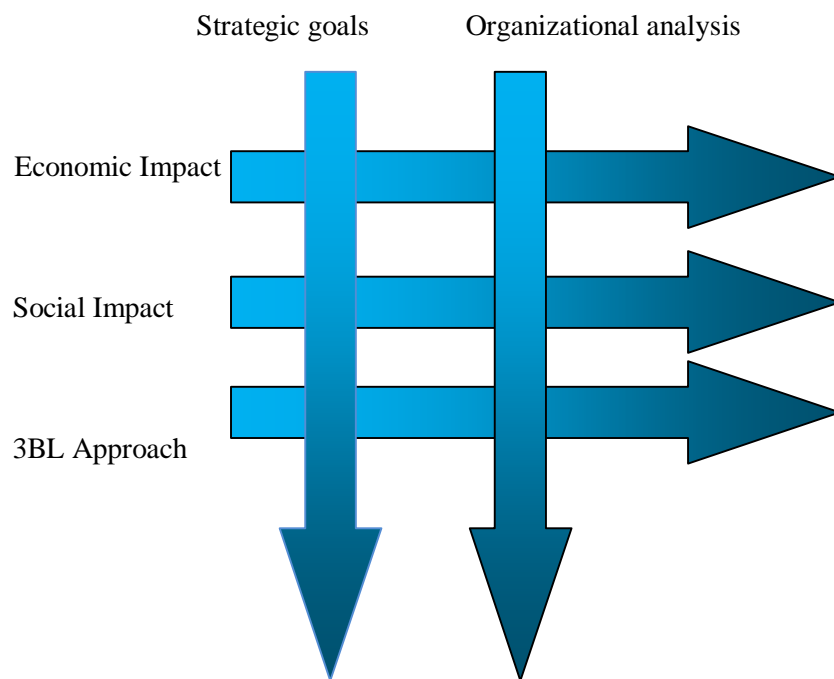
What we propose is a new methodology of analysis that implies the inclusion of different dimensions at the same time. By this way, we want to give an answer to the main statement that within the topic of economic and social impact analysis the main problem could be refining measurement techniques.

On the contrary, we have presented a new integrated model where the identification of the tools and techniques stems from the preliminary analysis of what has to be evaluated. In this way, we build up a model

composed of 5 main bricks. The first one refers to the analysis of the direct and indirect economic impact; the second one to the social impact.

The third dimension includes the 3BL approach principles. The fourth and the fifth dimensions are related to the analysis of strategic goals and to the organizational effectiveness analysis.

Fig. 5 A new integrated model of IA



A 1_ Direct economic impact: value produced by patients

1. Background Information

Treatment sought

Sources of treatment

2. Perception of the quality of primary care

Quality of the facilities 1 2 3 4 5 6 7

items in order of priority: 1: min - 5: max

Availability of drugs 1 2 3 4 5 6 7

items in order of priority: 1: min - 5: max

Availability and quality of the staff 1 2 3 4 5 6 7

items in order of priority: 1: min - 5: max

Waiting time 1 2 3 4 5 6 7

items in order of priority: 1: min - 5: max

Cost of treatment

1 2 3 4 5 6 7

items in order of priority: 1: min - 5: max

Level of involvement, who and why

1 2 3 4 5 6 7

items in order of priority: 1: min - 5: max

3. Utilization of care

How they use the services

.....

Why they use or don't use

.....

Factors affecting the use and none use

.....

Personal data and family background

Age	Gender	F	M
City of residence.....	Nationality.....		
Education:			
<input type="checkbox"/> Elementary	<input type="checkbox"/> Secondary	<input type="checkbox"/> University	
Brut Annual Personal Income:			
<input type="checkbox"/> less than €15.000	<input type="checkbox"/> €16-30.000	<input type="checkbox"/> €31-80.000	<input type="checkbox"/> €81-200.000
<input type="checkbox"/> more than €200.000			

If you wish, you can use the space beneath to leave comments and suggestions concerning the event.

A.2 – Social Impact: the value attributed by the community

I. Personal and family background

1. Gender?

(1 = man; 2 = woman)

2. Age?

.....

3. Civil status?

(1 = married; 2 = single; 3 = divorced; 4 = widowed)

4. Education?

(1 = none; 2 = school ; 3 = undergraduate 4 = postgraduate;)

5. What's your job?

.....

6. What's your job sector?

.....

7. What's your Brut Annual Personal Income?

II. Acknowledgment of the health care structure

8. Do you know the Hospital X

(1 = yes; 2 = no; 3 = don't remember)

9. Have you ever been hospitalised?

(number of times)

III. Evaluation

10. How many times have you used this health care Institution in the
past?

.....

11. Did you pay for this hospital's care?

.....

So far, this public hospital has been subsidised by public bodies with xxx euro, which is equal to a pro capite expenditure of xxx euro. Today, public bodies have agreed not to fund anymore this public hospital. As a consequence, the hospital must be funded by citizens and it will keep on working if citizens will be able to cover the expenditure.

11. Will you be willing to subsidised with X euro (Look at the vector on the body of text) each year for this hospital?

(1 = yes 2 = no; 3 = dont' know)

13. How much will you be willing to donate in order to subsidize the hospital? (euro)

IV. Hospital positioning

Could you please tell me if you agree or disagree with the following?

14. Health care system should be subsidised only by private?

1-2-3-4-5

15. Public authorities subsidise already a high number of healthcare structure

1-2-3-4-5

16. An efficient public hospital enhances the quality of local communities' life.

1-2-3-4-5

References

- Adinolfi, P. 2009. Le radici filosofiche della pratica organizzativa: i servizi sanitari. WOA, Bologna
- Adinolfi, P., & Mele, R. 2006. Elementi di Management sanitario. Kastalia Multimedia
- Adinolfi, P. 2003. Total quality management in public health care: A study of Italian and Irish hospitals, *Total Quality Management & Business Excellence*, 14 (2)
- Aidemark, L.,G. and Funck, L., K. 2009. Measurement and the health care management. *Financial accountability and management*. 25 (2).
- Blumer, H. 1986. *Symbolic interactionism. Perspective and method*. Englewood Cliff: Prentice Hall International.
- Borgonovi E., Fattore G., Longo F., 2009. *Management delle istituzioni pubbliche*, Milano, Egea
- Cameron, K. 1986. A Study of Organizational Effectiveness and Its Predictors. *Management Science*, 32(1): 87-112.
- Capital Link. 2007. The economic impact of community health centres in the Philadelphia area. December

Cyert, R., & March, J., 1963. A behavioural theory of the firm. Prentice Hall.

Connolly, T., Conlon, E. J., & Deutsch, S. J. 1980. Organizational effectiveness: A multiple constituency approach. *Academy of Management Review*, 5: 211-217.

Denzin, N. K. 1978. *The research act : a theoretical introduction to sociological methods* (2nd ed.). New York: McGraw-Hill.

Denzin, N. K., & Lincoln, Y. S. 2005. *The SAGE handbook of qualitative research* (3rd ed.). Thousand Oaks: Sage Publications.

Department of Health, 2008. NHS performance Indicators. Healthcare statistics.

Elkington, J. 1997. *Cannibals with Forks: The triple bottom line of 21st century business*. Capstone: Oxford.

Ethiraj, S. K., & Levinthal, D. 2009. Hoping for A to Z While Rewarding Only A: Complex Organizations and Multiple Goals. *Organization*

Giuffrida, A., Lapecorella, F. e Pignataro, G. 2000, Organizzazione dell'assistenza ospedaliera: analisi dell'efficienza delle aziende ospedaliere e dei presidi ospedalieri, *Economia Pubblica*, XXX, n. 4.

Science, 20(1): 4-21.

- Goodman, P. S., & Pennings, J. M. (Eds.). 1977. *New perspectives on organizational effectiveness*. San Francisco: Jossey-Bass.
- Granovetter, M. 2005. The Impact of Social Structure on Economic Outcomes. *The Journal of Economic Perspectives*, 19(1): 33-50.
- Guisset, A. L., Kjaergaard, J., Habicht J. 2009. Performance management, developing a culture of measurement and continuous quality improvement in Estonian Hospitals. *World Health Organizations*.
- Hackman, J. R., Lawler, E. E., & Porter, L. W. 1977. *Perspectives on behavior in organizations*. New York: McGraw-Hill.
- Horowitz, J. K., & McConnell, K. E. 2002. A Review of WTA/WTP Studies. *Journal of Environmental Economics and Management*, 44(3): 426-447.
- Jick, T. D. 1979. Mixing Qualitative and Quantitative Methods: Triangulation in Action. *Administrative Science Quarterly*, 24(4): 602-611.
- Jobson, J.D., & Schneck, R. 1982. Constituent Views of Organizational Effectiveness: Evidence from Police Organizations. *The Academy of Management Journal*, 25(1): 25-46.
- Jones, A. 2001. The economic evaluation of healthcare: the appliance of science. *International Journal of medical marketing*, 1 (4) pp.299-308

- Louis, D., Z, Yuen, E., J. Braga, M., Cicchetti, A., Rabinowitz,
Laine, C., and Gonnella, J., S. 1999. Impact of a DRG-based hospital financing system on quality and outcomes of care in Italy. *Health Services Research*, 34(1)
- Loveridge, S. 2004. A typology and Assessment of Multi-Sector Regional Economic Impact Models. *Regional Studies*, 38 (3): 305-317
- McKevitt, D., Lawton, A., & Open University. 1994. *Public sector management : theory, critique and practice*. London: Thousand Oaks: Sage.
- Miller, R., E., Blair, P.,D. 2009. *Input-Output analysis*. Cambridge University Press.
- Mohr, L.B. 1973. The Concept of Organizational Goal. *The American Political Science Review*, 67(2): 470-481.
- Mohr, L.B. 1995. *Impact analysis for program evaluation*. SAGE publications.
- Morecroft, J.D.W. 1984. Strategy support models. *Strategic Management Journal*, 5 (3): 215-229.
- Morgan. G., Smircich. L. 1986. The case for qualitative research. *Academy of Management. The Academy of Management Review* (pre-1986); Oct. 1980; 5 (4): 491-500.

- Murphy, K. R., Cleveland, J. N. 1995. *Understanding Performance Appraisal: Social, Organizational and Goal-based Perspectives*. Sage Publications
- Parsons, T. 1954. *Essays in sociological theory* (Rev. [i.e. 2d] ed.). Glencoe, Ill: Free Press.
- Parsons, T. 1961. *Theories of society; foundations of modern sociological theory*. New York: Free Press of Glencoe.
- Parsons, T. 1963. *Essays in sociological theory* (Rev. ed.). Glencoe,: Free Press.
- Patton, M. Q. 1990. *Qualitative evaluation and research methods* (2nd ed.). Newbury Park, Calif.: Sage Publications.
- Perrow, C. 1970. *Organizational analysis: a sociological view*. Belmont, Calif.: Wadsworth Pub. Co.
- Perrow, C. 1986. *Complex organizations : a critical essay* (3rd ed.). New York: McGraw-Hill.
- Pyatt, G., Roe A. 1977. *Social Accounting Matrices for Development Planning*. *The Review of Income and Wealth*, 23(4).
- Pope, J., Annandale, D., & Morrison-Saunders, A. 2004. *Conceptualizing sustainability assessment*. *Environmental Impact Assessment Review*, 24(6): 595-616.

- Powell, P., DiMaggio, P. (Eds.), *The New Institutionalism in Organizational Analysis*. Chicago, IL: University of Chicago Press.
- Price, J. L. 1971. *The Study of Organizational Effectiveness*. *The Sociological Quarterly*, 13(1): 3-15.
- Pugh, D. S., Hickson, D. J., Hinings, C. R., Macdonald, K. M., Turner, C., & Lupton, T. 1963. *A Conceptual Scheme for Organizational Analysis*. *Administrative Science Quarterly*, 8 (3): 289-315.
- Ruffini, R. 1996, "Logiche di progettazione dell'assetto organizzativo delle aziende anitarie", *Mecosan*, n.18.
- Schiavone, A. 2008: *L'efficienza tecnica degli ospedali pubblici italiani*. In *Questioni di Economia e Finanza*. Banca d'Italia
- Shogren, J. F., Seung, Y. S., Dermot, J. H., & James, B. K. (1994). *Resolving Differences in Willingness to Pay and Willingness to Accept*. *American Economic Review*, 84(1): 255-270.
- Simon, H. A. 1964. *On the Concept of Organizational Goal*. *Administrative Science Quarterly*, 9(1): 1-22.
- Smith, H.W. 1975. *Strategies of social research: the methodological imagination*. Englewood Cliffs, N.J.: Prentice-Hall.

- Snow, C. C., & Hambrick, D. C. 1980. Measuring organizational strategy: Some theoretical and methodological problems. *Academy of Management Review*, 5: 527-538.
- Steers, R. M. 1975. Problems in the measurement of organizational effectiveness. *Administrative Science Quarterly*, 20: 546-558.
- Thornton, P., Jones, C., & Kury, K. 2005. Institutional logics and institutional change in organizations: Transformation in accounting, architecture and publishing. *Research in the Sociology of Organizations*, 23: 127-172.
- Tzeng, R., & Uzzi, B. 2000. *Embeddedness & corporate change in a global economy*. New York: P. Lang.
- Wheeler, N., Proctor, T. 1993. Strategy analysis in the health service. *Journal of Marketing Management*, 9 (3) pp. 287 – 300
- Wilton, J. J., & Nickerson, N. P. 2006. Collecting and Using Visitor Spending Data. *Journal of Travel Research*, 45(1): 17-25.
- Zald, M. N. 1963. Comparative Analysis and Measurement of Organizational Goals: The Case of Correctional Institutions for Delinquents. *The Sociological Quarterly*, 4(3): 206-230.

Article II

A model for value creation: key role of the users as co-producers of e-health services

A model for value creation: key role of the users as co-producers of e-health services.

Abstract

This paper engages in a reflection on the concept of ‘E-health care’ by analysing it from the point of view of its value. What is the meaning acquired by the concept of value in this context? And are e-health care platforms able to create value for their patients?

The Internet and the IT have incredibly changed how healthcare can be delivered. E-health programs have been, in fact, experimented in order to improve the quality of the care and patient outcomes. The aim of this paper is to understand, how e-healthcare platforms can generate value thanks to the active role of its users. Implications will be discussed and a model of value creation will be developed.

Keywords – e-health, co-creation, value generation, Medicine 2.0

Paper type – Conceptual paper

1. Introduction

This article engages in a reflection on the concept of ‘E-health care’ by analysing it from the point of view of its value. What is the meaning acquired by the concept of value in this context? And what does it mean for Medicine 2.0 generates value for their patients? The idea behind the paper is to explore the relevance that social production has acquired in the construction of value in capitalist societies. Seen from this viewpoint, means of value creation that rest upon social relationships have been discussed by a variety of authors (Arvidsson, 2010; Zwick et alii, 2008; Terranova, 2000) that emphasize different sides of the phenomenon. Processes of socialization have been defined as a structural aspect of contemporary production processes (Lazzarato, 1997) with empirical studies developed mostly in the context of the digital economy and industry (Terranova, 2000). As argued in the marketing literature (Prahalad et al. 2004; Lusch and Vargo, 2006) creating value responds more and more to logics of co-creation (Prahalad et al. 2004) between producers and consumers, where the latter are in a way swallowed within production processes (Zwick et alii, 2008). Whether this empowers the consumers and the ideological facets behind that are not matters that will be touched in this paper; instead the main concern now is to understand, how ‘e- healthcare solutions’ can generate value thanks to the active role

of its users. E-health programs have been, in fact, experimented in order to improve the quality of the care and patient outcomes (Blaya et al, 2010). Indeed, this article turns its attention on e-health care solutions and in particular on those services that highly rely on the users to be delivered and to generate value.

The originality of the work and its contribution are manifold. First, the main contribution is located around the recent wave of studies on ‘e-health care’. Reflections on how to implement their growth will be undertaken, by reflecting on incentives and strategies to entice users to contribute. Besides, this paper has also broader implications. First, it aims to reflect on transformations in value understandings – i.e. what value is and according to which logic it is produced. It seems that new means to define value are surpassing traditional political economy conceptualization.

Instead, new features as for example sharing with others and co-participating in the service provision are acquiring a central room when value issues are under analysis. In this light, the paper aims to raise some questions on how the use of e-health services can generate and diffuse economic value for its users.

This article is thus organized in the following way. The first part engages in a reflection on the concept of value and the logic behind its creation by reviewing the recent literature within management studies. Then, the article turns its attention on the idea of co-creation, showing that many virtual communities are flourishing and becoming widespread thanks to the co-creative activity of users and providers, where social cooperation becomes a central feature for value generation. In so doing, the empirical study focalizes on the case of three virtual platforms which are important example of e-health services. The aim of the project is to present a model for value creation grounded on the users' activity. Implications for future roles of users are discussed in relation to potential directions to create engagement for them in an effort to generate value through e-health platforms.

2. Defining value in times of crisis

In managerial studies, the notion of value has recently become object of intense debate, by reviving the interest of scholars and intellectuals writing from different perspectives (either mainstream or critical) and from different traditions of thought.

Following the post-crisis turmoil – involving jobs shrinking, the expansion of public sector debt, the resulting austerity measures – and the repercussion of that on the social sphere, many authors have started rethinking the idea of value and have put forward new (or revisited) definitions that could comply with the novel socio-political climate. On which basis value is created, and who are the main producers of value in the post-crisis era? And how is it possible to capitalise on it and diffuse value more widely within societies?

These and more pressing questions have been and keep on being asked in recent times by scholars in the Western society.

The 2007 Special Issue of the *Academy of Management Review* on the topic of value creation demonstrates the growing interest on this specific stream of literature. In the introductory article published on the Special topic forum, Lepak et al. (2007) have debated about diverse ways to approach the concept of value in the field of management, by emphasising that such diversity is primarily due to the multidisciplinary nature of managerial studies (and the different traditions that informed managerial thought, among which sociology, organisation studies, economics, etc.). Besides, as noted by the authors (*ibid.*, 2007, p. 180), the absence of a univocal definition on the concept of value is also due to the fact that

scholars have emphasized different aspects of the phenomenon, that is: 1. What value creation is, 2. the process by which value is created, and 3. how to capture and retain value (p. 180). In this vein, defining the source and nature of value creation, as well as the societal level of analysis becomes essential for an explanation of the concept. Therefore in this article we are not attempting to find a univocal definition of the concept, instead we adopt a situational approach to the concept of value, suggesting that particular social realities validate and foreground different conceptions of value (Willmott, 2010). In accordance to this, we think that the recent financial crisis has contributed to engage in a rethinking of what value is and what logic is behind its creation, by including broaden dimensions that go beyond the pure monetary value and that are based on social and ethical notions (Prichard and Mir, 2010). One example is represented by the recent notion of ethical value (Arvidsson, 2009, 2011) a term recently proposed to study alternative value logic mainly based on forms of production based on individuals' cooperation (Arvidsson 2008; 2010; 2011). The concept of ethical value has been recently studied by Adam Arvidsson (2009; 2010) whose terrain of analysis was represented by the diffusion of forms of social production on internet-based platforms, such as 'Open Software' and web platforms. In his view, market value (based on a conflation between price and value) is not more sufficient to fully

explain how value is produced. Still, its inadequacy lies in not being able to mirror other forms of values which also contribute to define the notion. Starting from these premises, Arvidsson (2010) provides an in depth analysis of an emerging (in some instances co-existing) logic of value production that is based on the principle of ‘social production’. Therefore, the author tracks down in the ‘quality of social relations’ (p.637) the main principle of value production within post-crisis society, where this is generated by belonging to a community of people that share ideological principles of doing purposeful activities (Arvidsson, 2010). The exemplification of this is given by on-line platforms, for instance the Open Software *Linux*, just to cite one, that highly rely on the activity of motivated co-producers that share their ideas and abilities through socialization.

In effect, by considering the notion of ethical value, the article reflects on the importance of cooperative activities of users on on-line e-health platform and it is able to provide an understanding of the extent to which this concept can explain how forms of value are generated. However, before engaging in a reflection on e-health platform, we will turn our attention to the idea of co-creation, so as it has been outlined in the marketing literature and in order to frame our contribution.

3. The co-creative user and the logic of value generation on on-line platform

The co-creation approach has been widely depicted in the marketing literature as a form of economic value. For instance, Cova and Dalli (2009) argue that value production is capitalized upon by consumers' interaction with one another through interpersonal relationships, where what is unintentionally produced is enthusiasm and social cooperation (Cova & Dalli, 2009). Web platforms, blogs, community sites and other kinds of virtual interfaces are frequently depicted as venues for users' active participation in various forms of co-production. This follows a logic based on participants as 'operant resources', where they are framed as active contributors in relational exchanges and coproduction (Vargo and Lusch, 2004: 2). The 'participative paradigm' derived from online collaboration has been clearly described by Tapscott and Williams (2006) in their well-informed account of a 'new world' of 'ever-connected people' which are the mass creativity of many 'web initiatives'. At the same time, the participatory role of users becomes the central dynamic for the creation of value, where the key competence for managers is 'the ability to integrate the talents of dispersed individuals and organizations' (Tapscott and Williams, 2006: 18).

What is perhaps more interesting in the ‘participative paradigm’ is that online collaboration is animated by a sense of fun, willingness to share and the promise of new interactive experiences on the virtual platforms.

In the web 2.0, the co-creation model has been critically discussed by Van Dijck et al., (2009), who dismantle the ‘*rhetoric of connectivity*’ as a means for companies to extract value from ‘networked active co-creators’ (p. 863). Following this perspective, clicking, blogging and uploading videos are, among others, activities carried out by an ‘army of amateurs who dedicate their time and energy to developing and sustaining a vast array of products and services’ (Van Dijck et al., 2009: 860).

From this angle, the web 2.0 includes as its primary raw material users’ contributions. The promise for them is receiving recognition and, potentially, to seek their sense of self-worth by marketing themselves (Bauman, 2007) to other virtual subjectivities. Even recognizing that a stream of literature has poignantly focused on the so called ‘dark side’ of the co-creative paradigm, in this article we rather observe it from a more conventional perspective, exploring the opportunities that users’ activities can engender.

Recognizing many of the features above depicted, this article considers three e-health platforms by examining the users' experience. The argument, simply put, is that the 'architecture of participation' (O'Reilly, 2005) surrounding the web 2.0 is inextricably linked to the opportunity to generate forms of value that are based on the willingness to participate in forms on communities and social (albeit virtual) relations. These represent new frontiers in the social networking domain where users are encouraged to create contents online and participate in discussion forums. Users' experiences are, in fact, prominent for their experiential content and the emotional involvement in them and often these platforms are designed to provide an immersive engagement for its users where the recreational use of the platform is crafted to give a sense of fun and stimulate users' creative ideas.

Accordingly, the paper research questions are: What is the role of the users in the process of value creation? And which type of role do they adopt? And are e-health care platforms able to create value for their users?

4. E-health services and value for the quality of the care

According to Kaplan, 'ehealth can be defined as both a structure and as a way of thinking about the integration of health services and information using the Internet and related technologies' (Kaplan, 2006: 2).

In effect, the Internet and the IT have incredibly changed how healthcare can be delivered. The ways to manage hospitals, how to keep track of patients' records, the exchange of information, remote health care monitoring, among many other health care services, are just some of the instances of the Information Systems application and wireless communications.

As observed by the World Health Organization (2008) in a recent study on how to create common grounds for e-health in Europe, 'the implementation of successful eHealth systems at the national level is dependent on a framework of strategic plans and policies' (p. 16) that include: 1. Foundation policies and strategies (infrastructure, funding, policy and governance of eHealth development), 2. Enabling policies and strategies (issues pivotal to the eHealth development, such as citizen protection, equity, and cultural diversity), 3. eHealth applications (which include provider services, knowledge services, and public services).

This resonates with an idea of inclusion among the members that are differently involved in providing e-health services. At the same time, e-

health services have become object of attention from many scholars who dedicated their attention to this emerging phenomenon.

Pagliari et alii (2005) have noted that the use of health care Information Technology changed through times, 'from an emphasis on hardware, systems architectures and databases, to innovative uses of technology for facilitating communication and decision making' (p. 1).

In effect, this observation goes in the direction of a more collaborative and participative use of technology related to the use of e-health where the focus becomes the empowerment of the healthcare user over the traditional telemedicine or telecare approach.

A very interesting observation on the changes occurred in the relation between patients' role and technology has been discussed by Eysenbach (2008) who introduce the term Medicine 2.0 to make sense of such changes. As outlined by Eysenbach (2008), the Medicine 2.0 borrows some of the characteristics of the Web 2.0 approach, where principles such as social networking, collaboration and openness are applied. Furthermore, Eysenbach (2008) provides a definition of Medicine 2.0 as the following:

'Medicine 2.0 applications, services and tools are Web-based services for health care consumers, caregivers, patients, health professionals, and

biomedical researchers, that use Web 2.0 technologies and/or semantic web and virtual-reality tools, to enable and facilitate specifically social networking, participation, apomediation, collaboration, and openness within and between these user groups' (p. 2).

In this vein, the Web 2.0 technologies have boosted the use of Personal Health Application Platforms (such as Google Health, Patients like me and many more) that are highly based on participation and the engagement of patients in recognizing symptoms, checking for their own conditions, and improving their own health. E-health applications have also shown to be tools to empower patients and make them more responsible for their health choices.

By moving from this consideration, the next section explores in which way patients can actually create value for the platforms that they contribute to. Furthermore broader considerations will be made more on how value is produced through the social production of the users.

5. Research design

To investigate the research problem - i.e. how value is generated by the activity of users that participate to online platform - the article follows a qualitative approach by adopting an internet based research method

(Eysenbach, 2011). Data production methods based on the Internet may vary and can range from the use of existing data to interviews or surveys (CPHS, 2012). The article adopts a qualitative research approach to internet research and investigates online-communities. As pointed out by Eysenbach (2011) 'material on these venues can be a rich source for researchers interested in understanding the experiences and views of patients' (ibid. p. 1103). In defining the research method, the data are produced through an active involvement of the researcher, where the researcher participates in communications (p.1103) on on-line platforms in order to produce its data. In this way contents uploaded by patients, such as discussion boards on websites or chat rooms, internet postings are tracked down and analysed.

The article undertakes an analysis of the web materials of the platform in order to build a model on value creation from on-line platform. Thus, to produce data, the article adopts a mixed method approach consisting of two main sources of data: 1. Online analysis on internet communities; 2. Archive documents.

Online analysis on internet communities

The core of the analysis is represented by the on-line contents coming from the websites of *Medici.it*, *Health exchange* and *Wellness 4 you*.

Videos posted on YouTube Official Channel and Face Book pages will be also analysed, since it is recognised their relevance in order to understand the users' activity on on-line platform. The analysis is based on three case studies that are examples of e-health practices, i.e. a virtual platform to exchange medical information between users (patients) and providers (doctors and specialists).

The study focuses on a comparative analysis of the following platforms: 'Medici.com'¹, 'Health exchange' and 'Wellness 4 you' are platforms where users/patients can gather advice about healthcare issues and make choices on specialists to visit, treatments and therapies, and to ask suggestions to medical personnel. The platforms act as a sort of health advisor while users have a crucial role in the development of the website. As said, the model will be discussed based on the experiences of the three case studies. In particular it will be shown that the diffusion of e-health is actually based upon forms of social production between users, medical personnel and technology providers who actually contribute to create the service.

¹ The article follows strict ethical guidelines following King et al. 2011 and Eysenbach et al. 2011. Platforms' names as well as users' ID have been anonimised. Thus the names have been changed for the purpose of anonymity.

Archival materials

Documentary evidences are produced, by collecting archive documents (websites and published materials). The article looks through archival documents on e-health technologies. Reports from the World Health Organisation, from the NHS and the Ministero della Salute Italiana will be taken into consideration in order to build a picture on the use of e-healthcare technology in Europe.

6. Findings

On-line platforms are an ideal site to explore how it is possible through forms of participation, sharing and involvement to generate value for users from e-health services. In what follows, the paper draws on the sources previously mentioned to outline the key themes that emerge following a close analysis of the on-line platforms.

Take control of your health

One crucial aspect that actually explains much of the success of e-health platforms is the role played by the patient. From a passive receiver of medical services, the patient has acquired a central role, empowered and encouraged to take control (and responsibility) of his own health. This

marks an interesting shift that helps to have an understanding of the pervasive diffusion of on-line platforms. This seems to pertain to the contemporary self-fulfilment Western project, which value aspects of individuals as autonomy, initiative and self-government.

For example, forums of discussion are central in the platforms and they are crucial to ask questions which are categorized in topics of interest and that helps patients to browse through question already answered.

Healthy living and creating a personal wellness plan are, for instance, some of the most recurring topic on these platforms.

For instance one of the forum conversations on *Health Exchange* sees the user talking about the pain from severe headaches, and the self-remediation through arts. As one of the patient explains in the forum she/he uses arts and drawing to take his/her mind off of things with the aim to get some relief. A quite intense forum debate follows this post, where users bring their own experience of crafting, painting, writing, drawing as a way to escape from pain.

As it seems to emerge from this conversation, self remedies are often part of online medical communities. Patients tend to create a sense of solidarity with others and often the support goes over the simply use of medical advice. Another discussion forum, for instance, is around remedies for

pain relief based on laughing and smiling. As observed by a user, laughter is the best medicine. It is, in fact, interesting the use of video and the links to images that some of the users post in order to bring happiness in other's people lives. Besides it is worth noting that patients can in reality mark other users' post or doctors' advice as useful and in a way this makes visible the empowerment of the patient/user about the relevance of a specific medical topic.

It seems that patients' empowerment almost signal a direction toward a new system of medicine made by patients for patients (at least in the virtual world). If these platforms rely on the collaborative swapping of helpful wisdom of patients, what is the place occupied by the completeness, accuracy, and reliability of doctors' diagnosis? For instance in another conversation a user talks about overtreatment and overmedication ordered by doctors, with the aim to inform each other of unnecessary treatments. In a way this is an example of emancipation of the user and what has been defined by some authors as the 'wisdom of the crowd'.

Despite that, it seems that the authority of doctors hadn't faded away, as it is shown by the words of the creator of *Health exchange*, a successful platform which wants to be seen as a medical network. This is what he

states: 'the purpose of the platform is to have an online database of patients' reports on their diseases and their responses to treatment as this would speed the work and improve care. The plan is to enrol one million patients and harvest their data for researchers. We're not a social site, We're a medical network' (Source website search, 2013)

Performing a community

As emerged from the analysis, it seems that one central aspect of the three e-health platforms is represented by the way in which medical resources are used. Although, most of the contents are written by specialists and doctors, these platforms seems to rely on the creation of forms of community where patients represent the real strength. One aspect that emerges from the analysis is the sense of community that users are able to generate. Strong bonds among patients seem originated in this context by sharing the same medical condition.

It seems that one central tenet is represented by sharing. The more patients share, the more they'll learn about their own health and the more they'll help other patients.

The focus on participation beyond the traditional role played by a patient (which is a recipient rather than an agent) has in the case of the ehealth

platforms drawing on the notion of co-creation, meant that the medical experience is hinged on the participants' active engagement.

Learning from each other, discuss test results, compare different medications, treatments or combinations of drugs are just some of the most common activities that patients undertake on the platforms analysed.

As it is evident, the connection that people create by sharing personal stories, offering help and experiences also leads to the opportunity to quickly build new friendships. Indeed, one of the most important values that contribute to enrich the users' experience is the role acquired by patients/friends. In effect, being producers of the contents means participating in medicine diagnosis as in-crowd, where actually individuals can compare symptoms and treatments by creating groups.

In this vein, medical communities allow patients to facilitating empowerment for self-care and health decision - making by using their ability to create forms of communities (albeit virtual) and participation.

In a way, by using online crowdsourcing platforms, organizational entities may delegate certain tasks to a broad, diverse and decentralized network of individuals. In contrast to the top-down or lead-users approaches, crowdsourcing relies on a system of self-selection as end-users decide for themselves whether they participate or not. At the same time, when

interaction takes place, social processes are activated among individuals, which help to engender a strong communitarian spirit.

7. Discussion: a model of value creation

Building from what emerged from the data analysis, the paper discusses now a model of value creation based on patients' co-creative activities.

Echoing the suggestion that web platforms tailored to *collaboration* and *participation* are becoming the new ideological paradigm of modernity (Tapscott and Williams, 2006), some scholars (Zwick et al., 2008) have pointed out that the main source of value occurs today at the point of social communication where the co-creation activity is in place.

In the model presented below, value creation flows actually by the interwoven activity of patients, doctors and platform's designers whose activity is highly related. The process of value creation is also influenced by changes related to the so called Medicine 2.0 revolution (Eysenbach, 2008) based on principles of social networking, collaboration and openness.

First, the model considers the role of patients. Patients have gradually become more informed and empowered about their own health and this has opened up interesting avenue for a radical reconfiguring of the

doctor/patient relationship. Patients' empowerment bring them to be more informed about their health and well being while health professionals are no longer the only source of information. This means that, to a certain extent, relationships between patients and doctors become more equal and collaborative. This is also linked to a higher knowledge acquisition. As also observed on the Guardian (2012) patients 'use online tools to learn and apply expert knowledge, and play a more active role in the prevention, treatment and monitoring of their own illnesses and conditions. Empowerment is happening collectively too, as groups of patients and carers participate in solidarity networks and advocacy groups centred on specific conditions and experiences'.

This point brings attention to an interesting implication related to the role of the virtual subject, who is expected to become an 'active subject' who brings his personality and subjectivity in the activities undertaken. Putting the users' needs, aspirations, tastes, preferences and all the attributes that constitute (or that he/she perceives as constituting) his/her inner self at the core of cyber spatial reality, means allowing him to construct his 'authentic' virtual subjectivity across social platforms (Coté and Pybus, 2007). These are thus experienced by its users as places where they can put their creativity and affective capacities into participative activities. In this sense, the creative content generated by the web user is deemed as an

important, yet unacknowledged resource for value generation as in crowd-sourced medicine seems in fact at the basis of many ehealth platforms.

A second brick of the model is represented by medics and caregivers and their changing role in the Medicine 2.0. As emerged from the analysis of these platform, healthcare professional play a crucial role. They clearly give specific advice but also they promote their medical activities, as often on these websites they have a dedicated space. In a way their role has also changed from a model where the doctor seemed to be an authoritarian voice in the care to a "participatory medicine" where 'both the patient and the clinician bring the information, skills and abilities they have together to make a shared decision about a diagnosis or course of treatment' (the Guardian, 2012)

The last, albeit not least part of the model, is represented by platforms in itself. The way in which they are created and designed affect the patients' activity and the more or less engaging experience for the user.

As said, patients' participation is fundamental and actually the participatory role of users has become the central dynamic to create value. In this context, the key competence for platforms' designers is "the ability to integrate the talents of dispersed individuals" (Tapscott and Williams, 2006: 18).

As observed sharing details of medical condition is a way to create bonds among patients. Virtual friends' support becomes thus the glue which stick many users together and that allow them to acquire control over their own health. This is an important form of value for patients since this allow them to have all the information they need for a decision about their healthcare to be made.

In conclusion the article argues that value is generated by the interconnected co-productive activity of patients, doctors and platform' designers and all of them capture some form of value during the transaction. This article focused on the value generated for patients but it is clear that other actors also take benefits from that. Doctors and caregivers can promote their activities through on-line platform and at the same time thanks to the empowerment of patients can liaise with more informed users and this can help medical personnel to save time. Also through a participative decision-making approach part of their responsibilities about treatments is actually reduced.

At the same time platforms' designers can count upon the creative content generated by the web user and this is deemed an important resource for the value generation and reproduction of the 'digital economy'. In this sense, immaterial components of users – including knowledge, communicative

acts and cooperation - makes value for the platform's creator and designers.

8. Concluding remarks

The article has offered an analysis of e-health care from a value perspective in an attempt to focus on a hitherto under-researched aspect, i.e. the value that e-health initiatives are able to generate for patients. It has set out to investigate the role of patients, doctors and platforms' designers in creating value and on which logic this type of value is generated.

Building from a notion of value that brings social production and process of socialization at the forefront of the definition, this article has contributed to the literature on value creation in managerial studies.

The paper delved into the literature on co-creation and the importance of users to generate economic value. From here it reflected on the participative paradigm derived from on-line collaboration where the participatory role of users becomes the central dynamic for the creation of value.

The paper adopted a qualitative mixed method, consisting of two main sources of data: online analysis on internet communities and archive documents in order to explore users' activity on three e-health platforms.

By analysing on-line contents of these websites, the paper explored how patients engage in participatory activity. As suggested by the analysis, value creation flows actually by the interwoven activity of patients, doctors and platform's designers whose activity is highly related. The process of value creation is also influenced by changes related to the so called Medicine 2.0 revolution (Eysenbach, 2008) based on principles of social networking, collaboration and openness.

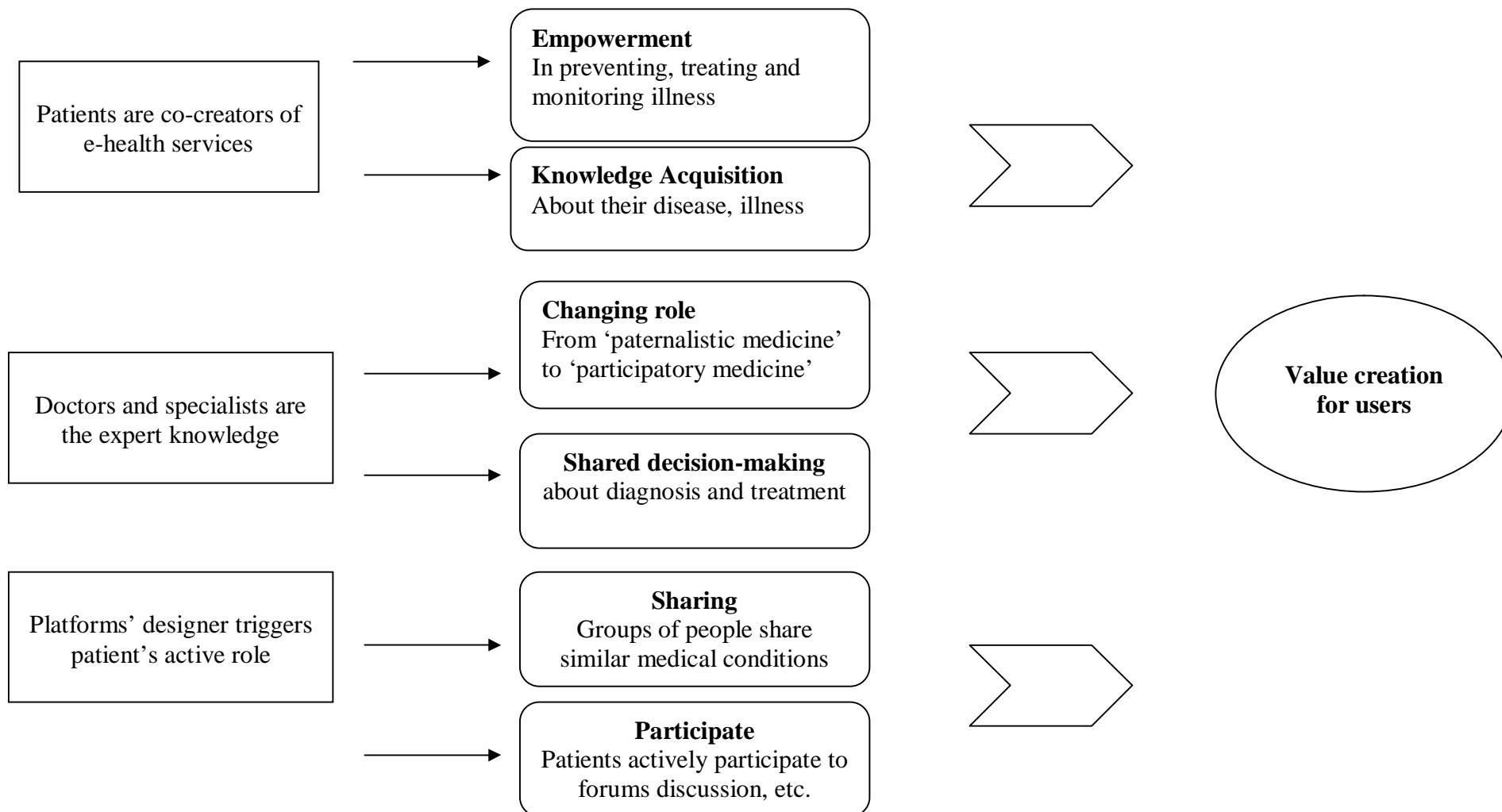
The reflection was guided by a wider underlying consideration, which is tied to transformations in value understandings – i.e. what value is and according to which logic it is produced. The paper found, indeed, that new means to define value are surpassing traditional political economy conceptualizations. The explanation of value based on labor time does not seem the only measure to determine value anymore. Instead, it argued that new elements - being able to maintain a sense of community, sharing with others and participating - are acquiring a central room when value issues are under analysis.

In this light, the paper raised some points on how the users' immersion can be transformed into economic value and for whom (patients, caregivers, platforms' designers) this translation is proving to be advantageous.

In a context where companies seem to show an increased willingness to engage talent from beyond the confines of their offices (Belsky, 2011), it

seems important to ask whether immersive internet, forms of participation and user-driven innovations could constantly engage patients and to achieve a better quality of health care for them.

E-health platforms and the Medicine 2.0



References

- Alvarez R. C. 2002. The promise of e-Health - a Canadian perspective. *eHealth International*, 17(1)
- Al Ubaydli, M. 2012. How social networks enable patients to be more involved in their healthcare. [accessed on 18/3/2013]
<http://www.guardian.co.uk/healthcare-network/2012/apr/17/patients-social-networks-new-technologies>
- Anderson, C. (2006) *The long Tail: Why the Future of Business Is Selling Less of More*, (New York: Hyperion).
- Arvidsson, A. 2010. The ethical economy: new forms of value in the information society? *Organization*, 17 (5)
- Berner E.S, Moss J. 2005. Informatics Challenges for the Impending Patient Information Explosion. *Journal of the American Medical Informatics Association*, 12 (6).
- Blaya, J., Fraser, H., Holt, B. E-Health. 2010. Technologies Show Promise In Developing Countries. *Health Affairs*, 29 (2)
- Boulol, M., Castellot Lou. R., Anastasiou, A., Nugent, C., Alexandersson, J. Zimmermann, G., Cortes, U., Casas R. 2009. Connectivity for Healthcare and Well-Being Management: Examples from Six

European Projects. *International Journal of Environmental Research and Public Health*, 6.

Crispin, S. 2011. Who surveys mHealth in 114 countries. [accessed on 16/1/2013]

<http://www.ehi.co.uk/news/mobile/6928/who-surveys-mhealth-in-114-countries>

Committee for Protection of Human Subjects. 2012. Internet-based Research. University of California, Berkley.

Dolan, B. 2009. Successful mHealth applications are already here [accessed on 16/1/2013]

<http://mobihealthnews.com/4027/successful-mhealth-applications-are-already-here/>

Eysenbach, G., Till, J. Ethical issues in qualitative research on internet communities. *British Medical Journal*, 10 (323).

Eysenbach G, Wyatt JC. Facilitating research via the internet. In: McKenzie B, ed. *Internet and medicine*. Oxford: Oxford University Press (in press).

England I, Stewart D, Walker S. 2000. Information technology adoption in health care: when organisations and technology collide. *Australian Health Review*, 23(3):176-85

Health Unlocked [accessed on 18/03/2013]

<http://www.healthunlocked.com/about/>

HealthyImagination. 2010. Healthcare touches everyone. 2010 Report.

Hearn, A. (2010) 'Structuring feeling: Web 2.0, online ranking and rating, and the digital 'reputation' economy', *Ephemera*, 10 (3/4), 421-438.

Jones, S. 1999. Doing Internet Research. Critical issues and methods for Examining the Net. London, SAGE

Kaplan, W. 2006. Can the ubiquitous power of mobile phones be used to improve health outcomes in developing countries? *Globalization and Health* 2006, 2:9

King S. A. 1996. Researching internet communities: proposed ethical guidelines for the reporting of results. *The Information Society*, 12(2)

Lazzarato, M. 1997. *Lavoro Immateriale*, (Verona: Ombre Corte).

Lepak, D. P., Smith, K.G. and Taylor, S. 2007. Value creation and value capture: a multilevel perspective. *Academy of Management Review*, 32 (1).

Lusch, R.F. and Vargo, S.L. (2006) *The Service-dominant Logic of Marketing: Dialog, Debate, and Directions*. MA: M.E. Sharpe.

Oh H, Rizo C, Enkin M, Jadad A. 2005. What is eHealth: a systematic review of published definitions. *Journal of Medical Internet Research*. Feb 24;7(1).

Patients Know Best. [accessed on 18/3/2013]

<http://www.patientsknowbest.com/>

Pagliari C, Sloan D, Gregor P. 2005. What is eHealth?: a scoping exercise to map the field. *Journal of Medical Internet Research*. Mar 31;7(1)

Prahalad, C.K. and Ramaswamy, V. (2004a) 'Co-creation Experiences: The Next Practice in Value Creation', *Journal of Interactive Marketing* 18(3): 5–14.

Prahalad, C.K. and Ramaswamy, V. (2004b) *The Future of Competition: Co-creating Unique Value with Customers*. Boston, MA: Harvard Business School.

Prichard, C., Mir, R. 2010. Editorial: Organizing value. *Organization*, 17 (5)

PWC. 2012. mHealth in the UK: paths for growth

Olsson, T. (2009) '*From the Ecology of Broadcasting to the Economy of Participation*', Presented at Nord Media, Karlstad, 13-15 August.

Oram, S. (2010) 'Crowdsourcing and the challenge of payment', <http://radar.oreilly.com/2010/05/crowdsourcing-and-the-challeng.html>.

O'Reilly, T. (2005) 'What is Web 2.0? Design Patterns and Business Models for the Next generation of software', <http://www.oreillynet.com/pub/a/oreilly/tim/news/2005/09/30/what-is-web-20.html>.

Sirmon, D. 2011. Managing Firm Resources in Dynamic Environments to Create Value: Looking Inside the black Box. *The Academy of Management Review*, 32 (1)

Shute, N. Getting Medical Advice on the Web from Other Patients. [accessed on 19/03/2013] <http://health.usnews.com/health-news/best-hospitals/articles/2009/07/13/getting-medical-advice-on-the-web-from-other-patients>

Steinert, K. Marom. R., Richard, P., Veiga, G., Witters, L. 2011. Making cities smart and sustainable. In *The Global Innovation Index 2011. Accelerating Growth and Development*. INSEAD Editor. p. 87-96

Tapscott, D and Williams, A. D. (2006) *Wikinomics. How Mass Collaboration Changes Everything* (New York: Penguin).

Terranova, T (2000) 'Producing Culture for the Digital Economy', *Social Text*, 63(18): 33-58.

The Guardian. Healthcare Professional Network. [accessed on 19/03/2013] <http://www.guardian.co.uk/healthcare-network>

Van Dijck, J. and Nieborg, D. (2009) 'Wikinomics and its discontents: a critical analysis of Web 2.0 business manifestos', *New Media and Society*, 11 (4), 855 -874.

Van Dijck, J. (2009) 'Users like you? Theorizing agency in user-generated content', *Media Culture & Society*, 31 (1), 41-58.

World Health Organization.2011. mHealth: New Horizons for health through mobile technology. Global Observatory for eHealth series . Vol. 3.

World Health Organization. 2008. Building Foundations: eHealth in Europe.

Zwick. D., Bonsu, S. K. and Darmody, A. 2008. 'Putting consumers to work. Co-creation and new marketing govern-mentality', *Journal of Consumer culture*, 8 (2), 163-196.

Article III

**'Smart growth': increasing the smartness of cities
through smart healthcare solutions**

**‘Smart growth’: increasing the smartness of cities through smart
healthcare solutions**

Abstract

Organising cities around innovative ways of using digital technologies has become one of the most challenging aspects of today’s globalised world, where creating value for citizens and the community is among the priorities of urban governance. This article departs from the study of the European ‘smart cities’ project, to observe how middle-sized cities could develop, empowered by the spread of networked information and communication technologies. In particular, smart healthcare is recognized as one of the main dimensions that contribute to make a city smart. The article explores the use of smart card, by considering a case study and its implications will be discussed.

Keywords – smart cities, ethical economy, smart card.

Paper type – Conceptual paper

1. Introduction

Organising cities around local communities has become one of the most challenging aspects of today's globalised world, where creating value for citizens is among the priorities of urban governance.

In recent years many cities around the world have experimented innovative ways of using digital technologies to enable competitiveness and sustainability. The main focus is on cities being more ecological and comfortable for citizens, towards the idea of fostering smart environments, smart mobility, in one, smart living.

In effect, the opportunity to generate forms of value for inhabitants is one of the issues debated on the table by urban policy makers, who have interrogate themselves on how to make local contexts competitive and help the urban contexts' growth.

The article departs from the study of the European 'smart cities' project, to observe how middle-sized cities could develop, 'empowered by the spread of networked information and communication technologies' (Arvidsson, 2010: 637).

A univocal definition of 'smart city' has not been provided yet, but lists of characteristics contributing to make a city smart have been clearly identified (see Giffinger et al., 2007). Indeed, as part of a European

project, the European smart cities ranking, has been already drawn up. As such, smart cities need to respect some criteria: 1.being medium-sized cities, 2. having at least one University and 3. having a catchment area less than 1.500,000 inhabitants. At the same time, characteristics that make cities smart include ‘factors around economic competitiveness’, ‘the quality of social interaction’, ‘aspects of political participation’, ‘the availability of information and communication technologies and modern and sustainable transport systems’, ‘attractive natural conditions’ and ‘various aspect of quality of life’(SRF, 2007: 11).

As pointed out by Giffinger (2007), one of the main qualities of the ranking is that the economic dimension is not the only dimension taken into account in aiming to be a ‘smart city’. Instead, beside smart economy, a range of other factors - from the environment to citizens’ participation and public services provision - are deemed crucial to make a city smart.

Along technology innovation, at the core of a ‘smart city’, the enhancement of public services for citizens has also been considered pivotal to drive smart cities’ growth (Béllisent, 2010). Delivering good public services is, in effect, central to create wellness to citizens and this entails that a good system of infrastructure, utilities provision, public safety, education and healthcare must be set up.

The aim of this paper is to reflect on the concept of ‘smart growth’ by looking at the perspective of the ethical economy (Arvidsson, 2010). This article devotes attention to ‘smart healthcare solutions’ and in particular at the use of ‘Smart Cards’ in the Health Information Systems.

The method is based on case study research (Eisenhardt, 1989; Bent 2011) based on the Exeter Care Card Pilot (UK).

The originality of this research lies in its capacity to reflect on a very contemporary phenomenon, which is the use of smart technology (such as ‘smart card’) as a tool to contribute to ‘smart growth’. Through the lens of the notion of ethical economy, the article makes several considerations on the fact that such notion ‘is likely to be central to the emerging economic ecology of the information society’ (Arvidsson, 2010: 638) and it observes how this applies to the case of smart cities.

Furthermore, this research also contributes to the still ill-developed literature on the concept of ‘smart city’. After the launching of the European ‘smart city’ program, some studies have been carried out, but mainly from a practitioner’s perspective (Béllisent, 2010; Insead, 2011).

In this light, the article aims to contribute to the initial scholarly body of research on this topic.

The article is organized as such. The first section introduces the concept of ethical economy and the article elaborates on it. The second section offers a definition of the concept of ‘smart health care’ by placing it within the context of smart city. ‘Smart health care’ is, in fact, deemed crucial for the development of a city that is highly based on the availability of information and communication technologies. The last section focuses on a case study before offering a discussing conclusion.

2. The ethical economy

In order to situate the contribution, this article adopts the notion of ethical economy. Indeed, this concept seems extremely helpful to explain changes in society and in the structure of the economy, due to the IT revolution.

The concept of ethical economy has been recently studied by Adam Arvidsson (2009; 2010) whose terrain of analysis was represented by the diffusion of forms of social production on internet-based platforms, such as ‘Open Software’. A first step to unpack the concept of ethical economy is related to the connection of the concept with Information Technologies.

As observed by Arvidsson (2010): ‘ethical economy is closely linked to information technology, or more precisely, it emerges out of the extended forms of cooperation that these technologies enable, implying that the

ethical economy is likely to be central to the emerging economic ecology of the information society' (p. 638).

Accordingly, it seems that the conditions for the emergence of this economy need to be traced in the spread of networked information and the diffusion of media platforms.

The close link between information technology and the notion of ethics that the conceptualization of ethical economy conveys is of utmost interest for this paper. In fact, in this instance, the concept of ethic is not linked to morality or what is supposed to be a 'good' action. Instead, it is conceived as related to the ability of 'citizens to construct the kinds of social relations that make the good life' (Arvidsson, 2010: 639) and according to the author this is achieved when forms of *communitas* and social relations are in place. What is of interest in the conceptualization of ethical economy is precisely how the notion of 'ethics' is conceived. It is of interest to note that this notion of ethics - where socializations processes are central - is actually considered as an engine for value generation and it has been used precisely to explain how forms of interaction among individuals can be valued in contemporary societies.

In particular, this is evident especially on social media and on-line platforms where connections among users and peer-to-peer become pivotal and forms of communities are established. The important implication related to the widespread use of on-line platforms is linked to a process of democratization of the economy due to the power given to users (Arvidsson, 2010). In fact, the Web, blogs, virtual communities and other methods of inter-virtual exchange seems to move towards a direction of a more democratic approach.

For instance, Bassoli et al. (2007) state that a paradigm shift in urban use of ICT devices is underway: the city itself and its inhabitants are becoming part of the application and vice versa— ICT devices become part of the city. As an outcome of this paradigm shift, cities themselves are becoming platforms for collective creation of content and social interactions.

It seems that in the context of smart cities, smart behaviours adopted by citizens coupled with IT can improve health promotion and care delivery.

If ethical economy means creating healthcare communities and forms of connection among patients, doctors and structures, it can be worth to explore more how future smart cities could incorporate the principles of ethical economy within them.

3. Towards a definition of Smart Health Care

One of the main aspects that define a smart city, is represented by the availability of ICT infrastructure and in order to create a smart health system, those infrastructure are deemed crucial. At the moment 70 smart cities have been identified, the smartest located in Finland, Denmark, Austria and Germany, but many other are competing to being smart cities.

According to Steinert (2011), smart healthcare solutions have been designed to implement the access to the primary care, building on the crucial role of technological devices (Steinert et al., 2011).

The idea is that Health IT is the enabling force behind progress and change, which alongside other dimensions as smart people, smart governance and smart living play a crucial role to positioning medium-sized cities against a competitive global context. In this vein, cities should be able to attract especially ‘industries in the fields of information and communication technologies (ICT) as well as other industries implying ICT in their production processes’ (SRF, 2007).

In addressing the high economic burden of the healthcare sector, preventive medicine, real time monitoring, ubiquitous computing and

decision support have become indispensable and have been placed on the forefront for a city that aims to be smart.

Smart solutions for healthcare have thus been developing in several countries, most notably the UK, in order to experiment more cost-effective approaches to diagnosis and treatment. In fact, according to a definition given by CRA (2011) “smart health involves deploying computing, information, and networking technologies to aid in preventing disease, improving the quality of care and lowering overall cost”.

The core idea is that tools based on computer system can actually transform healthcare system from one that is ‘disease-centered’ to one that is much more ‘patient-centered’ and in this way creating value for the community and the city. For instance, computerized decision support systems are deemed crucial to delivering effective treatments and this can allow doctors to better diagnose and evaluate patients (for example by reducing risky drug reactions and unnecessary procedures).

An interesting example of smart health care within a smart city is represented by the research undertaken by the corporate IBM who actually has developed solutions for smart cities in order to help local contexts to grow and succeed in a urban global arena.

Although such solutions have been implementing for commercial purposes, it is interesting to note that some European and North American health care structures adopted the implemented IBM software platform in order to provide smarter healthcare to their patients (The IBM Health Integration Framework for Healthcare Providers, 2011)

For instance, it was adopted in the Netherlands by a renowned hospital¹ in order to reduce medical errors and risks and improve the responsiveness, consistency and quality of patient care. Similarly, solutions to facilitate the integration, exchange and sharing of information throughout the health structure in order to manage electronic medical record, were implemented by the company and adopted by Basingstoke and North Hampshire NHS Foundation Trust, a 450-bed hospital facility serving 300,000 patients in England in order to have a patient care record summary for clinicians.

Behind the idea of smart health care is the consideration that a connected healthcare system allows doctor to collaborate on diagnosis and treatment and in turn allowing them to give personalized healthcare, centred on the citizens' needs. Being electronically connected means to have had develop ITC system. As pointed out by Boulol et alii (2009) "deployment of high speed wireless networks is already taking place across Europe,

¹ The name is uncovered for ethical purposes.

contributing to lower access costs and keeping users connected all the time” and as they continue “this also helps in getting patients ‘in the loop’ by making them more knowledgeable and aware of their health condition, and better equipped to safely assume responsibility for their own self-care” (Ibid. p. 1950)

In such a context, smart cities aim thus at developing health information infrastructures and following the line to improve the safety, quality and efficiency of patient care by enabling access to electronic health records and by supporting clinical practice, service management, research and policy with innovative solutions (Pagliari et alii, 2005).

Starting from these premises, the article focuses, in particular, on the use of patient records on smart cards by healthcare professionals (doctors, pharmacist, GP). In particular, in the healthcare sector ‘Smart Cards’ are crucial to keep track of patients’ records and exchange of information while the need for their implementation is justified by the statement that electronic health records information can get the right information for decision to caregivers.

Accordingly, the article addresses the following research questions:

Is it possible to envision a smart growth through the pervasive use of IT services within the healthcare system? In which way smart cards can enhance the care for smart citizens?

3.1 Smart Cards and electronic health records

In this section the article provides a short description of smart cards and their recent adoption, before introducing the case study.

Smart cards have received a good deal of attention in recent years within the health care system and as electronic data management is becoming more widespread and sophisticated, smart cards have been acquiring a crucial role.

They have been appreciated for their trustworthiness and speed in managing patient's data on personal problems and medications as well as for helping caregivers in finding medical records. As pointed out by Neame (1997) smart cards are very special and they are appreciated for some key attributes. As the authors note (1997), 'they can carry a substantial quantity of data in a compact and computer readable form and they can carry it securely' (ibid. p. 575).

In effect the latter attribute is particularly relevant in the health care, where security of data and confidentiality are of utmost relevance for ethical reasons. In fact through the personal identification number, smart cards are

able to protect sensitive data and the access on the information on a card can be controlled and granted only to authorize personnel.

In effect, the literature points out that the benefits from smart cards are multiple. For instance the Smart Card Alliance states that benefits touch different groups, among which providers, patients and payers (SCA, 2012). First providers – which are identified in practitioners and health care professional – can streamline registration processes and contribute to administrative efficiency. At the same time they ensure that the right treatment is given to patients since all the medical history is stored on the card. Thereby records are held locally and can be retrieved and displayed on the screen when caregivers need. At the same time, caregivers can have easy access to the various entries on the patient's card relating to previous care encounters, tests, and reports. This in turn enhances patients' care and their satisfaction.

In fact, patients are the second group that benefit from the use of smart card. They receive treatment more quickly but they also are empowered over their health. In fact patients can have secure access to their health information for example through mobile applications, which are becoming increasingly important as healthcare treatments are shifting toward a more customer centred logic.

At the same time payers – identified with funding bodies – can also take advantage by the use of smart cards. The availability of a patient’s up-to-date healthcare record at the point of service reduces the incidence of duplicate tests and procedures that are typically a significant cause of wasteful spending.

In this way, through the use of electronic cards and health records, it is possible to deliver a better care to patients and the community.

Methodological design

The research strategy that this article adopts is based on case study research (Eisenhardt, 1989; Bent 2011). The advantage of this method is that it allows investigating a contemporary phenomenon within its real-life context (Scapens, 2004). Indeed, as observed by Hartley (2004) the benefit of this type of investigation is that the phenomenon investigated is not isolated by its context and this permits detailed understanding of the phenomenon through a richer data collection.

In particular, the article considers a single case study which is the Exeter Care Card Pilot. This case was selected as a masterful example of data management and in fact it seems to elucidate the use of smart card in the Health care sector. By starting to this successful case, it seems that it is

then possible to make some considerations for other realities and what they can learn about the implementation in the use of smart cards.

As explained by Neame (1997) 'The Exeter Care Card trial was sponsored by the Department of Health and explored the potential of computerised medical records that were retained by patients. The trial ran from 1989 to 1992 and included 13 000 patients, two general medical practices, eight community pharmacists, one general dental practice, a community hospital, and a general hospital, all within one district. Patients were issued with a smart card that carried administrative, clinical, emergency, and prescription data that could be added to either automatically from a computerised medical records system or manually. Access to the patients' data was regulated by the health professionals' card, which determined the level of access that was permitted to each user.

The evaluation showed that use of the card record system was associated with significant changes in the following areas: reduced cost of prescribing; reduced costs of investigations carried out; reduced times taken for communicating data; and ready access to a useful patient medical record. It seems that patients' acceptance of the devices and compliance in use of the system were extremely high' (Source: Neame, 1997: 574).

Through an integrated health care delivery system, which will see increased coordination between primary care physicians, specialists and other health care providers, preventive care was emphasized as a way to avoid hospital stays and reduce the number of emergency room visits and re-admissions.

As it is exemplified by this case, smart cards have been designed to perform a number of different functions. They can offer health care providers access to a more complete medical history of a patient, with the patient's consent and this can improve the quality of health care services, promote a more integrated approach to care and offer consumers an opportunity to better manage their own health care.

Discussing conclusion

By analysing the case study exemplified by the Exeter Care Card Pilot, the article aimed to discuss the use of smart cards and more broadly how the digital technologies enable competitiveness and foster growth for communities and individuals living in a smart city.

Smart technologies (such as smart cards) when adopted within a smart city have the powerful ability to alter the city context, and this altered context changes lifestyle of inhabitants accordingly, with the ultimate aim of

leading to an overall increased efficiency and sustainability in making use of the city environment.

On-going European efforts towards realising the full benefits offered by ITC are crystal clear in the European Smart cities project. This project provides a flavour of what a future city should be like and this represents the starting point for an understanding of which aspects and initiatives could create and increase better forms of life-style both for smart citizens and the community. The use of Communication and Information technologies in support of the health field has the potential to increase the quality of the care for patients and increase hospitals and other caregivers' capacity to deliver quality healthcare while keeping costs under control.

In the case study described, the paper demonstrated how managing patients' record electronically can play an important role in helping people in many ways, especially thanks to the increasing range of ITC applications and services. It has also shown that investment in technology to improve management of patient records could be a valuable choice toward the direction of creating a smarter city (and community).

Therefore the modernisation of patient record management can thus enable clinical decisions to be made at the point of patient care, supported by easy

but secure access to historic and current medical history. The digitising and electronic storage of patient information permits to integrate and coordinate the health care by benefiting patients, providers and payers (SMA, 2012). Indeed, improved security, access to and management of hospital health records should make patient care safer and more efficient.

By adopting the lens of the notion of ethical economy (Arvidsson, 2010) the article made several considerations on the fact that such notion is likely to be central to the emerging economic ecology of the information and it can explain how in the future support tools in smart ICT devices will be able to generate forms of wellbeing for citizens and the community living in a smart city.

As an outcome of this paradigm shift towards a patient-based care, the potential of improving care through information technology has been discussed and acquired. Cities themselves are becoming platforms for creating value to fostering smart living in order to increase smart growth.

Therefore this research reverberated its effects in different manners.

The article wished to bring advancement of knowledge on the meaning of 'growth', by considering in which ways cities can pursue 'smart' growth and how administrative authorities and inhabitants can increase the

smartness of their cities and to improve their positioning. Moving from the experience of Exeter Care Card Pilot, some considerations were made on what it is possible to learn from countries where smart health initiatives are consolidated. Indeed smart cards are set to play a pivotal part in the future development of healthcare in particular and general in the context of a smart city.

References

- Arvidsson, A. 2010. The ethical economy: new forms of value in the information society? *Organization*, 17 (5)
- Arvidsson, A. 2009. The ethical economy: towards a post – capitalist theory of value. *Capital and Class*.
- Arvidsson, A. 2006. Brands. Meaning and Value in Media Culture. London Routledge
- Barrows RC, Clayton PD. 1996. Privacy, confidentiality and electronic medical records. *Journal of the American Medical Informatics Association*, 3(2):139-48.
- Bassoli A., Brewer J., Martin K., Dourish P., Mainwaring S. 2007. Underground Aesthetics: Rethinking Urban Computing, *IEEE Pervasive Computing*, 6 (3), 39–45.
- Bent. (2011) "Case Study", in Norman K. Denzin and Yvonna S. Lincoln, eds., *The Sage Handbook of Qualitative Research*, 4th Edition. Thousand Oaks, CA: Sage, pp. 301–316.
- Béllisent, J. 2010. Getting Clever About Smart Cities: New Opportunities Require New Business Models. Forrester Research. November 2.

- Bilgram, V. A. Brem, and K. Voigt. 2008. User-Centric Innovations in New Product Development – Systematic Identification of Lead Users Harnessing Interactive and Collaborative Online Tools, *International Journal of Innovation Management*, vol. 12, no. 3, pp. 419-458.
- Blaya, J., Fraser, H., Holt, B. E-Health. 2010. Technologies Show Promise In Developing Countries. *Health Affairs*, 29 (2)
- Boulol, M., Castellot Lou. R., Anastasiou, A., Nugent, C., Alexandersson, J. Zimmermann, G., Cortes, U., Casas R. 2009. Connectivity for Healthcare and Well-Being Management: Examples from Six European Projects, *International Journal of Environmental Research and Public Health*, 6.
- Calabrese, F., Kloeckl, K., Ratti, C. 2008. WikiCity: Real-Time Location-Sensitive. Handbook of Research on Urban Informatics: the practice and promise of the real-time city, Information Science Publishing.
- Cassell, C., Symon G. 2004. Essential Guide to Qualitative Method in Organizational Research. London: SAGE.
- Castells, M. (2011) The Rise of the Network Society: The Information Age: Economy, Society, and Culture. Oxford: Wiley-Blackwell.

- Centre of Regional Science, 2007. Smart cities – Ranking of European medium-sized cities. Vienna University of Technology
- Chan, A. 2000. WWW+smart card: towards a mobile health care management system. *International Journal of Medical Informatics*, 57 (2-3).
- Choi, J. H. 2010. The city is connections: Seoul as an urban network, *Multimedia Systems*, vol. 16, no. 1, pp. 75-84.
- Clark, J. 2010. Exeter Health Resources' pilot program envisions future of health care. *Sea Cost on-line* [accessed on 24/02/2013]
<http://www.seacoastonline.com/articles/20100801-NEWS-8010317>
- Computing Research Association. 2011. Smart health and Wellbeing, (202) 234-2111.
- Datamonitor. 1996. Opportunities in global smartcard markets. *E-med News*; 30:2.
- Eisenhardt, K. M. (1989) "Building theories from case study research", in *The Academy of Management Review*, 14 (4), Oct, 532-550.
- Engelbrecht R, Hildebrand C, Blecher M. 1995. Improving patient care by the use of smart cards. In: van der Lei J, Beckers WPA, eds. *Proceedings of AMICE Conference*.

European Smart Cities. 2007. New scientific ranking instrument for European middle-sized cities. Press Conference, October 10, Expo Real, Munich

Gerring, John. 2005. *Case Study Research*. New York: Cambridge University Press.

Gomm, R., Hammersley, M., Foster, P. 2000. *Case Study Method*, London: SAGE

Hartley, J. 2004. *Case Study Research*. In Cassell, C., Symon G. 2004. *Essential Guide to Qualitative Method in Organizational Research*. London: SAGE.

Healthy Imagination. 2010. Healthcare touches everyone. Report.

IBM. 2011. The IBM Health Integration Framework for Healthcare Providers. IBM Software Group

INSEAD. 2011. The Global Innovation Index 2011, Accelerating growth and development. Soumitra Dutta

Keefe, J. 2010. Exeter Hospital launches pilot health care program. Foster's.com [accessed on 24/02/2013]

http://www.fosters.com/apps/pbcs.dll/article?AID=/20100721/GJNEWS_01/707219880/-1/FOSNEWS

National Health Service. 2011-12. Royal Devon & Exeter NHS Foundation Trust. Annual Report and Accounts.

Neame, R. 1997. Smart Cards. The key to trustworthy health information system. Health Information Consulting.

Scapens, R W. 2004. "The Many Skills of the Case Researcher." In Handbook of Qualitative Research for International Business, 107-108

Schuurman D, Baccarne, B., De Marez, L. and P. Mechant. 2012. Smart Ideas for Smart Cities: Investigating Crowdsourcing for Generating and Selecting Ideas for ICT Innovation in a City Context. *Journal of Theoretical and Applied Electronic Commerce Research*. Vol.7 n.3, 49-62.

Shin, D. H. 2009. Ubiquitous city: Urban technologies, urban infrastructure and urban informatics, *Journal of Information Science*,. 35(5), pp. 515-526.

Smart Card Alliance. 2012. Smart Card Technology in U.S. Healthcare: Frequently Asked Questions. September

Stake, R. 2000. Case Studies. In Denzin, N. Lincoln, Y. (eds). Handbook of Qualitative Research. Thousand Oaks, CA: SAGE

Steinert, K. Marom. R., Richard, P., Veiga, G., Witters, L. 2011. Making cities smart and sustainable. In The Global Innovation Index 2011. Accelerating Growth and Development. INSEAD Editor. p. 87-96

World Health Organization. 2008. Building Foundations: eHealth in Europe.

Conclusions

This thesis has provided some reflections on the concept of value within the context of health care. Understanding the meaning of value means to reflect on how value is created and who are the main producers of value in the post-crisis era. In effect, the post-crisis turmoil brought many scholars to engage in a rethinking of what value is and what is the logic behind its creation by including broader dimensions that go beyond the pure monetary value and that are based on social and ethical notions (Prichard and Mir, 2010).

The thesis has set out from this broader consideration positioning the investigation within the health care sector. In particular, three insights have been provided from the health sector which have advanced the knowledge on how value should be measured, evaluated and conceived when it comes to health issues.

The first article analysed Public Hospitals and it showed that decisions concerning their activities and operations should include broad dimensions like, for instance, the role of the community that benefits from the services. In order to evaluate a Public Hospital and understand the value that it generates for the community, the impact analysis tool was introduced. By adopting this tool, it was proposed a new methodology of analysis that implies the inclusion of different dimensions at the same

time. By this way, the article has given an answer to the main statement that within the topic of economic and social impact analysis the main problem could be refining measurement techniques.

On the contrary, the paper has presented a new integrated model where the identification of the tools and techniques stems from the preliminary analysis of what has to be evaluated. In this way, it was possible to build up a model composed of five main bricks. The first one refers to the analysis of the direct and indirect economic impact; the second one to the social impact.

The third dimension includes the 3BL approach principles. The fourth and the fifth dimensions are related to the analysis of strategic goals and to the organizational effectiveness analysis.

In this light the concept of value generation was considered by looking at the macro dimension.

The second article has investigated a model of value creation based on the use of e-health platform where patients/users have a central role.

Echoing the suggestion that web platforms tailored to *collaboration* and *participation* are becoming the new ideological paradigm of modernity (Tapscott and Williams, 2006), some scholars (Zwick et al., 2008) have pointed out that the main source of value occurs today at the point of social communication where the co-creation activity is in place.

In the model presented, value creation flows actually by the interwoven activity of patients, doctors and platform's designers whose activity is highly related. The process of value creation is also influenced by changes related to the so called Medicine 2.0 revolution (Eysenbach, 2008) based on principles of social networking, collaboration and openness.

First, the model considers the role of patients. Patients have gradually become more informed and empowered about their own health and this has opened up interesting avenue for a radical reconfiguring of the doctor/patient relationship. In this light, the creative content generated by the web user is deemed as an important, yet unacknowledged resource for value generation as in crowd-sourced medicine seems in fact at the basis of many ehealth platforms.

A second brick of the model is represented by medics and caregivers and their changing role in the Medicine 2.0. As emerged from the analysis of these platform, healthcare professional play a crucial role. They clearly give specific advice but also they promote their medical activities, as often on these websites they have a dedicated space. The last, albeit not least part of the model, is represented by platforms in itself. The way in which they are created and designed affect the patients' activity and the more or less engaging experience for the user.

In conclusion the article argues that value is generated by the interconnected co-productive activity of patients, doctors and platform' designers and all of them capture some form of value during the transaction.

The last article presents a combination of the previous two perspectives where the concept of value is analysed both in his micro and macro dimensions within the context of smart cities.

By analysing the case study exemplified by the Exeter Care Card Pilot, the article aimed to discuss the use of smart cards and more broadly how digital technologies enable competitiveness and foster growth for communities and individuals living in smart cities.

Smart technologies (such as smart cards) when adopted within a smart city have the powerful ability to alter the city context, and this altered context changes lifestyle of inhabitants accordingly, with the ultimate aim of leading to an overall increased efficiency and sustainability in making use of the city environment. In this sense, by creating value individually through the use of smart cards, value is also created for citizens and more broadly the local community.

Bibliography

Adinolfi, P. 2009 Le radici filosofiche della pratica organizzativa: i servizi sanitari. WOA, Bologna

Adinolfi, P., & Mele, R. 2006. Elementi di Management sanitario. Kastalia Multimedia

Adinolfi, P. 2003 Total quality management in public health care: A study of Italian and Irish hospitals, *Total Quality Management & Business Excellence*, 14 (2)

Aidemark, L.,G. and Funck, L., K. 2009. Measurement and the health care management. *Financial accountability and management*. 25 (2).

Alvarez R. C. 2002. The promise of e-Health - a Canadian perspective. *eHealth International*, 17(1)

Al Ubaydli, M. 2012. How social networks enable patients to be more involved in their healthcare. [accessed on 18/3/2013]

<http://www.guardian.co.uk/healthcare-network/2012/apr/17/patients-social-networks-new-technologies>

Anderson, C. 2006 *The long Tail: Why the Future of Business Is Selling Less of More*, (New York: Hyperion).

- Arvidsson, A. 2010. The ethical economy: new forms of value in the information society? *Organization*, 17 (5)
- Arvidsson, A. 2009. The ethical economy: towards a post – capitalist theory of value. *Capital and Class*.
- Arvidsson, A. 2006. *Brands. Meaning and Value in Media Culture*. London Routledge
- Barrows RC, Clayton PD. 1996. Privacy, confidentiality and electronic medical records. *Journal of the American Medical Informatics Association*, 3(2):139-48.
- Bassoli A., Brewer J., Martin K., Dourish P., Mainwaring S. 2007. Underground Aesthetics: Rethinking Urban Computing, *IEEE Pervasive Computing*, 6 (3), 39–45.
- Béllisent, J. 2010. Getting Clever About Smart Cities: New Opportunities Require New Business Models. Forrester Research. November 2.
- Bent. (2011) "Case Study", in Norman K. Denzin and Yvonna S. Lincoln, eds., *The Sage Handbook of Qualitative Research*, 4th Edition. Thousand Oaks, CA: Sage, pp. 301–316.
- Berner E.S, Moss J. 2005. Informatics Challenges for the Impending Patient Information Explosion. *Journal of the American Medical Informatics Association*, 12 (6).

- Bilgram, V. A. Brem, and K. Voigt. 2008. User-Centric Innovations in New Product Development – Systematic Identification of Lead Users Harnessing Interactive and Collaborative Online Tools, *International Journal of Innovation Management*, vol. 12, no. 3, pp. 419-458.
- Blaya, J., Fraser, H., Holt, B. E-Health. 2010. Technologies Show Promise In Developing Countries. *Health Affairs*, 29 (2)
- Blumer, H. 1986. Symbolic interactionism. Perspective and method. Englewood Cliff: Prentice Hall International.
- Borgonovi E., Fattore G., Longo F., 2009. Management delle istituzioni pubbliche, Milano, Egea
- Boulol, M., Castellet Lou. R., Anastasiou, A., Nugent, C., Alexandersson, J. Zimmermann, G., Cortes, U., Casas R. 2009. Connectivity for Healthcare and Well-Being Management: Examples from Six European Projects. *International Journal of Environmental Research and Public Health*, 6.
- Calabrese, F., Kloeckl, K., Ratti, C. 2008. WikiCity: Real-Time Location-Sensitive. *Handbook of Research on Urban Informatics: the practice and promise of the real-time city*, Information Science Publishing.

Cameron, K. 1986. A Study of Organizational Effectiveness and Its Predictors. *Management Science*, 32(1): 87-112.

Capital Link. 2007. The economic impact of community health centres in the Philadelphia area. December

Cassell, C., Symon G. 2004. *Essential Guide to Qualitative Method in Organizational Research*. London: SAGE.

Castells, M. 2011 *The Rise of the Network Society: The Information Age: Economy, Society, and Culture*. Oxford: Wiley-Blackwell.

Centre of Regional Science, 2007. Smart cities – Ranking of European medium-sized cities. Vienna University of Technology

Chan, A. 2000. WWW+smart card: towards a mobile health care management system. *International Journal of Medical Informatics*, 57 (2-3).

Choi, J. H. 2010. The city is connections: Seoul as an urban network, *Multimedia Systems*, vol. 16, no. 1, pp. 75-84.

Cyert, R., & March, J., 1963. *A behavioural theory of the firm*. Prentice Hall.

Clark, J. 2010. Exeter Health Resources' pilot program envisions future of health care. Sea Cost on-line [accessed on 24/02/2013]

<http://www.seacoastonline.com/articles/20100801-NEWS-8010317>

- Committee for Protection of Human Subjects. 2012. Internet-based Research. University of California, Berkley.
- Computing Research Association. 2011. Smart health and Wellbeing, (202) 234-2111.
- Connolly, T., Conlon, E. J., & Deutsch, S. J. 1980. Organizational effectiveness: A multiple constituency approach. *Academy of Management Review*, 5: 211-217.
- Crispin, S. 2011. Who surveys mHealth in 114 countries. [accessed on 16/1/2013]
<http://www.ehi.co.uk/news/mobile/6928/who-surveys-mhealth-in-114-countries>
- Datamonitor. 1996. Opportunities in global smartcard markets. *E-med News*; 30:2.
- Denzin, N. K. 1978. *The research act : a theoretical introduction to sociological methods* (2nd ed.). New York: McGraw-Hill.
- Denzin, N. K., & Lincoln, Y. S. (2005). *The SAGE handbook of qualitative research* (3rd ed.). Thousand Oaks: Sage Publications.
- Department of Health, 2008. NHS performance Indicators. Healthcare statistics.

Dolan, B. 2009. Successful mHealth applications are already here
[accessed on 16/1/2013]

[http://mobihealthnews.com/4027/successful-mhealth-applications-are-
already-here/](http://mobihealthnews.com/4027/successful-mhealth-applications-are-already-here/)

Eisenhardt, K. M. (1989) "Building theories from case study research",
in *The Academy of Management Review*, 14 (4), Oct, 532-550.

Engelbrecht R, Hildebrand C, Blecher M. 1995. Improving patient care by
the use of smart cards. In: van der Lei J, Beckers WPA, eds.
Proceedings of AMICE Conference.

Eysenbach, G., Till, J. Ethical issues in qualitative research on internet
communities. *British Medical Journal*, 10 (323).

Eysenbach G, Wyatt JC. Facilitating research via the internet. In:
McKenzie B, ed. *Internet and medicine*. Oxford: Oxford University
Press (in press).

Elkington, J. (1997). *Cannibals with Forks: The triple bottom line of 21st
century business*. Capstone: Oxford.

England I, Stewart D, Walker S. 2000. Information technology adoption in
health care: when organisations and technology collide. *Australian
Health Review*, 23(3):176-85

- Ethiraj, S. K., & Levinthal, D. 2009. Hoping for A to Z While Rewarding Only A: Complex Organizations and Multiple Goals. *Organization Science*, 20(1): 4-21.
- European Smart Cities. 2007. New scientific ranking instrument for European middle-sized cities. Press Conference, October 10, Expo Real, Munich
- Gerring, John. 2005. *Case Study Research*. New York: Cambridge University Press.
- Giuffrida, A., Lapecorella, F. e Pignataro, G. 2000, Organizzazione dell'assistenza ospedaliera: analisi dell'efficienza delle aziende ospedaliere e dei presidi ospedalieri, *Economia Pubblica*, XXX, n. 4.
- Goodman, P. S., & Pennings, J. M. (Eds.). 1977. *New perspectives on organizational effectiveness*. San Francisco: Jossey-Bass.
- Gomm, R., Hammersley, M., Foster, P. 2000. *Case Study Method*, London: SAGE
- Granovetter, M. 2005. The Impact of Social Structure on Economic Outcomes. *The Journal of Economic Perspectives*, 19(1): 33-50.
- Guisset, A. L., Kjaergaard, J., Habicht J. 2009. Performance management, developing a culture of measurement and continuous quality improvement in Estonian Hospitals. *World Health Organizations*.

- Hackman, J. R., Lawler, E. E., & Porter, L. W. 1977. Perspectives on behavior in organizations. New York: McGraw-Hill.
- Hartley, J. 2004. Case Study Research. In Cassell, C., Symon G. 2004. Essential Guide to Qualitative Method in Organizational Research. London: SAGE.
- Health Unlocked [accessed on 18/03/2013]
<http://www.healthunlocked.com/about/>
- HealthyImagination. 2010. Healthcare touches everyone. Report.
- Hearn, A. 2010 'Structuring feeling: Web 2.0, online ranking and rating, and the digital 'reputation' economy', *Ephemera*, 10 (3/4), 421-438.
- Horowitz, J. K., & McConnell, K. E. 2002. A Review of WTA/WTP Studies. *Journal of Environmental Economics and Management*, 44(3): 426-447.
- IBM. 2011. The IBM Health Integration Framework for Healthcare Providers. IBM Software Group
- INSEAD. 2011. The Global Innovation Index 2011, Accelerating growth and development. Soumitra Dutta
- Jones, S. 1999. Doing Internet Research. Critical issues and methods for Examining the Net. London, SAGE

- Jick, T. D. 1979. Mixing Qualitative and Quantitative Methods: Triangulation in Action. *Administrative Science Quarterly*, 24(4): 602-611.
- Jobson, J.D., & Schneck, R. 1982. Constituent Views of Organizational Effectiveness: Evidence from Police Organizations. *The Academy of Management Journal*, 25(1): 25-46.
- Jones, A. 2001. The economic evaluation of healthcare: the appliance of science. *International Journal of medical marketing*, 1 (4) pp.299-308
- Kaplan, W. 2006. Can the ubiquitous power of mobile phones be used to improve health outcomes in developing countries? *Globalization and Health* 2006, 2:9
- Keefe, J. 2010. Exeter Hospital launches pilot health care program. *Foster's.com* [accessed on 24/02/2013]
- http://www.fosters.com/apps/pbcs.dll/article?AID=/20100721/GJNEWS_01/707219880/-1/FOSNEWS
- King S. A. 1996. Researching internet communities: proposed ethical guidelines for the reporting of results. *The Information Society*, 12(2)
- Lazzarato, M. 1997. *Lavoro Immateriale*, (Verona: Ombre Corte).

- Lepak, D. P., Smith, K.G. and Taylor, S. 2007. Value creation and value capture: a multilevel perspective. *Academy of Management Review*, 32 (1).
- Louis, D., Z, Yuen, E., J. Braga, M., Cicchetti, A., Rabinowitz, C., Laine, C., and Gonnella, J., S. (1999). Impact of a DRG-based hospital financing system on quality and outcomes of care in Italy. *Health Services Research*, 34(1)
- Loveridge, S. (2004). A typology and Assessment of Multi-Sector Regional Economic Impact Models. *Regional Studies*, 38 (3): 305-317
- Lusch, R.F. and Vargo, S.L. (2006) *The Service-dominant Logic of Marketing: Dialog, Debate, and Directions*. MA: Armonk, NY: M.E. Sharpe.
- Mercurio R., Adinolfi P. 2005. La clinical governance possibile soluzione ai fabbisogni d'integrazione nelle aziende sanitarie, *Mecosan*, n.53
- Mercurio R., Mangia G. 2009, L'approccio teorico dei critical management studies, in H. Willmott, D. Knights, R. Mercurio e G. Mangia, *Comportamento Organizzativo*, Isedi, Torino
- Mercurio R. 2000. La dipartimentalizzazione delle strutture ospedaliere. *Sviluppo e Organizzazione*.

- McKevitt, D., Lawton, A., & Open University. 1994. Public sector management : theory, critique and practice. London: Thousand Oaks: Sage.
- Miller, R., E., Blair, P.,D. 2009. Input-Output analysis. Cambridge University Press.
- Mohr, L.B. 1973. The Concept of Organizational Goal. *The American Political Science Review*, 67(2): 470-481.
- Mohr, L.B. 1995. Impact analysis for program evaluation. SAGE publications.
- Morecroft, J.D.W. 1984. Strategy support models. *Strategic Management Journal*, 5 (3): 215-229.
- Morgan. G., Smircich. L. 1986. The case for qualitative research. *Academy of Management. The Academy of Management Review*, 5 (4): 491-500.
- Morgan, D., 1998. Practical Strategies for Combining Qualitative and Quantitative Methods: Applications to health Research, *Qualitative Health Research*, 8 (1): 362-376.
- Murphy, K. R., Cleveland, J. N. 1995. Understanding Performance Appraisal: Social, Organizational and Goal-based Perspectives. Sage Publications

- National Health Service. 2011-12. Royal Devon & Exeter NHS Foundation Trust. Annual Report and Accounts.
- Neame, R. 1997. Smart Cards. The key to trustworthy health information system. Health Information Consulting.
- Oh H, Rizo C, Enkin M, Jadad A. 2005. What is eHealth: a systematic review of published definitions. Journal of Medical Internet Research. Feb 24;7(1).
- Olsson, T. 2009 'From the Ecology of Broadcasting to the Economy of Participation', Presented at Nord Media, Karlstad, 13-15 August.
- Oram, S. 2010 'Crowdsourcing and the challenge of payment', <http://radar.oreilly.com/2010/05/crowdsourcing-and-the-challeng.html>.
- O'Reilly, T. 2005 'What is Web 2.0? Design Patterns and Business Models for the Next generation of software', <http://www.oreillynet.com/pub/a/oreilly/tim/news/2005/09/30/what-is-web-20.html>.
- Pagliari C, Sloan D, Gregor P. 2005. What is eHealth?: a scoping exercise to map the field. Journal of Medical Internet Research. Mar 31;7(1)
- Parsons, T. 1954. Essays in sociological theory (Rev. [i.e. 2d] ed.). Glencoe, Ill: Free Press.

- Parsons, T. 1961. *Theories of society; foundations of modern sociological theory*. New York: Free Press of Glencoe.
- Parsons, T. 1963. *Essays in sociological theory* (Rev. ed.). Glencoe,: Free Press.
- Patton, M. Q. 1990. *Qualitative evaluation and research methods* (2nd ed.). Newbury Park, Calif.: Sage Publications.
- Patients Know Best. [accessed on 18/3/2013]
<http://www.patientsknowbest.com/>
- Perrow, C. 1970. *Organizational analysis: a sociological view*. Belmont, Calif.: Wadsworth Pub. Co.
- Perrow, C. 1986. *Complex organizations : a critical essay* (3rd ed.). New York: McGraw-Hill.
- Pyatt, G., Roe A. 1977. *Social Accounting Matrices for Development Planning*. *The Review of Income and Wealth*, 23(4).
- Prahalad,C.K. and Ramaswamy,V. 2004a ‘Co-creation Experiences: The Next Practice in Value Creation’, *Journal of Interactive Marketing* 18(3): 5–14.
- Prahalad,C.K. and Ramaswamy,V. 2004b *The Future of Competition: Co-creating Unique Value with Customers*. Boston, MA: Harvard Business School.

- Prichard, C., Mir, R. 2010. Editorial: Organizing value. *Organization*, 17 (5)
- PWC. 2012. *mHealth in the UK: paths for growth*
- Pope, J., Annandale, D., & Morrison-Saunders, A. 2004 Conceptualizing sustainability assessment. *Environmental Impact Assessment Review*, 24(6): 595-616.
- Powell, P., Di Maggio, P. (Eds.), *The New Institutionalism in Organizational Analysis*. Chicago, IL: University of Chicago Press.
- Price, J. L. 1971. The Study of Organizational Effectiveness. *The Sociological Quarterly*, 13(1): 3-15.
- Pugh, D. S., Hickson, D. J., Hinings, C. R., Macdonald, K. M., Turner, C., & Lupton, T. 1963. A Conceptual Scheme for Organizational Analysis. *Administrative Science Quarterly*, 8(3): 289-315.
- Ruffini, R. 1996, "Logiche di progettazione dell'assetto organizzativo delle aziende anitarie", *Mecosan*, n.18.
- Scapens, R W. 2004. "The Many Skills of the Case Researcher." In *Handbook of Qualitative Research for International Business*, 107-108
- Schuurman D, Baccarne, B., De Marez, L. and P. Mechant. 2012. Smart Ideas for Smart Cities: Investigating Crowdsourcing for Generating and Selecting Ideas for ICT Innovation in a City Context. *Journal of*

Theoretical and Applied Electronic Commerce Research. Vol.7 n.3,
49-62.

Schiavone, A. 2008: L'efficienza tecnica degli ospedali pubblici italiani. In
Questioni di Economia e Finanza. Banca d'Italia

Shin, D. H. 2009. Ubiquitous city: Urban technologies, urban
infrastructure and urban informatics, Journal of Information Science,
35(5), pp. 515-526.

Shogren, J. F., Seung, Y. S., Dermot, J. H., & James, B. K. 1994.
Resolving Differences in Willingness to Pay and Willingness to
Accept. American Economic Review, 84(1): 255-270.

Shute, N. Getting Medical Advice on the Web from Other Patients.
[accessed on 19/03/2013] <http://health.usnews.com/health-news/best-hospitals/articles/2009/07/13/getting-medical-advice-on-the-web-from-other-patients>

Simon, H. A. 1964. On the Concept of Organizational Goal.
Administrative Science Quarterly, 9(1): 1-22.

Sirmon, D. 2011. Managing Firm Resources in Dynamic Environments to
Create Value: Looking Inside the black Box. The Academy of
Management Review, 32 (1)

- Smart Card Alliance. 2012. Smart Card Technology in U.S. Healthcare: Frequently Asked Questions. September
- Smith, H.W. 1975. Strategies of social research: the methodological imagination. Englewood Cliffs, N.J.: Prentice-Hall.
- Snow, C. C., & Hambrick, D. C. 1980. Measuring organizational strategy: Some theoretical and methodological problems. *Academy of Management Review*, 5: 527-538.
- Stake, R. 2000. Case Studies. In Denzin, N. Lincoln, Y. (eds). *Handbook of Qualitative Research*. Thousand Oaks, CA: SAGE
- Steinert, K. Marom. R., Richard, P., Veiga, G., Witters, L. 2011. Making cities smart and sustainable. In *The Global Innovation Index 2011. Accelerating Growth and Development*. INSEAD Editor. p. 87-96
- Steers, R. M. 1975. Problems in the measurement of organizational effectiveness. *Administrative Science Quarterly*, 20: 546-558.
- Steinert, K. Marom. R., Richard, P., Veiga, G., Witters, L. 2011. Making cities smart and sustainable. In *The Global Innovation Index 2011. Accelerating Growth and Development*. INSEAD Editor. p. 87-96
- Tapscott, D and Williams, A. D. 2006 *Wikinomics. How Mass Collaboration Changes Everything* (New York: Penguin).

- Terranova, T. 2000 'Producing Culture for the Digital Economy', *Social Text*, 63(18): 33-58.
- The Guardian. Healthcare Professional Network. [accessed on 19/03/2013]
<http://www.guardian.co.uk/healthcare-network>
- Thornton, P., Jones, C., & Kury, K. 2005. Institutional logics and institutional change in organizations: Transformation in accounting, architecture and publishing. *Research in the Sociology of Organizations*, 23: 127-172.
- Tzeng, R., & Uzzi, B. (2000). *Embeddedness & corporate change in a global economy*. New York: P. Lang.
- Van Dijck, J. and Nieborg, D. 2009 'Wikinomics and its discontents: a critical analysis of Web 2.0 business manifestos', *New Media and Society*, 11 (4), 855 -874.
- Van Dijck, J. 2009 'Users like you? Theorizing agency in user-generated content', *Media Culture & Society*, 31 (1), 41-58.
- Wheeler, N., Proctor, T. 1993. Strategy analysis in the health service. *Journal of Marketing Management*, 9 (3) pp. 287 – 300
- Wilton, J. J., & Nickerson, N. P. 2006. Collecting and Using Visitor Spending Data. *Journal of Travel Research*, 45(1): 17-25.

World Health Organization.2011. mHealth: New Horizons for health through mobile technology. Global Observatory for eHealth series . Vol. 3.

World Health Organization. 2008. Building Foundations: eHealth in Europe.

Zald, M. N. 1963. Comparative Analysis and Measurement of Organizational Goals: The Case of Correctional Institutions for Delinquents. *The Sociological Quarterly*, 4(3): 206-230.

Zwick. D., Bonsu, S. K. and Darmody, A. 2008. 'Putting consumers to work. Co-creation and new marketing govern-mentality', *Journal of Consumer culture*, 8 (2), 163-196.

