The balanced scorecard logic in the management control and reporting of small business company networks: A case study

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Abstract: The purpose of this paper is to assess and integrate the application of the balance scorecard (BSC) logic into business networks identifying functions and use that such performance measuring tool may undertake for SME's collaborative development. Thus, the paper analyses a successful case study regarding an Italian network of small companies, evaluating how the multidimensional perspective of BSC can support strategic and operational network management as well as communication of financial and extra financial performance to stakeholders. The study consists of a qualitative method, proposing the application of BSC model for business networks from international literature. Several meetings and interviews as well as triangulation with primary and secondary documents have been conducted. The case study allows to recognize how BSC network logic can play a fundamental role on defining network mission, supporting management control as well as measuring and reporting the intangible assets formation along the network development lifecycle. This is the first time application of a BSC integrated framework for business networks composed of SMEs. The case study demonstrates operational value of BSC for SME's collaborative development and success.

Keywords: management control, balanced scorecard, business networks.

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1. Introduction

The strategic importance of collaborations between companies is now broadly recognised under an operative, scientific and institutional perspective. Technological developments, social changes in consumer behaviour and deep interconnections deriving from globalisation arise growing complexities on the *business environment* (Håkansson *et al*., 2009), asking for more intense business collaboration (Mancini, 2016) able to enhance strategic and operational performance, especially for small and medium sized enterprises (SMEs). Therefore, *policy makers,* all over the world and at all territorial levels, firmly attempt to support the diffusion of strategic alliances (Huggins, 2001) to create synergies and to form international value chains consistent with the new industrial paradigms.

In line with this trend, in 2009, the Italian government promoted an innovative legislative framework[i] represented by the *contractual network* - usually called *network contract* -, simplifying the formal arrangement to set-up and manage collaborative relationships (Cardoni, 2012; Lombardi, 2015). The intended aim of the Italian government was to promote more dynamic and flexible business aggregations, overcoming some weaknesses showed by the existing formal settings, such as consortiums, cooperatives and temporary business associations (Aureli & Del Baldo, 2016a). Its goal was also to foster the formation of stable alliances to increase the competitiveness and innovative capabilities of the national productive system, mainly composed of SMEs (Cerved, 2015). As a specific contractual agreement bringing together firms to share information, co-produce, co-market and/or co-purchase, the network contract may support SMEs in reaching the critical dimension to bear innovative business development processes (Verschoore *et al.*, 2015), accumulate experience, know-how, information and increase internationalization (Fernhaber & Li, 2013; Aureli & Del Baldo, 2016a).

Italian contractual networks represent a promising field of study for management control in network settings as they have a distinctive characteristics: there is the legal obligation to explicit the strategic objectives that partners intend to achieve in the contract, the contents of the network programme and the criteria used to measure the progress towards the achievement of such objectives. This obligation calls for the definition of proper instruments for programming network's activities and managing and measuring performance within a network context (Mancini, 2016). New solutions are needed to support interconnection mechanisms between the partners' different business models.

At the same time, such requirements contrast the traditional reluctance of smaller enterprises to adopt management control systems as they are characterized by poor strategic planning and informal decision-making processes (Brouthers *et al*., 1998). SMEs weakly perceive the need for balanced strategic control models (Hudson *et al*., 2001a) and adopt advanced control instruments only under specific conditions

related to the governance structure and the management style (Hudson *et al*., 2001a; Laitinen, 2002). In all other situations, SMEs adopt approaches easy to implement and consistent with SMEs' needs, notably, the need to focus on operational aspects that are critical for their success (Hudson *et al*., 2001b). SMEs prefer using informal and unstructured performance measurement practices because of their lack of human and financial resources, the prevailing reactive approach, their short-term strategic orientation, the difficulty in developing and formalizing mission and values, and the wrong perception of the benefits deriving from the implementation of a performance measurement system (Ates *et al*., 2013).

Starting from these premises, the aim of this study is to assess the application of a management control instrument based on the balanced scorecard logic (hereinafter referred to as the BSC logic) within a reticular frame and, more specifically, in the field of contractual networks. In addition, this study aims to identify the functions that such an advanced instrument for performance measurement may undertake.

The empirical analysis focuses on the GPT network, a successful example of business network created by 21 Italian SMEs. The case study proposed is directed to show results of the application of the BSC logic within contractual networks. Results support several research evidence and implications among which we highlight the capability of the BSC logic to reveal the alignment between the strategic decisions and the selection, measurement and control of financial and intangible performance, as well as the capability of this instrument to support network control, strategy implementation and the communication of results to stakeholders. In addition, the case of GPT network suggests that the BSC logic is devoted to monitor strategy implementation so far and not to challenge or revise the existing strategic direction. The structure of the paper is the following. After the introduction, section 2 presents the literature review and section 3 identifies the methodology. Sections 4 and 5 analyse the case study and findings. Section 6 discusses the results and ends with some concluding remarks and our future research plan on the topic analysed.

2. Application of the balanced scorecard in the field of small business company networks

Although SMEs seem to not require sophisticated management control systems to implement and monitor strategies, due to their organizational simplicity and lack of formalization (Jänkälä, 2007), they could draw important benefits from the implementation of management control and performance measurement systems (MCS and PMS), especially in innovative settings and environment. The integration between qualitative and quantitative metrics (Laitin, 2002) remains the best feature to allow the owner-managers to monitor a wide range of qualitative and quantitative goals (Jarvis *et al*., 2000) even if recent literature demonstrates that the BSC logic does not assure *per se* a significant impact on decision-making performance (Strohhecker, 2016). In some cases, the use of strategy maps may have detrimental

effects for organizations whose outcomes are influenced significantly by uncontrollable factors.

In the context of networks of SMEs the integration between qualitative and quantitative metrics is fundamental. They need different performance measures to capture network's objectives heterogeneity spanning from financial goals to the consolidation of the collaboration in terms of network's reputation, visibility, growth, members participation and relationships building. Financial indicators might not be able to capture the complexity of networks (Varamäki *et al.*, 2008; Ferreira *et al.*, 2012). Thus, the use of 'integrated' or 'balanced' metrics better support decision makers – the network manager *in primis* – to proactively and strategically manage the collaboration (Ferreira *et al.*, 2012). In addition, each small firm participating the network may benefit from the collection and reporting of network performance measures to assess the results achieved by joint operations (Parung & Bititci, 2008) or specific enabling factors (i.e., resources and competences, value and culture, and modes of interaction) (Varamäki *et al.*, 2008).

To this extent, the BSC developed by Kaplan and Norton (1996) represents a dynamic and flexible tool that can be adapted to company networks to favor activity planning and network coordination (Hudson *et al.*, 2001a; 2001b), increasing the SMEs awareness of the results achieved in relation to the network's objectives and reducing the risk of network's failure (Varamäki & Vesalainen, 2003).

The BSC was originally intended as performance measurement tool (CIMA, 2005) characterised by the following elements (Kaplan & Norton, 1996): the balanced use of financial and non-financial measures to monitor results; attention to both short and long term objectives; simultaneous control of internal (e.g., efficiency in processes) and external aspects (e.g., the satisfaction of customers or other stakeholders); the adoption of indicators that measure the drivers of success and therefore favour an indication on future company performance (*leading indicator*), together with indicators on past results (*lagging indicator*); stimulation towards continuous improvement; flexibility in its construction (perspectives and indicators should be created and modified according to company strategy) and its adaptability to every possible organizational context.

Cited characteristics make the BSC a managerial instrument effectively fitting in the field of company networks. The inclusion of non-financial measures regarding innovation, internal processes and customer satisfaction together with the flexibility and adaptability of the BSC (Atkinson, 2006) allow for implementation within a wide range of collaborative networks, as demonstrated by the following cases: consortiums created to develop new technologies and to carry out common R&D activities (Kim & Kim, 2009); public-private partnerships operating in the healthcare sector whose objective is to satisfy the service users requirements (Cepiku *et al.*, 2011); public service networks where *citizen satisfaction* represents the main

perspective (Funk, 2007); tourism networks in which the private objective of creating shareholder value lives side by side with the public matrix objective of improving the image of the tourism destination (Aureli & Del Baldo, 2016b). In all of these cases, traditional accounting measures and management instruments risk to become useless to the network manager whereas the BSC can provide a valid support.

Furthermore, in network contexts, the ability of the BSC to push management towards identifying and measuring all the possible success drivers that contribute to value creation (Eccles, 1991), including those of an intangible nature, becomes very important. In reticular contexts, socialisation mechanisms and knowledge sharing between partners are more or less intentionally activated and the BSC can contribute to understanding the importance of these intangible resources in the creation of a sustainable competitive advantage (Edvinsson & Malone, 1997; Stewart, 1997; Sveby, 1997). Even though this is not a specific instrument of knowledge management, such as the Performance Prism (Neely *et al*., 2001) or the Value Creation Map (Marr, 2004; Marr *et al*., 2004), the BSC may still support management by identifying and monitoring knowledge, especially when strategic maps are used (Kaplan & Norton, 2004).

An additional useful feature of the BSC in the field of collaborative networks consists of its attention to external forces, specifically referring to the key stakeholders who transfer tangible and intangible resources to see their specific expectations satisfied (Ahn, 2001; Funk, 2007). Even if the main shareholder holds a predominant role in this framework (Neely *et al.,* 2001), the BSC can be used to communicate with all partners, suppliers, customers and network funders and serve to monitor the level of satisfaction that is necessary to maintain and stabilize the network. In fact, the BSC is able to describe how the resources of the companies involved contribute to the network strategy (Laihonen *et al*., 2014), favouring partners' dialogue and socialisation along the value chain (Mahama, 2006) and balancing of the interests of various partners (Funk, 2007).

Summarising, theoretical literature suggests that the BSC is more than a simple management control tool. It is a framework that may have the following valuable functions (Busco & Quattrone, 2015), when used in reticular contexts (Pekkola, 2013):
- clarify and describe the vision and mission of the network as key elements to define the strategies and expected results (Neely *et al*., 2000);
- implement the common network strategy, highlighting the causal links between strategy, activity and impacts on performance (Kaplan & Norton, 1996; Atkinson, 2006), translating the objectives into specific action to be implemented (Epstein & Manzoni, 1997) and acting as an operational standard to influence partners behaviour (Kulmala & Lönnqvist, 2006; Mooraj *et al*., 1999; Lawrie & Cobbold, 2004);

- measure the network performance and monitor the achievement of the strategic goals (CIMA, 2005);
- improve managers' decision-making processes and contribute to the identification of new emerging strategies (Simons, 1995; Kaplan & Norton, 2001; Naro & Travaillé, 2011);
- communicate network performance to stakeholders and other third parties (e.g. public authorities), in line with the tendency of using performance measurement instruments as an accountability tool (Marchi, 2011).

Such functions can be analysed in light of the Simons' framework (1995) as implemented by Van Veen-Dirks and Wijn (2002) with specific reference to the Balanced Scorecard.

Simons' framework provided that organizations should set four different types (or levers) of controls: beliefs systems, boundary systems, feedback systems and measurement systems, which can be used in a diagnostic or interactive manner. This distinction relates to how the information is used rather than the technical design features of the control system. Diagnostic control systems (DCS) are used to set standards, monitor organizational outcomes and correct deviations. On the contrary, control systems are used interactively (ICS) when information outputs serve for communication within the organization and detecting strategic uncertainties that need to be addressed via informal dialogue and other forms of interactions. Thus, the first type of controls supports the implementation of the strategy while the second type favours flexibility and strategic renewal thanks to informal communications that demand attention from managers and confrontation with the lower management levels. The main differences between ICS and DCS are reported in Table 1.

Table 1. Simons' framework applied to the Balanced Scorecard

Diagnostic Control Systems (DCS)	Interactive control Systems (ICS)
- Facilitate the measurement of the outputs of a process - Provide standards against which actual results can be compared - Correct deviations from standards	- Define a sub-set of important information to focus on given the strategic uncertainties faced by an organisation - Favour frequent and regular attention from operating managers at all levels on these information - Gather superiors, subordinates and peers together to interpret and discuss the information in the light of future strategic initiatives

(Source: adapted from Van Veen-Dirks and Wijn, 2002)

In the attempt to apply Simons' framework to the usage of Balanced Scorecard within firms, Van Veen-Dirks and Wijn (2002) noted that this specific measurement system can be used interactively or diagnostically but cannot be adopted to perform

the functions of a strategic control system, i.e. to review and reformulate the strategy. According to these authors, the BSC is a formal system designed for strategy implementation, thus when its data are used interactively, they can merely suggest strategy adjustments. The BSC does not really question the basis of strategic planning as strategic control systems do.

Simons' levers of control framework has been applied in many research over the last 20 years to interpret findings on empirical usage of management control systems and performance metrics (Martyn *et al.*, 2016). Although developed from the author's study of intra-organizational controls within large enterprises, it provided helpful insights in the investigation of inter-organisational controls within networks (Kominis & Dudau, 2012) and with reference to SMEs (Granlund & Taipaleenmaki, 2005). Past research has demonstrated that control systems can both measure results to align network participants' performance and support partners to solve problems and search for opportunities when used to create a communicative environment within alliances (Mahama, 2006; Massaro *et al.*, 2014).

Among the various performance measurement models for managing networks proposed in literature (Bititci *et al.*, 2005; Ferreira *et al.*, 2012), the Business Network Scorecard (BNS) is deemed rather interesting because of three distinctive elements (Lombardi *et al*., 2015). Firstly, it focuses on common network objectives (and not that of the leader or focal company), implying the adoption of a general shared vision of the network. Secondly, it adopts the network manager perspective, not considering the single company needs and tools to monitor the relations created with its suppliers (Kaplan *et al*., 2010). In other terms, it is designed to be a management tool for the network and not a tool of network relations management. Lastly, it includes a fifth dimension of analysis, in addition to the four traditional dimensions (or perspectives) of the BSC, regarding the creation of value deriving from the reticular bonds created between the partners and the network towards the external environment. These bonds may not be quantified in monetary terms, but they may lead to the development of new ideas or be translated in the creation of social value for the local context that can be measured in quantitative and qualitative terms.

Therefore, this model adapts perfectly to the case of networks made by partners with equal decision power, where a focal company that guides collaboration does not actually exist, but there is a network manager who needs a governance instrument to simplify interactions and the exchange of information between partners and thanks to which he/she can monitor and report the results achieved, including those of an intangible nature.

Despite the growing interest on performance measurement system for networks and the diffusion of contractual networks in Italy (see Section 1) that need to be managed effectively and efficiently, to date no empirical application of BNS are available. To

fill this gap we decided to investigate the possible application of the BNS model to the results achieved from a network of companies located in Central Italy used as a case study.

Based on the theoretical background described above, the research questions that have guided the empirical study are the following: 1) Can management control activities and reporting practices of a successful contractual network be interpreted to the multidimensional logic of the Business Network Scorecard model?; 2) Which functions and use can be recognised in the possible application of the BSC logic in the field of the contractual network investigated?

3. Methodological approach

To answer to above mentioned research questions, we adopted a qualitative research approach, basing the empirical study on the analysis of the GPT (Gruppo Poligrafico Tiberino) contractual network. Similar to previous studies (Camarinha-Matos *et al*., 2009; Pekkola, 2013) one collaborative network forms the case study under investigation.

The case study method (single or multiple) has been widely used in the study of SMEs networks (Halinen & Törnroos 2005; Barnes *et al*., 2012) and contractual networks (Aureli & Forlani, 2016; Del Baldo, 2016; Trequattrini *et al*., 2012), also facing the problems of performance measuring and accounting in the reticular contexts (Cardoni, 2012; Aureli & Del Baldo, 2016b).

The analysis aims to check the possible application that the BSC logic ("the if") and the method of use ("the how") may have. The model can alternatively be used as a programming and control instrument, declined on a strategic and operative level (for the design of strategies and to identify the activities necessary to achieve the predefined objectives) and as a reporting and communication instrument of intangible strategic assets, aimed at reporting network performance with a multidimensional scope toward external stakeholders (Lombardi *et al*., 2015).

Consistently with the research objectives the inductive approach, widely used in international managerial literature (Flick, 2009) and typical of the Italian academic tradition (Ferraris Franceschi, 1990), allows for a better understanding of real situations through an in-depth analysis of complex phenomenon characterised by a high level of non homogeneity, novelty and/or dynamism such as networks of SMEs. Coherently, the case study method is suitable for experimental research strategies (Eisenhardt, 1989; Yin, 1989) to investigate into a contemporary phenomenon such as the contractual network, through the use of several sources of information such as interviews, questionnaires, archive data, documental analysis, analysis of information contained in websites, direct and participating observation[ii] .

From a methodological point of view, we decided to focus on this new form of inter-firm collaboration because also relevant for EU policies (European Commission, 2008), which aim at creating the conditions for the sustainable growth and competitiveness of SMEs, representing more than 98% of businesses in the EU-27 countries, employing 67% of the workforce and clearly contributing to territorial and communities innovation (Dobbs & Hamilton, 2007; Fichter, 2009). The review of the 'Small Business Act' (European Commission, 2011) actually mentioned Italy and the network contract as a good practice to imitate, which is an absolute innovation and definitely of great interest and stimulus for European legislators since it fills a legal vacuum at the European level (see the chapter "Innovation and competence" of the 2011 'Small Business Act' review). Moreover, there is a widespread diffusion of this collaborative tool among Italian SMEs. Starting from the first network contract signed on March, 31st 2010 in Tuscany, latest national data (Unioncamere, 2016) indicate that the number of network contracts amounts to 3,243 and involve a total of 16,587 companies (respectively +28% and + 30% over the last year).

With reference to the GPT case, this has been selected on the basis of three main attributes: 1) the medium-large dimension of the network (according to UnionCamere, the average number of companies partnering a network is 5, while GPT counts 21 partners or "nodes") and its organisational complexity, presuming the adoption of formalised management systems (Ahn, 2001; Funk, 2007); 2) the stability of the collaboration (launched since 2005) that justifies the costs associated to the creation of a management control infrastructure (Ferreira *et al.*, 2012); 3) the dynamism and potential development of the network. Finally, the availability of the network's leader in collaborating has been taken into consideration, in particular the network manager, already involved in previous investigations (Saetta *et al.*, 2013).

The GPT network has several elements of interest and excellence related to: a) the strategic collaboration model that overcomes the typical logic of vertical coordination of the partnership along the supply chain (Saetta *et al.*, 2013); b) the organisational model of GTP as a collaborative networked organisation (Saetta *et al.*, 2013), also configured as a "hybrid" network (Zapata & Hall, 2012) whose "nodes" belong to the private and public sector; and 3) the development model, characterised by the increasing trend in economic-financial, social and environmental performance of the single partners and of the entire network. The dynamism, articulation and complexity of the network therefore make GPT a rather important context to understand if the currently adopted management control activities and performance measurement systems can be attributed to the multidimensional logic of the BNS model (Lombardi *et al.*, 2015).

The methodological process consists in verifying the possible application of the BNS model in three main steps. The first one includes the analysis of current management control systems and performance measurement systems adopted by GPT to show the

performances that are kept under control. The second step involves the clarification of shared objectives that underlay these measures and their formalization into a matrix of objectives. The last phase refers to the design of a network-level performance measurement system, which takes the form of a multidimensional report, based on stated objectives and measures currently in use.

The use of the case study method as a strategy of investigation into a complex research area such us business networks requires paying attention to potential limits and some necessary precautions. As highlighted by Halinen and Törnroos (1998, 2005), four main problems has preliminarily to be analysed: the delimitation of the object of observation (*the problem of network boundaries*), network's complexity, the time factor and the comparison of cases.

The first critical aspect has been faced by favouring the *abductive approach* (Easton, 1995; Dubois & Gadde, 2002); we then identified the *business context* as a number of actors and relations between companies of the GPT, the *network horizon* (the *horizon of perception*, the *macro-position* and the *relationscape*) in terms of joint operations (the entire network) and excluded actions at the individual level (single company) in this phase. The approach adopted is based on the perspective of the network manager, formally appointed as President of GPT's Board of Directors. This role represents the meta-manager in charge of the (organisational, strategic and operative) coordination of each single node and of the system. Therefore, he represents the *key informant* (Halinen & Törnroos, 2005: 1291) from which information can be extracted, as a depositary of an integrated vision, past, present and future perspective of the network.

The second critical aspect, connected with the multidimensional nature of the network and its performance, has been faced through the use of a mix (triangulation) of information sources, by combining the primary sources of data (questionnaire and interviews) with the secondary sources (documental analysis, consultation of the official website, analysis of previous publications related to the GPT case), aimed at acquiring cognitive elements in order to answer the research questions as illustrated in the following figure (Fig. 1).

Specifically, three interviews were carried out with the President of the network during planned company visits (each lasting 2 hours, subsequently transcribed, coded and validated), in which the following aspects were discussed: the current structure of the network; the resources and financial structure of the network; the network objectives; the presence (and the type) of performance measurement instruments; the presence (and the type) of key performance indicators used to assess the achievement of network's objectives.

The President of GPT was also given a semi-structured questionnaire (Alonso, 2010), divided up into two main sections (for a total of 30 questions); the first aimed

at investigating into which accounting and managerial control systems are used on a network level and which reporting model has been adopted; the second (divided up into 5 groups of questions) aimed at checking if the logic incorporated in the theoretical model of the BNS can be found in the control systems currently in use.

The documental analysis was applied to both public documents (network's annual reports and the contract signed) as well as private documents for internal use elaborated by the network manager (management reports or progress reports).

Figure 1. The research strategy and sources of information
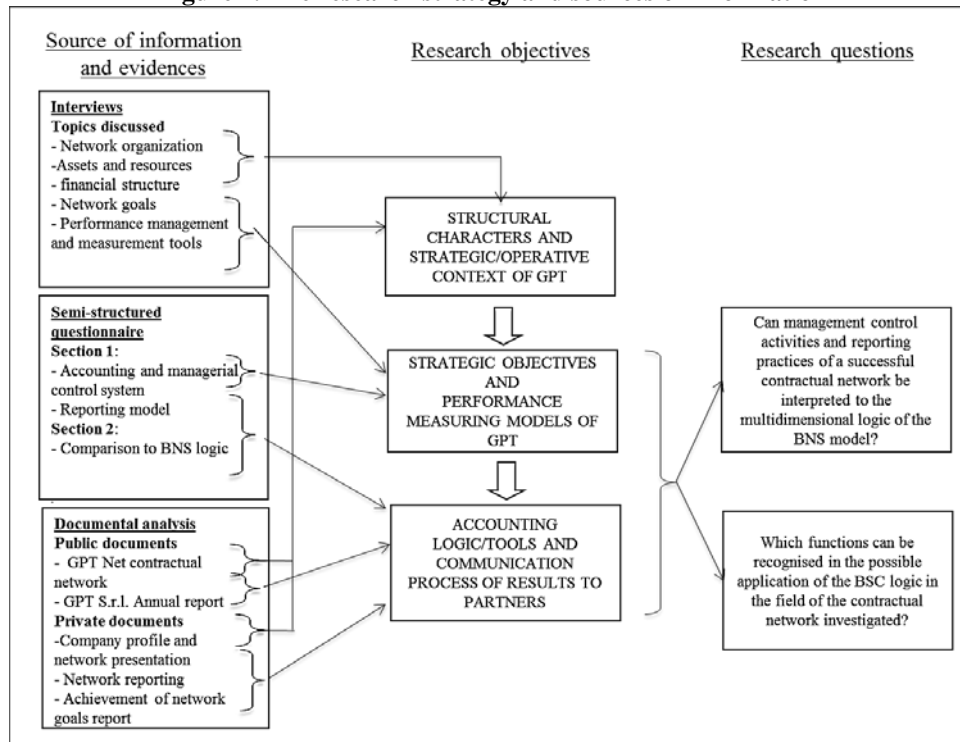
The third problem[iii], connected with the dynamism and flexibility of the network, has been faced by developing a longitudinal research in a process-related perspective (Pettigrew, 1997) to take into consideration changes from an operative, organisational and strategic point of view (Halinen & Törnroos, 1998). The period of time that the analysis refers covers several years, from 2005 to 2015.

4. The case study

The selected case study is GPT network, an innovative network of companies operating in Umbria (Central Italy) and established ten years ago as experimental outcome of a research project developed by the University of Perugia. The network

was implemented by Net Value, an academic spin-off of the University, which is also an associate of the network. The objective of the network is to provide integrated and innovative solutions in the field of communication, printing, packaging and related services. It serves as the sole representative for the customer by benefitting from the joint skills and competences suitable for every solution and it is capable to fully support customer's product and service management.

To date, the network includes 21 partner companies and records a total turnover exceeding 130 million euro, more than 700 employees (approximately 8% of which dedicated to Research and Development) and 24 production plants. The network was officially set-up in 2005 following the strategic intuitions of three entrepreneurs operating in the print and packaging district of Città di Castello, who decided to set up a limited company (GPT S.r.l.) to share their skills and competences, enlarge their product portfolio, acquire new customers and provide the global market with innovative products. To reinforce the mutual commitment on assets and competences sharing, a "collaboration agreement" was formally signed to strengthen the collaboration towards strategic common goals and objectives.

The role planned for GPT overcomes a pure trading company of paper products, being designed as a collaborative network strategically aimed at product and process innovation. The model was designed on the theoretical model of Virtual Development Office (VDO), acting as a network collector and pointing to the market as a single organisation whose goal is: i) to identify the competitive position of the companies participating the network; ii) to promote several business opportunities within the network; iii) to define cooperation models and instruments; iv) to monitor performance; v) to favour product innovation and business model innovation.

The current legal structure includes the presence of a limited company, GPT S.r.l., whose shareholders are the 21 partner companies, and the formalization of a contractual network called "GPT Net" in 2012, replacing and reinforcing the original "collaboration agreement".

The section of the contract dedicated to the definition of the strategic objectives contemplates the following objectives:

> *"(a) to identify new market opportunities and increase the national and international market penetration of the network and of its participants; (b) to encourage research and development of new products and/or services and the innovation of technological and management processes; (c) to share and develop transversal services in order to optimise quality and reduce costs; (d) to identify opportunities for access to credit, private and public funding (e) to increase and diffuse technical and management skills within the network".*

The network programme considered in the contract includes:

> "*identification of new projects and/or specific market opportunities; development of coordinated forms of promotion of the products and services of the network participants, in Italy and abroad, also in the form of integrated solutions that include the products and services of two or more participant companies of the network; management and coordination of the negotiation, acquisition and execution phases of projects to be carried out in the network; identification, coordination and management of research, development and innovation activities useful for the network and its participants; identification of possible financial opportunities and public grants and management of request phases; identification, coordination and management of business opportunities to reinforce the technical and management skills of the network and of its participants*".

With reference to the measuring models of progress towards the strategic objectives, the following was considered:

> "*in each calendar year the Management Authority will check progress towards the strategic objectives in the final annual report, to be presented by 30th June of the following year to all network participants*".

With regards to governance, the contract includes the creation of a common Management Authority in charge of executing the network programme, to whom a mandate with representation was entrusted. For the entire duration of the contract, the company GPT S.r.l. was nominated to carry out this role, thus, its pro tempore legal representatives are the key managers in charge of making decisions on relevant issues.

5. The balanced scorecard for company networks: the first research findings

The literature analysis of BSC (Kaplan & Norton, 1996) as programming and control tool, or network performance reporting for external purposes (Marchi, 2011), allows for a control of the strategic-operative relevance of such tool for companies network. In other words, the use of a tool aimed at identifying the financial and non-financial performance of the network is proposed, enhancing the mutual activities carried out by the companies' network.

The Business Network Scorecard was applied ex-post to GPT network (Lombardi *et al*., 2015) through the following operative instruments: i) matrix of the network objectives; ii) multidimensional report that indicates network performance through financial and non-financial measures; iii) comparison chart between network performance and the totalled performance of the partnering companies.

The BNS was applied according to data provided by GPT documents (network programme report; management annual report, joint balance sheet data, etc.) as well

as by interviews carried out in order to test the relevance of this tool for network management control and for the network performance reporting to stakeholders.

When the project started, GPT network was adopting traditional control tools, mainly deriving from a calculation of the financial statement indicators and from forecasts on network performance according to the objectives to be pursued in the network. The individual appointed for network strategic control was the network manager, an expression of the academic element of the Net Value spin-off. Starting with the matrix of the network objectives, the main strategic objectives of the GPT network are summarised in the following table (Table 2).

Table 2. Objectives/Measures of the GPT network

OBJECTIVES		MEASURES
MARKET	∗	Marketing action
	∗	Business development
	∗	Contacts with customers
	∗	Participation in tenders
PRODUCT INNOVATION	∗	Internal coordination activities in order to understand and handle the activities aimed at creating a new product (for example, printing of degree certificates)
INTERBUSINESS AND COLLABORATIVE PROCUREMENT	∗	Synergy research through primary processes (mutual purchases) or support (mutual certification)
RESEARCH AND DEVELOPMENT AND INNOVATION PROJECTS	∗	Research activities (degree thesis) to understand the opportunities of supplies from abroad

The matrix of objectives of BNS model is composed of five profiles or key perspectives, in order to measure and report network performance from a multidimensional point of view. The five main profiles for performance measuring, included in the multidimensional logic in which the GPT network is created, are divided up into the following perspectives: economic-financial; customers; internal processes; development and growth; value creation.

In the economic-financial perspective, the general objectives of the GPT network can be discovered, for example, in business development and in economic-financial returns of the joint activities by network. The customer perspective results in an objective of the added value creation for this category of stakeholders. The perspective of internal processes refers to the objectives of product creation and/or the supply of services. The perspective of development and growth of the network is based on the adoption of innovative processes, including investments in intellectual capital. The perspective of value creation measures the added value of network activities of a social, environmental and intellectual capital nature.

The BNS multidimensional report applied to GPT consists in the presentation of a network balanced assessment form, with the five perspectives as indicated above. The report includes a set of key indicators measuring GPT performance, which can be used as a network management control tool (e.g. to monitor partners' activities), a communication instrument to the network stakeholders and a tool to identify and disclose the amount and type of strategic intangible assets acquired or developed. Some examples include the indicators proposed to measure the network development, generated from an analysis of the innovations and investments in R&D and the metrics used to assess network's value creation with reference to social and environmental initiatives.

The data indicated in the multidimensional report applied to the GPT case refers to a time period of approximately 10 years, starting from the year in which the network was created in 2005. By analysing the perspectives of the multidimensional network report, performance indicators measured by the GPT network in the management annual report can be found as well as a set of useful information in order to define the combined operative strategy. Starting with the economic-financial perspective, the indicators attributed and established for GPT illustrate the ones proposed by the BNS model through four main categories of performance indexes and a good level of sub-indicators: GPT share capital, GPT profit/loss, proceeds of the network, network activity value. The combined ROE can be found among the additional indicators. The indicators of the customer perspective have been applied through the five categories indicated in the model, including a good level of sub-indicators: number of customers/contracts from the network; customer satisfaction level, number of complaints (production non-compliances), reputation of the network, additional indicators. Among these, the additional indicators are very original (*Large Accounts, Wide Markets, Special Markets*), as they aim to segment the GPT market. The internal processes are represented by the application of four categories of indicators and sub-indicators: the number of research projects launched by the network, production costs of goods and/or the supply of services, the number of employees in the network, equal opportunities. Additional indicators have not been defined. Network development and its indicators represent a very important analysis perspective for the GPT network, within which the following indicators are classified: investments in training of human capital, process and product innovations, network patents, R&D costs, additional indicators. The value creation perspective illustrates the most representative indicators of intangible performance of GPT (social, environmental and intellectual capital), through five categories of indicators: added value of the network and social initiatives, environmental impact and certifications, stakeholders, transfer of knowledge, additional indicators.

Table 3. GPT balanced assessment form examples

	Economic-Financial	Customers (indicator)	Customers (example)	Internal processes (indicator)	Internal processes (example)	Network development (indicator)	Network development (example)	Value creation (indicator)	Value creation (example)
GPT share capital	- Legal form of limited company – Combined companies (19)	**Number of customers of the network (or number of contracts)**	Contacts in market activities and contracts (152)	**Number of research projects launched by the network**	Large projects (5) and university spin off (1)	**Investments in human capital training in the network**	Presence of training activities on quality system	**Added network value and social initiatives**	Presence of social initiatives
GPT performance	Years 2009-2014: Turnover of network orders (10 million euro)	**Customer satisfaction level**	Reduction in reply time to the market	**Production costs of goods and/or supply of services**	>300,000 euro	**Process and product innovation**	Categories of innovative products developed by the network (21)	**Environmental impact and certifications**	Environmental and quality certificates (UNI EN ISO 14001 and FSC; UNI EN ISO 9001)
GPT proceeds	Turnover (0.2 million euro) (2007 to 2008)	**Number of complaints (production non compliance)**	n. ½ per year	**Number of employee of the network**	More than 700 employees	**Network patents**	network patents (3)	**Stakeholders**	Participation in exhibitions
Value of network activities	Increase in member companies	**Reputation of the network**	A team of more than 300 companies	**Equal opportunities**	Women in the body that runs the network (2)	**R&D costs**	8% of employee working in R&D	**Transfer of knowledge**	Synergies on primary processes activated by the combined companies
Additional indicators	ROE 6.6%	**Additional indicators**	Large Accounts and Retail, Wide Markets Special Markets	**Additional indicators**		**Additional indicators**	Coordination activities of innovation process	**Additional indicators**	Screening activities for new business opportunities

The last element of the BNS model, the combined network- total companies performance form, has not been applied in this phase of the research.

6. Discussions and concluding remarks

Based on the GPT case, we can state that the Business Network Scorecard model is consistently fitting ex-post with the strategic, operative and reporting activities of the network, representing a useful managerial instrument that can be implemented into real life settings of collaborative processes.

With reference to the first research question, the case demonstrates how the strategic and operational goal setting as well as the managerial annual report contain the perspectives indicated by BNS, even in the absence of deliberate adoption of the BSC logic. Indeed the GPT case shows a significant coherence and integration between strategic objectives, short-term activities and results, measured by financial and non-financial indicators (Atkinson, 2006). Particularly strong is the alignment between the strategic decisions and the selection, measurement and control of financial and intangible performance (Glavan *et al.*, 2007). This integrated logic influences the whole set of reporting documents elaborated by the network manager to comply with institutional and managerial needs, from shareholders and partners meetings to quality assurance, and define a management control approach able to support the emergent and deliberate components of strategic management process.

However, an incomplete application of the multidimensional report of the GPT network can be found, as well as the need to extend analysis times of GPT data to be reclassified in the BNS. The objective is to propose a combined management control system to identify financial and non-financial network performance, to transfer useful information inside and outside of the network, with a view to programming and control and also for accounting of the intangible performance to network stakeholders.

Furthermore, the integration of sector-specific indicators is missing. In Table 3 we include some possible indicators whose validity must be checked with regards to the GPT case, through a sample of networks operating within the same sector.

Table 4. Sector indicators of the BNS-GPT model

Market segment Large Accounts and Retail	Network internationalisation plan
Market segment Wide Markets (market per sector)	Screening activities for new business opportunities
Market segment Special Markets (Universities, Health and public administration)	Development activities of integrated product-service systems
Coordination activities of the innovation process	

Moving onto the second research question, the paper suggests that since the network set-up the BSC logic has played a very important role in defining the network mission (Neely et al., 2000), communicating the project to potential partners (Marchi, 2011) and guiding the formalisation of the strategic objectives onto the network contract (Pekkola, 2013). The adoption of the multidimensional perspective on the management annual report presented at the meetings of partners called to approve the annual results indicate that the BSC logic has supported the control process and accounting of the network activities over the years (CIMA, 2015). Based on the report structure and contents an important training function can also be found, aimed at favouring learning and involvement of the partners whose trust and commitment was perceived as a fundamental asset by the network manager. Finally, thanks to the basic coherence between strategic objectives, progress achieved and new planned objectives, the BSC logic undertakes a vital role in the construction, analysis and communication of the intangible assets. This allows network manager to measure and report intangible performance that otherwise would not have been expressed, creating a general commitment on the validity of the strategic project for partners and the managerial team.

With specific reference to Simons' framework implemented as in Van Veen-Dirks and Wijn (2002) the GPT case showed a diagnostic use of the Balanced Scorecard logic. Analysing the form of the management report and the minutes of the meetings, the case showed a top-down flows of information from the network manager to partners with the specific aim to communicate results and create commitment. Even considering the collaborative and active role that partners play in the network context, which is not comparable to operating managers of a verticalized organization, the interactive use of management control system it is not visible. The report is elaborated to demonstrate the fulfilment of strategic objectives and to link the operational activities with long-term goals. A specific session of the report was always devoted to present new strategic initiatives and collaborative projects, but it was not conceived as an output of the discussion on information reported. To this extant, a stronger involvement of the partners on strategic and operational activities to the network should be necessary to put them in the condition to interactively interpret and discuss the information, creating the premises for strategy adjustments and possible revisions. A formal adoption of the Balanced Scorecard logic through BNS, followed by joint periodic discussion, could help in this way.

Summarising, the BSC logic adoption supported network development and stability. To this regard it cannot be ignored the important role played by the network manager and the academic spin-off Net Value in explicitly integrating the strategic perspective and performance measures as well as financial and non-financial indicators. To this respect, the managerial team succeeded in overcoming the typical weaknesses of SMEs, where owner-entrepreneurs intuitively integrate financial indicators with non-financial indicators but fail in the implementation of the needed routines and formalization to adopt the BSC logic successfully (Jarvis *et al.*, 2000).

We can conclude that the mandatory requirements established by the legislation on contractual networks could represent a relevant opportunity for SMEs to improve their managerial practice in business planning and performance management, both at individual and collaborative level. Moreover, if SMEs adopt the BSC logic they can better overcome the difficulties in developing the network's mission and strategy formulation that hinder the implementation of a performance measurement system (Ates *et al.,* 2013). As stated by Garengo and Biazzo (2012), the BSC approach can help network partners to unveil the strategy, improving the managerial culture of the whole network and every single partner.

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[i] Section 4-ter and following of LD no. 5 of 10th February 2009; Law 9 April 2009, No. 33 as amended by Law No. 122/2010.

[ii] An analysis of cases favours investigation into concrete experience or new areas of research (Yin, 1989), as well as the understanding of the nature of accounting practices and managerial and control systems (Bititci *et al.*, 2005; Ryan *et al*., 2007).

[iii] The problem of comparability (with other *networks, industries and countries*, or their combination) does not apply as this study focuses on one single case.