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Case Report

A Comparative Analysis of the Acquisition Transaction of Management Information Systems through Virtual and Face-to-Face Negotiations—The Perspective of Green IT Industry in Poland

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Abstract: The COVID-19 pandemic that began in 2020 has significantly impacted businesses, regardless of size or industry. The hybrid and remote working models have moved all meetings with potential and existing suppliers to an online environment. This also applies to small- and medium-sized enterprises (SMEs), which have had to adapt themselves to the new situation and implement the solutions necessary to survive on the market. On the other hand, clients have become more aware of the environment and its changes. Customers are trying to be more eco-friendly, by choosing and moving towards Green IT. Thus, this needs to be considered. The acquisition of management information systems (MIS) in the pandemic era is based only on virtual meetings. The main goals of this paper were the identification of the changes in the negotiations caused by the COVID-19 pandemic, the transformation of this process into virtual environment, discussion of the possibility of using Green IT in addition to Management Information Systems, and the changes caused by the pandemic. The article was prepared based on the results of qualitative research using the case study method. The comparative analysis includes purposely selected cloud-based Enterprise Resource Planning (ERP) and Customer Relationship Management (CRM) systems' acquisition processes, presented from the clients' perspective. The research was conducted in 2021, based on the authors' practical experience, and presents four cases. This research illustrates the negotiations concerning an acquisition transaction pre-pandemic and during the pandemic. Finally, the conclusions and main differences caused by the pandemic in the acquisition transaction process of management information systems (MIS) are presented.

Keywords: COVID-19; Green IT; acquisition transaction

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1. Introduction

In December 2019, coronavirus disease 2019 was first recorded in China. In March 2020, it was recognized as a global pandemic. COVID-19 spread all over the world and had a huge impact on worldwide health [1]. The pandemic has affected both economic and business processes [2]. Companies, including those that have so far been based on a traditional business model and stationary work, have had to adapt themselves to the new reality in order to survive in the market [3]. The most interesting, and at the same time, challenging, aspect for SMEs is the acquisition of new suppliers and solutions in a virtual environment. It is difficult to build new interpersonal relationships between seller and buyer in a traditional way [4]. Last but not least, there is the challenge of taking into account the reduction in energy consumption and CO_2 generation, which is in line with the trend of the commonly used Green IT in relation to MIS. This issue is directly related to the pandemic, due to the fact that it causes the need for changing the perspective of some parts of a business' internal IT architecture and systems.

The first aim of this paper is to identify the differences in negotiations within the acquisition transaction process of MIS, which are part of Green IT in the pandemic era in Poland. Secondly, it discusses the possibility of using Green IT, in addition to Management Information Systems, and the changes caused by the pandemic in this field.

There are two reasons explaining why the authors decided to pursue this research: (1) it was noted that there was a gap in the literature regarding the changes occurring in the acquisition transaction process, including the purchase and sales of MIS, as a result of COVID-19; (2) the authors have practical experience in selling ERP and CRM systems both in the pandemic era and before. The paper was prepared based on the results of qualitative research using the case study method. The projects constituting the cases considered were conducted on the basis of the authors' practical experience, and attempt to answer the following research question:

RQ1: What are the differences in negotiations within the acquisition transaction of MIS that represent the Green IT area before and during the pandemic?

A comparative analysis was performed based on the results of a study of four purposively selected projects. The purchase/sales transactions will be considered in the context of MIS, especially cloud-based ERP and CRM systems from the customer perspective. The case study method allowed for comparing the considered projects in pairs, which is discussed in detail further in the text. Each case study helps to explain both the process and outcome of a phenomenon, based on complete observation, reconstruction, and analysis [5].

2. Review of the Literature

The concept of digital transformation was introduced before the pandemic, whereas the changes associated with this phenomenon have dramatically accelerated its trajectory, due to the COVID-19 pandemic "forcing the need for digitalization of business activities and remote operations, which was considered as 'nice to have' to immediately became a 'critical to have' to survive in the ever increasingly uncertain business environment" [6]. Within the context of the COVID-19 pandemic, the inherent utility of digitalization has begun to receive widespread acknowledgement [7]. Apart from the challenges related to the transfer of internal processes to the virtual environment, including the use of online communication tools or providing remote work [8], which was a huge challenge, it was necessary to remember to ensure financial liquidity, in order to continue the operation and maintain employees. Moreover, digital transformation has an impact on company culture and leadership. According to Bader K. AlNuaimi "digital transformational leadership and organizational agility positively influence digital transformation, and digital transformational leadership influences organizational agility" [9]. Digital transformation improves sustainable performance [10]. A literature review confirms that digital transformation can significantly promote green technology innovation, and its internal mechanism is that digital transformation can improve the level of green technology innovation by alleviating financing constraints and attracting government subsidies [11]. According to Demirel et al., "eco-innovations boost firm growth when coupled with a well-defined digitalization strategy" [12]. In consideration of MIS, digital transformation brings tools that can improve Green IT. The main idea of green industry and digital transformation is to improve the deteriorating economic, ecological, and social conditions by using new information technologies and proposing more efficient processes [13].

2.1. Green IT in Terms of MIS

Many people do not realize that environmental problems are not only caused by air pollution or climate changes, but also by daily business. Companies increase productivity using information technology and systems. The use of IT is increasing rapidly, growing twice as fast as Gross World Product and is consuming a large part of business' energy costs [14]. According to Shuja et al. [15] "The IT sector is currently responsible for 2.4–3% of global electricity consumption with a forecasted 20% increase annually. Similarly, the IT sector accounts for 2–2.5% of worldwide carbon emissions equivalent to 0.86 metric gigatons

of CO_2". Green IT is a very popular headline slogan, which has become increasingly widely used. Going green and sustainable information technology (GSIT) can be an important and strategic decision for many organizations [16]. In the past century, several global climate change effects have been observed [17]. Computers and other IT infrastructure consume significant amounts of electricity, which is increasing day by day, placing a heavy burden on our electric grids and contributing to greenhouse gas emissions. This is particularly a problem for companies using advanced IT architecture, virtual machine servers and dedicated appliances. What is more, IT hardware poses environmental problems, both during its production and disposal. The situation is particularly complicated because IT for environmental sustainability is both a solution and a problem [18]. Green IT is also known as green computing, which means using computers, servers and other software and hardware efficiently and effectively, with minimal impact on the environment [18]. One of the solutions for the situation caused by IT is to transfer IT resources to the cloud. Mines presents four reasons why the cloud can be treated as green computing: (1) resource virtualization, thus less equipment is needed to "run workloads, which proactively reduces data center space and the eventual e-waste (informal name for electronic product, e.g., computers, smartphones, TV's, which are unwanted, not working or nearing the end of their "useful life" footprint" [19], (2) billing model which is based on pay-per-user or pay-as-you-go-clients pay only for the services they consume, (3) multitenancy, which allows multiple organizations' external or internal departments to use common cloud-based infrastructure, (4) automation software, maximizing enterprise resources integration and utilization to run the business efficiently. In addition to ERP, CRM or other Management Information Systems, Green IT is a paradigm which is now expanded by using cloud computing. More manufacturers decide to develop their solutions in the cloud. Cloud-based technologies provide, e.g., high performance computing, reduction in IT software in a client environment and scalability. Hardware is hosted by manufacturers in huge data centers located in different geo-locations. Data centers need a lot of power to work without interruption. According to Kliazovich et al. [20], "from the energy efficiency perspective, a cloud computing data center can be defined as a pool of computing and communication resources organized in the way to transform the received power into computing or data transfer work to satisfy user" [20]; data centers need some solutions to be consistent with the idea of Green IT. More and more providers use renewable energy sources in order to generate the right amount of energy necessary for a data center to work. The energy can be generated by photovoltaic panels or wind farms, which are now becoming more popular in Poland [21]. Thus, starting operations on renewable energy resources lead to zero greenhouses' gases emissions (GHG) [15]. The COVID-19 pandemic has drastically changed the world's focus on the adoption of green energy [22]. Cloud computing offers three service models [23] which determine a unique set of business requirements: SaaS (Software as a Service), PaaS (Platform as a Service) and IaaS (Infrastructure as a Service) [23]. Each of them provides benefits for environment protection which are possible thanks to using green data centers and green software services. These solutions improve software energy efficiency [24]. Moreover, they have an influence on CO_2 emission by reducing IT equipment requirements, which results in less e-waste. Industries which want to adopt Green IT are mainly focused on reducing operating costs and minimizing environmental impacts on business processes. The average of organizations making use of technology is usually two percent. However, the current COVID-19 pandemic has made it inevitable that organizations will shift from traditional to green practices to perform sustainably [25]. There are some other advantages of Green IT adoption, e.g., increasing employee morale and improving company culture [26]. It is connected with the mindset of each employee and company in general. Mindset should be concerned with both an individual and global level, and it is believed that a global mindset affects individuals. Mindsest connected with e-waste have been evaluated and changing for many years [27]. The evolution of the mindset is a long process, especially in the field of e-waste and Green IT paradigm. Evolution of mindset is described by the mindsponge mechanism. According to Q. H.

Vuong and N. K.Napier "it is a mechanism for explaining how an individual absorbs and integrates new cultural values into their own set of core values and the reverse of ejecting waning ones" [27].

2.2. Characteristic of Negotiation in Acquisition Transaction of MIS

The acquisition of MIS includes both supplier and client side. The specificity of cloud-based ERP and CRM systems is the ability to adapt to business requirements, which is provided by appropriate customization based on the best practices the vendor should provide [28]. More customers require tailor-made solutions, as they decide to extend standard systems with functionalities defined during the analysis [29]. From the customers' point of view, in the acquisition transactions, the success factor depends on choosing the right provider and defining the needs at the pre-implementation analysis stage. Purchase decisions depend not only on choosing the best proposal which meets financial criteria, but also on the supplier's approach during the negotiations [30]. Negotiations are conducted on both sides and serve to work out an agreement, a sort of consensus, when each of the parties has different needs and expectations [31]. Moreover, they have a dual nature, which involves technical and social aspects and makes the communication process a significant factor [32]. On the other hand, sellers may negotiate price, agreement including delivery times, project scope and other aspects of commercial transactions. The process of negotiation can be divided into four different stages: relational positioning, identifying the problem, generating solutions, and reaching an agreement [33]. Churchill et al. [34] defined two general types of skills related to professional salesperson: vocational skills and sales presentation skills. Both of them are success factors for a salesperson job. The most needed are negotiation skills, which are the most important to convince a prospective buyer to buy a service or a product.

3. Methodology

The article is based on the results of a qualitative piece of research conducted using a case study method. Case study is commonly used, and it has been used in several areas of international business (IB) research [8]. Moreover, this kind of qualitative research has been comprehensively described in the literature [35]. Case research is valuable in developing and refining concepts for further study. There are three types of a case study method: single, multiple, and cross-case comparison [36]. Case study data can be collected from multiple levels, perspectives [5] and sources [37]. The most significant strength of this method, as Yin defined, is contextuality [38]. In contrast to experimental designs, which seek to test a specific hypothesis through deliberately manipulating the environment (such as, for example, in a randomized controlled trial giving a new drug to randomly selected individuals and then comparing outcomes with controls), the case study approach lends itself well to capturing information on more explanatory 'how', 'what' and 'why' questions [39]. As a consequence, the case study seems to be an appropriate research strategy that helps the researcher to conceptualize the contextualized constructs that accurately help to investigate and understand a predefined phenomenon [40]. A comparative analysis was performed based on results of a study of four purposefully selected projects.

The case study contains characteristics of the acquisition ERP and CRM cloud systems prepared by the Authors. They covered all acquisition transactions from the pre-implementation analysis until agreement negotiations with the vendor. The research procedure is presented in Table 1. The data were collected during the sales process in which the Authors were involved. The case study implementation consisted of 5 meetings per project. The meetings were held in the following steps: 1. the pre-implementation analysis phase, 3. developing bidding documents, 5. system presentation by vendors, 7. verification of reference information, 9. negotiation of the contract presented in Appendix A, lasting 2–3 h.

Table 1. Research procedure-case study stages.

Case Study Stage Number	Stage Name
Stage 1	Formulating the research aim and question
Stage 2	Selecting the cases to be considered
Stage 3	Defining case study structure
Stage 4	Data analysis
Stage 5	Confrontation with the literature
Stage 6	Case study conclusion and description

Source [21,39,41].

Characteristics of Analyzed Projects

The projects included in analysis are presented in Table 2. CRM and ERP systems determine the framework and architecture of enterprise information systems. MIS is a vital component of decision-making tasks of management in the organization in the global business and information world [42]. The cases presented as projects were chosen purposely. The selected enterprises belonged to the group of SMEs. The number of employees was between 100 and 150. The research was conducted based on the projects which took place before pandemic, in 2018 and 2019, and during the pandemic period in 2020 and 2021. The respondents were project managers or key users from the client's side. Nine variables were selected to describe each project, which were presented as steps of the information system's acquisition in Appendix A.

Table 2. Characteristics of analyzed projects.

	Project A	Project B	Project C	Project D
Characteristics of the project	ERP system implementation in the scope of general ledger modules; accounts receivable, accounts payable, fixed assets;	CRM system implementation in the scope of operational controlling	ERP implementation in the scope of modules G/L, receivables, payables, fixed assets, sales management, purchases	CRM system implementation project in the scope of FMCG product sales.
Sales lead time	8 months (March–October 2020). pandemic period.	6 months (January-June 2021). pandemic period.	1 year (January–December 2019). Before the pandemic period.	1 year and two months (November 2018–December 2019). Before the pandemic period
Budget	75,000 EUR	45,000 EUR	90,000 EUR	55,000 EUR

Source: Own study.

4. Research Results

4.1. Coronavirus Impact on the Negotiation Process

The analysis of the acquisition transaction confirmed the differences in negotiations conducted within the transactions under review. Table 3 presents all steps of negotiations in acquisition of ERP and CRM cloud systems before COVID-19 pandemic.

An important part of the acquisition transaction is the negotiation outlined in steps 8. substantive negotiations, and 9. negotiation of the contract, shown in Appendix A. There are two main differences observed. First of all, before the pandemic contractual clarification meetings were usually held at the customer's premises, which made communication easier. During the pandemic, contractual arrangements were made remotely. Many participants had to learn how to use remote working software and communicate using such tools. The second difference is the mode of signing the contract. In the pre-pandemic period, the signature was physically written by two parties, usually at the client's premises, whereas in the pandemic period, the signature was made electronically. The process of negotiating a deal is not significantly different before and during the pandemic.

Table 3. Steps of negotiation during the purchase process.

Step	Description
1	The selection of the vendor and the ERP or CRM system is followed by the final definition of the functional and technological requirements along with the budget
2	Suggest a proposal for a contract for the services performed, from the provider via email
3	Analysis of the contract by the customer
4	Proposing changes to the contract for the services performed by the client and sending comments via an email
5	Meetings to clarify comments on the agreement with the client. Meetings are held at the client's office
6	Sending by an email the final version of the contract for the services performed by the client
7	Signing the contract by the two involved sides at the client's office

Source: Own study.

4.2. Coronavirus Impact on Cloud Management Information Systems Selection

The analysis of the acquisition transaction and interviews made with clients prove that there is significant increase in popularity of cloud systems. Clients are more aware of cloud possibilities. This is caused by the need to adapt to work in a dispersed structure. On the other hand, clients reported that they do not want to buy more IT equipment and appliances because they do not want to manage it, which was very difficult during the pandemic. Moreover, cloud solutions offer dynamic, high-capacity computing capabilities in comparison to the on-premises solutions. These solutions, such as ERP or CRM systems that are hosted in data centers, are for disaster recovery, and from an economical point of view they reduce investment in ICT (Information and Communication Technology) resources. Based on the reviews with the clients and presented budgets of the projects, we can see there is a significant difference between initial implementation costs. The costs of ERP or CRM cloud systems are generally much lower because the provision of the server and system infrastructure with appropriate parameters is the responsibility of the supplier.

4.3. Purchase Process Differences Catalog

The study identified the following catalog of differences of the cloud-based ERP and CRM acquisition transaction before and during the pandemic, which answers the research question posed.

1. In the projects considered, the acquisition transaction before the pandemic took longer than during the pandemic period. The respondents indicated that the pandemic forced them to work more efficiently as a result of recommendations from company management. The recommendation was to prepare for increased uncertainty by purchasing and installing equipment more quickly. In addition, the management of the company recognized the opportunity of improving processes related to e-commerce.
2. The research on the pre-pandemic acquisition transaction confirms the observations of F. Bannister and D. Remenyi [43] that customer decision makers are guided by an "act of faith" and intuition regarding the software itself as well as the competence of the implementing company when deciding to begin implementing an information system. This is due to the fact that the conducted research indicates that customers do not make decisions based mainly on rational premises but also on emotions. Additionally, in the process of selecting IT systems supporting management, the surveyed companies often focused on the organization of the software presentation by potential suppliers and looked for the cheapest offer, not establishing beforehand sufficient functional requirements for these systems and criteria for economic evaluation of the investment.

3. The acquisition of MIS in the pandemic period in the surveyed projects was more structured, and remote contacts with the client were precisely documented (i.e., recorded), which according to the respondents stimulated them to take more responsibility for the decisions made. This way, the "emotional element" in decision-making was reduced, leading to reduction in intuition in favor of rational considerations in decision-making.
4. In the surveyed projects, the client in the pandemic period tried to sign a contract for the purchase of implementation services that had the characteristics of a casuistic contract. These types of agreements were intended to regulate in detail a very broad spectrum of adverse events that could occur in the implementation of the project. Casuistic contracts were intended to protect the interest of the buyer, who had no opportunity to get to know the supplier during traditional meetings. For the pre-pandemic projects surveyed, the contracts had a framework nature and were not casuistic. The respondents indicated that during the meetings in the last steps of the purchasing process they could get to know the supplier and gain trust in their competence.
5. In the surveyed projects the customer in the pandemic period declares that due to the hybrid work a significant deficit of information and knowledge was identified concerning the project implementation pricing, project implementation methodology, system functionality, TCO throughout the project life cycle. The identified information and knowledge deficit creates an information gap that exists throughout the life cycle of the IT project. The deficit of information and knowledge in the above-mentioned area was greater during the pandemic than before the pandemic due to difficulties in communication during the pandemic period.
6. There was a change in the structure of transaction costs observed during the purchase process in the pandemic period and before the pandemic. The transaction cost groups are shown in Table 4 in order of their significance. The respondents in the surveyed projects indicated that the main reasons for the change in the transaction cost structure are the increased efficiency of hybrid work resulting from a more structured process and IT tools used, as well as increased expenses related to the reduction in the information gap in the client's project group aimed at developing a casuistic contract for implementation services.

Table 4. The transaction cost groups in order of their significance.

Transaction Cost Structure of Acquisition Transaction before the Pandemic Period	Transaction Cost Structure of the Acquisition Transaction during the Pandemic Period
Costs related to the organization of the tender	Costs associated with the development and negotiation of an implementation services agreement
Costs associated with script development, participation, and verification of sales presentations	Reducing the information gap among the client's project group regarding system functionality, expandability of this system, TCO
Verification of reference information.	Verification of reference information.
Reduction in the information gap among the client's project group concerning the functionality of the systems, the possibility of extending this system, TCO	Costs associated with the development of scenarios, participation, and verification of sales presentations
Costs associated with the development and negotiation of the Implementation Services Agreement	Costs related to the organization of the tender
Project management costs	Project management costs

Source: Own study.

5. Discussion

The impact of the pandemic on negotiations in the acquisition transaction of MIS occurred only at the stage of substantive negotiation and agreement negotiations. These steps depend on building trust and relationship between the supplier and client. This conclusion corresponds to what Jolson [44] articulates: "relationship selling emphasizes a long-term orientation where a solid foundation is created—one which is predicated, more than anything else, on trust between representatives of the selling and buying firm". Creating this foundation is complicated when a seller cannot meet a potential client in real time, only during a remote appointment. A meeting conducted remotely can have many distractions that affect the customer's engagement in the purchase process. According to research, the pandemic has highlighted the human element in the purchase process, namely the buyer–seller relationship, often built on trust and the "emotional element", which corresponds to the research of F. Bannister and D. Remenyi [43]. The differences are not only at the stage of negotiations but also during the entire transaction. The human element is a significant part of the process. Based on the Authors' experience and observations, it can be stated that before the pandemic, the attitude of Polish enterprises towards virtualization and cloud computing could be described as conservative. The pandemic has significantly changed the perception and use of cloud, especially in small- and medium-sized enterprises, where its use determined the proper functioning of the enterprise in a distributed structure. This mindset evolution of Green IT can be described by the mindsponge mechanism [27]. According to Bărbulescu et al. [45], enterprises after the crisis have become open for new technologies and innovation, especially in the field of ICT, which implicates entrepreneurship. People need innovations in order to overcome hardship and achieve sustainable development, especially for IT-based green businesses. When considering innovations, it is worth mentioning serendipity [46]. This is the ability to realize potentially valuable information, make connections, and capitalize on them before anybody else (thus having the appearance of suddenness and unexpectedness). This new perspective on serendipity can be helpful when discussing aspects of innovation such as the shift to virtual platforms. The pandemic has left a clear mark on the economy at a macro level. The existing situation associated with the emergence of a new threat caused by the SARS-CoV-2 virus has forced a number of restrictions in many spheres of social and economic activity. An important fact is the development of the e-commerce sector; the construction industry was also developed at the time in question. Research confirms that the pandemic has had a significant impact on the work efficiency and sales lead time. The first listed above has increased, and sales lead time was shorter during the pandemic. Due to the fact that all of the negotiations are virtual, the client requires all arrangements to be placed in the contract. This is undoubtedly connected with aforementioned lack of emotional trust. The average value of the trust index is −0.83. The negative value means that in Polish society distrust is more strongly articulated than attitudes based on openness and trust [47]. According to Lozano [48], casuistry is "a method used in moral theology that attempts to apply a set of general principles in specific cases". Thus, contracts are stricter and more structured. Another general difference concerns transaction costs with two assumptions Aubert, Rivard, Patry [49] define as bounded rationality and opportunism. Both of them consist of information asymmetry. Clients want to be sure that the product which they want to buy was tested, and ask for warranties and safeguards; all of these actions generate transaction cost. This difference is a consequence of hybrid working and casuistic contracts. The pandemic has not only impacted the acquisition transaction process but also the types of Management Information Systems. Green IT in the area of ERP and CRM solutions is becoming more popular due to the fact that clients build their awareness of possibilities of these kinds of systems and the advantages which they offer. From the perspective of environmental pollution and its destruction, Green IT helps to deal with it because "the reduction of energy consumption entails lower costs and lower CO_2 emissions. In addition, reduction in the amount of equipment leads to a cut in energy consumption and in the quantity of e-waste." [24]. Green computing contributes to sustainability, and

it is addressed to both clients and providers who are using and delivering green services. Moreover, green cloud computing has indirect effects such as environmental awareness, sustainable environmental governance, better communication for environmental projects and networks. Green IT can be considered not only from the technology side but also from the business side. Nowadays, companies and organizations practice e-invoicing which is part of sustainability. Paper invoicing has an impact on energy use that is almost twice as great and a CO_2 emission which is approximately 1.5 times larger than for digital invoicing. Switching to digital invoicing generates huge savings. This is a reason for IT system providers to deliver and offer compatible addons for ERP and CRM systems for e-invoicing. In Poland, this solution is lacking according to the National System of e-Invoices, which enables the use of only digital invoices. This has to be changed, something which is planned for 1 April 2023. Polish business clients are becoming more open for new technology solutions which are in line with the idea of Green IT.

6. Conclusions

It was found that the COVID-19 pandemic has had an impact on the accelerating digital transformation of SMEs in the field of cloud Management Information Systems acquisition transactions and choosing cloud-based ERP and CRM systems which are being treated as green computing. Consequently, the Authors expected that the impact of the pandemic is not only on the negotiation during acquisition itself, but also throughout the whole transaction. The SME approach to using cloud-based systems and remote negotiations in the pre-pandemic era was quite conservative. In the case of remote negotiations, it is conditioned by the limited trust in the seller in Poland. When analyzing trust through the prism of the relationship's duration, it should be assumed that trust develops as the relationship continues. This means that it takes time and the history of interactions between the parties to achieve a high level of trust [50]. The second conclusion derived from the literature, as well as from the research conducted among practitioners, is the catalog of differences in acquisition transaction of MIS, which shows the impact of COVID-19 pandemic. The third conclusion is that Polish business clients are becoming more aware of environmental problems and start using IT technologies which can help to reduce e-waste and improve energy efficiency. These solutions contribute to business sustainability, and together with the features and functionalities of ERP and CRM systems become strong foundations for building enterprise competitiveness. Based on the authors' research, it can be concluded that the practical contribution of research is the ability to negotiate a contract in offline conditions and the ability to prepare and implement MIS systems in a distributed and remote working structure. Another practical contribution of the research is to highlight Green IT as part of sustainable development among IT professionals. Due to the fact that the subject of this paper is new, there are not many studies dealing with the topic of negotiation in this kind of transaction. Green IT in the sense of sustainable development in Poland is a new topic. The authors consider the directions below for future research development:

- Research in the field of technology platforms designed to conduct purchasing processes. Such solutions are available on the market, e.g., SAP's ARIBA, but further development is needed;
- Behavioral aspects occurring in sales process and contract negotiations of Green IT solution;
- Research to confirm whether Green IT really reduces energy consumption compared to other high-energy industries;
- Research into the phenomenon of information asymmetry between supplier and customer in the sales/purchasing process conducted remotely;
- Research on information gaps in customers and suppliers throughout the life cycle of a Green IT project;
- Research on the process of remote negotiation of services in the metaversum belonging to Green IT.

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Appendix A

Table A1. The structure of conducted case studies.

Characteristics of the Purchase Process from the Customer's Perspective				
Step 1 Pre-implementation analysis phase	Duration: 2 months. Remote work (MS Teams). Definition of project objective, functional and technological requirements, definition of project group, schedule, risk management.	Duration: 1 month. Hybrid work. Definition of project objective, functional requirements (i.e., scope of reports, interface specifics), define project group, schedule, risk management.	Duration: 3 months. Working in a client's office. Definition of project objective, functional and technological requirements, definition of project group, schedule, risk management.	Duration: 4 months. Working in a client's office. Definition of project objective, functional and technological requirements, definition of project group, schedule, risk management.
Step 2 Develop a list of potential suppliers.	Duration: 1 Week. Remote work (MS Teams). List of vendors interested in participating.	Duration: 1 week. Hybrid work. List of vendors interested in participating	Duration: 1 month. Working in a client's office. List of vendors interested in participating.	Duration: 2 months. Working in a client's office. List of suppliers interested in participating in the tender.
Step 3 Develop bidding documents.	Duration: 3 weeks. Remote work (MS Teams). Development of forms that create a request for proposal.	Duration: 2 weeks. Remote work (Skype). Development of tender documentation.	Duration: 3 months. Working in a client's office. Development of the forms that create a request for proposal.	Duration: 2 months. Working in a client's office. List of suppliers interested in participating in the tender.
Step 4 Send tender documents to potential suppliers.	Duration: 1 week. Sending electronic versions of tender documentation.	Duration: 1 week. Sending electronic versions of tender documentation.	Duration: 1 month. Sending electronic versions of tender documentation.	Duration: 2 months. Sending electronic versions of tender documentation.
Step 5 System presentation by vendors.	Duration: 1 month. Remote presentations using MS Teams. ERP system presentation by vendors based on scenarios prepared by the client.	Duration: 3 weeks. Remote presentations using Skype.	Duration: 2 months. Presentations in the client's office. Presentation of selected system functionalities.	Duration: 3 months. Presentations in the client's office. Presentation of selected system functionalities according to a planned scenario.

Table A1. *Cont.*

Characteristics of the Purchase Process from the Customer's Perspective				
Step 6 Analyzing and evaluating the bids according to the established criteria.	Duration: 1 month. Remote work for the client's project group.	Duration: 1 month. Hybrid work of the client's project group.	Duration: 1 month. Work in a client's office.	Duration: 1 month. Work in a client's office.
Step 7 Verification of reference information.	Duration: 1 month. Contact with reference clients only remotely.	Duration: 2 weeks. Hybrid work. Verification of reference information	Duration: 1 month. Work in a client's office. Verification of reference information.	Duration: 2 months. Work in a client's office. Verification of reference information
Step 8 Substantive negotiations	Duration: 1 month. Remote work to organize five workshops verifying functional, technological assumptions.	Duration: 2 weeks. Remote work involving two meetings of 2–3 h each to agree on the organization of an IT project	Duration: 2 months. Work in the client's office. Organization of four meetings defining the organization of the ERP implementation project.	Duration: 3 months. Working in the client's office. Organization of four meetings defining the organization of the CRM system implementation project
Step 9 Negotiation of the contract	Duration: 1 month. Remote work involving contractual agreements between vendor and client with legal input.	Duration: 2 weeks. Remote work involving contract reconciliation between supplier and recipient lawyers.	Duration: 1 month. Work in client's office involving contractual arrangements between vendor and client with input from lawyers.	Duration: 2 months. Work in the client's office agreeing a contract between supplier and client with legal input.

Source: Own study.

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