

Outsourcing a Business Intelligence Function

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Abstract

Outsourcing has become a growing trend in the 21st century. It has become the strategy of companies to concentrate more and more on their core competencies and key businesses. One definition of outsourcing is that it is a contractual relationship between an external vendor and an enterprise in which the vendor assumes responsibility for one or more business functions of the enterprise. This means that these companies have sought different partners to take care of support functions. Especially, companies have outsourced their IT operations to partners in recent years. Another option for an outsourcing partner is to form a separate company for the support function which is being outsourced and transfer the relevant operations to it. In that case, the control of the support function still remains inside the prime company.

Generally, business intelligence (BI) is considered a support function for the management's decision-making. The goal of BI is to improve and to speed up a company's decision-making process and therefore to pursue higher competitiveness in its business environment. In this study, the BI concept is understood as a systematic process for collecting and analyzing a company's strategic and operative information. In Finland, outsourcing the BI function has become quite common in recent years. Especially, outsourcing BI activities relating to external information is quite common. But what are the reasons that drive a company to outsource its BI function? Is it a good idea to hand out everything to an outsourcing partner, or should something be kept inside the company, and why? Also what kinds of risks are involved in outsourcing the BI function?

Currently, there are not too many research papers available on outsourcing the BI function. In addition, there is quite little normative literature on how to outsource BI activities. The first aim of the paper is to discuss what kinds of reasons are found in the literature for outsourcing or maintaining the BI function. The paper also identifies which BI activities could or should be outsourced and which parts should not be. In addition, an objective of the paper is to demonstrate what risks are involved in outsourcing BI activities. The study is conducted with an overview of the literature.

Keywords

business intelligence, literature review, outsourcing

What is business intelligence?

Generally, business intelligence (BI) is considered a support function for top management's decision-making. The goal of BI is to improve and speed up a company's decision-making process and therefore to pursue higher competitiveness in its business environment. (See e.g.

Gilad & Gilad 1986; Collins 1997; Fleisher 2001.) In this paper, the BI concept is understood as a systematic process for acquiring, analysing and disseminating a company's strategic and operative information.

Information processed and enriched in the BI process can be divided roughly into internal and external information. Internal information relates to e.g. an organization's finances, personnel and production and it can be collected for example from a company's operative systems. The external information is information concerning e.g. competitors, customers and business environments. This kind of information can be collected for example by monitoring different news services and news papers and by interviewing customers.

In Europe, the term BI is generally used as an umbrella concept for all activities concerning collecting, processing, analysing and exploiting business information from inside a company and its business environment. In North America, the term BI is used to refer to analysing data and information gathered from a company's operative information systems, using reporting software and tools such as data mining and online analytical processing (OLAP). This technically processed information can be used for seeking behavioural patterns in customers' buying habits and it can be exploited by offering products to a customer which he will most probably buy. In North America, an activity in which information is gathered from a company's external business environment (e.g. competitors, customers) is called competitive intelligence (CI). CI is a tool for continuous monitoring and collection of information on competitors and other parts of a company's business environment to help in competitive advance. CI analysis helps to make the right strategic and tactical decisions. (See e.g. Fuld 1995; Kahaner 1996; Vibert 2004.) In this paper, the term BI is used in the European style as an umbrella concept for all terms used in the field of business information processing.

The BI Process

For the BI process, many different models have been presented by academics and BI service companies (see e.g. Gilad & Gilad 1985; Vitt et al. 2002, 18; Thomas Jr. 2001, 49; Viva Business Intelligence Inc. 1998, 3). They all have similar characteristics and main phases, which are illustrated in Figure 1. Most of the models are cyclical and have the same object – to refine usable intelligence for decision makers from the information gathered. The process can be ad hoc or systematic in nature. With an ad hoc process the company can obtain the information needed for a precise and one-time intelligence need. The aim of the systematic process is to collect continuously information concerning competitors and overall business environment in order to identify trends and discover new business opportunities.

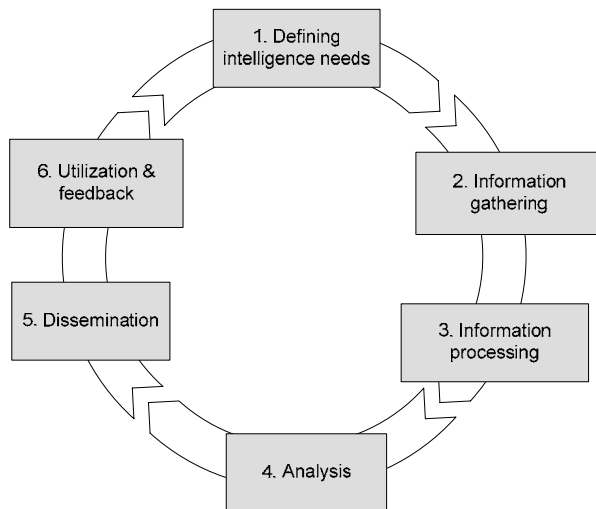


Figure 1. Main phases of a typical BI process.

At the beginning of the BI process, the *intelligence needs* of decision makers must be defined. This can be done by defining the key intelligence topics and questions regarding the information need or problem at hand. On the basis of these defined key intelligence topics and questions, *information is gathered* from suitable sources of information. The information gathered can be qualitative or quantitative and it can be collected from a company's internal or external sources by primary or secondary research methods. After the gathering phase, refining the information gathered begins in the *information processing* phase. When the information has been processed into structured form, the material is *analysed* and enriched into usable intelligence using various analysis methods and tools. Then, the intelligence products are *disseminated* through an organization to the personnel for whom the intelligence has additional value in decision-making. The dissemination can be made in e.g. the form of a report, a newsletter or through a company's intranet or portal. The last step in the BI process is *utilisation* of the intelligence created. On the basis of the quality and accuracy of the intelligence delivered, *feedback* is given to a BI team for the next round of the BI process.

The art of outsourcing

Outsourcing has become a growing trend in the 21st century. It is the strategy of companies to concentrate more and more on their core competencies and key businesses. One definition of outsourcing is that it is a contractual relationship between an external vendor and an enterprise in which the vendor assumes responsibility for one or more business functions of the enterprise (Baily et al. 1998). This means that these companies have sought different partners to take care of the support functions. Especially, companies have outsourced their IT operations to partners in recent years. Another option for an outsourcing partner is to form a separate company for the support function which is being outsourced and transfer the relevant operations to it. In that case, the control of the support function still remains inside the prime company.

According to Greaver (1999, 10), outsourcing is similar to subcontracting, joint venturing and strategic partnering concepts, with the difference that in outsourcing a company's internal activities are transferred out. Recently, actively outsourced functions have been e.g. information systems and technology, accounting and management services (Greaver 1999, 11). Companies are focusing more and more only on their own core competencies and are willing to outsource support functions to outside service providers. Greaver (1999, 5) divides outsourcing into three activity levels: *individual*, *functional* and *process levels*.

At the *individual level*, specific positions are moved out of a company, for example a management position or a competitive intelligence analyst. However, according to Greaver (1999, 13), it is unlikely that management positions will be outsourced. At the *functional level*, outsourcing concerns a structured function of a company. At the *process level*, outsourcing is handing out a complete process or a value chain. At the individual and functional levels, outsourcing can be implemented within six months, but processes can take longer, up to many years, before all the benefits can be seen. (Greaver 1999, 5 – 6, 9.) However, one problem in outsourcing is that companies may only look for instant cost savings and do not realize that it takes time to see effects.

For smaller and midsize organisations, outsourcing of individual level activities, such as those of senior management, project managers and analysts, is growing. The trend in larger organisations is to form strategic relationships, and thus to outsource entire processes. In this kind of relationship, the partners have significant decision rights over the outsourced process and will provide value-added services to a company. The outsourcing begins normally with processes which are furthest from the core functions. (Greaver 1999, 13 – 14.)

Reasons for and benefits of outsourcing

If a company decides to outsource a function or a process, there must be a solid reason for it and it must also create benefits for the company. King (2005, 90) remarks that outsourcing decisions based purely on cost reductions are no longer appropriate, but rather decisions based on core competency, critical success factors, competitive advantage and risk management. Kakabadse and Kakabadse (2000, 690) states that one of the main benefits of outsourcing is the utilization of external suppliers' investments, innovations and specialised professional capabilities.

According to Lindholm and Suomala (2004), the main reasons for outsourcing are cost reductions and strategic decisions to achieve optimal performance within a company and a supply chain. Therefore, the main benefits from outsourcing are that the company's fixed costs are reduced and the company pays the outsourcing partner only by the hour. Also, if an outsourcing partner is better in operating in its field, the company benefits from better quality in support operations. In spite of the fact that outsourcing is generally considered an efficient way of handling support functions, some companies are not ready to outsource their operations. Some consider outsourcing a way of getting rid of problematic processes and only handing the responsibility to their outsourcing partner. There have also been cases where costs have risen instead of decreasing after outsourcing a support function. Also, the risk exists of losing competitive edge through unsuccessful outsourcing.

Greaver (1999, 4 – 5) divides the reasons for outsourcing into six categories: *organizationally driven reasons*, *improvement-driven reasons*, *financially driven reasons*, *revenue-driven reasons*, *cost-driven reasons* and *employee-driven reasons*. The benefits created from outsourcing can be divided into the same categories as the reasons for outsourcing.

The reasons of and benefits of outsourcing are *organisationally driven* when a company needs to enhance its performance through organizational changes. The transformation process can be difficult, but outsourcing can be used as a tool to make it easier (Greaver 1999, 85). Organizational performance development can be carried out for example by focusing on a company's own core competence. When outsourcing non-core support functions, the management and the rest of the personnel can concentrate better on the core competence areas (Greaver 1999, 70; Kakabadse & Kakabadse 2000, 690). Also, if there is a need to increase the flexibility of a function to meet changing business conditions, a company does not have to worry about the capacity and resources for the function, while the outsourcing company takes care of the acquiring and downsizing the needed resources (Greaver 1999, 33 – 34; Kakabadse & Kakabadse 2000, 690). A company also has freedom of choice when taking on new or changing old outsourcing partners. However, the main objective of outsourcing is to develop the total performance of a company. To increase product and service value, customer satisfaction and shareholder value are qualities that create long-term success for a company (Greaver 1999, 294).

In many companies the resources allocated for support functions are often limited. The changes carried out in a company are *improvement-driven* when the acquiring and obtaining of a high level of operating performance in support functions is done through outsourcing. Also, a service provider usually has better knowledge and a better skills base for a certain function than a company's own personnel has. A company can benefit by improving the level of performance of its support functions by using an outside service provider's high-level resources dedicated only to one function. (Greaver 1999, 16, 46 – 47) Therefore, another benefit is that a company can reduce its own investments in high technology because the outsourcing company provides everything needed (Kakabadse & Kakabadse 2000, 690). Also, if a company's non-core functions seem to be unsatisfactorily managed, a company rarely wants to invest more in developing such functions. In such cases, outsourcing can offer an effective way to bring new management experience to the operation of functions and make the function operate more effectively (Greaver 1999, 142). Outsourcing directs some of the risk involved in operating a function to the service provider (Greaver 1999, 114). The service provider can also give fresh and innovative ideas to a company which might be blind to its own weaknesses and opportunities (Greaver 1999, 209 – 210). Buying outsourcing from superior and world-known service providers can also improve the credibility and image of a company (Greaver 1999, 154 – 155).

Outsourcing is done according to *financially driven reasons* when its goal is to reduce investments in assets, to liberate resources for other purposes and to generate cash by transferring assets to the service provider (Greaver 1999, 4). Outsourcing allows a company to transfer assets and ongoing investments connected with running a function to the service provider in exchange for either cash or lower future costs. Outsourcing also eliminates the need to make new investments for the outsourced function in the future. (Greaver 1999, 99 – 100.) If a company is in need of instant cash, outsourcing allows it to sell assets for cash as part of a long-term service agreement (Greaver 1999, 264 – 265).

When outsourcing is done in the hope of gaining new business opportunities, of accelerating expansion in operations, sales and production or just to exploit existing skills, it can be categorised as *revenue-driven*. Outsourcing allows a company to become part of the service provider's network of other customers, suppliers and affiliated companies (Greaver 1999, 264 – 265). When a company runs out of resources to deliver the required amount of products or services, building and acquiring the needed resources might take too much time or there might not be resources enough to make the necessary investments. Outsourcing allows a company to share the service provider's capacity, advanced processes and systems when the company needs them, without waiting for a new production facility to be built, or makes possible an increase in production and sales without big investments (Greaver 1999, 168, 281). If a function has broader market applications with unique technologies than the company is ready to invest in, a joint venture with an outsource provider could be considered. The partner benefits from and utilizes the industry knowledge, special skills and technologies related to the function, and by exploiting the partner's marketing and distributing channels, these can be turned into revenue. (Greaver 1999, 196.)

Outsourcing is also used to reduce current costs and to turn fixed costs into variable costs. These are *cost-driven reasons*. A service provider often has a better cost structure in carrying out a task than a company's internal function could have. A service provider divides overhead costs over more activity units, and therefore a service provider often has lower overhead costs per unit than a company's internal units. (Greaver 1999, 57 – 58.) Through outsourcing, normally fixed costs can be converted to variable costs. Providers handle varying demand more efficiently because of their economies of scale. The service provider has bigger capacity and volume than a company's internal units. Thus, changes in demand have a smaller effect for the service provider. It is also possible for a company to gain a cost advantage over competition through lower operating costs (Greaver 1999, 183; Kakabadse & Kakabadse 2000, 690.)

Outsourcing can offer employees a stronger career path. This *employee-driven* reason for outsourcing means that the people working in a support function of a company do not have such strong career possibilities as the employees working in the core competence area of a company. If the support function is outsourced, the service provider often employs people with previous experience in the outsourced area. (Greaver 1999, 220 – 221.)

Risks of outsourcing

A recent survey conducted by Deloitte (2005, 6 – 7) shows that from a sample of 50 outsourcing contracts 74 percent were unsuccessful due to vendor underperformance and cost overruns, and 64 percent have brought outsourced services back in-house. Greaver (1999, 9) offers a handy analogy in which he compares outsourcing to marriage by saying that both relationships are easy to consummate but much harder to terminate. Thus, if a company decides to outsource a function without a solid reason, any *risks caused by the outsourcing can be very difficult to reverse*. Uncertainty and risk of failure exist every time a company is considering to outsource a function. If the company decides to hand out part of its operations to an outside service provider, it will be very difficult to bring it back inside the company in the case of failure (Greaver 1999, 30). After shifting the responsibility for a function to the service provider and not dealing with the function for a while, the company may experience a *dependency on the service provider* (Kakabadse & Kakabadse 2000, 690).

Outsourcing might create *a loss of control over the outsourced function* and the service provider (Greaver 1999, 29 – 30; Kakabadse & Kakabadse 2000, 690). If the outsourcing is done for the wrong function, one which in fact is critical for a company's operations, the loss of control can be fatal. Also, controlling and communicating with service providers can create *hidden costs* for the overall. The responsibilities of both parties must be clearly defined or the service provider's priorities might not match client needs (Kakabadse & Kakabadse 2000, 690; Venkatraman 1997, 61). Together with the outsourced function the competence inside the function will drift away from the company. *The loss of core competencies and critical skills* is a big risk that management must keep in mind when selecting a function which will be outsourced (Greaver 1999, 30; Kakabadse & Kakabadse 2000, 690). Outsourcing also affects the amount of cross-functional intercourse, which will create *a loss in the company's cross-functional skills* (Kakabadse & Kakabadse 2000, 690).

Outsourcing creates many negative emotions among employees. This can appear as *employee unhappiness and lowered working morale* (Greaver 1999, 30; Kakabadse & Kakabadse 2000, 690). If the remaining employees have to work in fear of being the next to go, it will show in the overall efficiency and atmosphere of the company. Also, if the outsourced personnel are hired by the service provider to perform the same task for the old employer, the level of motivation might not be so high as before.

It can take a long time for the benefits of outsourcing to become visible. This means that outsourcing contracts often cover a few years. In some studies, over half of companies in which the primary object through outsourcing is cost reduction are at the end dissatisfied with their outsourcing relationships (Davenport 2005, 102). If a company is only looking for fast cost reductions and does not consider outsourcing as a long-term development strategy, the probability of failure is greater than if outsourcing is done with a longer time scope.

Outsourcing BI activities

A survey on CI practices conducted by Prescott and Bhardwaj (1995, 7) shows that 13 percent of the BI budget of companies goes for outside services, consulting and research. It was the second-biggest allocation, coming after BI personnel salaries (49 %). A recent survey conducted within the 50 largest Finnish and 100 largest Canadian companies shows that in Finland 27 percent and in Canada 19 percent of the business information required by companies is processed by an outside service provider (Koskinen 2005, 61 – 62, 90 – 91). In the same survey, the respondents were also asked to describe a company's plans for the next five years. Five respondents from the companies interviewed in Finland said they were considering outsourcing parts of their BI activity in the near future (Koskinen 2005, 82 – 83). These results imply that companies still tend to rely on their internal resources when it comes to operating the BI function.

But how to define what is considered outsourcing in BI? According to Fiora (2002, 38), in a true outsourcing model an outside BI team is responsible for an entire intelligence process and this is a difference with just hiring a firm to collect information or delivering a one-time intelligence product. Thus, would hiring temporary labour from a staffing service be called outsourcing? As mentioned above, outsourcing is a relationship between a company and an external vendor who assumes responsibility for one or more business functions of the

company. In comparing at different statistics, it has to be decided which part of outside services can be classified as outsourcing and which as short-term task work. In this paper, the authors take a stand and define a BI activity as outsourced when most of the activity's operations come from an outside service provider. For example, if a company obtains most of the information concerning its competitors from an outside service provider, the provision of external information can be defined as an outsourced task.

When to consider outsourcing of BI?

As McGonagle and Vella (2003, 201) put it, outsourcing BI is buying something before you or a consultant know exactly what the end result will be. That is why there should be a clear reason and need for outside help in BI activities. Whether to outsource BI activities or not is a matter of how the company wishes to organise BI activities. Also the current capability of a company's BI function is a key factor in defining the need for outside help. The literature offers different kinds of situations and indicators regarding when a company should start to consider outsourcing BI activities.

Start-up of the BI function

If a company is in the beginning stages of establishing a BI function, outsourcing is an easy way to test if BI could benefit the company (Fiora 2002, 38). Also, firms can develop a corporate intelligence function with the help of external contractors in a relatively short time (Comai 2005, 14). Especially at the early stages of a BI function, it is important for the function to earn its place in the organization by offering good results fast. Thus, by outsourcing it is possible to obtain information quickly and reliably (McGonagle & Vella 2003, 191). Also, the investments required at the beginning are smaller if a BI function is operated outside the company.

Insufficient internal BI function

If a company's BI team cannot carry out its assignments with an acceptable level of quality or it has problems during a BI process, the problem might be fixable using outside help. Problems in the collection of intelligence, such as the need to obtain information that is not available through secondary sources, or problems in approaching competitors, analysts, suppliers and other target competitor stakeholders (McGonagle & Vella 2003, 191) can be avoided with the help of an outside intelligence service. An outside partner might have better access to particular information sources and a well-cultivated range of relevant interview contacts (Collins 1997, 135; McGonagle & Vella 2003, 191) and can thus collect the information more efficiently. Also, if an intelligence gathering task requires field investigation work but it is not desired that the company's interests should be exposed, an independent perspective is needed, or if a third party is more likely to be able to obtain unbiased data, an external BI service provider can offer a neutral, objective third party investigation and analysis (Collins 1997, 135; McGonagle & Vella 2003, 191).

Cost-efficiency problems

If BI services can be provided at a lower cost or more effectively than through in-house resources, a company has a reason to consider whether to keep a BI function inside the company or not (Collins 1997, 135). Also, if a company is not able to find sufficient BI staff (Fiora 2002, 38), or there is a need for high-calibre staff to undertake a specific short-term

intelligence gathering project without making a permanent addition to the in-house team (Collins 1997, 135), outsourcing might be a solution.

Going international

If a company is expanding to a foreign country, the business environment there might be quite different to what the company is accustomed to. Also, the language and culture are different than in the company's home country. Therefore, it can be assumed that if a company tries to collect information about its competitors in a new business area, there might occur difficulties for the company's BI team. First, there is the language barrier, due to which all the information concerning the competition is perhaps not understood by the BI team. There might also be a lack of understanding of the local business environment. If a company is planning to enter into a new business area, it is worth while to consider hiring a BI partner that operates in the new country the company is planning to enter. In this way the company can minimize the number of unnecessary surprises.

Outsourceable BI activities

The literature offers no concrete information on how to decide which activities of the BI function can be outsourced and which cannot. According to Johnson (2002, 7) the best use of intelligence contractors is to use them for *operational performance benchmarking*, *understanding strategic plans* and *specialised collection and analysis*. This division is made at such a high level that it really offers no actual instructions regarding which parts of a BI function could be outsourced. A categorisation for in-house and outsourceable BI activities is found in Collins (1997, 134). Table 1 presents how Collins divides in-house and outsourced activities into regular activities and one-off projects.

Table 1. In-house and outsourceable BI activities (adapted from Collins 1997, 134).

	In-house	Outsourced
Regular activities	<ul style="list-style-type: none"> -Intelligence files and databases -Regular intelligence reports/briefings -Competitor assessments -Coordination of in-house intelligence network -Contributions to business planning and strategy 	<ul style="list-style-type: none"> -Clipping services -Database services (routine extractions) -Watching briefs - Specialist industry newsletters
One-off investigations and projects	<ul style="list-style-type: none"> -Intelligence alerts -Investigations to support major decisions 	<ul style="list-style-type: none"> -Market investigations -Information broker services -Targeted intelligence gathering projects -Database services (targeted searches)

The categorisations found in the literature can be viewed only as suggestive of how in-house and outsourceable parts or activities of a BI function can be divided up. Although it may not be important to identify which activities are outsourceable, the valuation of key intelligence topics is important. The company has to define which areas of information needs it can rely

on to be satisfied by an outside party. For example, would a company be ready to ask an outside service provider to collect and process information concerning the company's strategy making, which can be considered to be the most essential activity of a company? Also, a BI function's activities could be evaluated as core and non-core activities, and this evaluation might provide a good idea regarding which activities to outsource.

Specific benefits from BI outsourcing

The benefits of outsourcing a BI function can be seen to be quite similar to the general benefits described earlier. Especially, cost-related benefits are the same. However, outsourcing in the case of a BI function has some distinctive characteristics and these are reflected in the benefits of outsourcing.

In a primary information collection project, the *anonymity* of the collector company is very important. Primary collection is often conducted using personal interviews. According to the code of ethics of the Society of Competitive Intelligence Professionals (SCIP), an interviewer must inform an interviewee who he is (Hamilton & Fleisher 2001, 266). When the primary information collection is conducted by an external interviewer, the identity of the information end-user can be kept confidential. Also, the answers of an interviewee are more objective when he knows he is not talking to a representative of a competing company. (West 2001, 131; Cook & Cook 2000, 212 – 213; Fiora 2002, 38 – 39.)

When the intelligence is gathered by an outsourcing partner, the intelligence is free from in-house opinions and assumptions about the competitor (West 2001, 131). The *objectivity* of obtained intelligence is one factor in evaluating the validity of intelligence used in a decision-making process. This affects the result of the decision-making and the in-house reputation of a BI function. Also, a BI partner often has *a wider variety of contacts* at its disposal, which extends a company's potential information sources (Cook & Cook 2000, 213). Thus, information can be gathered more efficiently in some cases.

Outsourcing can solve the problem of too many ad-hoc requests for low-level tactical information (Fiora 2002, 38). When BI is carried out outside a company, personnel might not make low-level intelligence requests too hastily, and therefore the work load of a BI unit is smaller, which makes *more time and resources available to focus on more important intelligence requests*. Also, *the contact and involvement with top-level managers is better*, because often it is easier for outside consultants to gain access to high-level people than it is for internal personnel (Fiora 2002, 38).

An external BI partner can provide new thinking and fresh solutions from other business areas and industries in which a company operates (West 2001, 131). This *cross-fertilisation* makes more experience available to a company from other areas of industry and offers a wider perspective on the overall business environment. The total capability of a company's BI function can be maximized by *combining expertise from an external BI service provider and in-house BI experts*. This is effective especially when the in-house BI expertise does not cover a certain type of intelligence-processing needs. (Cook & Cook 2000, 213.) The company is also able to obtain *new business ideas and opportunities* from the cross-fertilized intelligence.

An external BI provider can offer *intermittent services* to companies which do not need a full-time in-house BI analyst (West 2001, 132). It is *easier and faster for a company to acquire top-class intelligence capabilities* and to *adjust the amount of BI resources more flexibly* through outsourcing. Also, when a company has a service provider to handle most of the “dirty work”, it is *easier for a company to attract top-quality BI professionals* to work in the administration of the BI function. (Fiora 2002, 38 – 39.)

When a company orders BI services from an external service provider, it needs only to order the amount required at that time. Therefore, the company can change BI costs *from fixed to variable costs*. This can be seen as *cost savings* and BI operations performed by agencies specialized in BI can be more effective and less time-consuming than those performed in-house (West 2001, 132). In making an outsourcing contract with a BI service provider, a company is *able to know in advance the costs of the BI services used*. This makes the calculation of the required budget easier than when using only in-house staff.

Specific risks in BI outsourcing

Management of BI units

The best result from BI is obtained when a BI unit is located physically as close as possible to the primary end-users, because then the BI unit is able to work with the end-users on an ongoing basis (McGonagle & Vella 2003, 34). *A distance between an intelligence maker and an end-user* might be problematic for co-operation. Therefore, BI outsourcing works best in companies that are accustomed to working with virtual teams (Fiora 2002, 39). The more different BI units a company has, the more resources it needs to ensure consistency among them. This means *increasing costs in management and coordination* of external BI teams. Also, the possibility of *miscommunication* and *incompatible intelligence products* is bigger if a company fails in the coordination of different BI units. (Sawka 2001, 54.)

It is better to be a major client of a BI service provider, because then your company will obtain better service than by just being one among other clients (West 2001, 138). However, a single service provider may not be able to satisfy efficiently all BI needs. Therefore, one has to consider whether to concentrate all external BI activities in the hands of one major partner or allocate them to many different BI providers. When all outsourced tasks are concentrated in one service provider and your competitors get to know who your BI partner is, *the benefit of anonymity will vanish* and competitors will be more aware of a company’s intelligence collections, thus making the collection process more difficult. Also, the collected primary information might not be so reliable. Also, there might develop *overdependency on the service provider* if only one BI partner is used.

McGonagle and Vella (2003, 198) claim that raw data is obtained more cost-efficiently using specialists than using a full-service research and analysis firm. A company must also keep in mind that one cannot assume that the information collection methods used by another company are necessarily as acceptable as those used inside one’s own company. Therefore, it is always a good idea to ensure that the employed external BI providers comply with a company’s *ethical guidelines* (West 2001, 133).

BI can be defined as an intangible asset for a company. Therefore, it is challenging to calculate *a value for the BI function* or *the revenue gained from BI*. If a BI function is outsourced, it is possible to show the costs, but it is very difficult to define the profits gained.

This can be a problem when assuring management that a BI function is needed. (Cf. Gartz 2004; Hannula & Pirttimäki 2003; Simon 1998; Lönnqvist & Pirttimäki 2005.)

Overview of information security

In working with a BI consultant, a critical issue should be what access the consultant will have to your own competitively *sensitive information* and how the consultant will handle that information (McGonagle & Vella 2003, 205). When seeking a suitable BI partner, it is better to narrow the number of applicant companies to a minimum, because there is *a security risk* that information about your company's intelligence-gathering effort could easily end up public (West 2001, 142). If your company's BI partner has your competitors as other clients, there might occur *a conflict of interest*. The BI partner must guarantee that any critical information about your company does not end up in the hands of your competitors. The degree of danger depends on the business area. For example, the pharmaceutical sector is very fragmented and thus two pharmaceutical companies doing business in different areas can be customers of the same BI provider. (West 2001, 140.)

McGonagle and Vella (2003, 207) write about the concern regarding BI consultants changing their employers. Despite non-disclosure agreements, it is impossible for humans to empty their heads of information already stored there. There is always the risk that a consultant who worked for a company might next work for the company's competitor and *subconsciously leak sensitive information*. This can also happen if a company decides to outsource a BI function and internal employees change over to working for a BI service provider. In such a case, the outsourcing company also *loses intellectual capital* with the old employees.

The key to handling these problematic situations is to establish a clear understanding between a company and a BI consultant that the information the company provides and the assignment being conducted for the company will be kept confidential. Also, many companies do not wish their names to be used as a BI service provider's reference (McGonagle & Vella 2003, 205 – 206). One concrete solution for avoiding these kinds of risks is to make *a non-disclosure agreement* between a company and a BI service provider (West 2001, 142).

Conclusions

The main goal of this study was to find the reasons, benefits and risks involved when outsourcing a BI function. Also, the outsourceable parts of a BI function were examined. This research question was the most difficult one and no definite categorisation was found. The parts of BI that could or should not be outsourced depend totally on the company and the situation the company is in. A company needs to determine which key intelligence topics and BI activities are so important that they could not be entrusted to an outside service provider.

In the authors' opinion, the reasons for BI outsourcing and its benefits and risks are linked if one looks at outsourcing decision-making as a whole. Outsourcing carried out for one reason can lead to different benefits and risks than outsourcing carried out for other reasons. If one divides the benefits and risks of BI outsourcing according to Greaver's six reasons to outsource, a benefit-risk matrix can be created, which is presented in Table 2.

Table 2. The benefit-risk matrix of BI outsourcing.

Reasons to outsource	Benefits	Risks
Organizationally driven reasons	<ul style="list-style-type: none"> -Greater flexibility in increasing and decreasing the BI resources -Easier and faster for a company to acquire a world-class intelligence capability -Maximized capability by combining external and in-house expertise -Intermittent services 	<ul style="list-style-type: none"> -Distance between intelligence makers and end-users -Miscommunication between BI team and end-users
Improvement-driven reasons	<ul style="list-style-type: none"> -Fewer low-level tactical and ad-hoc information requests -Better contact and involvement with top-level managers -Anonymity in collection of sensitive intelligence from competitors -Objective information about business environment -Cross-fertilisation -Wider variety of intelligence sources 	<ul style="list-style-type: none"> -Use of unethical methods -Using a single major BI provider can jeopardise the anonymity of your company -Information security and confidentiality of company's sensitive information -Incompatible intelligence products -Dependency on provider
Financially driven reasons	<ul style="list-style-type: none"> -Possible to know costs in advance 	<ul style="list-style-type: none"> -Difficult to determine the value of BI function
Revenue-driven reasons	<ul style="list-style-type: none"> -New business opportunities through cross-fertilization 	<ul style="list-style-type: none"> -Difficult to determine the revenue gained from BI function
Cost-driven reasons	<ul style="list-style-type: none"> -Cost savings -From fixed to variable costs 	<ul style="list-style-type: none"> -Increasing cost in management and coordination of external BI teams
Employee-driven reasons	<ul style="list-style-type: none"> -Easier for companies to attract top-quality BI professionals 	<ul style="list-style-type: none"> -Loss of intellectual capital and competencies

Most of the found benefits and risks relate to organizationally and improvement-driven reasons. From this, BI outsourcing can be concluded to mostly affect the structure and efficiency of a BI function. Also the objectivity and anonymity of BI operations are important considerations in outsourcing. The information security and communication between a company and a BI service provider are also issues to be observed when using external resources in BI operations.

The literature presented fewer benefits and risks related to financially driven, revenue-driven and costs-driven reasons than to organizationally driven and improvement-driven reasons.

This could mean that, at least according to the literature, outsourcing of BI is not often carried out for these reasons. Also, the value of a BI function is very hard to define and so the outsourcing decision is difficult to make on the basis of return-on-investment calculations. Only the benefits and risks relating to direct costs of a BI function can be assessed.

The benefits and risks of BI outsourcing related to employee-driven reasons were also minor compared to those related to organizationally driven and improvement-driven reasons. The reason for this might be explained by the fact that employees are the same no matter in which unit they work. Outsourcing most likely has the same effect on personnel in a BI and an R&D unit. Thus, the general benefits and risks of outsourcing concerning personnel are most likely the same in the case of outsourcing BI.

All in all, there seem to be as many benefits as there are risks involved in outsourcing BI. A company needs to weight the benefits and risks in order to make the right decision when planning to outsource the BI function or parts of it. To obtain more precise research results, a case study should be carried out within companies which have outsourced BI activities.

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