Sharing business partner behavior

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Abstract

Purpose – The new concept of business partner behavior sharing practice is addressed from three perspectives: technical/technological, legal and ethical/moral with the aim to elaborate its sharing feasibility, value added, legal restrictions and moral considerations. Research results are synthetized to present an overview on business partners behavior sharing direct and indirect value added, costs and risks and proposing mitigation strategies. The paper aims to discuss these issues.

Design/methodology/approach – To evaluate technical feasibility, a real-life sharing experiment is conducted. Using a sharing agency data are collected, summarized and reported. For the purpose of legal evaluation, relevant legislation is analyzed. Ethicality/morality is assessed utilizing theoretical applied-ethics analysis. Two major normative moral theories – teleology and deontology – are selected for this purpose. The synthesis of the research results is represented in system dynamics model.

Findings – Results show no significant technical obstacles for the systematic business partner behavior sharing. Also, no major legal or ethical arguments against it are found, although some important conditions are identified that have to be met in order for the practice to be performed legally and to be qualified as ethical/moral.

Research limitations/implications – Analysis of legality is limited to the EU and legislation of the Republic of Slovenia. Ethicality of the practice is assessed from the utilitarian and rights perspectives.

Practical implications – Important technical, legal and ethical insights into business partner behavior sharing concepts and practices are provided.

Originality/value – To the authors' knowledge, this is the first time that the practice of business partner behavior sharing is addressed simultaneously from technical, legal and ethical perspectives using a real-life experiment. Therefore it is an important contribution to a more holistic account/insight of/into such a business practice.

Keywords Ethics, Data sharing, Reputation, Business behavior, Business ecosystems, Legal aspects

Paper type Research paper

1. Introduction

Business success relies on sound business decisions, based upon information on the company's internal state, processes and plans and the business environment. Business intelligence (BI) is focussed on providing internal information, while external information is gathered with a combination of customer relations management, external databases, specialized agencies and informal information interchange. Building on the work by Leonard (2007), which enhances Beer's (1972) viable system model with collaboration efforts, the need for sharing business partners' experiences emerges.

The main issue is that we do not know exactly how the business partners will behave in a real situation. It is hard to answer even the most basic operational questions: Will they deliver the goods in time? Will the quality of the delivered goods be up to our standards? How will they react on reclamations? How flexible will they adapt to changes? How fast will they inform us on the changes? Will they pay the issued invoices? Are we their strategic partner, or will they exchange us at the next opportunity? The required level of information can only be obtained by actually doing business with the partner.

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In the paper, business partner behavior data sharing mechanism is discussed. In the proposed mechanism, three actors are involved:

(1) sharing companies: they share the data on their partner behaviors;

(2) agency: processes shared data and delivers relevant information; and

(3) business partners: have a passive role.

The mechanism is based on a presumption that the value of complete partner behavior information is higher than the cost of reporting the data. To test the proposed mechanism, an experiment of sharing data on invoices defaults is executed.

We propose a mechanism through which players actively and systematically upgrade the system by expressing and sharing their experiences and providing a higher level of organizational transparency, as proposed by Bula and Espejo (2012), with their proposal of inclusive democracy, and Espejo and Bendek (2011), with active citizenship. In this paper, first, technical feasibility of providing a secure, effective and inexpensive sharing environment is examined. Next, the direct and indirect positive business implications are identified and assessed. Third, the legal aspects are examined to mark the sharing limitations. Last, but not least, ethicality of the proposed business practice is discussed.

The data sharing is a proven concept. The financial institutions share their customers' data to avoid credit risk (Dierkes *et al.*, 2013; Kanaparti *et al.*, 2012); the sellers in online marketplaces are rated by their customers; in the supply chains, the inventory information is often shared with the suppliers (Sanders *et al.*, 2011); and non-payment patterns are shared between companies (Perko and Mlinaric, 2016). Nevertheless, for a typical company, especially a small and medium enterprise (SME), the effort to manage complex sharing mechanisms is too large to cope with. By using cloud secure services, the cost of data sharing can be significantly reduced, as discussed by Kanaparti *et al.* (2012). The appropriateness of cloud and big data-related technologies for sharing purposes will be elaborated in this paper.

We expect multiple positive business data sharing impacts: executing risk mitigation strategies, optimizing cooperation with suppliers and customers and obtaining new partners with the desired reputation. However, the indirect effects can turn out to be even more important. If companies are aware that their performance is directly measured according to the critical operational points, related to the partners (e.g. the product quality, the delivery timing, the responsiveness to requests and reclamations and the payment strategies), they are encouraged to meet the expectance and prove their reputation. Thereby companies can shift focus from providing solely financial results, to improving holistic performance, fulfilling their reason of existence in the business ecosystem.

Since legal aspects and the potential consequences of sharing business partners data are currently not adequately elaborated, the sharing is usually averted. In this paper we elaborate the legal sharing aspects from multiple perspectives. We place special focus on the reporting entity status, on the sharing purpose, the form and the scope of the data shared. We rationalize which business information we can share. If a failure to comply with the agreed terms of business represents breaking a contract or agreed terms of cooperation, we elaborate whether the information of breaking the obligations should be shared or not. We also explore the authorization of sharing the positive experiences between business partners, which can play an important role in the business partner reputation.

Sharing such data might be technically feasible; it might also be legally acceptable. But is it ethical? This is the question we intend to address in the next part of our work. Since sharing business partners behavior is a disrupting new concept, strong opposition can be expected, including the argument that it is unethical to report negativities on one's business partners. Various normative theories exist that could provide a useful framework to analyze the ethicality of observed practice (Ronzoni, 2010). Literature review and analysis on selected ethical theories will be carried out.

In the last part of the paper the three views are synthetized. A system dynamic diagram is used to represent direct and deferred value added, costs, risks, mitigation strategies and their relations. The visual representation of the individual behavior effects, systemic and the retrospective effect that lead to sustainable behavior are combined with the measures to mitigate the business data sharing negative effects.

Some of the newly acquired insights can be used in designing business ecosystems, especially the business partner behavior sharing mechanisms. The themes addressed in the paper provide multiple new business data sharing research opportunities, optimizing the ratio of business value added/sharing costs and finding new means to anticipate and manage business partner behavior in a timely manner.

2. Backgrounds

Reasoning on business behavior is part of multiple research directions. It can be found in business cybernetics (Rudall, 1986), researching interactions between information and management processes. It is major part of network thinking (Rosi and Mulej, 2006), dialectical systems theory (Mulej, 1974) and requisite holism as precondition for reliable business information (Mulej and Potocan, 2007). At the ground level Beer (2004) discusses the diagnostic approach of management cybernetics. He outlines a theory of autonomy and considers autonomy at the global level.

Knez-Riedl *et al.* (2006) link corporate social responsibility with systems thinking including cybernetics, systems theory and social aspects of the reality. The importance of environmental behavior is extra pointed by Espejo and Bendek (2011). They argue that active citizenship is necessary to involve stakeholders in policy processes and organizational transparency is necessary to improve communications between them and policy makers. They explain conceptual framework to understand communications in social systems.

When focussing on the business ecosystems Chang and Chang (2012) estimate co-branding value and discover that strategic alliance compatibility is the major power to drive the direction of corporate co-branding value, though insufficient information may generate incorrect or unclear co-branding effects results.

Hsieh and Yuan (2010) provide an important view on the business relations by proposing a conceptual framework of customer expectation management and a reference model of service experience design which are regarded as the basic foundation to model, simulate and test service operation strategies. Their framework allows us to measure the customer expectations fulfilment and include it among important business results.

Belak and Rozman (2012) utilize a theoretical framework of three major normative ethical theories (teleology, deontology and virtue ethics) in order to determine what kind of moral philosophies are more present in enterprises and what level of requisite holism attained in their efforts to develop and grow sustainable. These moral philosophies are also utilized to investigate the ethicality/morality of various (controversial) business practices. Examples include tax evasion, creative accounting, contract breaking, dumping, disguised and obtrusive advertising, etc. Ethics of sharing

business partners behavior is investigated by Mellert (1982), but limited only on trade credit information exchange.

The external measurement integration in the decision processes is discussed by many authors. Johannessen and Olsen (2009) state that the gathering of external information is crucial for companies in their development of innovation, and ultimately their capacity to limit imitation and create sustainable competitive advantages. Caution on using the external measurements is advised by Andrew (2011), who reviews the undesirable side effects of some measures to protect the environment. The suggestion to actually measure the company behavior by using their business partners business data are new and has potential to bring us one step closer to understand and thereby manage companies behavior in their business ecosystem.

3. Feasibility analysis

The business partners data sharing mechanism provides new insights into the existing available information for the business partners reputation assessment. The direct appraisals of services and products quality has proven to be one of most useable information sources in the decision-making process. The feasibility analysis provides an example on dialectical network thinking (Mulej, 1974; Rosi and Mulej, 2006), and build upon business relations, particularly customer expectation management (Hsieh and Yuan, 2010) and includes external measurement in the decision processes (Johannessen and Olsen, 2009).

3.1 Roles and processes

In business partners data sharing, three groups of participants are involved: the sharing companies, the sharing agency and the business partners. The sharing company goal is to reduce partner-related risks. They report behavioral data to the agency to optimally use the new information available. This involves reorganizing the partner-related risk management processes.

The business partners' role is passive, with their reputation dependent on the agency reports. Thus, their interests must be protected by involving quality controls mechanisms, delivering them detailed reports on the data reported upon them and providing the opportunity to respond to them.

The agency acts in the interest of sharing companies. Its purpose is to provide services that are out of the scope of a single sharing company, to provide information with the highest value added and to minimize the data-sharing-related costs and risks by applying appropriate security standards. Major agency-related risk is connected with potential shared information misuse. Therefore, appropriate supervision mechanisms must be applied at all levels.

The agency provides safe data storing, data integration and developing predictive models. It provides detailed reports, general assessment reports and most importantly, business partner behavior predictions at all business management levels from operational to strategic.

The process of sharing business partners information involves multiple steps, as depicted in Figure 1.

Business events data are stored in standardized Enterprise Resource Planning (ERP) solutions. The last step in ERP solutions development are cloud ERP solutions, where all of the data are physically stored in the same location (Helo *et al.*, 2014). Financial-related data are stored in standard structured formats (for instance the invoice data set) at a reasonably high-quality level, whereas nonfinancial data, such as

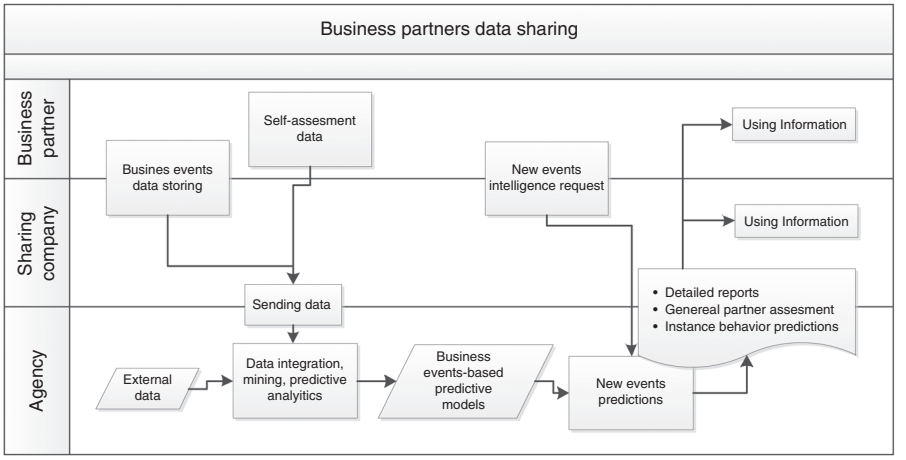

Figure 1.
General data sharing process

the quality of services and products and partner response attributes, needs to be systematically acquired from other sources.

The storing and analysis of large-volume fast-changing detailed business data present major challenges. The latest R&D achievements in cloud computing and big data technologies provide the capabilities to perform the services accordingly (Leeflang *et al.*, 2014). Big data technologies enable the integration of large-volume, fast-changing data and their advanced analysis, enabling real-time answers to the sharing companies' information requests.

The information usage by the employees can be sporadic and therefore ineffective. The information utilization performance would be leveraged by invoking BI reporting into the ERP production environment and employing via mobile devices. The BI results should proactively answer the issues emerging in the business process (Perko and Bobek, 2007).

3.2 Expected effects

Sharing of business partner behavior can have positive effects for the sharing company's operational and tactical level management processes, to market transparency, and influence the self-assessment and reputation building. Most importantly, sharing business partner behavior clarifies in which steps of the business process the partner behavior must be monitored and, if possible, predicted. This improves the understanding of good partnership by operatives in the sharing company and in their business partners.

At the operational level, behavior predictions can help in selecting the appropriate partner, set appropriate business conditions and select risk mitigation instruments or appropriate steps in the issues mitigation processes.

At the tactical level, detailed reports help selecting appropriate business partners to develop lasting relationships and to discuss the important factors needed for mutual success. By providing standards and demands in the form of KPIs, the sharing company can enfold its business strategies to business partners and compel them to better cooperation.

At the market level, sharing reduces information asymmetry, it provides a direct mechanism to support positive environmental (not only eco, but also business environment) behavior (Espejo and Bendek, 2011; Knez-Riedl *et al.*, 2006) and helps

disclosing companies with discriminatory behavior. Because of its low cost, direct measurement and high dynamics, this information offers an alternative to expensive examinations and is particularly appropriate for observing SMEs. On the other hand, it can be used by the SMEs to anonymously report on their big business partners monopolizing practices. It can help companies that do not possess all of the mechanisms fit to their business ecosystem (Chang and Chang, 2012), by simply outsourcing these expensive mechanisms to the agency.

Detailed partner behavior reports can provide an instant back loop and should form the pressure for the management to upgrade the business processes required to achieve sustainability. By outsourcing the external measurement process and integrating thereby gathered information in the management decision system (Johannessen and Olsen, 2009; Andrew, 2011). The shared KPIs can act as a counterweight to the financial KPIs and upgrade a customers' view and consecutively internal business KPIs.

3.3 Defaults sharing experiment

To explore the feasibility of the sharing potential/opportunities, an experiment was conducted. Multiple companies shared data on invoices defaults, issued to their business partners (Perko and Mlinaric, 2016). During the experiment, the paying strategies from regular payments, trough payment delays, and strategic defaults[1] to terminal non-performing invoices were observed.

The experiment involved the creation of a cloud data environment, providing services for sending invoices data and receiving non-payment partner reports. It lasted for more than one year, with data gathered on a daily basis. The last data snapshot contains invoice data on 4,275 companies, resulting in 33,635 invoices with a total value 58,512,870.49€. On average, 7.9 invoices were reported per company; the average reported debt per company was 13,687.22€ (Perko and Mlinaric, 2016).

In the experiment, a limited number of records, narrow data structure, and daily data refreshing were used, and therefore the standard IT resources were sufficient to conduct the process of integration, summarization and predictive analytics for the creation of predictive models. In a real environment, a structured data set is supplemented with unstructured data in high volumes and is refreshed in real time.

In the experiment, a detailed report on partner defaults is created, including; last changes in data, monthly past due debts and debts accumulation trough time. This data assembly was created to provide relevant data in one place, and organized to enable comparative analysis without great loss in data oversight (Perko and Mlinaric, 2016). The graphical interface, presented in Perko and Mlinaric (2016) supports dynamic presentations of crucial thresholds: using the monthly, and dynamic thresholds to clearly separate old debts (older than one year, 18 days, 60 days and less) from the more recent ones.

Although the experiment provided the basic feasibility proof and can be used for assessing direct sharing costs for sharing companies and for the agency, it did not adequately answer the questions of full potential value added of the proposed sharing mechanism. In the technical sense the experiment did not include the reports integration into ERP solutions, the creation of mobile applications or development of predictive analytics.

The feasibility results show that proposed data sharing model can overcome major feasibility challenges. Introducing a sharing agency raises the value added and reduces sharing company costs considerably. Feasibility study also indicates that the combined use of the business data management technologies (e.g. ERP solutions, cloud services,

big data storing and analysis potentials, proactive BI and mobile devices) can provide great value added in the operational and tactic business processes and reduce the operational costs and risks to an affordable level.

The proposed data sharing model alters business partners relations. Thereby responsibilities of all involved parties (i.e. the sharing companies, the agency and the business partners) must be thoroughly examined to avoid risks and maximize positive effects.

4. Legal aspects

A database on business entities, created, managed and maintained by a private company, would be a private sector activity and as such could be carried out on a contractual basis. Every participating business entity should give its express consent[2]. This means that the database management company (agency) would have to conclude relevant contracts with the participating companies, defining, in particular, the purpose of data collection, types of data, data processing modalities and the availability and transmission of collected data. Furthermore, the company should guarantee, in accordance with good business practice, to keep the collected data confidential, process it solely in line with its collection purpose and make only specific data from the database available to business entities. The data would be solely available to the contracting parties unless otherwise provided by law. Collection and disclosure minimization is an important principle in database management, which means that, for database searches, privacy-sensitive techniques should be used and that all or parts of sensitive data are deleted and anonymized, the size of databases is limited, etc. (Kenneally and Claffy, 2009).

4.1 Prohibitions

In terms of its contents, certain data is such that it is obvious to anyone that it should not be, a priori, collected, processed and transmitted to any third parties and that it does not belong to a database on business entities. This includes, e.g., the data treated as classified in accordance with the Classified Information Act[3].

To update the list of the prohibited data, the wording of paragraph 1 of Article 6 of the Access to Public Information Act[4] may be used, specifying the cases in which a body denies the applicant access to public information; however, it may be used *mutatis mutandis*, which is also entirely appropriate in our case.

4.2 Restrictions

In addition to the prohibitions listed above, the creators of company databases should take particular account of the following legal restrictions:

(1) The database should contain no personal data[5] (such as names, addresses of representatives, directors of business entities), unless an individual gives personal consent to the processing of specific personal data and is informed of the purpose of its processing, since there is no specific legal basis for the collection of such data, at least not in the Republic of Slovenia.

The data relating to legal persons (governed by public or private law) is not regarded as personal data, since personal data relates to an individual (a natural person). In the private sector, personal data may be processed if the processing of personal data and the personal data to be processed are specified by law or if the data subject's consent is given for the processing of specific personal data.

Furthermore, these two conditions are indicated in the Directive 95/46/EC of the European Parliament and the Council on the protection of individuals with regard to the processing of personal data and on the free movement of such data[6], as two of the criteria are laid down to ensure the legitimacy of personal data processing[7].

In the experiment no personal data were shared or delivered, though integration of shared data with available personal data – as for instance social media profiles – would provide legal issues and should therefore be omitted.

(2) Information considered a trade secret.

The notion of trade secrets is subject to the regulations in a number of areas (statutory, labor, competition, criminal and intellectual property law) mainly dealing with legal protection, whereas under Slovenian law, the notion of trade secrets is defined in corporate law; i.e. the Companies Act[8]. In view of the fact that the object of a trade secret constitutes a competitive advantage for a company, its inclusion in the corporate law (Primec, 2006) is justifiable. Two conditions must be met to define the notion of trade secrets:

(1) confidentiality (secrecy) of information; and

(2) its specificity in terms of norms (which means that the information complies with the legal requirements related to the definition of a trade secret or that it is defined as a trade secret at the discretion of its holder, who is also obliged to respect the legal provisions).

Persons outside a company shall also be obliged to protect data constituting a trade secret of the company if they knew or, given the nature of the data, should have known that it was a trade secret[9].

The information treated as a trade secret of a business entity could be part of the database if other major circumstances regarding the operations of business entities could be established on its basis. In this context, it is important to point out that the information refers to the trade secrets of the holders who have consented to enter their confidential data into the database and regulated their mutual relationships through an appropriate contract; in no case, however, it is allowed to enter the trade secrets of other entities having no contractual relationship with the management company[10].

The notion of trade secrets has not been regulated so far at the EU level. The Member States have regulated it in very different ways in their national legislations, which is why the Draft Directive of the European Parliament and the Council on the protection of undisclosed know-how and business information (trade secrets) against their unlawful acquisition, use and disclosure (Council_of_the_European_Union, 2013), hereafter, the Draft Directive is all the more welcome in order to finally harmonize this area.

Data shared in the experiment is not labeled as a trade secret. This could change though in two circumstances: with partners formal declaration, that shared data are a trade secret, or by expanding the sharing contents. In both situations, the correct mitigation strategies by the company sharing data and the agency distributing information on the partners must be applied to prevent legal issues. In long term the undefined legal issues must be addressed by the legislative authorities.

(3) Information which may affect the market position of a business entity is not, in itself, the data that should not be contained in the database unless the purpose of its entering into the database would be contrary to good business practice. The legislation relating to unfair competition specifically prohibits so-called "tarnishing" (Zabel, 1999), which refers to disclosing the information on another company if such information damages or may damage the reputation and operations of another company[11]. Tarnishing takes place

when a business entity makes a statement, disseminates information or submits data on other business entities[12]. A further condition that has to be met is that, by disseminating the information, the damage is or may be caused to the business entity, either material (it is detrimental to the company's operations) or non-material (the company's reputation is affected). It should be stressed, however, that causing damage to a business entity does not imply an unfair practice. If sharing information is carried out in accordance with honest practices in industrial or commercial matters, i.e. in the spirit of fair and equitable rules for market behavior, such selection among the companies does not cause unlawful (unfair) competition. Or, as pointed out in legal theory, the opportunity for information is also restricted by two conditions: the data should be communicated as confidential and either the person giving or the person receiving the information should demonstrate a valid interest in information sharing (Zabel, 1999).

Data shared in the experiment has the potentials to affect the market position of business entities. To prevent distribution of information, based on incorrect or untrustworthy data, mitigation strategies, discussed later in the paper must be applied by the sharing companies and the agency.

In conclusion, it should be noted that there is no legal framework available for establishing such databases other than some rules relating to the protection of specific types of data. Therefore, this area should be regulated in greater detail and more comprehensively. Such a situation does not exist only in the Republic of Slovenia but also in other EU member states; e.g., in the UK[13].

5. Ethical considerations

There are three main reasons we find it important to address ethical considerations regarding this issue. First, the practice discussed is not benign for those about whom are being reported. Negative consequences in the form of reputation lost can be expected, and, combined with the fact of their involuntary participation (at least for some of them), we find this reason enough to ask ourselves whether any ethical/moral principles exist that could be violated by participating in such a practice. Second, after a detailed literature review, we were able to find only a few articles (Mellert, 1982; Morris and Roberts, 1982) addressing the practice of business partner behavior sharing from an ethical/moral perspective, clearly indicating the need for a deeper ethical/moral analysis before reaching a final conclusion to that question. Third, we firmly believe that no holistic account of any practice involving relationships can be made without also addressing the ethical/moral dimension of it.

Teleological and deontological evaluation were selected as two of most frequently cited/utilized approaches in business ethics. Accordingly, our analysis is also structured along this line of normative ethical/moral theories division.

5.1 Teleological evaluation

Teleology is the first of the two major normative moral theories/approaches to be utilized in our analysis of the ethicality/morality of the business partner behavior sharing practice. Its defining distinction as a normative theory is that the ethicality/morality of a certain behavior is judged exclusively on the bases of the overall aggregate (non-moral) consequences of it (i.e. utility, happiness, pleasure, etc.) for all either directly or indirectly, actively or passively involved stakeholders. The greatest good of/for the greatest number (i.e. classical utilitarianism) (Bentham, 1789; Mill, 1863) is a frequently applied explanation of such a principle, under which a certain behavior is deemed ethical/moral if and only if the overall/aggregate positive consequences (i.e. "the good") of it exceed the

overall/aggregate negative consequences (i.e. "the bad"). Teleologists differ in their definitions of what exactly is "the good" (the desirable end; the value) which is to be maximized, but one frequently utilized conception is the conception of it as a social welfare we are also going to use in our analysis. What we have to do, therefore, is evaluate what aggregate effects on the social welfare can be expected by supporting (i.e. participating) the sharing practice in question.

Since it can be argued convincingly, we think, that, in our case, such an effect depends directly and mostly on the economic consequences for the market participants involved, what follows is just such an economic evaluation. Six individual effects listed below have been identified as covering the majority of the overall/aggregate social welfare effect expected:

(1) decrease in costs of default/problematic business relationships due to the improved risk management opportunities/information; a positive effect for all actively participating market participants;

(2) decrease in the costs of default/problematic business relationships due to the improved market participants' contractual discipline; a positive effect for all either actively or passively participating market participants;

(3) increase in market opportunities and potential for growth due to improved trust and reputation; a positive effect for all market participants with good behavioral records;

(4) decrease in market opportunities and potential for growth due to deteriorated trust and reputation; a negative effect for all market participants with bad behavioral records;

(5) improved general business conditions (better payment arrangements, easier financing, lower costs of financing, etc.) due to improved trust and reputation; a positive effect for all participants with good behavioral records; and

(6) worsened general business conditions (more strict payment terms, prepayment and additional warranties demands, higher costs of financing, etc.) due to deteriorated trust and reputation; a negative effect for all participants with bad behavioral records.

Upon aggregating the identified effects, one can quickly notice that effects 3 and 4 are essentially of the same kind but just the opposite directions. For the purpose of aggregation, it can therefore be safely assumed that they annul themselves. We believe the same can be assumed for effects 5 and 6. The remaining are the two clearly positive effects of cost reduction (namely, 1 and 2), which means that it can be convincingly concluded that the overall aggregate effect of the practice of business partner behavior sharing on social welfare is positive. The practice can therefore, at least from the teleological perspective, be qualified as ethical/moral.

As a consequence of effects 3-6, important outcomes in a form of improved (i.e. more ethical, predictive, safe) business environment can also be expected, following from the commercial failure of market participants with low-commercial behavior standards and not willing or able to adapt to the new conditions of greater behavior transparency. Taken together with the pure economic effects it can be therefore safely concluded that positive outcomes of the sharing business partners behavior practice greatly outweigh the negative and that from a teleological perspective the practice can be deemed morally/ethically acceptable.

5.2 Deontological evaluation

Deontology's defining characteristic as a normative theory is the belief that certain general moral rules/norms/duties exist independent of the actual (non-moral) consequences they bring about, and that these rules/norms/duties are only relevant when judging the ethicality/morality of a certain action/activity. Or, put differently, deontologists believe that the rightness or wrongness of certain actions lies not in the (good or bad) consequences they bring about, but rather or even exclusively in themselves being in accordance with certain general moral rules/norms/duties (Alexander and Moore, 2014; Fieser, 2014). As such, deontology is basically a negation of teleological approaches, where ethicality/morality of an action is decided entirely on its (non-moral) consequences.

Various deontological theories exist. The most traditional mode of taxonomizing them is to divide them between agent-centered and victim-centered (or "patient-centered") theories (Alexander and Moore, 2014). Victim-centered versions differ from agent-centered in their rights-based rather than rules-based orientation, meaning that they are premised on people's rights (Alexander and Moore, 2014). People's rights are therefore the primary basis/source of moral agents' duties, their central moral duty therefore being the respect for such rights. To the extent that one is ready to accept the idea of business entities also as rightful bearers of moral rights, one possible way to deontologically investigate the morality/ethicality of an activity in question is to investigate whether any rights would be violated with the performance of it. If such rights do exist, then the activity in question could be judged unethical/immoral and one should, at least *prima facie*, refrain from it.

Since sharing business partner behavior is an information exchange activity, the right to the confidentiality/privacy of shared data/information seems as the most logical to investigate, since it can be reasonably expected that the majority of the objections would be formulated on that base. For an ethical/moral evaluation, only moral rights are of concern. Since grounded on a moral reason, this essentially means that, for someone's interest/claim to confidentiality/privacy to be recognized, a convincing moral/ethical argument must be provided.

In Figure 1, two distinct information exchange flows can be identified, one related to the information input and one of the information output. At the output, only synthesized data/information on someone's past behavior (aggregate performance statistics, summary evaluations, etc.) and predictions of his/her future behavior are shared with the agency's end users. Evaluating such information from the right to confidentiality/privacy perspective, we can find no elements necessary for it to qualify as proprietary/confidential. Consisting only of information on one's performance/reliability as a commercial partner, no intellectual property or any other ownership claim to prevent such information from disclosure to interested users seems justified to us. On the contrary, it seems morally highly counterintuitive even to think about qualifying as confidential the information for which apparently no other plausible reason to do so can be imagined, but to prevent the prospective commercial partners from realizing someone's true commercial self. Which, equals the unethical intent of hiding important and possibly unpleasant/damaging truths from those considering to do business with us and so denying them an opportunity of a free choice. Since no commercial or other moral standards have been found for information discussed to be regarded confidential, it is our conclusion that no legitimate ethical/moral reasons exist for sharing it to be qualified as unethical/immoral. Consequently, the practice of sharing business partner behavior can be qualified as perfectly ethical/moral from this perspective.

But what about the information/data that is being shared (fed into the system) at the input phase of the process? Can the same ethical/moral conclusions be drawn also for these? As we see it, while it can be argued as perfectly ethical/moral to share synthesized information on someone's commercial behavior, this does not necessarily apply to the detailed transaction-level data/information at the input of the same process. Consequently, to be able to make conclusions about the ethicality/morality of the proposed sharing practice as a whole, the issue of confidentiality has to be addressed also for the input phase of the process.

Much more analytical in nature, transaction-level data could provide insights into one's business operations much deeper than the average business person would normally be ready to accept. So deep, one would argue that it should be regarded a business secret and be therefore confidential. For example, most if not all of the business organizations consider their business/accounting records to be confidential and would never disclose them to someone else unless absolutely necessary. But when a commercial partner of ours shares detailed data about, for example, his/her accounts receivable this is exactly what happens. Can such a practice be deemed ethical/moral? The answer, again, depends on how convincing moral argument one is able to make to qualify such data/information as a business secret (i.e. proprietary) and therefore confidential.

The protection of one's intellectual property/trade secrets seems to us as the only potentially plausible moral argument to hold/qualify certain business data/information confidential. As we see it, the strength of such an argument depends directly on the level of susceptibility (sensitivity, usefulness) of the data/information, to be misused for the purposes of industrial espionage or other immoral/illegal purposes damaging to someone's legitimate business interests. While, for example, we see no great danger for someone's intellectual property to be misappropriated with accounts receivables shared, the detailed accounting data on business partners' individual orders/purchases consisting of analytical information on items and quantities being ordered/delivered is quite another story. Although by legal standards such information probably does not qualify as a trade secret (or perhaps it does, depending on the court and jurisdiction), when combined with information from other sources, it could provide insight into business operations deep enough to reveal some of those aspects/elements that could legitimately be considered as someone's intellectual property and therefore confidential. For that reason, it is our judgment that detailed/analytical information on commercial partners' individual procurements (i.e. "physical/material" data on items and quantities delivered) should not be shared. Since the importance of such data for the evaluation of business partners' commercial reliability and trustworthiness is low, no real negative effects to the purposes of the sharing practice as proposed in this paper can be expected from such an exclusion. It is also our judgment that no similar "trade secret" reasons can be argued for the exclusion of other transaction-level data, important for the purpose of business partners' reliability and trustworthiness evaluation[14].

5.3 Conclusion on the ethicality/morality of the business partners behavior sharing practice

In order to evaluate ethicality/morality of the practice of business partners behavior sharing two competing normative ethical/moral approaches were utilized. Since neither teleological nor deontological evaluation produced any convincing moral argument against such a practice, it is our conclusion that no a priori moral reason exists for it to be considered as unethical/immoral, and consequently that the sharing of one's experiences and data on his/her business partners' commercial behavior can be judged

as ethically/morally perfectly acceptable/permissible. That is, of course, as long as no personal data and legitimate business secrets are disclosed and as long as general moral principles of truth telling, equal treatment and good faith are observed.

In the analysis, the issue of ethics was addressed only from the normative point of view. Other important perspectives, such as ethics and shared values as preconditions for trust building and maintaining are yet to be examined. Further investigation into this issues would no doubt add to the understanding of conditions, necessary for such an initiative to be successful. Also, since no perceptions of the participants with regard to the morality/ethicality of the behavior sharing practice were collected in the experiment, it is not clear, to what extent and in what sense ethical concerns are an important part of their thoughts with regard to the business partners behavior sharing and also, to what extent they share our findings/conclusions on the morality/ethicality of such practice. Further investigation into this question is therefore also highly warranted.

6. Sharing implications

The negative and positive business partner behavior sharing practices are joined in Figure 2. The costs and risks can be generally divided into business-partner-related risks and data preparation and using information costs; they can be mitigated using various quality mechanisms. The positive effect generates value added for the reporting company and eventually the whole market.

The most important variable: business-partner-related risks, is dependable on partners' relationship deterioration or indirectly on defiance to collective confidentiality conventions and on litigation risks. The confidentiality conventions reside in local environments but can be changed in time. The litigation risks reside from violating ethical or legal norms violation, such as dissemination of biased or untruthful data, prohibited and restricted data disclosure (personal data, classified data, trade secrets, detailed transaction data) or breaching confidentiality agreements.

The business-partner-related risks can be mitigated by employing quality control mechanisms, such as free access for all reported entities to report on them, acquire permission to report business data, share only selected data, share positive data and share only agreement violations. Some of the mitigation strategies may be controversial (e.g. share only positive data) and do not contribute to expected results.

The agency plays an important role in mitigating business-partner-related risks. By imposing master data management procedures, such as using only relevant data and verified predictive models, by sharing companies anonymization, auditing data and processes and complying with external supervision, the risks of unethical reporting can be reduced considerably. Since agency possess the knowledge on correct sharing, it must consult and control sharing companies on quality control mechanisms implementation.

The costs of sharing business data are inventible, but as argued in the paper, with implication of agency and ICT, reasonably low. For the sharing company, costs occur by sharing data and by using the newly acquired information. Data identification, validation and quality costs can be managed by sharing automation from ERP systems, while the use of proficient uploading services can mitigate sharing security risks.

It is interesting that the costs can occur by using the newly acquired information. The existing organizational, ICT-supported business processes need to be redesigned, which can temporarily lead to suboptimal process execution. By employing modular ERP solutions and new user communication channels, as for instance mobile apps, the costs can be lowered considerably.

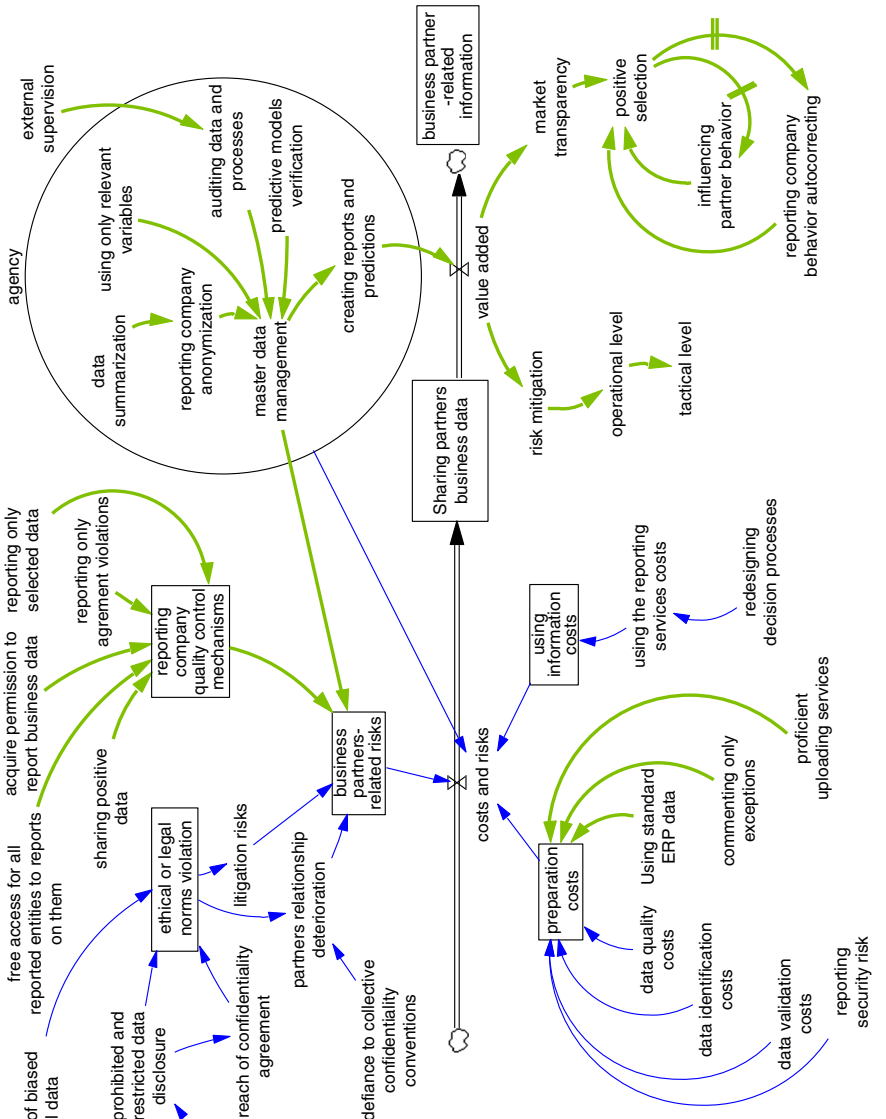

Figure 2.
Business data sharing system dynamics diagram

Sharing agency-related costs, executing data management processes, creating reports and predictions, are arguably lower than when applied by a single company. The big data technologies and cloud services can limit the agency costs to an affordable level.

The sharing positive effects are double sided. The shared information can be used by the sharing companies for risk mitigation and improves partner communication at the operational and tactic levels. On the other side sharing business partners behavior positively affects the market transparency, and through clearer posted market requirements, positive selection is achieved.

By providing an unbiased measurement tool for complying to business ecosystems behavioral norms, companies can self-reflect on their effects to the ecosystem. The delivered data can be utilized as an environmental behavior measuring instrument (Mulej and Potocan, 2007) in internal managerial processes. Companies successfully integrating the new measurement elements in their processes as norms of success have a greater chance of adapting to the modified requirements from the environment (Espejo and Bendek, 2011; Espejo *et al.*, 1999) and thereby increasing their success rate.

The most important is the learning recursive loop. Simply by measuring and sharing business partner behavior, the sharing companies get aware of the important aspects in their business ecosystem and can adapt the behavioral patterns – and behavioral demands – accordingly, producing foundations for including social responsibility as one of the important measures of success (Knez-Riedl *et al.*, 2006).

We should not limit the sharing concept on the defaults data, used in the experiment. It can be used to assess partners behavior in: timelines of delivery, quality of products and services, responses on issues, changes and reclamations, etc. Practically it can be used in all the fields, where correct business partner behavior is expected.

7. Summary

Trying to get insight into other members in the system is as natural as hiding individual weaknesses. In developed systems, multiple actual and virtual barriers are set to defend privacy as have strategies to intrude on others' defenses. The stronger the barriers, more energy is needed for their erection and intrusion, and the less adaptable the system is.

In this paper, sharing business partner behavior is proposed for downgrading the barriers in the business ecosystem. Since systemic changes usually cause strong reactions, we examine the proposal from three perspectives: first the feasibility of the proposed change, second we examine the legal barriers and lastly, the ethicality of the proposal.

The feasibility analysis reveals three actors: the sharing companies, the intermediate agency and the companies reported upon. To lessen business-partner-related risks, a set of mechanisms is proposed, protecting all involved players. Information technology plays an important role in cost reduction and in maximizing sharing positive effects.

The legal and ethical research results reminds us that sharing must apply to a purpose: a fair disclosure of behavior patterns and no more. We addressed not only the dilemma of whether to share or not to share, but also what (not) to share, and how to share.

The sharing positive impacts are both instant and postponed: knowing your business partner reputation and anticipating their future behavior can be directly used in negotiation process and in issue resolving procedures. But even more importantly, higher level of market transparency positively influences the business partners' selection and consequently affects the behavior of companies willing to adapt to new business requests.

Notes

1. Strategic default: a default as a result of the unwillingness of the due party, despite its means to pay the invoice.
2. These are the conclusions of Kenneally and Claffy (2009). An internet Data Sharing Framework for Balancing Privacy and Utility vs Engaging Data. First International Forum on the Application and Management of Personal Electronic Information MIT, who established the basic principles in creating the internet databases. These include, *inter alia*, transparency (algorithms should be made public but data or conclusions of the processed data protected), access limitations, purpose adherence, use specification and limitation.
3. This includes the information "relating to public security, defence, foreign affairs or the intelligence and security activities of the state which, for reasons defined in this Act, must be protected against unauthorised persons and which has been defined and marked as confidential in accordance with this Act" (point 2, paragraph 1 of Article 2 of the Classified Information Act, Official Gazette RS, No. 87/2001, latest amendment published in the Official Gazette RS, No. 60/2011).
4. Official Gazette RS, No. 24/2003, latest amendment published in the Official Gazette RS, No. 50/2014.
5. Personal data is defined as any information relating to an individual (identified or identifiable natural person regardless of the form in which it is expressed (point a., paragraph 1 of Article 2 of the Directive and points 1 and 2, paragraph 1 of Article 6 of the Personal Data Protection Act, Official Gazette RS, No. 86/2004, latest amendment published in the Official Gazette RS, No. 94/07 – official consolidated text; hereinafter: the ZVOP-1).
6. Official Journal of the European Union, L No. 281 of November 23, 1995.
7. For more details see Article 7 of the Directive.
8. Official Gazette RS, No. 42/2006, latest amendment published in the Official Gazette RS, No. 82/2013, hereinafter: the ZGD-1.
9. Paragraph 2 of Article 40 of the ZGD-1.
10. For ease of comprehension, an example is indicated in which company A, having a contractual relationship with the management company, issues an invoice to company B. This invoice is considered a trade secret for company A as it contains an indication of the discount rate, the price, etc.; i.e. the information that company A wishes to keep confidential. Nevertheless, company A sends the invoice to the management company so as to determine on the basis of it the behavior of company B (ability to pay, payment due date, etc.). Given that, as a consequence, the management company will obtain the information on company B, also registered as a private company operating in the market, the collection of such information, its processing (in accordance with the purpose indicated in the contract) and communication (to a limited number of entities: the business entities having a contractual relationship with the management company and entitled to have access to the data in the database) are legitimate. If, however, company A concluded a nondisclosure agreement with company B on their commercial relationship, company A would breach the rules for the protection of trade secrets by communicating the information to the management company.
11. The third indent of paragraph 3 of Article 13 (Official Gazette RS, No. 18/1993, latest amendment published in No. 110/2002), hereinafter: the ZVK.
12. The third indent of paragraph 3 of Article 13 of the Protection of Competition Act (Official Gazette RS, No. 18/1993, latest amendment published in No. 110/2002), hereinafter: the ZVK.

13. Thomas and Walport (2008) data sharing review, available at: http://webarchive.nationalarchives.gov.uk point out that, due to non-comprehensive and unsystematic regulations in this area, practitioners deciding whether or not to share information often make decisions based on what feels right to them as professionals, albeit with concerns that their approach may not accord exactly with the law.

14. Accounts receivable (including information on payment delays), delivery time records (including information on delivery delays), goods and services reclamation/return records, etc.

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