Influence of IT outsourcing on selected groups of stakeholders (original research)

J Sloniec
Lublin University of Technology, Management Faculty, Department of Organisation of Enterprise, 38 Nadbystrzycka Str., 20-618 Lublin, Poland
j.sloniec@pollub.pl

Abstract. This paper reports on the study conducted to determine the stakeholders of information technology outsourcing (ITO) and to the impact that IT outsourcing exerts on them. Six groups of ITO stakeholders were defined: vendor, customer, employees of supplier and customer, national labour market, national economy. In the study, employees of 200 large Polish and foreign companies operating in Poland were surveyed. The results indicated both positive and negative impact of ITO on its stakeholders: positive and negative on the customer and positive for the customer employees, which were subsequently correlated in search for conclusions. The originality of the paper consists in that an extensive original study has led to defining ITO stakeholders and determining the impact of IT outsourcing on them, clarifying the positive and negative impact of ITO on customer and employees, and the correlation between the factors of the positive/negative impact of ITO on the customer. The results demonstrate that with the increase in the benefits of IT outsourcing (factors of the positive impact of outsourcing on the customer), the risks associated with it (factors of the negative impact of outsourcing on the customer) grow. This is further confirmed by a high and very high positive correlation between these values.

1. Introduction
IT outsourcing (ITO) is a transfer of information technology to an external business entity to manage and implement activities, processes and functions. In today’s understanding, outsourcing is a relatively new concept, which emerged in the second half of the twentieth century.

The dynamically developing global IT market is predicted to maintain a similar growth rate until 2020 [1]. Given the importance of IT outsourcing among other branches of the Polish and global economy, many of its aspects have not been well studied and therefore there emerges a need for conducting and continuing research in this area. The subject matter discussed in this article contributes to the study of a new, previously unexplored issue regarding IT outsourcing stakeholders from the Polish perspective. The aim of the article is to define information technology outsourcing (ITO) stakeholders and to determine the impact of IT outsourcing on them.

Therefore, based on the results of own survey, undertaken among the employees of 200 large companies operating in Poland that make use of IT outsourcing, the level of the positive and negative impact of ITO according to selected factors was evaluated for three stakeholders of this service. In addition, the research intended to determine the relationship between the positive and negative factors of ITO for the customer.

The use of IT outsourcing involves risks [2-4], which at the same time apply to all parties to the service and all stakeholders. For the benefit of the industry and the economy it seems then crucial to
identify the positive and negative impact of ITO on stakeholders and to weigh the relevance of significant impact factors in direct research. Establishing the direction and the extent of dependencies between these impact factors will enable to execute a more effective control and management of IT outsourcing, which will in turn directly translate into an economic profit of ITO stakeholders. As no similar research in Poland has yet been conducted, this study responds to the paucity of data to describe IT outsourcing stakeholders in our country.

Outsourcing appeared and developed in the twentieth century. Under the current name and meaning, the concept came into practice of management sciences in the 1980s, whereas the theoretical foundations were introduced 1990s [5-6].

All companies have suppliers and co-operators and, in part, these contacts take the form of outsourcing. The phenomenon of outsourcing spread during the development of craft production in the 18th century. At that time, a system of cooperative relations, which is currently referred to as outsourcing connections, was created. The industrial revolution of the late 19th and early 20th century contributed to the development of large industrial enterprises, simultaneously leading to diminishing the position of craft manufactories. The scale of outsourcing has been reduced. It was not until the 1960-1970s’ emergence of new management concepts and the development of the existing ones that the concept of outsourcing revived. The precursor of the new wave of developments in outsourcing as a phenomenon, in IT outsourcing in particular is R. Perot, whose company offered paid implementation of IT functions to Frito-Lay enterprise, namely the management of the company’s IT equipment. In the 1980s, the process of external procurement of parts for cars, i.e. outsourcing, was implemented by General Motors.

At the same time, it should be noted that from the 1960s and 1970s, the practice of sharing employees has been in force. In effect, shared IT employees would perform the same tasks in a number of companies. However, what distinguishes employee and outsourcing is the nature of the latter. While small companies have been benefitting from shared work, outsourcing is used by all enterprises, and IT outsourcing is also very much present in companies with large and well-developed IT departments [7]. Initially, IT outsourcing was used primarily in the areas of non-critical information, peripheral for the company, its loss did not cause a decline in competitiveness. Then, IT outsourcing partners have been granted access key information of critical importance for the competitiveness of the company or organisation [8]. Information on banking operations is considered to be of high-sensitivity and has previously been stored and processed exclusively internally. Since the 1990s, it is not. Financial, insurance, health, communication and retail information are among the most frequently data processed as part of IT outsourcing [9]. This phenomenon can be explained by changing direction and attitude to using and managing information, as well as the use of information technologies. Taking this view into account, outsourcing can be considered as an evolving data processing service, much like a telephone service or a power supply service. We are not interested in the infrastructure we use. We are interested in the possibility of conducting a conversation or switching on an electrical device and with respect to data or information, canal that matters is exchange of data or information. Therefore, the company does not waste its strength and resources on building an infrastructure while it can use it efficiently [7].

Information loses its strategic importance. It is caused by its universal availability as well as the effortlessness and cost of its acquisition [10].

Already in the 1990s, it was predicted that due to the widespread availability of information, it would cease to be a lasting competitive advantage [11].

The phenomenon of globalisation also affects the development of outsourcing through:

1. The trend among enterprises to implement production processes where production factors are cheaper. This is the phenomenon of so-called global outsourcing, which is when software is created and developed in countries with highly-qualified IT employees and where the remuneration for work is relatively low (such as India – the leader in the global outsourcing market) [12].
2. Increased acceptance of the Internet as a communication medium, which affects the phenomenon of application outsourcing – tendencies to create and use applications via the Internet, instead of installing them in the local environment [13].

The increase in the scope and size of IT outsourcing services was mentioned by many authors of research already in the 1990s [8; 14-16]. According to those early works, this increase would also take place in subsequent years, which has appeared to have been confirmed by the current results of the IT market analysis.

Outsourcing creates a certain bond between enterprises, having the character of partner relations. This relation influences the functioning of the whole enterprise. As part of the relationship, the service vendor takes over the task of cost rationalisation, while striving to secure the level of quality of the services provided.

There are many outsourcing classifications and extraction criteria. One of the criteria is the company’s connections with the outsourcing partner [6]. There are:

1. Contract outsourcing, when the cooperation is carried out on market terms, the service is outsourced to a completely independent partner;
2. Capital outsourcing, when entities are related by capital but are organisationally independent. Often, in the process of enterprise restructuring, a capital company is separated to perform a given function.

The division into these two groups of outsourcing will be discussed in more detail in the later part of this report.

Other important categories of outsourcing are strategic and tactical outsourcing. The former is related to the company’s development strategy and is permanent, the latter – relates to shorter time horizons.

It is also common to divide outsourcing into offshore outsourcing – relocation of tasks to distant countries (in the case of Poland e.g. to India), nearshore outsourcing – use of companies in neighbouring countries, onshore outsourcing – use of companies located in the same country as the customer.

Outsourcing may relate to a single function, implemented on the basis of self-employment, functions related to processes and functional areas. It can be based on market principles and partnership cooperation [17-18]. Each of these types of outsourcing has both advantages and disadvantages and is used by enterprises in specific situations, depending on their needs and capabilities.

2. IT outsourcing development in Poland

The development of outsourcing in Poland resembled the dynamics observed in other countries. The first company to implement ITO in Poland was the state-owned enterprise ZETO (Electronic Works of Computational Engineering) created by the chairman of the Science and Technology Committee in 1964 (it had headquarters in several large Polish cities). The company provided data collection and processing services to state institutions, organisations and enterprises. In the following years, ZETO has undergone transformations, some branches were closed. However, there are still branches that have been transformed and “under changed names” are currently providing IT outsourcing services. This proves that Poland was very early in the group of countries developing computational techniques, including IT outsourcing services.

IT outsourcing is a dynamically growing area of IT, also in Poland. According to specialist publications, the estimated growth in the value of the IT outsourcing market is around 7% per annum [19]. This results in a great interest in businesses in this field but also in the interest of enterprises to outsource IT-related activities. Companies providing IT services in Poland are currently employing over 140,000 people.

In 2013, IT services in Poland accounted for an estimated 1.7% of the global IT market, while the value of the IT services market in Poland accounted for 29% of the total value of the IT market. The number of companies providing services in the IT industry has increased by over a half in the last four
years. Two-thirds of employees of large IT service companies are employed in foreign enterprises, the largest of which are American and French companies. The value of the IT services market in 2013 amounted to approximately USD 3.14 billion [19], the largest proportion of which is for design services, including systems integration in particular. The next locations are occupied by support services and outsourcing services, which constituted about 19% of the value of the IT services market. Analysts of the Polish IT market predicted that due to the rapid development of the market in 2018 the share of outsourcing services in the market of IT services would reach 22%. The most dynamic development would include infrastructure hosting services, customer application management, and especially the use of cloud solutions [20]. The predictions were confirmed by recent data [21].

3. Stakeholders of IT outsourcing

The concept of stakeholders was introduced by the Stanford Research Institute in the 1970s and meant initially “groups without whose support the organisation would cease to exist” [22]. It was then developed by R. Ackoff and R.E. Freeman – the scientists representing the system approach [23]. The term is used especially in strategic management and project management. In strategic management, stakeholders are individuals or institutions that have or can have an impact on the organisation. In project management, stakeholders are people who are not directly involved in the project, but the results of the project may have an impact on them, which is why these people have a vested interest in a successful or unfavourable course of the project.

According to the theory of stakeholders [24-25], the unit of analysis is the relationship between business and groups and individuals who may influence it. With regard to IT outsourcing as a service provided by a supplier to a customer, the scope of who stakeholders are is extended to include as persons, groups of people, organisations, the national economy and elements of the national economy – the labour market.

The characteristics of stakeholders in IT outsourcing were undertaken by several foreign researchers [26-32]. This article presents a different approach to the topic, focusing on two stakeholders – ITO customers and suppliers, employees of the customer, and selected impact factors. The choice of stakeholders and factors was caused by the availability of data from the previous ITO research carried out by the author in large organisations in Poland.

Considering the impact of ITO on these people, groups of people, organisations, elements of the national economy and the national economy, the following six groups of stakeholders were distinguished:

1. ITO services vendor is an organisation that performs IT services and receives payment for services performed.
2. ITO service customer is an organisation that outsources IT services for which these services are provided for remuneration.
3. Employee/employees of the company – ITO vendor is a person/group of people employed in the supplier’s company and realising the outsourced IT services.
4. Employee/employees of the ITO customer is/are a person/group of people employed in the implementation of functions related to IT support for the customer company.
5. The national labour market, one of the markets functioning in the economy, where employers are purchasers and the sellers are employees.
6. The economy of Poland as a whole of economic activity carried out on the territory of the state.

With regard to IT outsourcing stakeholders, it would appear that the first four stakeholders (supplier and customer, supplier and customer employees) are undeniably important. Why are the national labour market and national economy included? These two elements must essentially be considered among the stakeholders, because IT outsourcing undeniably affects (positively/negatively) the state of the labour market and the condition of the national economy. That is why, Table 1 and 2 consider these stakeholders from the point of view of the Polish labour market and the national
economy of Poland. The approach to ITO stakeholders adopted in this study is, therefore, different in comparison with studies of foreign scientists [26-33].

IT outsourcing affects all of the enumerated stakeholders, and the impact that it makes can be specified. Tables 1 and 2 detail the positive and negative impact of ITO on individual stakeholders (by the example of Poland, especially in relation to the labour market and national economy).

Table 1. Impact of ITO on stakeholders – Poland (first part).

| No | Stakeholder | Impact |
|----|-------------|--------|
| 1. | ITO supplier | Positive (generating profits) |
|    |             | • Income for ITO services |
|    |             | • Possibility of company development (entering new markets, expanding the scope of activity, increasing competitiveness) |
|    |             | • The possibility of specialising the company |
|    |             | Negative (generating costs) |
|    |             | • The need to hire employees with the highest qualifications and thus to pay high remuneration |
|    |             | • The need to pay for the continuous improvement of IT staff qualifications |
|    |             | • The need to create very good working conditions in order to keep employees and encourage new, with the highest qualifications |
|    |             | • The need to follow technological novelties and the need to bear the costs of technological novelties |
| 2. | ITO customer | Positive (generating profits) |
|    |             | • Savings in personnel costs (reduction of employment in the IT department or liquidation of the IT department) |
|    |             | • Cost-saving of hardware costs in case of IT department limitation or liquidation |
|    |             | • Access to knowledge of highly qualified employees |
|    |             | • Savings in the cost of employee training |
|    |             | • Flexibility of external employees |
|    |             | • Cost savings for the entire project |
|    |             | • Shorter implementation time of the project by specialised external employees |
|    |             | • Higher quality of project implementation by specialised external employees |
|    |             | Negative (generating costs) |
|    |             | • Incurring costs of providing outsourcing services |
|    |             | • Loss of know-how |
|    |             | • Security issues (data, information, procedures), hostile takeovers |
|    |             | • The need for additional time to introduce external employees into specific company issues |
|    |             | • Over-dependence on the supplier |
|    |             | • Danger of misunderstanding the company’s needs and implementation of the project inconsistent with the demands |
|    |             | • Potential tensions among employees facing changes in the IT department |
|    |             | • Loss of the synergy effect associated with the existence of stable employee teams |
| 3. | Employee of supplier | Positive (generating profits) |
|    |             | • High wages of IT employees |
|    |             | • Shifting focus on specific issues |
|    |             | • Flexibility of employment (flexible working hours, remote work) |
|    |             | • Challenging work (variable problems, variable troubleshooting conditions) |
|    |             | Negative (generating costs) |
|    |             | • Lack of stable workspace |
|    |             | • Insistence on project effects |
|    |             | • Insistence on project duration |
|    |             | • Insistence on cost |
|    |             | • Possible problems in the future related to work instability (e.g. pension issues) |
| 4. | Employee of customer | Positive (generating profits) |
|    |             | • Possibility of focusing on specific issues in the case of leaving the IT department in the company – greater autonomy |
|    |             | • Smaller work scope |
|    |             | • Increased job satisfaction |
|    |             | Negative (generating costs) |
|    |             | • Loss of employment in the event of reduction or liquidation of the IT department |
|    |             | • Necessity to retrain |
|    |             | • Possibilities to reduce the pay you receive |

Note: the impact factors were marked by using Bold, which were then tested.
Source: own work and [26-32]
Positive and negative impact factors for particular groups of IT outsourcing stakeholders are listed. For all ITO stakeholders, the number of positive impact factors is similar to the number of negative impact factors. So, you can talk about a similarly strong positive impact as the negative ITO on all groups of stakeholders.

Table 2. Impact of ITO on stakeholders – Poland (second part).

| No | Stakeholder | Positive (generating profits) | Negative (generating costs) |
|----|-------------|--------------------------------|-----------------------------|
| 1. | National labour market | • Increased pay of IT employees  
• Increasing employment in IT outsourcing in the case of the emergence of new ITO companies or extension of existing activities  
• Increased demand for highly qualified IT employees (emphasis on employee training)  
• The emergence of new professions and functions (related to data security, information, processes, related to big data analysis) | • Reduction in the total number of IT employees employed (reduction of employment in IT departments in particular companies)  
• Potential increase in unemployment  
• Possibility of employee precarisation [32]  
• Increased demand for highly qualified IT employees (inability of some employees to improve their qualifications)  
• The disappearance of certain professions and IT-related functions in companies |
| 2. | The economy of Poland | • Increase in the number of companies providing IT outsourcing services  
• Increasing tax revenues from newly created and developing IT outsourcing companies  
• The possibility of becoming a regional or global tycoon that provides IT outsourcing services | • Reducing the number of jobs (possibilities to increase unemployment)  
• Reduction in tax revenues from domestic ITO companies when using offshoring  
• Increasing the number of employees from the precariat  
• Possibility of social unrest in the case of a significant enlargement of the precariat |

Note: the impact factors were marked by using Bold, which were then tested
Source: Own elaboration and [26-32]

4. The impact of IT outsourcing on selected groups of stakeholders (based on own research)

4.1. Own research methodology
The study reported in this paper is a part of a larger study of big organisations operating in Poland and using IT outsourcing. The research group was homogeneous – large organisations using IT outsourcing. The survey was conducted in 2016 on a group of 200 large organisations, in the vast majority of enterprises, Polish or foreign, but having a branch in Poland. The average number of employees was 250, which was the main aspect for recognising a given business as belonging to a group of large organisations.

The study was carried out by means of the CATI (Computer Assisted Telephone Interview) method. It involves conducting telephone interviews and recording the responses using a special computer script. The selection of the research sample was intentional (only companies using ITO), however, on the other hand, it was a simple random selection because the companies and organisations participating in the study were randomly selected and their chances of participating in the study were equal. The questionnaire contained a control and primary question in relation to it. The consistency of answers to these questions was 97.6%. The choice of the questionnaire as a research tool was dictated by the area and scope of research (IT outsourcing in large organisations in Poland), as well as a previous literature query of similar research abroad. 77% of the respondents represented the managers or employees of IT departments, the remaining 23% were directors, managers and administration staff. The survey tool was a questionnaire. Answers to substantive questions were provided in the expanded seven-point Likert scale. The answer “1” in this scale meant “it is not important at all/it has not been
achieved”, the answer “7” meant “very important/has been fully achieved”. The answer found on the enlarged scale in the middle of the scale (in the quoted studies answer “4”) is the neutral answer “undecided” [34]. Standard statistical methods (percentage structure, correlation) were used to develop the test results.

Three of the examined values were derived from these studies: success factors, risk factors and the impact of IT outsourcing on the respondents’ job position.

The study was intended to test the hypotheses regarding the extent of the positive and negative impact of IT outsourcing on the customer’s company and the size of the positive impact of IT outsourcing on the customer’s employees. It also aimed to address the hypotheses regarding the relationship between the positive and negative impact of ITO on the customer. The research questions regarding the hypothesis are formulated as follows:

1. Is there a relationship (measured by the correlation coefficient) between selected factors of the positive/negative impact of ITO on the customer?
2. If the correlation exists, is it positive or negative?
3. If the relationship exists, what is its correlation ratio size?

In search for the answers to these questions, an analytical tool was put to use, Statistica 13.1 software.

4.2. Brief description of the surveyed organisations

The organisations were included in the group of large organisations only due to the average number of employees – over 250 employees. The turnover was not considered because in some organisations this is sensitive or secret information. The organisations represented various industries: trade, services, logistics, education/research/science. Their percentage share in the structure was similar, except for administration and non-profit organisations, which participated in the study at the level of 3% (Figure 1).

![Figure 1. Industry structure of organisations participating in the survey, %](source: own work)

Almost half of the organisations surveyed were established in the years 1981-2000, i.e. during the economic transformation in Poland, around 15% were created after 2000 and 25% before 1981. The majority of the surveyed companies’ capital was Polish 80%, while 7% was foreign, 6% mixed (Polish and foreign), and 5% of respondents did not answer the question. These were usually independent organisations that did not form part of the structure of other entities. 54% of the surveyed companies are located in the metropolis, 45% have a location outside the metropolis, whereas 1% has not indicated their location. Only 6% of enterprises are in special economic zones, while 90% outside these zones and 4% of respondents did not indicate where the head office is located.
Considering the characteristics of the surveyed organisations, it can be assumed that they were diverse.

4.3. Evaluating the impact of IT outsourcing on companies, customers and employees of the customer’s organisation based on my own research

The positive factors listed in Tables 1 and 2 of the ITO’s impact on the stakeholders correspond with the selected factors of benefits from ITO indicated in the conducted studies of large organisations using this service (Table 3).

Table 3. Positive impact factors on the ITO customer obtained from stakeholders and based on own study.

| No | Positive factors of influence on the ITO customer company | The corresponding benefit factor from ITO (own study) |
|----|----------------------------------------------------------|-----------------------------------------------------|
| 1  | Savings in personnel costs (reduction of employment in the IT department or liquidation of the IT department) | Savings in personnel costs |
| 2  | Equipment cost savings in the case of IT department reduction or liquidation | Savings in the costs of using technology |
| 3  | Access to knowledge of highly qualified employees | Facilitating access to new technologies Reducing the risk of technological obsolescence |

Source: own work

In order to assess the positive impact of IT outsourcing on organisations – service customers, the answers to the question about the benefits of using ITO were used. The positive and negative impact was assessed in the expanded seven-point Likert scale. Answer “1” meant “not reached at all”, answer “7” meant “was fully achieved”, then for drawing 2, 3, 4, the answers from “1” to “3” were added, meaning “it has not been achieved” and the answers from “4” to “7” have been summed up, meaning “has been achieved”. Answer “4” was neutral. The percentage structure of the ITO benefits is shown in Figure 2.

![Figure 2](image)

**Figure 2.** Structure of achieving positive factors of the impact of IT outsourcing has a customer company, %

Source: own work

Among the respondents – the 200 large organisations operating in Poland – the vast majority assess the above-mentioned factors of the positive impact of outsourcing as achieved, from 69.8% for the
factor **improving the quality of services offered** to 54.5% for the **personal cost savings** factor. If the above-mentioned factors of positive impact on the customer company are assessed much more frequently as achieved, it means that the impact of ITO on the stakeholder – the customer company based on the conducted research – is indeed positive. This confirms the hypothesis that most of the surveyed organisations evaluate the beneficial effects of ITO on their company as achieved. It also confirms the advisability of using ITO by companies.

It should be noted that a percentage of the organisations (from 9% to 19.5%) assessed that the above-mentioned factors of the positive impact of IT outsourcing were not achieved.

Similarly, the negative factors listed in Tables 1 and 2 of the impact of ITO on its stakeholders correspond with the selected risk factors of ITO indicated in the conducted studies of large organisations using this service (Table 4).

**Table 4.** Negative impact factors on the ITO customer obtained from stakeholders and based on own study.

| No | A negative factor affecting the ITO customer | Corresponding ITO risk factor (own study) |
|----|---------------------------------------------|------------------------------------------|
| 1  | The cost of providing outsourcing services  | Hidden contract costs                     |
| 2  | Loss of know-how                            | Loss of know-how                          |
| 3  | Security issues (data, information, procedures), hostile takeovers | Security issues                           |
| 4  | Excessive dependence on the supplier        | Excessive dependence on the supplier      |
| 5  | Opportunity to resist employees against changes in the IT department | Possible resistance of employees          |

Source: own work

In order to assess the negative impact of IT outsourcing on customers, they were asked a question about the risks associated with the use of ITO. The percentage structure of the validity of ITO risk factors is shown in Figure 3.

**Figure 3.** Structure of the importance of negative impacts of IT outsourcing has a customer company, %

Source: Own elaboration

Among the examined factors of the negative impact of ITO on the customer, two were assessed as definitely more important: **excessive dependence on the supplier** assessed as important by 53% of respondents and **security issues** rated as important by 52% of respondents. The **hidden contract costs** factor was rated by a similar percentage of the organisation as valid and invalid (39% and 37.5%).
Two other risk factors – the loss of know-how as well as the resistance of employees were assessed as invalid (42% and 49.5% of responses). IT outsourcing also has a negative impact on the customer company, which is presented in Tables 1 and 2 and confirmed in the conducted research.

However, it should be noted that the following factors have been recognised as critical: over-reliance on the supplier and security issues. Considering activities that could reduce the negative impact of these factors on the customer’s services would be:

- Draw an ITO contract properly so as to minimise the impact of these factors on the customer;
- Adherence to the rules of contract performance by performing periodic inspections of contract realisation.

Existence of factors that negatively impact ITO on the customer company does not disqualify the ITO service. It allows recognising the risk of ITO and, as a consequence, carrying out activities that minimise the risk or eliminate its impact.

This is a partial confirmation of the assumption that the majority of the surveyed organisations assesses as an important impact risk of ITO (negative impact factors) on their company.

In the case with the ITO stakeholder – ITO customer, the selected factors of the positive and negative impact of ITO on the customer were examined. It is, therefore, possible to compare the impact of these factors. Before the comparison, it should be emphasised that the study was carried out on a group of organisations that employed ITO. They appreciate the advantages of the service, at the same time noticing its deficiencies. Increasing the quality of services assessed as being achieved by the largest percentage of organisations may involve incurring additional costs (one of the TQM principles is that higher quality is achieved through earlier expenses), but also with security issues. Security, on the other hand, was rated as important by more than half of the surveyed organisations. This example shows that the positive aspects of ITO using are correlated with negative aspects.

Table 5. Correlation between the risk factors and the benefits of using ITO.

| Risk                        | Increased flexibility of the IT department | Improving the quality of services offered | Savings in personnel costs | Facilitating access to new technologies | Savings in the costs of using technology | Reducing the risk of technological obsolescence |
|-----------------------------|--------------------------------------------|-------------------------------------------|---------------------------|----------------------------------------|------------------------------------------|-----------------------------------------------|
| Excessive dependence on the supplier | 0.777                                      | 0.810                                      | 0.767                     | 0.790                                  | 0.767                                    | 0.747                                         |
| Loss of know-how            | 0.674                                      | 0.697                                      | 0.695                     | 0.693                                  | 0.682                                    | 0.708                                         |
| Hidden contract costs       | 0.691                                      | 0.698                                      | 0.666                     | 0.670                                  | 0.659                                    | 0.661                                         |
| Possible resistance of employees | 0.639                                      | 0.673                                      | 0.664                     | 0.651                                  | 0.657                                    | 0.652                                         |
| Security issues             | 0.722                                      | 0.767                                      | 0.697                     | 0.737                                  | 0.720                                    | 0.714                                         |

Note: correlation coefficients were significant with p < 0.05
Correlation 0.5 ≤ |r| ≤ 0.7 is high and 0.7 ≤ |r| ≤ 0.9 is very high [36].
Source: own work

While IT outsourcing is associated with substantial benefits, it can also prove to be a risky endeavour [35-36]. It is then interesting from the scientific point of view to confirm whether the increase in the benefits of ITO (factors of positive impact on the customer) is accompanied by an increase in risk (factors of negative impact on the customer) or not. It can be assumed that such a relationship exists, that is, that with the increase in the benefits of ITO, its risk increases. In order to test this hypothesis, the correlation between benefits (factors of positive impact on the stakeholder –
ITO customer) from the use of ITO and risk factors (factors of negative impact on the stakeholder – ITO customer) was examined (Table 5). It intended to determine whether the factors studied are statistically significant, what the strength of this relationship and its direction is. The factors of benefit and risk were measured in the extended 7-point Likert scale.

It was found that there is a high or very high positive correlation between all risk factors examined (these are factors of the negative impact of outsourcing on the customer) and benefits from outsourcing (they are factors of the positive impact of outsourcing on the customer). The existence of a high or very high positive correlation between the studied benefit and risk factors from the ITO indicates that the increase in the value of one variable (for example an excessive dependence on the supplier) corresponds to a linear increase in the value of the second variable (for example improvement of the quality of services offered). For the given example, the value of the correlation coefficient is the highest and amounts to 0.810. With the improvement of the quality of services offered the dependence on the supplier increases. The interpretation of the causes presented in dependencies is not easy. We can only intuitively assess that indeed a correlation between the aforementioned benefits and risks of ITO should exist. The presented analyses confirm the existence of this supposition, the greater the benefits, the greater the ITO risk. With respect to the stakeholder analysis, it can be concluded that the higher positive impact of ITO entails a higher negative impact on the customer.

For a graphical representation of the occurrences of correlation between variables, an exemplary scatter plot of the variables “improvement of the quality of the offered services” and “excessive dependence on the supplier” is given in Figure 4.

![Figure 4. Scatter plot of the variables “to improve the quality of services” and “excessive dependence on suppliers” (correlation coefficient 0.810) Source: own work](image)

Regarding the central research questions, it should be noted that:

1. There exists a relationship between the selected factors of the positive and negative impact of ITO on the customer.
2. The direction of dependence is positive, i.e. the importance of the factors of the positive impact of outsourcing on the customer (benefits from ITO) is accompanied by the increase in the importance of the negative impact of outsourcing on the customer (ITO risk) and the increase in the importance of the negative impact of outsourcing on the customer (ITO risk) is accompanied by an increase in the importance of the factors of positive impact of outsourcing on the customer (ITO benefits).
3. The correlation coefficient assumes high and very high values, which means that there is a strong relationship between variables.

From the analysis of the reasons for the established relationships, a reference should be made to the specific benefits and risks of ITO under study. The higher the flexibility of the IT department is rated, the greater the dependence on the supplier. The higher the dependence on the supplier, the higher the risk of technological obsolescence is rated. IT outsourcing is associated with risk, however, it does bring measurable and immeasurable benefits to the organisation. By monitoring risk factors, outsourcing can be used in a rational way, increasing the organisation's benefits. The methods for monitoring the risk of outsourcing include:

- Quantitative and qualitative control of the fulfilment of the outsourcing contract
- Security monitoring (data, procedures, processes).

IT outsourcing brings significant benefits to the organisation provided it is used rationally and in a controlled manner.

Similarly, the factors listed in Tables 1 and 2 of ITO’s impact on its stakeholders correspond with the selected ITO impact factors on the work of IT department employees, indicated in the conducted studies of large organisations (Table 6).

Table 6. Positive impact factors on the employee of the ITO customer obtained from stakeholders and based on own study.

| No | A positive factor influencing the employee of the ITO customer | A corresponding factor of ITO influence on the work of the IT department (own research) |
|----|-------------------------------------------------------------|--------------------------------------------------------------------------------------|
| 1  | Possibility of focusing on specific issues in the case of leaving the IT department in the company – greater autonomy | Autonomy (the possibility of making decisions and its implementation with the minimum opposition) |
| 2  | Smaller work scope                                          | Demand (on time, energy and expectations related to what is expected from the position) |
| 3  | Greater job satisfaction                                    | Job satisfaction (joy of work, sense of fulfilment)                                  |

Source: own work

In order to assess the positive impact of IT outsourcing on employees of the customer company, the answers to the question about the impact of ITO on the position of an IT department employee were used. The percentage structure of the ITO impact is shown in Figure 5.

In the opinion of the surveyed organisations, three factors of the positive impact of ITO on the IT worker’s workplace were rated significantly more positively (from 40.50% to 28%) than negatively (from 10.5% to 8.5%). The factor of satisfaction with the work performed was by far the highest. An evaluation of the positive impact of IT outsourcing on the work of IT employees of the customer company provides another confirmation of the positive effect of ITO.

The positive impact of ITO on employees of the customer concerns employees who continue their work given that IT outsourcing is typically associated with the earlier reduction of personnel numbers (the tasks to be expelled and full-time employees of the customer are taken over by employees of the ITO vendor). Loss of work by the employees of the ITO customer is not associated with a big threat of being out of work, because the IT area is currently an employee market in Poland (they can choose from many jobs offers). IT employees continuing their work after the introduction of ITO usually need to change the scope of their professional duties and retrain.

The working hypothesis that the majority of employees of the surveyed organisations positively assess the impact of ITO on their work position has been partially confirmed. Less than half of the surveyed employees do not assess the impact of ITO on their work position as positive. At the same
time, it should be stated that almost half of the surveyed employees assessed this impact as neutral, and a small percentage (around 10%) stated that the impact was negative.

![Figure 5. Structure of the impact of IT outsourcing on the IT employee’s job position, %](image)

Note: the structure does not add up to 100% due to the lack of response from some respondents (answers: I do not know/I have no opinion)

Source: own work

5. Summary

IT outsourcing is the everyday reality in modern enterprises. The share of IT services in the structure of the IT market is increasing, which translates into an increase in the value of the global IT outsourcing market. This trend is even more dynamic in Poland, where over the last five years the share of ITO in the market of IT services has increased by over 3% and continues to indicate an upward trend [37].

The purpose of the reported study was to define the stakeholders of this service and to evaluate the impact that IT outsourcing has on them. The paper defines six groups of IT outsourcing stakeholders: ITO supplier company, ITO customer company, supplier employees, customer employees, national (Polish) labour market, and the economy of Poland. The positive and negative impact of the ITO on each studied stakeholder group was determined. The original research presented here, resulted in determining the positive and negative ITO impact of selected factors on ITO customers and the positive impact of selected factors on customers’ employees. An important positive impact (55%-70% of the responses) of the ITO on the customer company was noted due to all six factors studied. An important negative impact (52-53%) of two factors was noted: over-reliance on suppliers and security issues. The impact of other negative factors is lesser. IT outsourcing has a positive effect (28-41%) on the customer’s IT employees rather than negative (8.5-10.5%).

The dependence between the positive and negative impact of ITO on the customer was identified and confirmed on the basis of own study. It was found that there is a positive high or very high correlation between the studied benefit and risk factors of IT outsourcing. The higher the importance of ITO benefits, the higher the importance of risk factors, or alternatively, the higher the validity of risk factors, the higher the ITO benefits. Higher benefits are associated with higher risk factors. In order to maximise the benefits, the risk factors of the ITO organisation should be adequately monitored.

As a result of these investigations, suggestions were identified for future research: IT outsourcing has a positive effect on the ITO customer and IT department employees in this company. The hypothesis that most of the surveyed organisations evaluate the achieved beneficial effects of ITO on their company as achieved was confirmed. Partially, the assumption that most of the surveyed organisations assess the risk of impact (factors of negative impact) of ITO on their company as important has been confirmed as well. Also to a certain extent the results confirm the hypothesis assuming that most of the employees of the surveyed organisations positively assess the impact of ITO on their job position. The study has succeeded in showing the dependence between positive and
negative factors influencing the ITO on the customer. A high or very high positive correlation between positive and negative ITO impact factors on the customer has been identified. It can be expected that there is a correlation between other factors that have not been accounted for in the presented work. However, to confirm this, a separate study should be carried out. The existence of correlation can be an indication for companies using ITO to continuously monitor the implementation of the outsourcing contract.

The present study was designed to determine the effect of ITO on stakeholders. The conclusions that emerged from this study are as follows: Both the positive and negative impact of IT outsourcing on all of the stakeholders have been identified. The task of the management of ITO supplier and ITO customer is to minimise the negative impact factors. The task of the managers of the national economy is to minimise the negative impact factors and maintain the balance of the industry development (steady development of ITO suppliers and customers, balance on the labour market, growth of the national economy).

This study was unable to encompass the entire group of stakeholder. The limitations resulted from the content of data derived from the author’s research on IT outsourcing in large organisations in Poland. Future research directions should account for the unexamined stakeholder groups (ITO suppliers and employees of supplier companies). It is also possible to extend the research to other groups of stakeholders as identified in foreign surveys: sponsors, outsourcing project management on the part of the supplier and the customer, participants of the project team. An interesting research problem would also be to identify the relationship between stakeholders and factors of the positive and negative impact of ITO on individual stakeholders. An important research problem is also to determine the range of the level of balance between the amount of positive and negative impact of ITO on individual stakeholders. As mentioned earlier an effective ITO control and management translates directly into economic benefits for ITO stakeholders.

As it was stated earlier, the prospects for the development of the IT outsourcing market are highly promising. The key IT development trends (they also concern IT outsourcing) for the nearest future [38] are:

- Dynamic development of innovative technologies,
- Progressive process automation,
- Increased importance of Data Science,
- Further increase in the use of remote solutions and cloud solutions.

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